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Nuclear properties for astrophysical and radioactive-ion-beam applications (II)



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ABSTRACT

We tabulate the ground-state odd-proton and odd-neutron spins and parities, proton and neutron pairing gaps, one- and two-neutron separation energies, quantities related to β -delayed one- and two-neutron emission probabilities, average energy and average number of emitted neutrons, β -decay energy release and half-life with respect to Gamow–Teller decay with a phenomenological treatment of first-forbidden decays, one- and two-proton separation energies, and α -decay energy release and half-life for 9318 nuclei ranging from ^{16}O to $^{339}\text{136}$ and extending from the proton drip line to the neutron drip line. This paper is a new and improved version of ATOMIC DATA AND NUCLEAR DATA TABLES [66 131 (1997)]. The starting point of our present work is the new study (FRDM(2012)) of nuclear ground-state masses and deformations based on the finite-range droplet model and folded-Yukawa single-particle potential published in a previous issue of ATOMIC DATA AND NUCLEAR DATA TABLES [109–110, 1 (2016)]. The β -delayed neutron-emission probabilities and Gamow–Teller β -decay rates are obtained from a quasi-particle random-phase approximation with single-particle levels and wave functions at the calculated nuclear ground-state shapes as input quantities. A development since 1997 is we now use a Hauser–Feshbach approach to account for (n, γ) competition and treat first-forbidden decay in a phenomenological approach.

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1. Introduction

In a previous issue of ATOMIC DATA AND NUCLEAR DATA TABLES we presented a calculation of nuclear ground-state masses and deformations for 9318 nuclei ranging from ^{16}O to $^{339}\text{136}$ and extending from the proton drip line to the neutron drip line [1]. The new version of the finite-range droplet model and folded-Yukawa single-particle potential that was the basis for this calculation is referred to as the FRDM(2012); the year indicates the time when the mass table was finalized, not the year of publication, which could not be foreseen when the manuscript material was put together. We use these ground-state masses and deformations as starting points for calculations of additional ground-state properties that are useful for astrophysical, radioactive-ion-beam, and other applications.

An important feature of a mass model is its reliability for nuclei beyond the region used for the determination of the model constants. In particular, can one expect the model to be reliable for nuclei very far from β -stability and in the region of superheavy elements? In the more than 20 years since the FRDM(1992) was finalized it has proven to be reliable beyond expectation for *predicting* properties of subsequently discovered nuclei, see for example Refs. [2,3].

In our mass paper [1] we addressed again the FRDM(1992) model reliability for new regions of nuclei by comparing predictions of masses that were not included in the data set to which the model constants were determined to the newest experimental data in AME2012 [4]. There are 720 new masses in this evaluation that were not in the evaluation to which the FRDM(1992) was adjusted. The model error for these 720 new nuclei was found to be 0.5817 MeV compared to 0.669 MeV error in the region of 1654 nuclei to which it was adjusted. In this study no increase in deviations far from stability were observed. The FRDM(2012) cannot be tested against that many new nuclei. However, we did

a simulation and adjusted it to the same data set as was used for FRDM(1992) and checked the resulting mass table against the same 720 new nuclei. For these nuclei the model error was considerably reduced, only 0.4948 MeV (Figs. 13 and 14 in Ref. [1]).

We also observed that the FRDM(2012) showed almost no staggering in the neutron separation energy contour lines at $S_n = 1, 2, 3$, and 4 MeV, (Fig. 8 in Ref. [1]). Furthermore, the fluctuations in the error at neutron magic numbers $N = 82$ and $N = 126$ are much smaller in FRDM(2012) than in FRDM(1992) (Fig. 6 in Ref. [1]). Both of these developments should be beneficial in r-process studies. A first study [5] supports this expectation.

Thus, because the FRDM(2012) represents a significant improvement over FRDM(1992) we present new calculations, similar to those in Ref. [6], but with FRDM(2012) as a starting point, of additional nuclear ground-state properties based on the same model and the same values of model constants, for the same set of 9318 nuclei considered in our mass calculation [1]. Specifically, we consider the following quantities:

Odd-nucleon spins and parities:

Projection of the odd-proton angular momentum along the symmetry axis and parity of the wave function	Ω_p^π
Projection of the odd-neutron angular momentum along the symmetry axis and parity of the wave function	Ω_n^π

Lipkin-Nogami pairing gaps:

Proton pairing gap	Δ_{LNp}
Neutron pairing gap	Δ_{LNn}

Neutron separation energies:

One-neutron separation energy	S_{1n}
Two-neutron separation energy	S_{2n}

Beta-decay properties:

Remaining daughter nuclei ${}^A(Z+1)_{(N-1)}$ generated in the β decay from AZ_N , after β -delayed neutron emission to ${}^{(A-1)}(Z+1)_{(N-2)}$. Before the first delayed neutron emission, $P_{0n} = 1$. The $P_{\nu n}$ are all calculated in the QRPA+HF

Remaining nuclei ${}^A(Z+1)_{(N-2)}$ generated in the β decay from AZ_N , after β -delayed multiple neutron emissions. Remaining nuclei ${}^A(Z+1)_{(N-3)}$ generated in the β decay from AZ_N , after β -delayed multiple neutron emissions

Average delayed-neutron energy

Average number of emitted neutrons

Energy released in ground-state to ground-state

β decay

Half-life with respect to Gamow-Teller β decay and a phenomenological treatment of first-forbidden

β -decay

P_{0n}

P_{1n}

P_{2n}

\overline{E}_n

\overline{n}

Q_β

T_β

Proton separation energies:

One-proton separation energy

Two-proton separation energy

S_{1p}

S_{2p}

Alpha-decay properties:

Energy released in ground-state to ground-state

α decay

Half-life with respect to α decay

Q_α

T_α

The details of the calculations are given in Section 2. The β -decay half-lives and β -delayed neutron-emission probabilities are obtained from a quasi-particle random-phase approximation (QRPA) [7] and first-forbidden decays accounted for in a phenomenological treatment [8]. In the QRPA the single-particle energies and wave functions at the calculated ground-state deformation serve as the starting point. The pairing gaps are obtained in a Lipkin–Nogami microscopic pairing model. The odd-particle spins are obtained as the spin of the last occupied level, when this level is occupied by a single nucleon. Separation energies and energy releases are readily obtained from mass differences. However, there are several reasons to include them in the tabulated data. In a study devoted to nuclear structure far from stability, the presentation would be very incomplete if one-neutron and two-neutron separation energies were not immediately available, together with the other tabulated quantities. Also, the tabulated half-lives depend strongly on the energy released in these decays, so it is only natural to tabulate the half-lives together with the associated energy releases. The delayed neutron-emission probabilities $P_{\nu n}$ depend in a complex way on nuclear structure, on the energy released in the β decay, and on the neutron-separation energies in the daughters of the decay. Therefore, it is also natural to tabulate these quantities together. Because of nuclear pairing, the two-neutron and two-proton drip lines occur in different locations than those for one-neutron and one-proton separation energies, so it is useful to tabulate both of these quantities. Finally, we have found that in discussions on far-from-stability topics, it is highly useful to have available material approximately as selected here, namely color overview graphs, and Table 1 of calculated quantities. In fact, before we had these readily available we often noticed their need in deliberations on far-from-stability topics.

In Ref. [6] we wrote: “Our nuclear-structure models provide additional quantities that are too extensive to be made available in printed form. These include (1) calculated single-particle levels at each nuclear ground-state deformation, which are useful for microscopic level-density calculations, (2) β -decay rates between a vast number of states in the mother and daughter nuclei, and (3) additional minima in the potential-energy surface, with associated deformations and excitation energies. We are currently exploring how to provide convenient electronic access to these

results”. By now we have actually published in printed form in a recent issue of ATOMIC DATA AND NUCLEAR DATA TABLES [9] point (3) above in a study of shape isomers. The selected results that we present here are described further in Section 3.

We briefly assess in Section 4 the reliability of the FRDM(1992), FRDM(2012) and of some other models that are also commonly used in astrophysical and radioactive-ion-beam calculations. Calculations of r-process abundances [5] have already used calculated β -decay half-lives and delayed neutron-emission probabilities (but without neutron- γ competition) and from our mass calculation FRDM(2012) [1] show considerable improvements compared to earlier work.

2. Computational details

The quantities studied in this paper are obtained in four different ways.

1. The odd-proton spin and parity Ω_p^π , odd-neutron spin and parity Ω_n^π , proton pairing gap Δ_{LNp} , and neutron pairing gap Δ_{LNn} are microscopic quantities obtained simultaneously with the calculated ground-state masses and deformations. They were not published in our mass paper because of space limitations.
2. The one-neutron separation energy S_{1n} , two-neutron separation energy S_{2n} , ground-state to ground-state β -decay energy release Q_β , one-proton separation energy S_{1p} , two-proton separation energy S_{2p} , and ground-state to ground-state α -decay energy release Q_α are obtained from appropriate differences of the calculated mass excesses or binding energies. For convenient access we publish them here.
3. The β -delayed emission-related quantities P_{0n} , P_{1n} , and P_{2n} and β -decay half-lives T_β are obtained from a microscopic quasi-particle random-phase approximation (QRPA) for Gamow–Teller transitions, with accounting for first-forbidden decays according to the gross theory and empirical spreading of the quasiparticle energies above 2 MeV as specified in Ref. [8]. We now also take into account n- γ competition [10].
4. The α -decay half-life T_α is obtained from the semi-empirical relationship of Viola and Seaborg [11] with constants determined by Sobiczewski, Patyk, and Ćwiok [12].

2.1. Odd-nucleon spin and parity

The odd-nucleon spin is simply the projection of the angular momentum along the symmetry axis (Ω quantum number) for the last occupied proton or neutron level, when this level is occupied by a single nucleon. For odd-proton or odd-neutron nuclei the spin of the nucleus is denoted by Ω_p or Ω_n , respectively. The superscript π gives the parity of the wave function. In the following we will use the short-hand notation o–e, o–o, and e–e for odd-even, odd-odd, and even-even, respectively.

For spherical nuclei with degenerate levels, the nuclear spin is defined as the maximum value of j_z , which is $|j|$. Thus, for a spherical nucleus we cannot use as an o–e spin assignment the Ω value automatically provided for the last occupied single-particle level, since this level is randomly assigned any Ω value in the range $1/2$ to $|j|$. For slightly deformed nuclei one could in principle use deformed assignments, but in practice it would be unrealistic to list a deformed assignment for a nucleus with a calculated deformation of, say, $\varepsilon_2 = 0.01$. We therefore proceed in the following manner. For nuclei with a deformation $|\varepsilon_2| \geq \varepsilon_{\text{crit}}$ a deformed assignment is used. For nuclei with $|\varepsilon_2| < \varepsilon_{\text{crit}}$ we calculate the levels for a spherical shape and adopt the spherical spin assignment thus

obtained. When we compared in Ref. [6] calculated odd-particle spins and parities with experimental data, we showed that the results are quite insensitive to the exact value of $\varepsilon_{\text{crit}}$. We choose here

$$\varepsilon_{\text{crit}} = 0.15$$

For nuclei whose ground states are calculated to have the octupole shape parameter $\varepsilon_3 \neq 0$ parity is not conserved and is therefore not tabulated. For axially asymmetric ground-state shapes we tabulate the spin corresponding to the lowest axially symmetric minimum.

2.2. Pairing gaps

In an extensive study of nuclear pairing [13] we investigated both a macroscopic pairing model and a microscopic pairing model, which was solved in both the BCS [14–17] and Lipkin–Nogami (LN) [18–20] approximations. For each model we determined a preferred form of the effective pairing interaction and optimum values of the constants of the effective pairing interaction, which were obtained from a least-squares minimization of the difference between calculated pairing gaps and experimental o–e mass differences.

An important result of our previous study is that it is crucial to differentiate between several pairing-gap concepts. The most simple concept is the *average* pairing gap Δ , which is an algebraic relationship such as c/\sqrt{A} , where c is a constant and A is the number of nucleons in the system being studied. The average pairing gap may be regarded as a macroscopic model for the nuclear pairing gap, and it may therefore be directly compared with experimental o–e mass differences.

When a microscopic approach is used the situation is considerably more complicated. In this case the quantities that are compared to experimental o–e mass differences are obtained as solutions to microscopic pairing equations, for example the BCS or LN equations. In the BCS method it is Δ that should be directly compared to the o–e mass differences. However, in the LN approximation it is the sum of the pairing gap Δ and the number-fluctuation constant λ_2 , where Δ and λ_2 are obtained as solutions of the LN equations, that should be compared to o–e mass differences. We denote this sum by Δ_{LN} . Thus, $\Delta_{\text{LN}} = \Delta + \lambda_2$.

To solve the usual pairing equations [13] one needs in addition to single-particle energies also the value of the pairing-strength constant G . This constant depends in a complicated way on the number of levels included in the calculation and on the particular nuclear region considered. However, it may be determined from an effective-interaction pairing gap Δ_G by use of a Strutinsky-like procedure [13]. At first sight this may seem an unnecessary complication, but the advantage is that Δ_G does not depend on the particular truncation of the single-particle level spectrum that is chosen in the calculation. Furthermore, it depends in a very simple way on Z and N . Therefore, a significant simplification is achieved if one considers Δ_G to be the primary input quantity for pairing calculations, with the constants that enter the function that defines Δ_G to be the pairing-model effective-interaction constants.

In our earlier study [13] we obtained the following preferred functional form for the effective-interaction pairing gap Δ_G :

$$\begin{aligned} \Delta_{Gp} &= \frac{rB_s}{Z^{1/3}} e^{-tI^2} \\ \Delta_{Gn} &= \frac{rB_s}{N^{1/3}} e^{-tI^2} \end{aligned} \quad (1)$$

Here Z and N are the numbers of protons and neutrons, respectively, $I = (N - Z)/(N + Z)$ is the relative neutron excess, and B_s is the surface area of the nucleus divided by the surface area of the spherical shape. From root-mean-square minimizations we

obtained results consistent with $t = 0$ for both the BCS and LN models. For these cases Eq. (1) simplifies to

$$\begin{aligned} \Delta_{Gp} &= \frac{rB_s}{Z^{1/3}} \\ \Delta_{Gn} &= \frac{rB_s}{N^{1/3}} \end{aligned} \quad (2)$$

and the effective-interaction pairing gap Δ_G is determined by one constant, r , for the entire nuclear chart, for both protons and neutrons.

In our nuclear mass calculation [21] we performed a refined determination of the effective pairing-interaction constant r , with the result that we adopted the value $r = 3.2$ MeV instead of the earlier value [13] $r = 3.3$ MeV. For details we refer to these earlier studies [13,21]. Although we revised the effective-interaction pairing constant r by 3%, the earlier extensive pairing study [13] can still serve as an excellent guide to the properties of our current pairing model. Below we present further results obtained in the current model. The approaches above have been further refined in Ref. [22] but since in practice there would be little difference compared to our treatment here, we do not adopt those very time-consuming steps.

2.3. A word about units

For the benefit of workers in other fields, who are often confused by the conventions adopted in atomic masses, we mention that the reason that the atomic mass excess is tabulated instead of the atomic mass itself is simply to eliminate the repetitive tabulation of additional leading numbers that can easily be restored by adding the mass number A times the mass unit u , which is 1/12 the mass of the ^{12}C atom, to the tabulated quantity. Also, the reason that the atomic mass is considered rather than the nuclear mass is that historically, the former has been the actual experimentally measured quantity, whereas the latter is less accurate because its extraction requires a knowledge of the binding energy of the Z atomic electrons. However, recent developments now allow the nuclear mass to be measured directly [23].

For those applications where it is necessary to know the actual mass of the nucleus itself, its value (in MeV) can be found from the atomic mass excess or from the total binding tabulated in Ref. [1] by use of the relationships

$$\begin{aligned} M_{\text{nucleus}}(Z, N) &= (Z + N)u + M(Z, N) - Zm_e + a_{\text{el}}Z^{2.39} \\ &= (Z + N)u + ZM_{\text{H}} + NM_{\text{n}} - E_{\text{bind}}(Z, N) \\ &\quad - Zm_e + a_{\text{el}}Z^{2.39} \end{aligned} \quad (3)$$

where $m_e = 0.51099906$ MeV is the mass of the electron [24,25]. As discussed in Ref. [21], the value $u = 931.5014$ MeV that was used in the interim 1989 mass evaluation [26] should be used for the atomic mass unit in Eq. (3).

2.4. Neutron separation energies

The one- and two-neutron separation energies $S_{1n}(Z, N)$ and $S_{2n}(Z, N)$ are obtained from the mass excesses or total binding energies through the differences

$$\begin{aligned} S_{1n}(Z, N) &= M(Z, N - 1) + M_n - M(Z, N) \\ &= E_{\text{bind}}(Z, N) - E_{\text{bind}}(Z, N - 1) \\ S_{2n}(Z, N) &= M(Z, N - 2) + 2M_n - M(Z, N) \\ &= E_{\text{bind}}(Z, N) - E_{\text{bind}}(Z, N - 2) \end{aligned} \quad (4)$$

2.5. β -decay properties based on Gamow–Teller transitions

The formalism we use to calculate Gamow–Teller (GT) β -strength functions is fairly lengthy, since it involves adding pairing and Gamow–Teller residual interactions to the folded-Yukawa single-particle Hamiltonian and solving the resulting Schrödinger equation in the quasi-particle random-phase approximation (QRPA). Because this model has been completely described in two previous papers [27,7], we refer to those two publications for a full model specification and for a definition of notation used. We restrict the discussion here to an overview of features that are particularly relevant to the results discussed in this paper.

It is well known that wave functions and transition matrix elements are more affected by small perturbations to the Hamiltonian than are the eigenvalues. When transition rates are calculated it is therefore necessary to add residual interactions to the folded-Yukawa single-particle Hamiltonian in addition to the pairing interaction that is included in the mass model. Fortunately, the residual interaction may be restricted to a term specific to the particular type of decay considered. To obtain reasonably accurate half-lives it is also very important to include ground-state deformations. Originally the QRPA formalism was developed for and applied only to spherical nuclei [28,29]. The extension to deformed nuclei, which is necessary in global calculations of β -decay properties, was first described in 1984 [27].

To treat Gamow–Teller β decay we therefore add the Gamow–Teller force

$$V_{\text{GT}} = 2\chi_{\text{GT}} : \beta^{1-} \cdot \beta^{1+} : \quad (5)$$

to the folded-Yukawa single-particle Hamiltonian, after pairing has already been incorporated, with the standard choice $\chi_{\text{GT}} = 23 \text{ MeV/A}$ [28,29,27,7]. Here $\beta^{1\pm} = \sum_i \sigma_i t_i^{\pm}$ are the Gamow–Teller β^{\pm} -transition operators, and the colons mean that all contractions in the quasi-particle representations of the enclosed operator are to be ignored. The correlations generated by the GT force are of specific importance to the Gamow–Teller decays, which are the dominant decay modes in many nuclei of interest in astrophysical and radioactive-ion-beam applications. Other types of residual interactions are of importance for other decay modes, but leave the Gamow–Teller decay rates unaffected, and can consequently be ignored for our present purpose.

It should be noted that the QRPA treatment formulated by Halbleib and Sorensen [29] incorporates only particle–hole correlations of specific importance to GT transitions. It has been proposed [30,31] that the effect of neglected particle–particle terms may be significant for β^+ transitions. We later address this question in Section 3.4. Moreover, the QRPA treatment may not contain enough ground-state correlations [31]. However, in view of the present uncertainties regarding these points we leave possible further refinements for future consideration. Some additional comments, in particular in regard to quenching of the β -strength function, are made in Section 3.4.

We next discuss the calculation of β -decay half-lives for Gamow–Teller decay and the related problem of calculating β -delayed neutron-emission probabilities. In our discussion of the model we use, unless otherwise stated, expressions and notation from the books by deShalit and Feshbach [32] and Preston [33] and from our previous publications [27,7].

2.5.1. β^- and β^+ decay

The process of β decay occurs from an initial ground state or excited state in a mother nucleus to a final state in the daughter nucleus. For β^- decay, the final configuration is a nucleus in some excited state or its ground state, an electron (with energy E_e), and an antineutrino (with energy E_ν). The transition from the initial

to the final state then involves an operator H , which is the weak-interaction Hamiltonian density. Once the operator H is known, the probability per unit time for emitting an electron with momentum between $\hbar\mathbf{k}_e$ and $\hbar(\mathbf{k}_e + d\mathbf{k}_e)$ and an antineutrino with momentum between $\hbar\mathbf{k}_\nu$ and $\hbar(\mathbf{k}_\nu + d\mathbf{k}_\nu)$ is given by the well-known Golden Rule

$$dw_{fi} = \frac{2\pi}{\hbar} |H_{fi}|^2 \frac{d\mathbf{k}_e}{(2\pi)^3} \frac{d\mathbf{k}_\nu}{(2\pi)^3} \delta(E_0 - E_e - E_\nu) \quad (6)$$

where E_0 is the energy released in the β decay.

In the above expression one should sum over the spins of the final states and average over the initial spins. Our interest here is mainly to obtain the probability of decay to a specific final nuclear state f . To obtain this probability one must go through several lengthy steps. These steps are usually glossed over in discussions of these models, but one fairly extensive account of these steps is given in the book by Preston [33]. The final expression obtained through these steps for the total probability for decay to one nuclear state is

$$w_{fi} = \frac{m_0 c^2}{\hbar} \frac{\Gamma^2}{2\pi^3} |M_{fi}|^2 f(Z, R, \varepsilon_0) \quad (7)$$

where R is the nuclear radius and $\varepsilon_0 = E_0/m_0 c^2$, with m_0 the electron mass. For consistency with standard treatments of β decay we here use SI units. Moreover, $|M_{fi}|^2$ is the nuclear matrix element, which is also the β -strength function. The dimensionless constant Γ is defined by

$$\Gamma \equiv \frac{g}{m_0 c^2} \left(\frac{m_0 c}{\hbar} \right)^3 \quad (8)$$

where g is the Gamow–Teller coupling constant. There is a misprint concerning this quantity in the book [32] by deShalit and Feshbach, where in their Chapter 9, Eq. (2.11) the exponent is erroneously given as 2 instead of the correct value 3. The quantity $f(Z, R, \varepsilon_0)$ has been extensively discussed and tabulated elsewhere [33,32,34].

2.5.2. β^- delayed-neutron emission

When the population of an excited state in a daughter nucleus after β^- decay is above the one-neutron threshold (S_{1n}), so called ‘delayed’ neutrons may be emitted. In our previous compilations, the delayed neutron-emission probability was calculated using an energy window argument where the β -strength was partitioned between the neutron separation energies in subsequent daughter generations [6]. This sharp-cutoff model relies on the observation that once the neutron channel is open, to first approximation, it dominates over γ -decay above the particle threshold.

As an example take the special case in which the two neutron separation energy, S_{2n} , in the daughter nucleus is greater than Q_β , the energy released in the ground-state to ground-state β decay, the probability for β -delayed one-neutron emission, in percent, is given by

$$P_{1n} = 100 \frac{\sum_{S_{1n} < E_f < Q_\beta} w_{fi}}{\sum_{0 < E_f < Q_\beta} w_{fi}} \quad (9)$$

where $E_f = Q_\beta - E_0$ is the excitation energy in the daughter nucleus and S_{1n} is the one-neutron separation energy in the daughter nucleus. As long as the $S_{\nu n}$ in the daughter nucleus increases monotonically with increasing ν , this can be generalized to

$$P_{\nu n}^> = 100 \frac{\sum_{S_{\nu n} < E_f < Q_\beta} w_{fi}}{\sum_{0 < E_f < Q_\beta} w_{fi}} \quad (10)$$

where $P_{\nu n}^>$ is the probability of emitting ν or more neutrons. For some very neutron-rich nuclei near the neutron drip line however, the $S_{\nu n}$ no longer increase monotonically with increasing ν , leading

to the use of “...” in the columns for delayed-neutron emission probabilities in our previous tables.

In a more microscopic theory, the sequence of emitted neutrons is in competition with γ de-excitation at every stage of particle emission. We address this in our current global table by coupling the QRPA calculation with a statistical Hauser–Feshbach model [35]. This model enhancement, which we denote QRPA+HF for short, explicitly takes neutron competition with γ emission into account by following the statistical decay of each subsequent daughter generation until the initial excitation energy is exhausted. The fundamental assumption of this new model is that the initial population of the daughter nucleus can be treated as the formation of a compound nucleus, which depends only on its overall properties rather than the details of the formation mechanism [36]. The statistical Hauser–Feshbach stage of the calculation relies on several new ingredients including, for example, the γ -strength function, nuclear level density and the nuclear optical model. Additional evaluated data taken from RIPL-3/ENSDF may complement the QRPA β -decay strength when available. Details of the QRPA+HF model can be found in Ref. [10].

In this approach it is, in contrast to our earlier work, possible to treat situations where S_{vn} is not monotonically increasing with ν and therefore it is possible to calculate delayed-neutron emission probabilities from stability out to the neutron drip line with better reliability. However, in all figures and the smaller tables in the paper itself (except in Table 1) we have used the sharp-cutoff model, for consistency with the previous calculations to which we compare, since the earlier data were calculated in the sharp-cutoff model. The inclusion of n- γ competition results in a small further improvement with respect to experimental data as shown in our discussions of Table 1.

2.5.3. β -decay half-life

To obtain the half-life with respect to β decay one sums up the decay rates w_{fi} to the individual nuclear states in the allowed energy window. The half-life is then related to the total decay rate by

$$T_{\beta} = \frac{\ln 2}{\sum_{0 < E_f < Q_{\beta}} w_{fi}} \quad (11)$$

The above equation may be rewritten as

$$T_{\beta} = \frac{\hbar}{m_0 c^2} \frac{2\pi^3 \ln 2}{\Gamma^2} \frac{1}{\sum_{0 < E_f < Q_{\beta}} |M_{fi}|^2 f(Z, R, \varepsilon_0)} = \frac{B}{\sum_{0 < E_f < Q_{\beta}} |M_{fi}|^2 f(Z, R, \varepsilon_0)} \quad (12)$$

with

$$B = \frac{\hbar}{m_0 c^2} \frac{2\pi^3 \ln 2}{\Gamma^2} \quad (13)$$

For the value of B corresponding to Gamow–Teller decay we use

$$B = 4131 \text{ s} \quad (14)$$

The energy released in ground-state to ground-state electron decay is given in terms of the atomic mass excess $M(Z, N)$ or the total binding energy $E_{\text{bind}}(Z, N)$ by

$$Q_{\beta^-} = M(Z, N) - M(Z + 1, N - 1) = E_{\text{bind}}(Z + 1, N - 1) - E_{\text{bind}}(Z, N) + M_n - M_H \quad (15)$$

whereas in positron decay it is

$$Q_{\beta^+} = M(Z, N) - M(Z - 1, N + 1) - 2m_0 c^2 = E_{\text{bind}}(Z - 1, N + 1) - E_{\text{bind}}(Z, N) + M_H - M_n - 2m_0 c^2 \quad (16)$$

The asymmetric appearance of the electron mass in the energy released in electron and positron decay occurs because in the former case the emitted electron goes into a free electron orbit around the daughter atom, whereas in the latter case one positron is emitted from the nucleus and one excess electron is released from the electron shell around the nucleus.

The above formulas apply to β^- and β^+ decay. For calculating half-lives, electron capture must also be considered.

2.5.4. Electron capture

The energy released in ground-state to ground-state electron capture (EC) is

$$Q_{\text{EC}} = M(Z, N) - M(Z - 1, N + 1) - \text{electron binding energy} = E_{\text{bind}}(Z - 1, N + 1) - E_{\text{bind}}(Z, N) + M_H - M_n - \text{electron binding energy} \quad (17)$$

so that

$$Q_{\text{EC}} = Q_{\beta^+} + 2m_0 c^2 - \text{electron binding energy} \quad (18)$$

This shows that in some cases electron capture is possible whereas β^+ decay is energetically forbidden. The total probability for decay to one nuclear state is again given by Eq. (7), where the final state f now refers to electron capture over all electron shells or to β^+ decay.

2.5.5. Details of tabulated quantities

The total half-life with respect to β^+ decay and EC is given by

$$T_{\beta} = \frac{\ln 2}{\left(\sum_{0 < E_f < Q_{\text{EC}}} w_{fi}^{\text{EC}} + \sum_{0 < E_f < Q_{\beta^+}} w_{fi}^{\beta^+} \right)} \quad (19)$$

As pointed out above, the energies involved in the two terms in the sum differ by $2m_0 c^2$ minus the electron binding energy and for some nuclear final states $w_{fi}^{\beta^+}$ may be zero (energetically forbidden) while w_{fi}^{EC} is not.

To obtain an initial feel for these models we first studied the approximate relativistic expressions given by Preston [33]. The results obtained by use of these expressions for β^- decay are typically within 20% of those obtained in the more exact treatment by Gove and Martin [34], who have made extensive tabulations of $f(Z, R, \varepsilon_0)$. Despite the smallness of the differences, we have obtained the computer code used to generate the tables of Gove and Martin and incorporated it into our programs. The results presented here have been obtained with this more accurate treatment.

In Table 1 we present seven quantities related to β decay, namely $P_{0n}, P_{1n}, P_{2n}, \bar{E}_n, \bar{n}, Q_{\beta}$, and T_{β} . The precise meaning of these quantities is as follows. When both β^+ and β^- decay are possible, we tabulate \pm in the columns for Q_{β} and T_{β} . When neither β^+ nor β^- decay is possible, we tabulate “...” in the column for Q_{β} , “ β -stable” in the column for T_{β} , and blank fields in the columns for $P_{0n}, P_{1n}, P_{2n}, \bar{E}_n$ and \bar{n} . When only EC or β^+ decay is possible, we tabulate Q_{EC} in the column for Q_{β} , the calculated half-life with respect to Gamow–Teller decay for combined EC and β^+ decay in the column for T_{β} , and blank fields in the columns for $P_{0n}, P_{1n}, P_{2n}, \bar{E}_n$ and \bar{n} . The electron binding energy has been neglected in the determination of Q_{EC} . Finally, when only β^- decay is possible, we tabulate Q_{β^-} in the column for Q_{β} , the calculated half-life with respect to Gamow–Teller β^- decay with inclusion of our treatment of first-forbidden decay and spreading of the quasi-particle energies, in the column for T_{β} , and the calculated occupation probabilities after β -delayed neutron emission in the columns for P_{0n}, P_{1n} , and P_{2n} , and the calculated average neutron energy and average number of neutrons emitted in the columns for \bar{E}_n and \bar{n} .

To obtain more accurate values of T_β and $P_{\nu n}$, we have determined the Q values needed from experimental mass differences when all experimental masses that are required for the calculation are available and otherwise from calculated mass differences. The neutron separation energies that enter in the calculations of $P_{\nu n}$ are also obtained from experimental mass differences when available and otherwise from calculated mass differences. Calculated deformations are always used, even when experimental data are available.

2.6. Proton separation energies

The one- and two-proton separation energies $S_{1p}(Z, N)$ and $S_{2p}(Z, N)$ are obtained from mass excesses $M(Z, N)$ or total binding energies E_{bind} through the differences

$$\begin{aligned} S_{1p}(Z, N) &= M(Z-1, N) + M_{\text{H}} - M(Z, N) \\ &= E_{\text{bind}}(Z, N) - E_{\text{bind}}(Z-1, N) \\ S_{2p}(Z, N) &= M(Z-2, N) + 2M_{\text{H}} - M(Z, N) \\ &= E_{\text{bind}}(Z, N) - E_{\text{bind}}(Z-2, N) \end{aligned} \quad (20)$$

The above equations actually yield hydrogen separation energies, but since they differ from proton separation energies by only 13.6 eV in the former case and 27.2 eV in the latter case, we can safely neglect this distinction.

2.7. α -decay properties

The 12 heaviest known elements, discovered since 1981, namely $_{107}\text{Bh}$ (bohrium), $_{108}\text{Hs}$ (hassium), $_{109}\text{Mt}$ (meitnerium), $_{110}\text{Ds}$ (darmstadtium), $_{111}\text{Rg}$ (roentgenium), $_{112}\text{Cn}$ (copernicium), $_{113}\text{Nh}$ (nihonium), $_{114}\text{Fl}$ (flerovium), $_{115}\text{Mc}$ (moscovium), $_{116}\text{Lv}$ (livermorium), $_{117}\text{Ts}$ (tennessine), and $_{118}\text{Og}$ (oganeson) were often identified from their α -decay chains. This was exclusively the case for the first 6 elements in the above list, discovered at the GSI [39–44] which all eventually decay to known nuclides with previously known α -decay properties, which allows for an unambiguous identification. Element 113 (Nh) discovered in a series of experiments at Riken, was also identified through its α -decay chain [45–47]. The subsequent five elements in the range $Z = 114$ – 118 were discovered at JINR, Dubna and the identification of the nuclides produced was more complex because α -decay chains from the evaporation residue nuclei initially produced did not terminate in nuclides with previously observed α -decay properties but usually terminated by fission. Identification was achieved by producing the new nuclides in several different reactions, details are in the review in Ref. [48] and more recent papers in Refs. [49,50].

Because α -decay chains play a decisive role in the identification of new nuclear species in the beginning of the decay chain whereas fission does not, models of α -decay properties are therefore highly useful for designing and interpreting experiments that explore the limits of stability of the heaviest elements. Obviously, one also needs to consider whether spontaneous-fission half-lives are significantly shorter than the α -decay half-lives. In that case spontaneous-fission would be the dominating decay mode and α decay might not be detected. We have previously published extensive calculations of fission properties in the heavy-element region, for most nuclides between the proton and neutron drip lines [51,52].

The single most important quantity determining the α -decay half-life is the energy release Q_α . In the heavy-element region an uncertainty of 1 MeV in Q_α corresponds to an uncertainty in the calculated half-life of a factor of $10^{\pm 5}$ for $Q_\alpha \approx 7$ MeV and $10^{\pm 3}$ for $Q_\alpha \approx 9$ MeV [53]. The energy release Q_α in ground-state to

ground-state decay is obtained from mass excesses or total binding energies through

$$\begin{aligned} Q_\alpha(Z, N) &= M(Z, N) - M(Z-2, N-2) - M(2, 2) \\ &= E_{\text{bind}}(Z-2, N-2) + E_{\text{bind}}(2, 2) - E_{\text{bind}}(Z, N) \end{aligned} \quad (21)$$

where the ^4He mass excess $M(2, 2)$ is 2.42 MeV and the binding energy $E_{\text{bind}}(2, 2)$ is 28.30 MeV.

The α -decay half-lives T_α presented in Table 1 are estimated by use of the Viola–Seaborg relationship [11]

$$\log(T_\alpha/\text{s}) = (aZ + b)(Q_\alpha/\text{MeV})^{-1/2} + (cZ + d) + h_{\log} \quad (22)$$

where Z is the proton number of the parent nucleus. Instead of using the original set of constants suggested by Viola and Seaborg we use the more recent values

$$\begin{aligned} a &= +1.66175, & b &= -8.5166 \\ c &= -0.20228, & d &= -33.9069 \end{aligned} \quad (23)$$

that were determined in an adjustment taking into account new data for e–e nuclei [12]. The quantity h_{\log} in the logarithm for the α -decay half-life in Eq. (22) accounts for the hindrances associated with odd proton and neutron numbers as given by Viola and Seaborg [11], namely

$$h_{\log} = \begin{cases} 0, & Z \text{ and } N \text{ even} \\ 0.772, & Z \text{ odd and } N \text{ even} \\ 1.066, & Z \text{ even and } N \text{ odd} \\ 1.114, & Z \text{ and } N \text{ odd} \end{cases} \quad (24)$$

The uncertainties in the calculated half-lives due to this semi-empirical approach are far smaller than uncertainties due to errors in the calculated energy release.

3. Tabulated results

Deformed single-particle models provide the starting point for the calculations of nuclear ground-state masses and deformations, which were extensively discussed in our previous paper [1]. Since nuclear wave functions are also provided by these models, one may also use these models to determine electromagnetic moments and transition rates, β -strength functions, β -decay half-lives, and β -delayed neutron-emission probabilities.

The results of our calculations of many such nuclear properties useful for astrophysical and radioactive-ion-beam applications are presented in Table 1. Beyond $Z \approx 120$ and/or $N \approx 190$ the calculated potential-energy surfaces on which all the nuclear-chart-type color plots in this paper are based are very flat and the barrier with respect to fission is almost zero. Because the ground state is identified as the deepest local pocket in this flat surface, one obtains rapidly fluctuating deformations, separation energies, and energy releases between neighboring nuclei. These results are of no physical significance, since the spontaneous-fission half-life of these nuclei will be much too short to allow experimental observation. This can be checked against the calculated barrier heights in Ref. [52].

3.1. Odd-nucleon spin and parity

The most important constants in the folded-Yukawa single-particle model are the diffuseness and spin–orbit constants, which were determined [54] in 1974 in the rare-earth and actinide regions from comparisons between calculated and experimental single-particle level orderings. The global nuclear-mass study [55] in 1981 introduced a set of constants valid for the entire nuclear chart in terms of an expression for the spin–orbit strength that is linear in $A = N + Z$, with the expression fully defined by

the previously determined values in the actinide and rare-earth regions. The adjustment procedure that was used to determine the diffuseness and spin–orbit constants is somewhat subjective because it was not based on exact numerical comparisons between all available experimental data and calculations. Instead, single-particle level diagrams as functions of deformation were calculated for several sets of constants. Then their structure was compared to a few selected nuclei, and the set perceived to give the best agreement was chosen. We have already shown that the current values of the spin–orbit and diffuseness strengths give significantly better masses than do the original 1970 values, see Figs. 1 and 2 in Ref. [3]. An equivalent discussion and figure (Fig. 36) is in Ref. [1]. The model error is about 14%, smaller with the current set of single-particle parameters. This is a very satisfactory consistency check of the model: better single-particle levels obtained with new parameters that were determined without any consideration of nuclear masses anyway result in a substantially better mass model.

We are now also able to compare for the first time, in a well-defined way, the different levels of agreement obtained between calculated and observed ground-state spins for o–e and e–o nuclei for the two sets spin–orbit and diffuseness constants. We have for each nucleus a calculated ground-state shape. We calculate for this shape the single-particle spectra and for systems with an odd proton or odd neutron we assign as the calculated ground-state spin the Ω quantum number of this level. In this comparison we exclude nuclei with $\varepsilon_3 > 0$. We also exclude nuclei with $5^\circ \leq \gamma \leq 55^\circ$. For smaller axial asymmetry we use the ground-state shape calculated without consideration of axial asymmetry. One ambiguity concerns the comparison for nuclei calculated to be weakly deformed. We have chosen to base the comparison on spherical assignments if $|\varepsilon_2| < 0.15$ in the calculations. The data set we compare to here is smaller than in an earlier comparison in Ref. [6], which may seem unexpected. There are two reasons for this: (1) we exclude nuclei with calculated axial or reflection asymmetry and (2) the earlier data set we compared to was extracted from a BNL data base by data evaluators; unknown to us at the time, they included nuclei with spin assignments given by “systematics”. Here we compare to the data in NUBASE2012 evaluation [56].

The results for the 1970 single-particle constants are shown in Figs. 1 and 2. For the current set the results are in Figs. 3 and 4. For the 1970 constants we obtain agreement in 308 cases out of 550 that is disagreement in 242 cases, equivalently an overall agreement of 56%. With the current single-particle parameters (determined in 1974 [54] and 1981 [55]) we obtain agreement in 328 out of the 550 cases, that is disagreement in 222 cases, equivalently an overall agreement of 59.6%. We have found that these results are not very sensitive to changes in the choice concerning when to use spherical assignments. Outside the regions of transition between spherical and deformed nuclear shapes the disagreements between the calculated and experimental spins and parities usually arise because several deformed or spherical levels lie very close together, making accurate calculations difficult. For magic numbers there is an almost stunning agreement, which, taken together with our analysis of the disagreements in other regions, makes it unlikely that a significantly better *global* set of constants can be found. The existing disagreements in the spherical and well-deformed regions probably arise from residual interactions outside the framework of the single-particle model.

Transitional regions are difficult to describe both in models of the macroscopic–microscopic type and in self-consistent models based on two-body interactions such as Hartree–Fock models. In transitional regions the potential-energy surface is normally very flat over a large region of deformation, and the nuclear wave func-

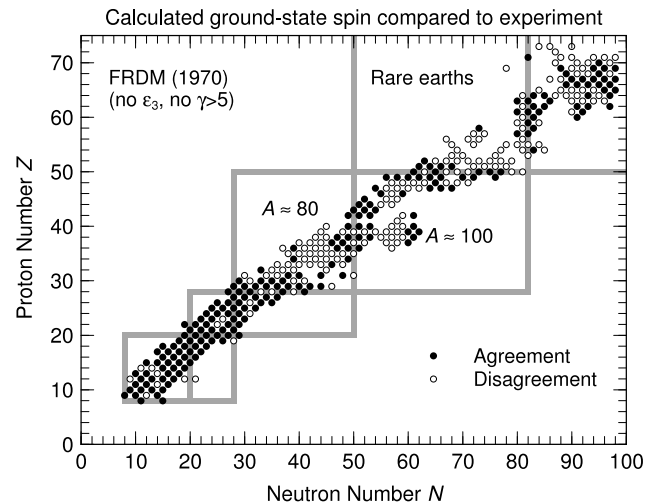


Fig. 1. Calculated spins for o–e nuclides compared to experiment in the light- and medium-mass regions. The calculations are carried out with the original 1970 spin–orbit and diffuseness parameter values, see text. Magic proton and neutron numbers are indicated by wide, gray lines.

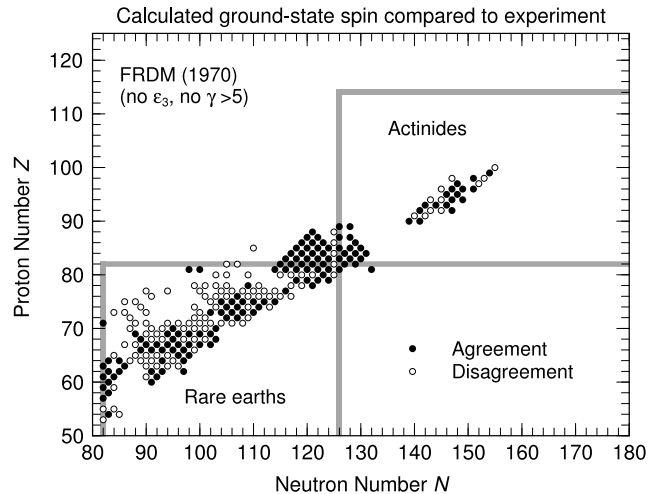


Fig. 2. Calculated spins for o–e nuclides compared to experiment in the heavy-mass regions. The calculations are carried out with the original 1970 spin–orbit and diffuseness parameter values, see text. Magic proton and neutron numbers are indicated by wide, gray lines.

tion may be a superposition of states corresponding to different shapes. It is therefore to be expected that our simple prescription of associating the odd-nucleus spin with the spin of the last occupied single-particle level at a calculated deformation would fail here. There is an obvious disagreement over a large number of nuclides in the $A \approx 80$ region that we attribute to the prevalence of strong shape-coexistence in this region [57,9]. However, in the spherical and well-deformed regions the agreement is impressive, in particular when we note that rather small inaccuracies in the calculated values of either ε_2 or ε_4 would move the system across a level crossing and yield a different spin–parity combination. Far from stability, where the β -decay Q values are substantial, the effect of an error in the ground-state spin on the calculated T_β and P_{vn} are less serious than near stability. A global study of ground-state spins calculated in the FRDM, and HFBCS, the latter with three different Skyrme forces are in Ref. [58].

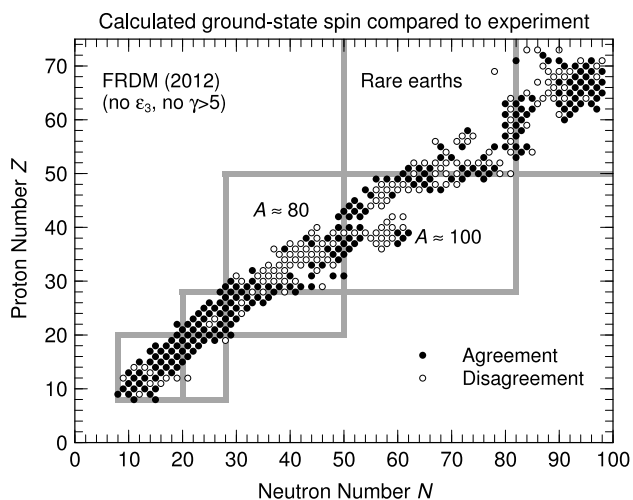


Fig. 3. Calculated spins for o–e nuclides compared to experiment in the light- and medium-mass regions. The calculations are carried out with the current (same since 1974/1981) spin–orbit and diffuseness parameter values, see text. Magic proton and neutron numbers are indicated by wide, gray lines.

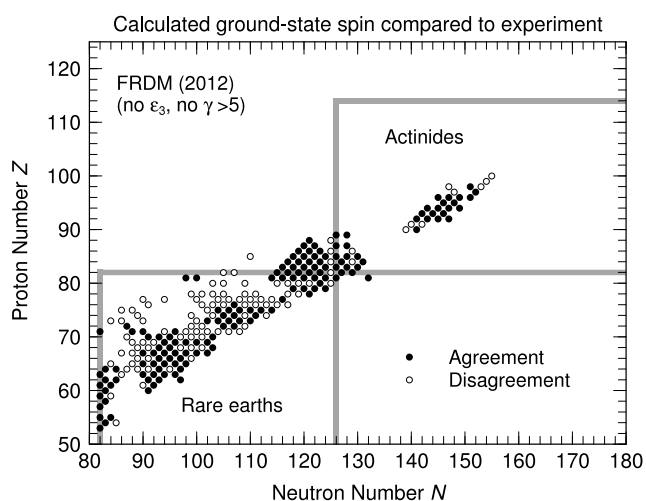


Fig. 4. Calculated spins for o–e nuclides compared to experiment in the heavy-mass regions. The calculations are carried out with the current (same since 1974/1981) spin–orbit and diffuseness parameter values, see text. Magic proton and neutron numbers are indicated by wide, gray lines.

3.2. Pairing gaps

Our results here are sufficiently similar to our previous tabulation in [6], so apart from tabulating the precise results corresponding to FRDM(2012) we restrict ourselves to emphasizing the most important points we learned previously [13,6]:

1. The preferred form of the pairing gap given by Eq. (2) lowers the rms deviation between calculated pairing gaps and o–e mass differences by about 20% relative to the rms deviation obtained with the standard choice c/\sqrt{A} for the average pairing-gap $\bar{\Delta}$ or effective-interaction pairing gap Δ_G .
2. The Lipkin–Nogami pairing model yields an rms deviation between calculated and experimental pairing gaps that is 14% lower than the rms deviation in the BCS approximation.
3. One cannot deduce the optimum constants for a microscopic pairing model by simplified macroscopic calculations.

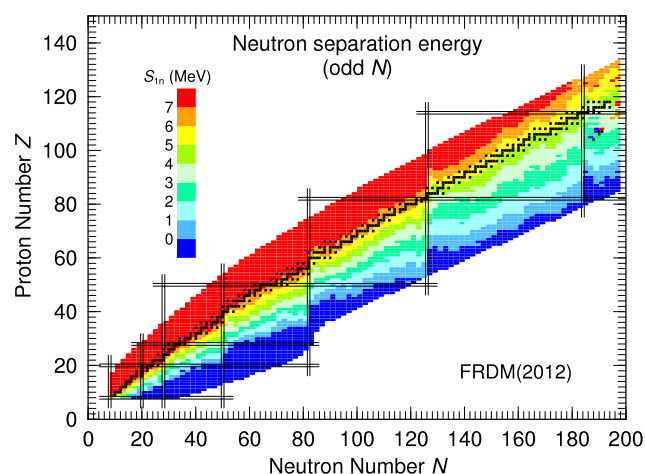


Fig. 5. Neutron separation energy S_{1n} for odd-neutron nuclei. Each odd-neutron nucleus is represented by a color field two units wide and one unit high. Black squares denote β -stable nuclei. Where available, experimental masses were used to determine the location of β -stable nuclei; otherwise, calculated masses were used. Magic proton and neutron numbers are indicated by pairs of parallel lines. (For a colour version of this figure the reader is referred to the web version of this article.)

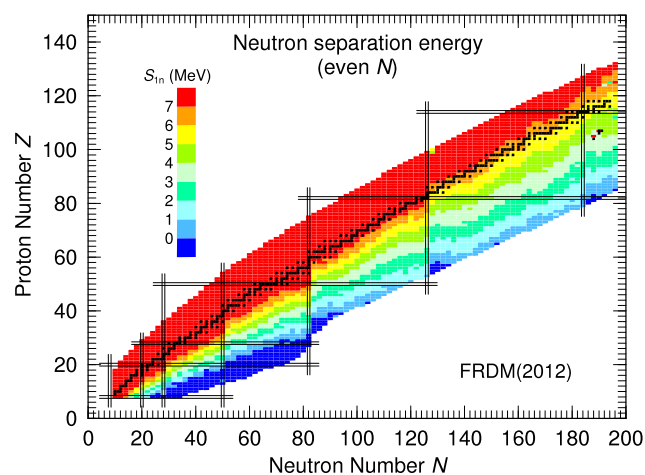


Fig. 6. Neutron-separation energy S_{1n} for even-neutron nuclei. Each even-neutron nucleus is represented by a color field two units wide and one unit high. As in Fig. 5 black squares denote β -stable nuclei. Magic proton and neutron numbers are indicated by pairs of parallel lines. (For a colour version of this figure the reader is referred to the web version of this article.)

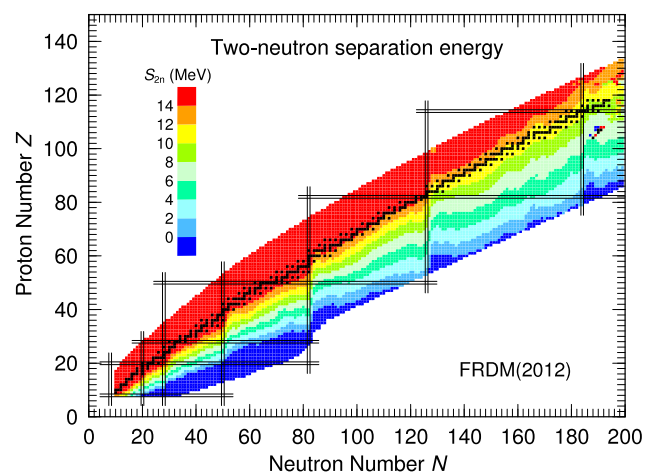


Fig. 7. Two-neutron separation energy S_{2n} for odd- and even-neutron nuclei. Each nucleus is represented by a color field one unit wide and one unit high. Black squares and lines have the same meaning as in Fig. 5. (For a colour version of this figure the reader is referred to the web version of this article.)

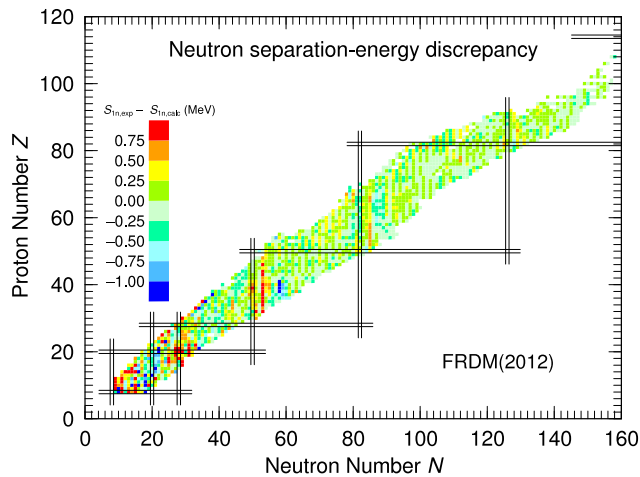


Fig. 8. Discrepancy between experimental and calculated one-neutron separation energies. Magic proton and neutron numbers are indicated by pairs of parallel lines. Large discrepancies occur where there are large changes in the deviations between calculated and experimental masses between neighboring nuclei, namely at some magic numbers and in the light region of nuclei. In the deformed rare-earth and actinide regions the discrepancy is very small. (For a colour version of this figure the reader is referred to the web version of this article.)

4. It is necessary to distinguish between several pairing-gap concepts, notably the average pairing gap $\bar{\Delta}$, the effective-interaction pairing gap Δ_G used as input in microscopic calculations, and the microscopic pairing gap Δ obtained as a solution to the BCS or Lipkin–Nogami pairing equations.
5. The effective-interaction pairing-gap Δ_G does not depend explicitly on the relative neutron excess l .

In the Lipkin–Nogami pairing model which we study here, a pairing gap Δ and number-fluctuation constant λ_2 are obtained as solutions of the pairing equations. It is the sum $\Delta + \lambda_2$, which we denote by Δ_{LN} , that should be compared to o - e mass differences. There is a decrease in the individual contribution Δ_p , which is not shown or tabulated in this paper, at magic proton numbers. This decrease is compensated for by a strong increase in λ_{2p} , which results in a smooth appearance of Δ_{LNp} at magic proton numbers. For similar reasons the individual contribution Δ_n decreases considerably near magic neutron numbers. This decrease is compensated for by a strong increase in λ_{2n} , so that their sum behaves relatively smoothly at magic neutron numbers. The pairing gap Δ_{LNn} on the whole decreases with increasing A and with increasing N . There is no collapse at magic neutron numbers, in contrast to results based on the BCS approximation.

3.3. Neutron separation energies

One- and two-neutron separation energies are shown versus N and Z in Figs. 5–7. The r -process takes place primarily in the region $2.0 \text{ MeV} < S_{1n} < 3.0 \text{ MeV}$ for odd N , which is shown in light cyan-green in Fig. 5. Near $N = 50$ and $N = 82$ the region of known nuclei extends into the r -process region. The even- N drip line is located substantially farther from β stability than is the odd- N drip line. This is due to pairing effects. The two-neutron drip line, which is insensitive to pairing effects, is located between the even- N and odd- N drip lines.

The discrepancy between experimental one-neutron separation energies obtained from mass differences and calculated one-neutron separation energies is shown in Fig. 8. The largest deviations occur near magic numbers. There is a general decrease of the deviations as A increases.

3.4. β -decay properties

A detailed knowledge of the low-energy part of the β -strength function is essential for the calculation of many nuclear-structure quantities of astrophysical interest, such as the probability of β -delayed neutron and proton emission, the probability of β -delayed fission, and half-lives with respect to β decay. Experimentally it has been known for some time that the low-energy part of the β -strength function exhibits a pronounced structure [59,60] where the strength is collected in a limited number of well-localized peaks. For nuclei that are spherical in their ground state there are usually only a very few peaks within the Q_β window; for deformed nuclei the strength is more spread out, but still exhibits significant structure.

Theoretically, these main features of the β -strength function can be roughly understood on the basis of an extreme single-particle model. The peaks in the strength functions correspond to transitions between specific single-particle levels. In the spherical case the levels are highly degenerate and spaced far apart, which gives rise to very few but strong peaks in the experimental strength function. For deformed nuclei the degeneracy is removed, allowing for significantly more transitions. Thus, compared to the spherical case, there are now more peaks in the experimental strength function, but the strength of each peak is lower.

Although an extreme single-particle model explains the origin of the structure in the β -strength function and the characteristic difference between strength functions associated with deformed and spherical nuclei, a more detailed description of the strength function requires the consideration of the residual pairing and Gamow–Teller interactions discussed above. The inclusion of these terms in the potential reduces the calculated strength in the low-energy part of the strength function to about 10% of what is obtained in an extreme single-particle model [27]. Because pairing leads to a diffuse Fermi surface and consequently to some occupation probability above and to partially unfilled levels below the Fermi surface, there are decay channels open in the more refined model that are blocked in the extreme single-particle model. For deformed nuclei one often finds considerable strength for transitions between Nilsson levels whose normally assigned asymptotic quantum numbers do not allow for any transition probability according to the GT selection rules. This occurs because the conventional, asymptotic quantum-number label usually gives only the main component of the wave function corresponding to the level, but the transition strength is due to additional, smaller components, but which can still be quite large, of wave functions with other asymptotic quantum numbers. Since we perform a full diagonalization of the single-particle Hamiltonian and therefore obtain the wave function as a sum of all the asymptotic components we account for these admixtures in our model. This point has unfortunately not been understood even by people in the field, and led to substantial confusion. For example, in Ref. [61] Sood and Sheline argue for “Extended selection rules for allowed beta decays in actinides”. This is uninformed and misleading; there is no evidence or need for such a rule. The transitions these authors discuss are satisfactorily described by the normal rule for allowed Gamow–Teller transitions, and are due to the additional components of the wave functions.

The β -strength function is a sensitive measure of the underlying single-particle structure. Therefore, when a β -strength function is calculated, two conditions should ideally be fulfilled for accurate results. First, the ground-state shape of the system of interest must be accurately calculated. Second, the single-particle spectrum calculated at this shape must agree reasonably well with the experimental situation, especially for the levels closest to the Fermi surface. The calculation of a β -decay half-life also requires the energy released in the decay, or equivalently the ground-state masses of the mother and daughter nuclei. We now use the

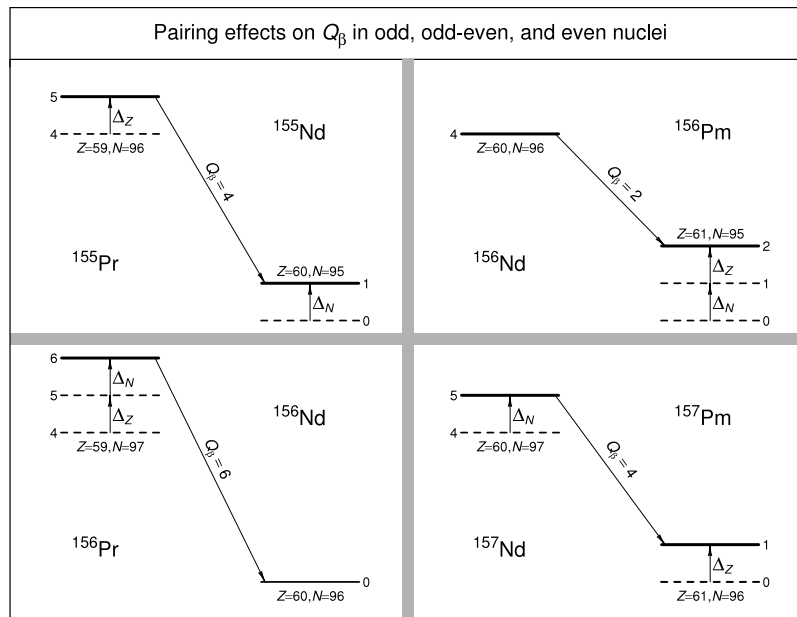


Fig. 9. Pairing effects on Q_β . To highlight the pairing effect we schematically postulate a Q_β value of 4 MeV in the absence of pairing effects. We also assume the proton and neutron pairing gaps are 1 MeV, that is an odd-proton or an odd neutron decreases the binding energy (increases the mass) by 1 MeV and by 2 MeV in case of both an odd proton and an odd neutron. For each nuclide the lowest dashed line represents what the ground-state energy would be in the absence of pairing; the thick solid line the actual ground-state energy.

folded-Yukawa single-particle potential, which has been applied to the calculation of nuclear masses, shapes, and other ground-state quantities for nuclei throughout the periodic system. Results presented in [55,62,21,52,1] show that these requirements are met globally. We noted in Section 3.1 that for spherical nuclei there was excellent agreement between calculated and measured ground-state spins and parities. For deformed and especially transitional regions, disagreements occurred somewhat more often. However, when a disagreement occurs, a level with the correct spin and parity is often calculated to be very near the last occupied orbital. If this situation occurs in the daughter nucleus there is a rather small effect on the calculated β -strength function. If, however, in a decay from an o–e or o–o nucleus the unpaired proton or neutron in the parent is in an incorrect level the effect can be more significant, in particular for low Q_β values. For large Q_β values, the effect of inaccuracies in level order and spin assignment is expected to be less serious. Therefore, it is reasonable to expect characteristic differences in the discrepancies between calculated and experimental half-lives in o–e and e–e decay, at least close to β stability. Surprisingly, as will be discussed below, we see no substantial differences of this nature.

To illustrate some major features associated with β decay we simplify our discussion by assuming all decays go to a single state at excitation energy E^* in the daughter. Then one can show

$$T_{1/2} \propto \frac{1}{S_\beta(Q_\beta - E^*)^5} \quad (25)$$

If the single state in our discussion is the ground state, then the half-life is inversely proportional to Q_β to the fifth power. In the more general case a sum over the all the transitions is calculated, see Eqs. (12) and (19). Because of the extreme sensitivity of the half-lives to the Q_β value, models that postulate a simple half-life dependence on the Q_β value can be surprisingly accurate, for example the Kratz–Herrmann formula [63,64]. However, a disadvantage is that when significant deviations occur it is difficult to explain them in terms of contributions from underlying microscopic structure effects. Pairing effects have an often highly noticeable effect on half-lives because of their effect on Q_β . This is illustrated in Fig. 9. To

facilitate the discussion of pairing effects we assume $Q_\beta = 4$ MeV in the absence of pairing effects and furthermore that the odd-proton and odd-neutron pairing Δ 's both are 1 MeV. In the absence of pairing effects Q_β would increase by about 0.5 MeV with each added neutron for Pr and Nd in this region, but this is neglected in Fig. 9. We can identify three situations. The first case, when an o–e nucleus decays to an o–e daughter pairing effects increase the mass of both parent and daughter by 1 MeV, as in the ^{155}Pr and ^{157}Nd decays in Fig. 9, so there is no effect of pairing on Q_β ; it remains at 4 MeV. In the second case, when an e–e nucleus decays, such as ^{156}Nd the two odd particles in the daughter increase its mass by 2 MeV and Q_β decreases by 2 MeV. Finally, when an o–o nucleus, such as ^{156}Pr decays pairing effects in the parent increase its mass by 2 MeV and consequently Q_β also increases by 2 MeV. To show how Q_β varies with Z and N in a nuclear-chart-type plot these pairing effects make it necessary to show each of these three cases in separate plots to avoid staggering effects, which would make it difficult to see the general behavior of Q_β . We therefore show in Figs. 10–12 three plots of Q_β for the three cases we discussed. As was already clear from Fig. 9 the highest Q_β occur from o–o parents, second highest from o–e parents, and lowest in e–e decay. In the first case Q_β is higher by 2 MeV compared to no pairing effects, in the third case it is 2 MeV lower.

To study the interplay between Q_β systematics and microscopic level structure we select a sequence of four Nd isotopes decaying by β^- into Pr. We show in Figs. 13–16 calculated strength functions for the four Nd isotopes $^{156-159}\text{Nd}$ to give examples of the pairing effects on half-lives but also how they are modified by microscopic selection rules. The Q_β values in these four decays are 3.7, 5.84, 4.68, and 6.69 MeV and the calculated half-lives 6.5, 0.46, 1.4, and 0.88 s. The low-lying strengths in ^{156}Nd and ^{157}Nd are very similar so Q_β systematics may give a good estimate of the change in half-life. We expect $T_{1/2}^{157} = T_{1/2}^{156} \times (3.7/5.84)^5 = 0.66$ s. This is fairly close to the calculated value 0.46 s, which is somewhat smaller because the strength near $E^* \approx 1.5$ MeV moved slightly down in energy. By the same argument we expect $T_{1/2}^{158} = T_{1/2}^{157} \times (5.84/4.68)^5 = 1.47$ s which is close to the calculated value of 1.39 s. For ^{159}Nd we would by the same argument expect a half-life $T_{1/2}^{159} = T_{1/2}^{158} \times (4.68/6.69)^5 = 0.23$ s. However, the calculated

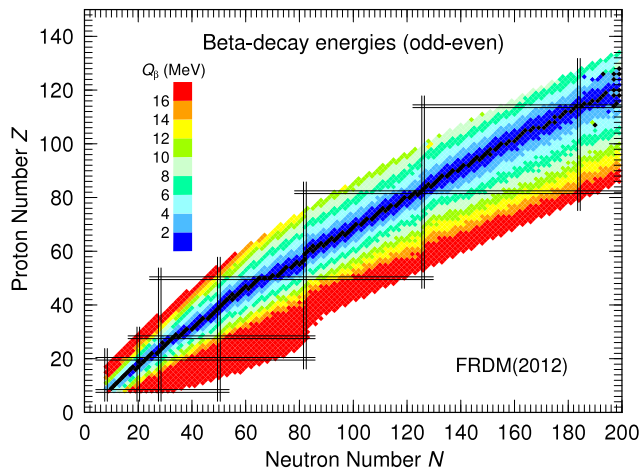


Fig. 10. Calculated β -decay energies Q_β for o–e parents. To avoid squares with no color, each o–e nucleus at Z and N is represented by a square with corners in $(N + 1, Z)$, $(N + 1, Z + 1)$, $(N - 1, Z)$ and $(N - 1, Z + 1)$. The o–e β -stable nuclei are similarly represented. Magic proton and neutron numbers are indicated by wide, gray lines. (For a colour version of this figure the reader is referred to the web version of this article.)

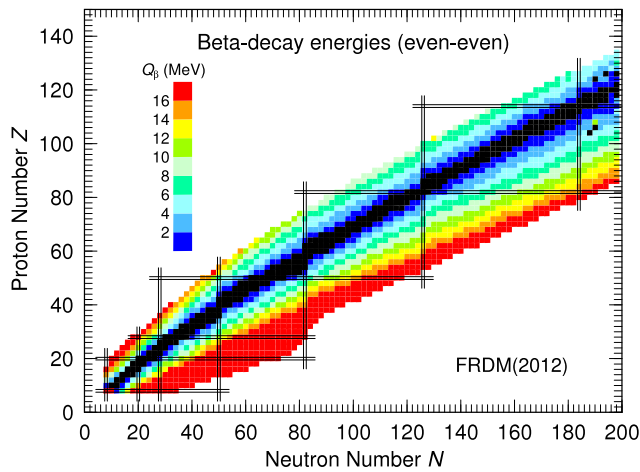


Fig. 11. Calculated β -decay energies Q_β for e–e parents. To avoid squares with no color, each e–e nucleus at Z and N is represented by a square with corners in $(N + 1, Z - 1)$, $(N + 1, Z + 1)$, $(N - 1, Z + 1)$ and $(N - 1, Z - 1)$. The e–e β -stable nuclei are similarly represented. Magic proton and neutron numbers are indicated by wide, gray lines. (For a colour version of this figure the reader is referred to the web version of this article.)

half-life is almost 4 times longer. A glance at the two calculated strength functions shows why there was no large drop in half-life in this case although the Q_β value increased by 2 MeV. The strength function of ^{159}Nd in the low-energy region is very similar to that of ^{158}Nd except it is translated up in energy by about 2 MeV, thus canceling out the effect of the 2 MeV increase in Q_β . By looking at the level structure and level spins illustrated in Fig. 17 we can understand the translation of the strength function. The number in parenthesis is the level number. Each level is doubly occupied. The spin of proton level 31 is $5/2^-$. Neutron level 49 has spin $5/2^-$ and level 50 has spin $1/2^-$. In the ^{158}Nd decay a neutron in level 49 can decay to proton level 31 ($5/2^- \rightarrow 3/2^-$), since the GT spin selection rules allow it and since there is spatial overlap between the parent and daughter single-particle wave functions. Thus we transition to the ground state in the daughter. The same is the case in ^{157}Nd decay; in this case it is the unpaired neutron in level 49 that decays to proton level 31. In ^{159}Nd the odd particle in level 50

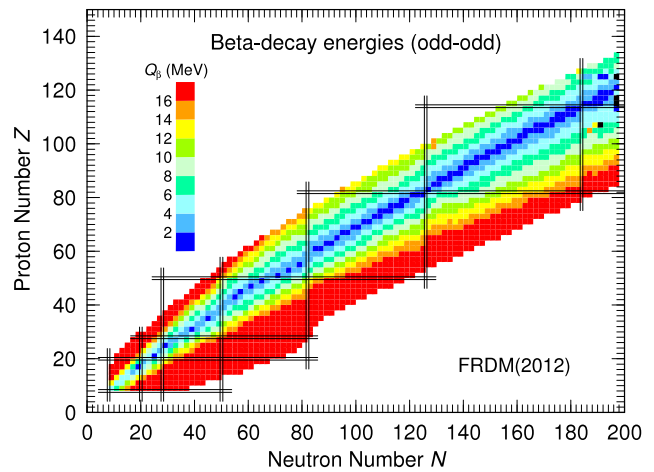


Fig. 12. Calculated β -decay energies Q_β for o–o parents. To avoid squares with no color, each e–e nucleus at Z and N is represented by a square with corners in $(N + 1, Z - 1)$, $(N + 1, Z + 1)$, $(N - 1, Z + 1)$ and $(N - 1, Z - 1)$, just as was the case with the e–e parent plot. Since there are no β -stable o–o nuclei there are no black squares in this figure. Magic proton and neutron numbers are indicated by wide, gray lines. (For a colour version of this figure the reader is referred to the web version of this article.)

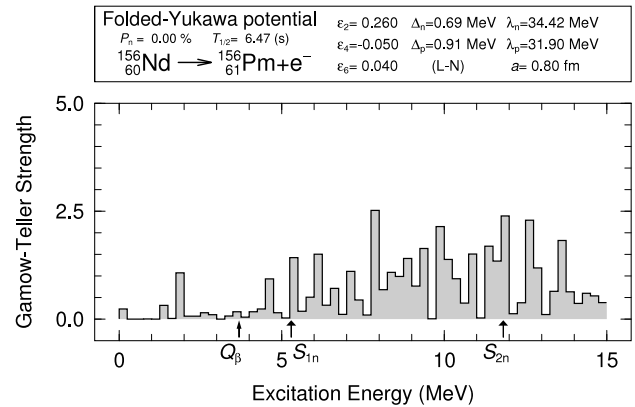


Fig. 13. Calculated Gamow–Teller β -strength function for ^{156}Nd . The narrow arrow indicates the Q_β energy, the wide arrows the neutron separation energies S_{1n} and S_{2n} .

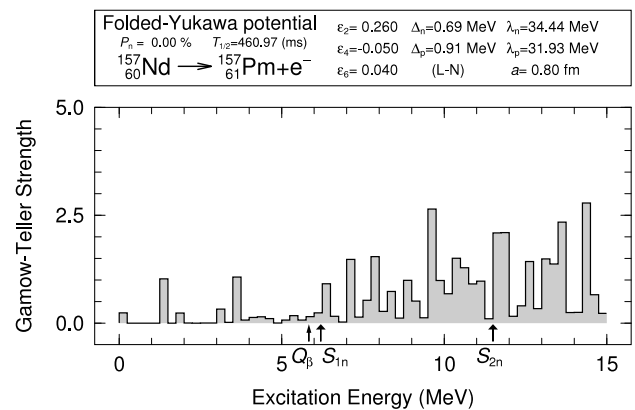


Fig. 14. Calculated Gamow–Teller β -strength function for ^{157}Nd .

cannot decay to proton level 31 because the spin selection rules do not allow it; the decay can only go to levels that differ in spin from the parent level by 1, at most. Instead it is the paired neutron

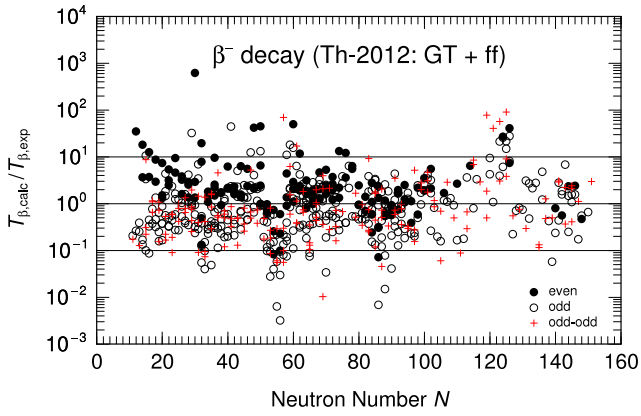


Fig. 19. Ratio between calculated and measured half-lives plotted versus nuclide neutron number.

taken into account in the error analysis presented below. These cases are associated with long experimental half-lives.

Before we make a quantitative analysis of the agreement between calculated and experimental half-lives we briefly discuss what conclusions can be drawn from a simple visual inspection of Figs. 18 and 19. In Fig. 18 the quantity $T_{\beta,\text{calc}}/T_{\beta,\text{exp}}$ is plotted as a function of the experimental half-life $T_{\beta,\text{exp}}$. As a function of this quantity, one would expect the average error to increase as $T_{\beta,\text{exp}}$ increases because of the increased sensitivity to small inaccuracies in the single-particle level energies for small Q_{β} . This is indeed the case. When $T_{\beta,\text{calc}}/T_{\beta,\text{exp}}$ is plotted versus N we see no obvious increase in the error towards lower neutron numbers. An increase might have been expected since the mass model is less accurate for low-mass nuclei which would lead to increasing errors in Q_{β} . But, for low-mass nuclei ($N \lesssim 50$ on the neutron-rich side of β -stability) the ground-state levels spins are predicted very accurately see Fig. 3, so the combined effect is that the calculated half-life accuracy remains fairly constant with decreasing N .

In a visual inspection of Figs. 18 and 19 one may be left with the impression that the errors in our calculation are fairly large. However, this is partly a fallacy, since there are many more points for small errors than for large errors. This is not clearly seen in the figures, since for small errors many points are superimposed on one another. A visual inspection does seem to indicate that the calculated e–e half-lives are too long, whereas the o–e and o–o are too short. To obtain a more well-defined understanding of the error in the calculation we perform a more formal analysis.

One often analyzes the error in a calculation by studying a root-mean-square deviation, which in this case would be

$$\sigma_{\text{rms}}^2 = \frac{1}{n} \sum_{i=1}^n (T_{\beta,\text{exp}} - T_{\beta,\text{calc}})^2 \quad (26)$$

However, such an error analysis is unsuitable here, for two reasons. First, the quantities studied vary by many orders of magnitude. In our case the variation is more than ten orders of magnitude, from the millisecond range to years and beyond. Second, the calculated and measured quantities may differ by orders of magnitude. We therefore study the quantity $\log(T_{\beta,\text{calc}}/T_{\beta,\text{exp}})$, which is plotted in Figs. 18 and 19, instead of $(T_{\beta,\text{exp}} - T_{\beta,\text{calc}})^2$.

To facilitate the interpretation of the error plots we consider two hypothetical cases. As the first example, suppose that all the points were grouped on the line $T_{\beta,\text{calc}}/T_{\beta,\text{exp}} = 10$. It is immediately clear that an error of this type could be entirely removed by introducing a renormalization factor, which is a common practice in the calculation of β -decay half-lives. We shall see below that in our model the half-lives corresponding to our calculated strength

functions have about zero average deviation from the calculated half-lives, so no renormalization factor is necessary. Thus, we do not have to invoke any quenching of the calculated strength to obtain agreement on the average with experimental β -decay half-lives. This is consistent with the results of another global calculation of β -decay half-lives based on the Nilsson modified-oscillator model [65].

In another extreme, suppose half the points were located on the line $T_{\beta,\text{calc}}/T_{\beta,\text{exp}} = 10$ and the other half on the line $T_{\beta,\text{calc}}/T_{\beta,\text{exp}} = 0.1$. In this case the average of $\log(T_{\beta,\text{calc}}/T_{\beta,\text{exp}})$ would be zero. We are therefore led to the conclusion that there are two types of errors that are of interest to study, namely the average position of the points in Figs. 18–19, which is just the average of the quantity $\log(T_{\beta,\text{calc}}/T_{\beta,\text{exp}})$, and the spread of the points around this average. To analyze the error along these ideas, we have previously [7,6,8] introduced the quantities

$$\begin{aligned} r &= T_{\beta,\text{calc}}/T_{\beta,\text{exp}} \\ r_1 &= \log_{10}(r) \\ M_{r_1} &= \frac{1}{n} \sum_{i=1}^n r_1^i \\ M_{r_1}^{10} &= 10^{M_{r_1}} && \text{Mean Deviation (Factor)} \\ \sigma_{r_1} &= \left[\frac{1}{n} \sum_{i=1}^n (r_1^i - M_{r_1})^2 \right]^{1/2} && (27) \\ \sigma_{r_1}^{10} &= 10^{\sigma_{r_1}}, && \text{Mean Fluctuation (Factor)} \\ \Sigma_{r_1} &= \left[\frac{1}{n} \sum_{i=1}^n (r_1^i)^2 \right]^{1/2}, \text{ and} \\ \Sigma_{r_1}^{10} &= 10^{\Sigma_{r_1}}, && \text{Total Error (Factor)} \end{aligned}$$

where M_{r_1} is the average position of the points and σ_{r_1} is the spread around this average. When we prefer to represent the error by a single number we use the measure $\Sigma_{r_1}^{10}$ for the ‘‘Total’’ error factor. The spread σ_{r_1} can be expected to be related to uncertainties in the positions of the levels in the underlying single-particle model and to uncertainties in Q_{β} . The use of a logarithm in the definition of r_1 implies that these two quantities correspond directly to distances as seen by the eye in, for example, Fig. 18, in units where one order of magnitude is 1. After the error analysis has been carried out we want to discuss its result in terms like ‘‘on the average the calculated half-lives are ‘a factor of two’ too long’’. To be able to do this we must convert back from the logarithmic scale. Thus, we realize that the quantities $M_{r_1}^{10}$ and $\sigma_{r_1}^{10}$ are conversions back to ‘‘factor of’’ units of the quantities M_{r_1} and σ_{r_1} , which are expressed in distance or logarithmic units.

We now use the definitions in Eq. (27) to characterize our calculated results. So that we can determine the effect on calculated β^- half-lives of our current improvements in the calculations, relative to those tabulated in Ref. [6], we first, in Table A compare the previous results to the same data base as we use in all other comparisons of our current work, namely NUBASE2012 [56]. In Table B we compare our current calculation to experiment. In the previous calculation the average deviation $M_{r_1}^{10}$ is a little too high in all half-life ranges. For example in the half-life range up to 1 s the GT+ff deviation is a factor 1.09 too high. In the current calculation the average deviation is instead a little low, for GT+ff 0.90 of the correct value in the half-life range up to 1 s. However these deviations in the average half-life are quite small compared to the total error which in most of the half-life ranges is a factor 2 to 3. In Table B we have marked with a ‘‘*’’ those total errors that are smaller than in the previous calculation. We see that the new calculation is more accurate in almost all half-life ranges.

Table A

Analysis of the discrepancy between calculated (with our 1997–2003 models [6,8]) and measured β^- -decay half-lives. The experimental data file is Nubase12. The number of 0.1s half-lives increased from 42 to 118 since our 1997 study [6].

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	670	0.38	2.39	1.22	16.47	1.27	18.79	1000.00
GT + ff	670	0.02	1.04	0.64	4.36	0.64	4.36	1000.00
GT	552	0.28	1.89	0.98	9.45	1.01	10.32	100.00
GT + ff	552	0.02	1.06	0.57	3.73	0.57	3.73	100.00
GT	414	0.20	1.59	0.71	5.16	0.74	5.50	10.00
GT + ff	414	0.04	1.10	0.51	3.21	0.51	3.22	10.00
GT	272	0.15	1.42	0.54	3.49	0.56	3.66	1.00
GT + ff	272	0.04	1.09	0.43	2.70	0.43	2.71	1.00
GT	229	0.11	1.29	0.47	2.97	0.49	3.06	0.50
GT + ff	229	0.02	1.06	0.41	2.59	0.41	2.60	0.50
GT	159	0.08	1.21	0.45	2.79	0.45	2.84	0.20
GT + ff	159	0.02	1.04	0.40	2.53	0.40	2.54	0.20
GT	118	0.07	1.18	0.43	2.72	0.44	2.76	0.10
GT + ff	118	0.01	1.02	0.39	2.44	0.39	2.44	0.10
GT	67	0.04	1.10	0.37	2.36	0.38	2.37	0.05
GT + ff	67	0.00	1.01	0.36	2.28	0.36	2.28	0.05
GT	29	0.11	1.29	0.34	2.21	0.36	2.30	0.02
GT + ff	29	0.07	1.19	0.34	2.17	0.35	2.21	0.02

Table B

Analysis of the discrepancy between calculated (with our 2012 models) and measured β^- -decay half-lives. The experimental data file is Nubase12. The number of 0.1 s half-lives increased from 42 to 118. The lines where the new calculated data base compares better with Nubase12 than does the old calculation are marked with *.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	670	0.38	2.41	1.39	24.42	1.44	27.49*	1000.00
GT + ff	670	-0.05	0.89	0.63	4.24	0.63	4.26*	1000.00
GT	552	0.23	1.70	1.06	11.46	1.08	12.13*	100.00
GT + ff	552	-0.05	0.90	0.56	3.67	0.57	3.69*	100.00
GT	414	0.09	1.24	0.68	4.80	0.69	4.87*	10.00
GT + ff	414	-0.05	0.89	0.51	3.27	0.52	3.29*	10.00
GT	272	0.06	1.16	0.51	3.25	0.52	3.28*	1.00
GT + ff	272	-0.04	0.90	0.43	2.67	0.43	2.68*	1.00
GT	229	0.05	1.12	0.44	2.77	0.45	2.79*	0.50
GT + ff	229	-0.04	0.91	0.39	2.48	0.40	2.49*	0.50
GT	159	0.05	1.11	0.40	2.52	0.40	2.54*	0.20
GT + ff	159	-0.03	0.94	0.37	2.33	0.37	2.34*	0.20
GT	118	0.05	1.12	0.39	2.45	0.39	2.47*	0.10
GT + ff	118	-0.02	0.95	0.35	2.25	0.35	2.25*	0.10
GT	67	0.03	1.07	0.35	2.23	0.35	2.24*	0.05
GT + ff	67	-0.03	0.94	0.33	2.14	0.33	2.15*	0.05
GT	29	0.07	1.19	0.35	2.21	0.35	2.25*	0.02
GT + ff	29	0.02	1.05	0.33	2.16	0.34	2.17*	0.02

Table C

Analysis of the discrepancy between calculated (with our 2012 models) and measured β^- -decay half-lives for e–e nuclides. The experimental data file is Nubase12.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	148	0.64	4.40	1.31	20.32	1.46	28.70	1000.00
GT + ff	148	0.33	2.13	0.54	3.46	0.63	4.28	1000.00
GT	125	0.49	3.11	0.91	8.22	1.04	10.94	100.00
GT + ff	125	0.31	2.02	0.46	2.90	0.55	3.58	100.00
GT	101	0.42	2.62	0.45	2.82	0.61	4.11	10.00
GT + ff	101	0.30	1.99	0.37	2.35	0.48	2.99	10.00
GT	65	0.36	2.30	0.29	1.96	0.47	2.92	1.00
GT + ff	65	0.27	1.85	0.27	1.84	0.38	2.38	1.00
GT	57	0.36	2.27	0.29	1.94	0.46	2.87	0.50
GT + ff	57	0.27	1.86	0.27	1.84	0.38	2.39	0.50
GT	39	0.38	2.39	0.26	1.81	0.46	2.87	0.20
GT + ff	39	0.30	1.98	0.24	1.74	0.38	2.41	0.20
GT	29	0.38	2.40	0.23	1.69	0.44	2.77	0.10
GT + ff	29	0.30	1.98	0.21	1.60	0.36	2.30	0.10
GT	17	0.43	2.72	0.16	1.46	0.46	2.91	0.05
GT + ff	17	0.36	2.28	0.17	1.47	0.40	2.49	0.05
GT	8	0.49	3.08	0.14	1.39	0.51	3.23	0.02
GT + ff	8	0.43	2.71	0.13	1.35	0.45	2.84	0.02

Table D

Analysis of the discrepancy between calculated (with our 2012 models) and measured β^- -decay half-lives for o–e nuclides. The experimental data file is Nubase12.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta,\text{exp}}^{\text{max}}$ (s)
GT	348	0.29	1.95	1.35	22.52	1.38	24.18	1000.00
GT + ff	348	−0.16	0.69	0.60	3.99	0.62	4.18	1000.00
GT	280	0.13	1.36	0.98	9.60	0.99	9.80	100.00
GT + ff	280	−0.14	0.73	0.52	3.35	0.54	3.48	100.00
GT	204	−0.01	0.97	0.61	4.11	0.61	4.11	10.00
GT + ff	204	−0.14	0.72	0.48	3.05	0.50	3.20	10.00
GT	136	−0.03	0.94	0.48	2.99	0.48	2.99	1.00
GT + ff	136	−0.13	0.75	0.40	2.52	0.42	2.64	1.00
GT	115	−0.02	0.95	0.44	2.77	0.44	2.77	0.50
GT + ff	115	−0.12	0.77	0.38	2.39	0.40	2.49	0.50
GT	79	−0.00	1.00	0.39	2.46	0.39	2.46	0.20
GT + ff	79	−0.08	0.84	0.34	2.18	0.35	2.22	0.20
GT	57	−0.01	0.97	0.40	2.49	0.40	2.49	0.10
GT + ff	57	−0.08	0.83	0.34	2.18	0.35	2.23	0.10
GT	31	−0.10	0.80	0.30	2.01	0.32	2.08	0.05
GT + ff	31	−0.14	0.72	0.28	1.91	0.31	2.06	0.05
GT	13	−0.05	0.88	0.31	2.06	0.32	2.08	0.02
GT + ff	13	−0.10	0.79	0.30	1.98	0.31	2.05	0.02

Table E

Analysis of the discrepancy between calculated (with our 2012 models) and measured β^- -decay half-lives for o–o nuclides. The experimental data file is Nubase12.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta,\text{exp}}^{\text{max}}$ (s)
GT	174	0.34	2.19	1.49	30.98	1.53	33.85	1000.00
GT + ff	174	−0.16	0.70	0.62	4.20	0.64	4.39	1000.00
GT	147	0.19	1.54	1.26	18.16	1.27	18.75	100.00
GT + ff	147	−0.18	0.66	0.59	3.93	0.62	4.18	100.00
GT	109	−0.01	0.98	0.86	7.23	0.86	7.24	10.00
GT + ff	109	−0.20	0.64	0.54	3.44	0.57	3.73	10.00
GT	71	−0.04	0.92	0.62	4.17	0.62	4.18	1.00
GT + ff	71	−0.17	0.67	0.45	2.81	0.48	3.03	1.00
GT	57	−0.12	0.76	0.42	2.64	0.44	2.74	0.50
GT + ff	57	−0.21	0.62	0.36	2.27	0.41	2.59	0.50
GT	41	−0.18	0.65	0.33	2.12	0.37	2.37	0.20
GT + ff	41	−0.24	0.57	0.31	2.04	0.39	2.48	0.20
GT	32	−0.14	0.72	0.31	2.02	0.34	2.17	0.10
GT + ff	32	−0.20	0.63	0.29	1.94	0.35	2.25	0.10
GT	19	−0.13	0.74	0.24	1.74	0.28	1.88	0.05
GT + ff	19	−0.19	0.64	0.22	1.67	0.30	1.98	0.05
GT	8	−0.13	0.74	0.10	1.27	0.17	1.47	0.02
GT + ff	8	−0.19	0.64	0.08	1.21	0.21	1.63	0.02

Table F

Analysis of the discrepancy between calculated (with our 2012 models) and measured β^- -decay half-lives. The experimental data file is Nubase12. Nuclei with $Z < 28$ and $N < 50$ are excluded.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta,\text{exp}}^{\text{max}}$ (s)
GT	433	0.51	3.27	1.53	34.12	1.62	41.41	1000.00
GT + ff	433	−0.04	0.91	0.65	4.44	0.65	4.46	1000.00
GT	337	0.35	2.24	1.25	17.81	1.30	19.91	100.00
GT + ff	337	−0.03	0.94	0.59	3.88	0.59	3.88	100.00
GT	236	0.15	1.41	0.77	5.90	0.79	6.10	10.00
GT + ff	236	−0.02	0.96	0.55	3.51	0.55	3.51	10.00
GT	143	0.10	1.27	0.54	3.49	0.55	3.57	1.00
GT + ff	143	−0.02	0.96	0.43	2.67	0.43	2.67	1.00
GT	111	0.08	1.20	0.41	2.60	0.42	2.64	0.50
GT + ff	111	−0.02	0.97	0.36	2.30	0.36	2.30	0.50
GT	69	0.10	1.26	0.38	2.39	0.39	2.46	0.20
GT + ff	69	0.02	1.04	0.33	2.16	0.33	2.16	0.20
GT	40	0.17	1.48	0.36	2.29	0.40	2.51	0.10
GT + ff	40	0.08	1.21	0.30	2.01	0.31	2.06	0.10
GT	13	0.17	1.50	0.32	2.11	0.37	2.33	0.05
GT + ff	13	0.11	1.30	0.31	2.05	0.33	2.15	0.05
GT	1	0.57	3.68	0.00	1.00	0.57	3.68	0.02
GT + ff	1	0.50	3.16	0.00	1.00	0.50	3.16	0.02

In Tables C–E we have studied $T_{\beta,\text{calc}}/T_{\beta,\text{exp}}$ separately for e–e, o–e, and o–o decays, respectively. In agreement with our visual

impression we find slightly too long half-lives on average for e–e decays and slightly too short for o–e and o–o decays, but there is

Table G

Analysis of the discrepancy between old GT only (1997) and GT+ff (2003) measured β -delayed neutron-emission probabilities P_n . The experimental data file is Nubase12. It is the calculated value that is divided by the experimental value. It is the second column from the right that represents “factor of” error. To compare the old calculation and the 2012 we must compare both calculations to the same data base (Nubase2012) which we do here. A few of the calculated P_n values were zero so those nuclei had to be excluded since it would have led to taking the logarithm of zero in the code.

Model	n	M_{n_1}	$M_{n_1}^{10}$	σ_{n_1}	$\sigma_{n_1}^{10}$	Σ_{n_1}	$\Sigma_{n_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	185	−0.22	0.60	0.62	4.18	0.66	4.57	100.00
GT + ff	185	−0.14	0.72	0.49	3.09	0.51	3.24	100.00
GT	180	−0.21	0.62	0.61	4.07	0.64	4.41	10.00
GT + ff	179	−0.14	0.72	0.49	3.06	0.51	3.20	10.00
GT	145	−0.11	0.77	0.55	3.55	0.56	3.66	1.00
GT + ff	145	−0.11	0.77	0.44	2.77	0.46	2.86	1.00
GT	123	−0.10	0.80	0.51	3.24	0.52	3.32	0.50
GT + ff	122	−0.14	0.73	0.41	2.60	0.44	2.73	0.50
GT	82	−0.07	0.85	0.53	3.38	0.54	3.44	0.20
GT + ff	81	−0.12	0.76	0.41	2.59	0.43	2.68	0.20
GT	61	−0.05	0.90	0.57	3.72	0.58	3.76	0.10
GT + ff	60	−0.13	0.74	0.44	2.74	0.46	2.86	0.10
GT	36	−0.03	0.92	0.54	3.49	0.55	3.52	0.05
GT + ff	35	−0.11	0.77	0.41	2.57	0.42	2.66	0.05
GT	20	0.24	1.72	0.50	3.18	0.43	2.72	0.02
GT + ff	19	0.02	1.04	0.36	2.30	0.36	2.29	0.02

Table H

Analysis of the discrepancy between calculated (with our 2012 models) and measured β -delayed neutron-emission probabilities P_n . The experimental data file is Nubase12. It is the calculated value that is divided by the experimental value. It is the second column from the right that represents “factor of” error. To be compared to Table G. A few of the calculated P_n values were zero so those nuclei had to be excluded since it would have led to taking the logarithm of zero in the code.

Model	n	M_{n_1}	$M_{n_1}^{10}$	σ_{n_1}	$\sigma_{n_1}^{10}$	Σ_{n_1}	$\Sigma_{n_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	184	−0.11	0.77	0.62	4.22	0.64	4.32	100.00
GT + ff	188	−0.16	0.69	0.51	3.21	0.53	3.39	100.00
GT	179	−0.12	0.76	0.61	4.03	0.62	4.15	10.00
GT + ff	182	−0.15	0.71	0.50	3.14	0.52	3.31	10.00
GT	147	−0.08	0.84	0.56	3.65	0.57	3.70	1.00
GT + ff	148	−0.10	0.79	0.47	2.97	0.48	3.04	1.00
GT	123	−0.06	0.87	0.48	3.02	0.48	3.04	0.50
GT + ff	123	−0.08	0.82	0.41	2.59	0.42	2.64	0.50
GT	81	−0.05	0.90	0.46	2.89	0.46	2.90	0.20
GT + ff	81	−0.06	0.87	0.40	2.49	0.40	2.52	0.20
GT	60	−0.03	0.93	0.49	3.09	0.49	3.10	0.10
GT + ff	60	−0.06	0.87	0.42	2.64	0.43	2.66	0.10
GT	35	−0.05	0.89	0.51	3.22	0.51	3.23	0.05
GT + ff	35	−0.04	0.92	0.42	2.63	0.42	2.64	0.05
GT	19	0.00	1.00	0.50	3.18	0.50	3.18	0.02
GT + ff	19	0.02	1.05	0.40	2.51	0.40	2.52	0.02

no substantial difference in the total error between the three types of decay. In Table F, similar to Table B, but limited to higher Z and N we study the accuracy for nuclei numbers corresponding to r -process nuclei.

In Fig. 20 we compare delayed-neutron emission probabilities calculated in our two models, GT only and GT+ff, to experimental results. There are only a very few results that differ from measurements by more than a factor 10. This is probably because in this data set there are not many nuclei with relatively long half-lives and low Q_β values for which we anticipate larger deviations. We also observe that the GT+ff results are substantially improved over GT only. In Table G we compare the previous calculations from Refs. [6] and [8] to experiment. The current calculations are compared to experiment in Table H. There is no substantial difference between the previous and current calculations, but the average deviation is slightly closer to the factor-of-one in the current calculations, which means there is no systematic average deviation.

Because the delayed neutron emission probabilities are bounded upwards by 100% it is reasonable to also make a non-logarithmic analysis. We show the results of such an analysis in Table I. Clearly accounting for first-forbidden (“ff”) contributions leads to

improvement. The $n\gamma$ competition seems to be of less importance. However, experimental data are only available near stability where this competition is indeed not so important in calculating $P_{\nu n}$. Closer to the neutron drip line it is important to take this competition into account.

Our final decay half-life results address β^+ and EC decay. We compare experimental and calculated values in Fig. 21. The visual impression is that as usual the deviations decrease as the half-lives become shorter. This is also the result of a quantitative analysis. To compare to our previous calculations [6,8] we show in Table J how those results compare to NUBASE12. The analysis of our current results are shown in Table K. The two calculations compare about equally well to the experimental data. For the largest ranges of half-lives (1000 s and 100 s) there is, in contrast to β^- decays, no dramatic increase in the deviations, so in this case we have not implemented the phenomenological corrections for ff transitions. We also in this case analyze e–e, o–e, and o–o decays separately, with results given in Tables L, M and N. Consistent with the visual impression given by Fig. 21 we find that the e–e and o–o are too long on average whereas the o–e are about right on average. Fig. 22 presents an overview of the tabulated β -decay half-lives.

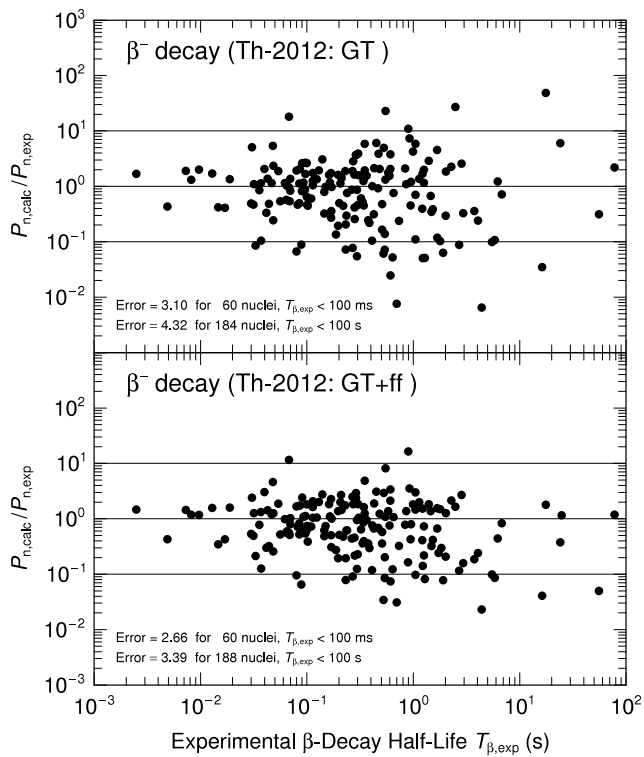


Fig. 20. Ratio between calculated and measured delayed-neutron emission probabilities plotted versus experimental β -decay half-life.

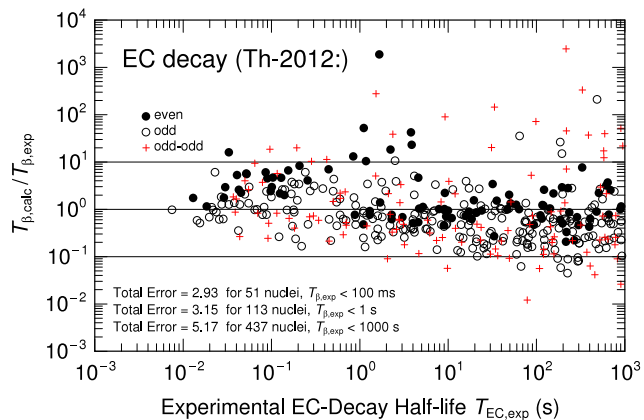


Fig. 21. Ratio between calculated and measured electron-capture half-lives plotted versus experimental electron-capture half-life.

3.5. Proton separation energies

One- and two-proton separation energies are shown versus N and Z in Figs. 23–25. For odd Z the region of known nuclei extends into the region where proton emission is energetically allowed in several places, but especially just above $N = 82$. However, the Coulomb barrier severely inhibits proton emission from the ground state when the energy released is low. Proton emission is therefore more readily observed as delayed emission following β decay [66,67]. The even- Z drip line is located substantially farther from β stability than is the odd- Z drip line. This is due to pairing effects. The two-proton drip line, which is insensitive to pairing effects, is located between the even- Z and odd- Z drip lines.

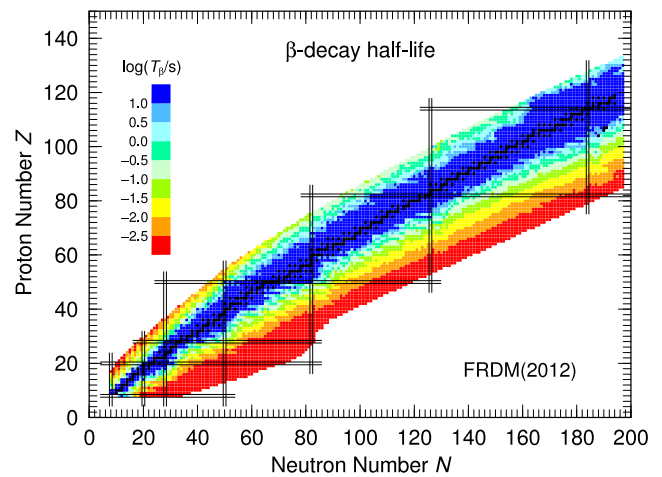


Fig. 22. Calculated β -decay half-lives. Magic proton and neutron numbers are indicated by wide, gray lines.

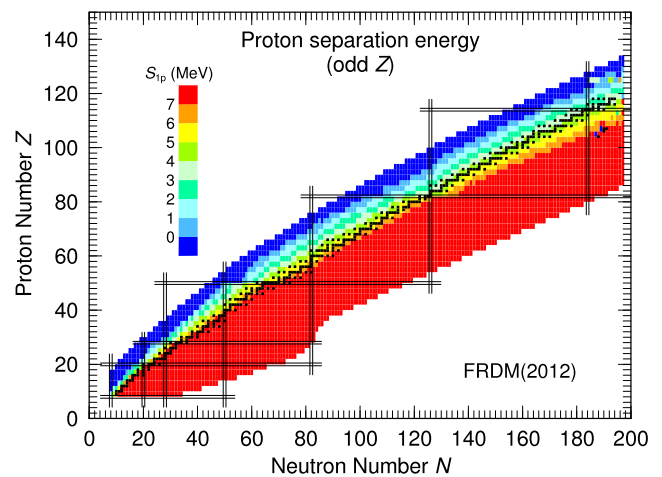


Fig. 23. Proton-separation energy S_{1p} for odd-proton nuclei. Each odd-neutron nucleus is represented by a color field two units high and one unit wide. Black squares denote β -stable nuclei. Magic proton and neutron numbers are indicated by pairs of parallel lines. (For a colour version of this figure the reader is referred to the web version of this article.)

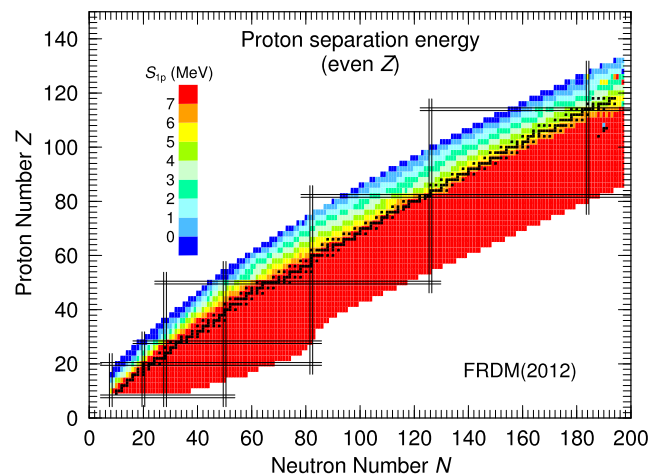


Fig. 24. Proton separation energy S_{1p} for even Z . Each color square is two protons high and one neutron wide. Magic proton and neutron numbers are indicated by wide, gray lines. (For a colour version of this figure the reader is referred to the web version of this article.)

Table J

Analysis of the discrepancy between measured EC-decay half-lives and values calculated in our 1997 model [6]. The experimental data file is Nubase12.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	437	−0.05	0.89	0.71	5.17	0.72	5.19	1000.00
GT	307	0.01	1.02	0.68	4.84	0.68	4.84	100.00
GT	209	0.08	1.21	0.58	3.76	0.58	3.82	10.00
GT	113	0.17	1.47	0.46	2.89	0.49	3.10	1.00
GT	94	0.19	1.55	0.47	2.96	0.51	3.22	0.50
GT	74	0.20	1.59	0.45	2.82	0.49	3.12	0.20
GT	51	0.20	1.60	0.44	2.77	0.49	3.06	0.10
GT	30	0.14	1.38	0.41	2.56	0.43	2.71	0.05
GT	6	−0.10	0.80	0.12	1.32	0.15	1.43	0.02

Table K

Analysis of the discrepancy between calculated (with our 2012 models) and measured EC-decay half-lives. The experimental data file is Nubase12. The number of 1 s half-lives increased from 60 to 113.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	437	−0.04	0.92	0.71	5.15	0.71	5.17	1000.00
GT	307	0.01	1.03	0.67	4.67	0.67	4.67	100.00
GT	209	0.11	1.29	0.60	4.00	0.61	4.09	10.00
GT	113	0.19	1.56	0.46	2.88	0.50	3.15	1.00
GT	94	0.22	1.68	0.46	2.92	0.52	3.28	0.50
GT	74	0.22	1.68	0.43	2.70	0.49	3.07	0.20
GT	51	0.22	1.65	0.41	2.59	0.47	2.93	0.10
GT	30	0.15	1.41	0.37	2.34	0.40	2.50	0.05
GT	6	−0.06	0.86	0.18	1.52	0.19	1.56	0.02

Table L

Analysis of the discrepancy between calculated (with our 2012 models) and measured EC-decay half-lives for e–e decays. The experimental data file is Nubase12.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	94	0.25	1.79	0.58	3.76	0.63	4.25	1000.00
GT	66	0.35	2.24	0.62	4.13	0.71	5.11	100.00
GT	49	0.47	2.98	0.66	4.53	0.81	6.45	10.00
GT	24	0.57	3.74	0.31	2.05	0.65	4.48	1.00
GT	22	0.58	3.79	0.27	1.84	0.64	4.33	0.50
GT	19	0.54	3.50	0.27	1.84	0.61	4.03	0.20
GT	13	0.54	3.49	0.29	1.97	0.62	4.15	0.10
GT	8	0.47	2.92	0.33	2.16	0.57	3.74	0.05
GT	2	0.15	1.43	0.09	1.22	0.18	1.50	0.02

Table M

Analysis of the discrepancy between calculated (with our 2012 models) and measured EC-decay half-lives for o–e decays. The experimental data file is Nubase12.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	231	−0.21	0.62	0.50	3.18	0.54	3.49	1000.00
GT	166	−0.16	0.70	0.45	2.80	0.47	2.98	100.00
GT	107	−0.05	0.90	0.39	2.46	0.39	2.48	10.00
GT	59	0.05	1.13	0.35	2.25	0.36	2.27	1.00
GT	48	0.07	1.17	0.36	2.31	0.37	2.35	0.50
GT	38	0.06	1.14	0.31	2.04	0.31	2.06	0.20
GT	26	0.05	1.12	0.26	1.80	0.26	1.83	0.10
GT	17	0.02	1.04	0.28	1.89	0.28	1.89	0.05
GT	4	−0.17	0.67	0.11	1.27	0.20	1.59	0.02

The discrepancy between experimental one-proton separation energies obtained from mass differences and calculated one-proton separation energies is shown in Fig. 26. The biggest errors occur near the magic numbers. There is a general decrease of the error as A increases.

3.6. α -decay properties

The calculated energy release and associated half-life with respect to ground-state to ground-state α decay are plotted in Figs. 27 and 28, respectively.

In the introduction to Section 3 we pointed out that because the calculated potential-energy surfaces for some heavy nuclei with proton numbers well beyond $N \approx 190$ are very flat and contain multiple minima, the ground-state deformation may exhibit large fluctuations between neighboring nuclei. For example, we see in Ref. [1] that the calculated quadrupole deformation of ^{298}Hs is $\varepsilon_2 = -0.64$ whereas $\varepsilon_2 = 0.02$ is obtained for ^{299}Hs . Such deformation changes are accompanied by non-smooth changes in calculated energy releases and associated half-lives. An α -decay half-life of $10^{-9.62}$ s is obtained for ^{298}Hs , whereas the calculated α -decay half-life for ^{299}Hs is $10^{15.34}$ s. Because of very low fission

Table N

Analysis of the discrepancy between calculated (with our 2012 models) and measured EC-decay half-lives for o–o decays. The experimental data file is Nubase12.

Model	n	M_{η_1}	$M_{\eta_1}^{10}$	σ_{η_1}	$\sigma_{\eta_1}^{10}$	Σ_{η_1}	$\Sigma_{\eta_1}^{10}$	$T_{\beta, \text{exp}}^{\text{max}}$ (s)
GT	112	0.06	1.16	1.02	10.48	1.02	10.53	1000.00
GT	75	0.08	1.21	0.94	8.75	0.95	8.82	100.00
GT	53	0.09	1.23	0.74	5.50	0.75	5.57	10.00
GT	30	0.16	1.46	0.56	3.66	0.59	3.86	1.00
GT	24	0.21	1.63	0.59	3.92	0.63	4.27	0.50
GT	17	0.24	1.74	0.59	3.85	0.63	4.30	0.20
GT	12	0.22	1.68	0.56	3.62	0.60	4.00	0.10
GT	5	0.09	1.23	0.39	2.48	0.40	2.54	0.05
GT	0							0.02

Table 1

Analysis of the differences between calculated (with our 2012 models) and measured β -delayed neutron-emission probabilities P_{vn} . The units here are percent. In the lines labeled “all P_{vn} ” we have assumed that the experimental data for number of delayed neutrons observed include 2n, 3n and higher (if any) contributions and have summed up the calculated data accordingly. When competition between neutron emission and γ de-excitation is taken into account this is indicated with the notation $n\gamma$.

Model		$\overline{P_{\text{vn}}^{\text{exp}}} - \overline{P_{\text{vn}}^{\text{th}}}$	$ \overline{P_{\text{vn}}^{\text{exp}}} - \overline{P_{\text{vn}}^{\text{th}}} $	$\text{rms}(P_{\text{vn}}^{\text{exp}} - P_{\text{vn}}^{\text{th}})$
GT only	(only $P_{1\text{n}}$)	−0.322	13.327	22.711
GT only	(all P_{vn})	−5.007	14.997	27.086
GT+ff	(only $P_{1\text{n}}$)	4.861	10.239	16.858
GT+ff	(all P_{vn})	1.691	10.295	17.737
GT+n γ	(only $P_{1\text{n}}$)	−3.206	14.228	25.198
GT+n γ	(all P_{vn})	−4.164	14.744	26.145
GT+n γ +ff	(only $P_{1\text{n}}$)	2.683	9.276	14.821
GT+n γ +ff	(all P_{vn})	1.836	9.576	15.338

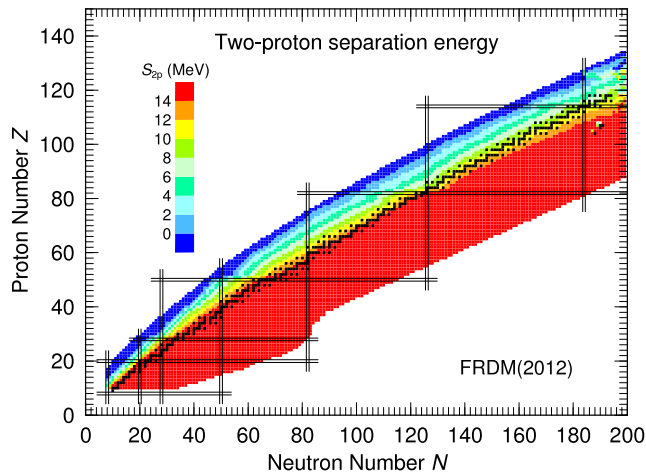


Fig. 25. Two-proton separation energy S_{2p} . Each color square is one proton high and one neutron wide. Magic proton and neutron numbers are indicated by wide, gray lines. (For a colour version of this figure the reader is referred to the web version of this article.)

barriers for such nuclei [52], we do not expect these nuclei to be observable despite their calculated long α -decay half-lives.

4. Extrapability

The usefulness of the results presented in Table 1 for various simulations is closely connected to how the model behaves when applied to nuclei outside the region where model parameters were determined. In 1997 we investigated in a previous version of this paper [6] how a number of mass models, including the FRDM performed in this respect. We find it unnecessary to perform an extensive study of mass models here, except for a few comments on our new FRDM(2012).

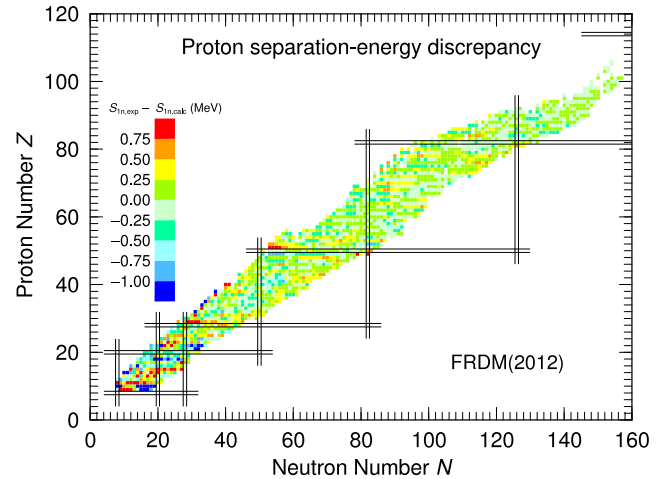


Fig. 26. Discrepancy between experimental and calculated one-proton separation-energies. Magic proton and neutron numbers are indicated by pairs of parallel lines. Large discrepancies occur where there are large changes in the deviations between calculated and experimental masses between neighboring nuclei, namely at some magic numbers and in the region of light nuclei. In the deformed rare-earth and actinide regions the discrepancy is very small. (For a colour version of this figure the reader is referred to the web version of this article.)

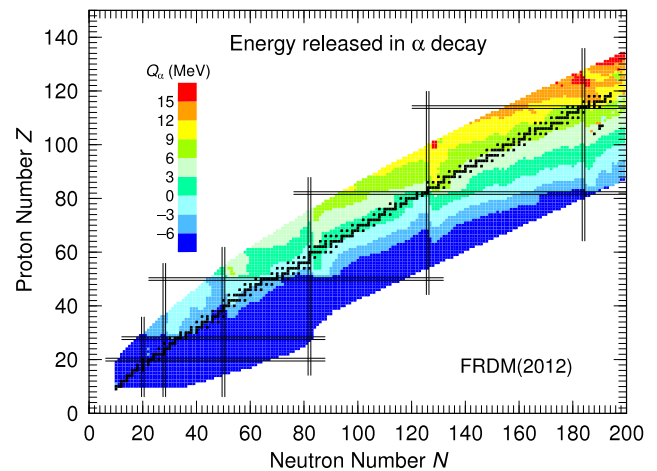


Fig. 27. Energy Q_{α} released in α -decay for ground-state to ground-state transitions. Black squares are β -stable nuclei. Magic proton and neutron numbers are indicated by pairs of parallel lines. (For a colour version of this figure the reader is referred to the web version of this article.)

4.1. Mass extrapolation

The predictive power of FRDM(1992) and of the development versions leading to FRDM(2012) were investigated in, for example,

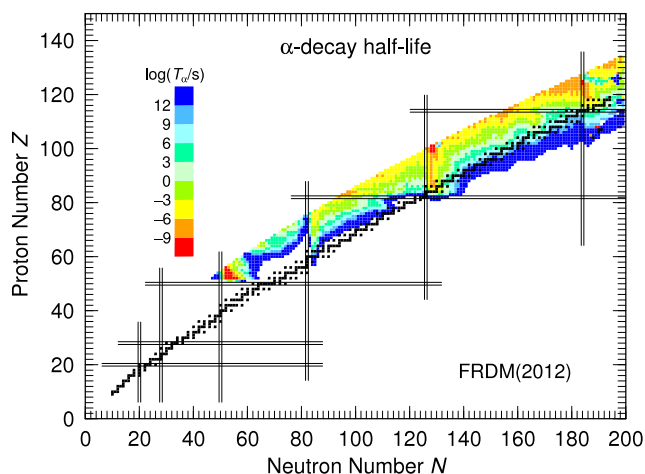


Fig. 28. Half-life with respect to α -decay calculated from a semiempirical relationship between T_{α} and Q_{α} . Black squares are β -stable nuclei. Magic proton and neutron numbers are indicated by pairs of parallel lines. (For a colour version of this figure the reader is referred to the web version of this article.)

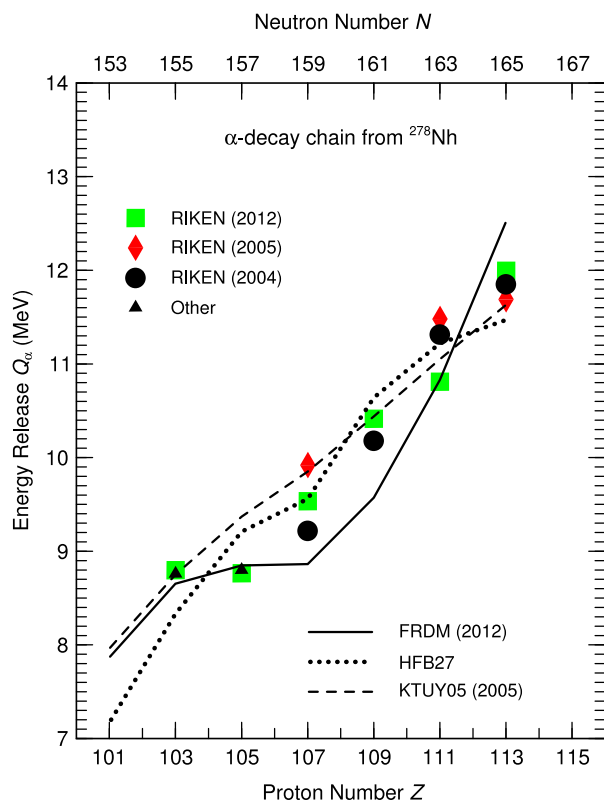


Fig. 29. Calculated and measured Q_{α} -decay energies in the decay chain originating in ^{278}Nh . The calculated values assume ground-state to ground-state decay, the measured energies may not be, so the differences between measured and calculated values do not directly indicate the degree of (in)accuracy of the underlying mass model. Note that in one of the models the kink observed in the experimental data at $Z \approx 108$ is well reproduced. Source: The measured data are from [45–47]. The KTUY05 calculation is from [68,69].

Refs. [6,2,3,74,75]. In the presentation of FRDM(2012) [1] we investigated the predictive power of FRDM(2012) in several ways. To obtain as many “new” nuclear masses as possible, we adjusted the new mass model (which incorporates all the “new physics” enumerated in Fig. 1 in Ref. [1]) to the same data set as FRDM(1992),

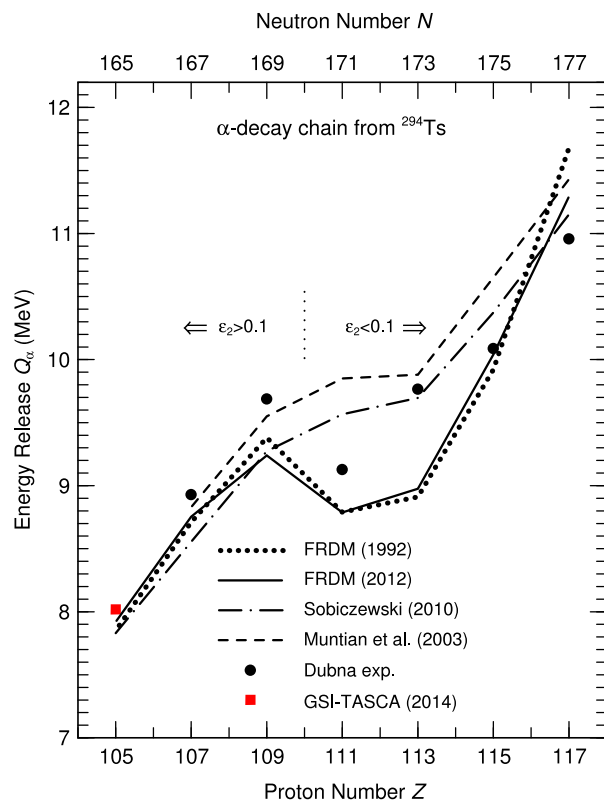


Fig. 30. Calculated and measured Q_{α} -decay energies in the decay chain originating in ^{294}Ts . The calculated values assume ground-state to ground-state decay, the measured energies may not be, so the differences between measured and calculated values do not directly indicate the degree of (in)accuracy of the underlying mass model. Note that in one of the models the kink observed in the experimental data at $Z = 109$ – 111 is well reproduced. In this case the kink is related to a change in deformation from spherical to deformed, rather than a gap in the level spectrum at a fixed deformation. Source: The experimental data are from [49,70]. The calculated data are from [71–73].

that is to an interim 1989 mass evaluation [26] and then compared the resulting mass model FRDM(2012-to 89) to the 730 masses that are not in AME1989 but are in AME2012. We find that the error with respect to AME1989 is 0.6047 and to the 730 new masses the error is 0.4948 that is substantially *smaller* than in the region to which the mass model was adjusted. In contrast the FRDM(1992) has an error with respect to AME1989 of 0.669 MeV. Significantly the FRDM(2012-to 89) has an *average* error of 0.0635 MeV with respect to these 730 new nuclei, that is (with our definition of deviation which is experiment minus calculation) the masses are on average too high by 0.0635 MeV. In contrast the average error of the FRDM(1992) is 0.1356 MeV, so it “extrapolates” with a larger systematic error. The better property in this respect of FRDM(2012) is likely due to the inclusion of (surface) density-symmetry effects through the “L-term”. Further extensive discussions are in Ref. [1].

4.2. α -decay Q_{α} values

The α -decay Q_{α} values are directly related to masses. For ground-state to ground-state α decay the Q_{α} value is determined from the parent and daughter masses through the simple relation

$$Q_{\alpha}(Z, N) = M(Z, N) - M(Z - 2, N - 2) - M(2, 2) \quad (28)$$

where M quantities are the mass excesses of the nuclei involved in the decay. Since our previous decay-data paper [6] six new (super-heavy) elements have been discovered and named, namely those

in the range $Z = 113$ – 118 . Some references to these experiments are [45–50]. Some particularly long α -decay chains have been observed in the decay of ^{278}Nh and ^{294}Ts so we compare in Figs. 29 and 30 our calculations to these data.

The element ^{278}Nh was formed in cold-fusion reactions and decay chains were observed on three different occasions: [45–47]. We show in Fig. 29 all the observed Q_α values. The calculated values assume ground-state to ground-state decay. The experimentally observed decays are not necessarily ground-state to ground-state transitions. This is particularly true of the two o–o systems to which we compare here. Evidence of this is, for example, in Fig. 29, the decay of ^{266}Ns where a different Q_α value was observed in each of the three observed decay chains from ^{278}Nh . Some treatments of α -decay of super-heavy nuclei have investigated ideas for accounting for how internal nuclear structure affects α -decay, for example Ref. [76]. Although our calculated Q_α values do not correspond exactly to the observed ones, the approximation to use ground-state to ground-state calculated Q_α values still yields values that allow a meaningful comparison to experiments. First, the model reproduces the rather steep slope of the first several steps in the decay chain. The sharp kink in the calculated curve at $Z = 107$ has long been interpreted as due to very large (negative) shell-plus-pairing corrections in the region around $Z = 108$ and $N = 162$. These large corrections (-6 MeV or even more negative) occur because of large gaps in the deformed single-particle spectra. Such gaps have been obtained in calculations since at least the late 1960ies (e.g. Refs. [77] in Figs. 2g and 2h, in [78] in Figs. 7 and 8, and in [54] in Figs. 2a and 2b). However, their significance was not recognized at the time. It was felt that the only hope for the existence of additional elements beyond Sg that would be sufficiently stable to allow observation would be to “jump across a sea of instability” to reach an island of relatively stable spherical superheavy nuclei near the next predicted [79] magic proton and neutron numbers $Z = 114$ and $N = 184$. However, soon after the discovery of element $Z = 107$, bohrium (Bh) [39], Peter Armbruster had noticed the large calculated negative shell corrections corresponding to these shell gaps in deformed nuclei, which had appeared in calculated results for some time [54,80]. He pointed out to PM in the summer of 1982 [81] their significance for the stability of the recently discovered element $Z = 107$ and possibly for discoveries yet to come. His observations led to a tremendous number of theoretical studies of the “sea of instability”, too numerous to review here. It gradually became clear over the next decades that across this “sea of instability” there is actually a land bridge connecting the superheavy island to the actinide region.

In Fig. 30 we compare ^{294}Ts decay calculated Q_α values, based on ground-state to ground-state transitions, to observed values [49]. We show in Fig. 29 and also in Fig. 30 calculations based on the FRDM(1992) [21] to display its predictive qualities although the heaviest masses used in adjusting its parameters were 35 nucleons lighter than ^{294}Ts . In Fig. 30 we also show results based on the FRDM(2012) [1]. There is little difference between the two models in the superheavy region. Also in the case of ^{294}Ts we agree with the initial slope of the measured data. As in the experiments we obtain a sharp kink at $Z = 111$ and $Z = 109$. In contrast to the kink observed for the ^{278}Nh decay which was due to gaps in the deformed single-particle level structure here it is due to a change in deformation spherical \longleftrightarrow deformed.

Acknowledgments

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Appendix A. The evolution of the droplet model

The excellent agreement of the liquid-drop model (LDM) of nuclear binding energy with observation is based on the leptodermous nature of nuclei (surface effects are localized) and that bulk nuclear matter resists deviations from equilibrium saturation density and deviations from nuclear symmetry ($N = Z$). The nuclear part of the energy expression can be written:

$$-a_1A + a_2A^{2/3} + JI^2A \quad (29)$$

where a_1 is the volume-energy coefficient, a_2 the surface-energy coefficient, and J the symmetry-energy coefficient. In Fig. (2.1) in Ref. [82], these terms were arranged in a 2D pattern. In order to illustrate again that the LDM is a systematic 2D extension of the nuclear-matter model (binding proportional to A) in the directions of the small quantities I^2 and $A^{-1/3}$, we show this pattern in Table O. This illustration suggests the extension of the expansion to the next higher order in both directions, which would include terms in $A^{1/3}$, $I^2A^{2/3}$, and I^4A as is shown in Table P. Note that none of the coefficients of these new terms are simple. They all consist of two contributions, as can be seen (for example) in Eq. (4) in Ref. [83]. On the first line the coefficient a_3 is the effect of surface curvature (additional exposure) and the term $\frac{2a_2^2}{K}$ represents the effect of the reduction in surface area due to the squeezing of the nucleus by the surface energy a_2 , which is resisted by the incompressibility of nuclear matter K . On the second line the term $\frac{9}{4} \frac{I^2}{Q}$ represents the reduction in bulk asymmetry energy as a result of pushing excess neutrons into a surface layer which is resisted by the coefficient Q . The next term $\frac{2a_2L}{K}$ describes the loss of binding in the bulk due to surface squeezing and the reduction in incompressibility due to neutron excess resisted by the compressibility K . The coefficient of I^4A on the last line consists of an increase in binding driven by the coefficient L that describes a reduction in bulk incompressibility due to an increase in neutron excess. The term $\frac{1}{2}M$ is a higher-order term in the bulk equation of state.

The step from the LDM to the droplet model (DM) is a logical one since the expansion parameters $I = (N - Z)/A$ and $A^{-1/3}$ are small for most nuclei. Fitting the model to measured nuclear masses has permitted the determination of fundamental constants of nature such as: a_3 , K , L , and Q , in addition to those LDM parameters previously determined, such as a_1 , a_2 , J , and r_0 . These parameters are now more accurately known since their values are no longer distorted in the fitting process by the omission of higher-order terms in the model. Values of some other parameters, such as M , remain elusive.

Experience from fitting the DM to nuclear masses, sizes, fission barriers and other relevant nuclear properties suggests that the end of this approach has been reached and that any attempt to go to higher order in I^2 and $A^{-1/3}$ is probably pointless.

One obvious embellishment of the DM is to employ the model, as formulated, for the description of nuclear shapes other than spherical [84]. Even at the level of the LDM, generalization to arbitrary shapes through the introduction of the shape-dependent factors B_s and B_C (the ratio of the surface area and Coulomb energy of a given shape to that for a spherical nucleus of equal volume) was immediately useful in the describing the nuclear fission process [85].

The introduction of arbitrary shapes into the DM is a considerably more complex process [84], mostly because the model requires that the energy be minimized with respect to a number of internal degrees of freedom, such as the deviation of the central density from its nuclear-matter value and the thickness of the neutron skin created when excess neutrons in the interior are pushed into the surface. The number of shape dependences goes from two for the LDM (B_s , and B_C) to six for the DM (B_s , B_C , B_k , B_r ,

Table O
Droplet model terms to first order.

	Order in $A^{-1/3} \rightarrow$	
Order in I^2	$a_1 A$	$a_2 A^{2/3}$
↓	$J I^2 A$	

Table P
Droplet model terms to second order.

	Order in $A^{-1/3} \rightarrow$		
Order in I^2	$a_1 A$	$a_2 A^{2/3}$	$(a_3 - \frac{2a_2^2}{K}) A^{1/3}$
↓	$J I^2 A$	$(\frac{9}{4} \frac{I^2}{Q} - \frac{2a_2 I}{K}) I^2 A^{2/3}$	
	$(\frac{I^2}{2K} - \frac{M}{2}) I^4 A$		

B_v , and B_w). These factors are described in detail in [84] Sec. V and summarized in Table I in [84].

One feature of macroscopic nuclear properties that does not lend itself to a systematic leptodermous expansion is associated with the finite range of the force. As discussed in [86] the DM expansion breaks down for the sort of nuclear shapes considered in the calculation of fission barriers that consist of two almost separated components that are connected by a narrow neck. The DM expansion breaks down completely for separated fragments in close proximity.

The Yukawa-plus-exponential folding function advocated in [86] for representing the nuclear macroscopic surface energy finds application in [55,80] where it is used to calculate nuclear masses. Subsequently the idea of a folding function for representing the strength of the surface energy (and its dependence on nuclear surface asymmetry) was employed in [87–89].

When the DM with its associated shape dependences [84] is generalized to the finite-range droplet model (FRDM) [90] a number of changes are required. The first concerns the coefficient multiplying the term in the energy expression governing the response of the surface to changes in ε (the deviation of the central density from its nuclear matter value). In the original DM formulation the surface energy and its ε dependence (simply the increase or decrease in the surface area associated with changes in the bulk density) can be written as:

$$a_2 A^{2/3} B_s (1 + 2\varepsilon) \quad (30)$$

When the surface-energy coefficient is replaced by the finite-range expression in Ref. [90] the expression above becomes:

$$a_2 A^{2/3} (B_1 + 2\varepsilon B_2) \quad (31)$$

where

$$B_1 = \frac{A^{-2/3}}{8\pi^2 r_0^2 a^4} \iint_V \left(2 - \frac{|\mathbf{r} - \mathbf{r}'|}{a} \right) \frac{e^{-|\mathbf{r} - \mathbf{r}'|/a}}{|\mathbf{r} - \mathbf{r}'|/a} d^3 r d^3 r' \quad (32)$$

and

$$B_2 = \frac{1}{2x_0} \left[\frac{d}{dx} (x^2 B_1) \right]_{x=x_0} \quad (33)$$

Similarly the DM expression for the Coulomb energy and its ε dependence is:

$$c_1 (Z^2 / A^{1/3}) B_C (1 - \varepsilon) \quad (34)$$

and the generalization to a folding integral for the Coulomb energy requires that this expression becomes:

$$c_1 (Z^2 / A^{1/3}) (B_3 - \varepsilon B_4) \quad (35)$$

where

$$B_3 = \frac{15}{32\pi^2} \frac{A^{-5/3}}{r_0^5} \iint_V \frac{d^3 r d^3 r'}{|\mathbf{r} - \mathbf{r}'|} \times \left[1 - \left(1 + \frac{1}{2} \frac{|\mathbf{r} - \mathbf{r}'|}{a_{\text{den}}} \right) e^{-|\mathbf{r} - \mathbf{r}'|/a_{\text{den}}} \right] \quad (36)$$

and

$$B_4 = -y_0^2 \left[\frac{d}{dy} \left(\frac{B_3}{y} \right) \right]_{y=y_0} \quad (37)$$

Another change arises if we also choose to replace the dependence of the surface symmetry energy on the surface area function B_s by its folding analog B_1 given by Eq. (32). As originally formulated the response of the surface energy to the presence of a neutron skin can be written, see Eq. (62) in Ref. [84]:

$$\int_S Q \tau^2 \quad (38)$$

and the corresponding terms that appear in the energy minimization process contain the product

$$B_s Q D \quad (39)$$

where D governs the geometrical relationship between τ and δ , see Eq. (36) in Ref. [84]

$$\tau = (1 - \delta) D \quad (40)$$

where

$$D = \frac{2}{3} (A^{1/3} / B_s) \quad (41)$$

The quantity B_s as it appears above in Eq. (39) is canceled by its appearance in the denominator of Eq. (41) in the original formulation of the DM.

When the simple surface energy of the original DM (proportional to the surface area) is replaced by a folding integral, the shape dependence B_s in Eq. (39) is replaced by its folding model equivalent B_1 . The shape dependence B_s in D is a purely geometrical factor and remains unchanged. In this case the two shape dependences no longer cancel, and the coefficient Q in the DM must be replaced by its folding-model equivalent $(B_1 / B_s) Q$ in the FRDM. For example, compare Eq. (59) in Ref. [84] and Eq. (12) in Ref. [89].

Successively improved tables of nuclear masses calculated by use of the FRDM have appeared in 1988 [89], in 1995 [21], and most recently in 2016 [1].

If in the longer term the professional email address of the corresponding author has become defunct (he must maintain an active guest agreement with LANL to maintain the email), comments on the work and FRDM model may be available from P. Möller: mollerinla@gmail.com, M. Mumpower: mumpower@lanl.gov, or T. Kawano: kawano@lanl.gov.

Appendix B. Supplementary data

Our calculated data are excessively complicated to read by computer in the form they are presented in the paper, so we provide the following supplemental data files:

Proton and neutron spins for odd Z and/or odd N :
FILENAME: spinzandn-beta-2018.dat

FORMAT: Z Proton spin(def) N Neutron spin(def) A Proton spin(sph) Neutron spin(sph) ε_2 ε_3

In FORTRAN language: (I5,F7.1,I5,F7.1,I6,F10.1,F10.1,F10.2,F10.2)

The first two spin values are the spins at calculated deformation (regardless of ε_2 value). The last two spin values are the spin assignment based on spherical configuration (regardless of calculated deformation). When $\varepsilon_3 > 0$ parity is not a good quantum number for the deformed assignments although the spins in these cases are listed positive. In the comparison with experimental data in figures 1, 2, 3, and 4 in the paper we use the spherical assignment if $\varepsilon_2 < 0.15$.

Pairing gaps:

FILENAME: pairingdeltas-beta-2018.dat

FORMAT: Z Δ_p N Δ_n A

FORTTRAN format specification: (I5,F8.3,I5,F8.3,I5).

Delayed neutron-emission quantities based on the QRPA+HF:

FILENAME: pn-frdm2012-sdn-gtff-beoh350.dat

FORMAT: The format is explained in the first few lines of the file.

Electron-capture half-lives:

FILENAME: tlfec-beta-2018.dat

FORMAT: Z A Half-life (s)

FORTTRAN format specification: (I5,I5,F20.5).

Beta-minus half-lives:

FILENAME: tlfminusff-beta-2018.dat

FORMAT: Z A Half-life (s)

FORTTRAN format specification (I5,I4,F20.5).

Half-lives and Q values of alpha decay:

FILENAME: qalp+alph-beta-2018.dat

FORMAT: Z N A Q(MeV) T_lexp TL(s)

FORTTRAN format specification:(3I5,2E20.10)

10**T_lexp is half-life in seconds and TL is half-life in seconds.

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.adt.2018.03.003>.

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Explanation of Tables

Table 1.

Calculated nuclear ground-state properties

Z	Proton number. The Table is ordered by increasing proton number. The corresponding chemical symbol of each named element is given in parentheses.
N	Neutron number.
A	Mass number.
Ω_p^π	Projection of the odd-proton angular momentum along the symmetry axis and parity of the wave function.
Ω_n^π	Projection of the odd-neutron angular momentum along the symmetry axis and parity of the wave function.
Δ_{LNp}	Pairing gap for protons in the Lipkin–Nogami model, given by $\Delta_p + \lambda_{2p}$.
Δ_{LNn}	Pairing gap for neutrons in the Lipkin–Nogami model, given by $\Delta_n + \lambda_{2n}$.
S_{1n}	One-neutron separation energy [Eq. (4)].
S_{2n}	Two-neutron separation energy [Eq. (4)].
P_{0n}	Fraction of decay daughters emitting zero neutrons.
P_{1n}	Fraction of decay daughters emitting one neutron.
P_{2n}	Fraction of decay daughters emitting two neutrons. All the P_{in} are based on the QRPA+HF approach.
\bar{E}_n	Average energy of delayed neutrons.
\bar{n}	Average number of emitted delayed neutrons.
Q_β	Energy released in ground-state to ground-state β decay [Eqs. (15)–(17)].
T_β	Half-life with respect to Gamow–Teller QRPA transitions and phenomenological first-forbidden contributions, the latter only for β^- decay [Eqs. (11)–(13) and (19)].
S_{1p}	One-proton separation energy [Eq. (20)].
S_{2p}	Two-proton separation energy [Eq. (20)].
Q_α	Energy released in ground-state to ground-state α decay [Eq. (21)].
T_α	Half-life with respect to α decay [Eqs. (22)–(24)].

An *italic font* is used in the Table for separation energies, and energy releases when these quantities can be extracted from experimental masses included in the 2012 Audi evaluation [4]. The tabulated quantities themselves are of course obtained from calculated masses. In the calculations of P_{in} and T_β the experimental masses were used in the calculations of Q_β and S_{in} when available, these cases are in also in italics.

There are in the Table five quantities related to β decay, namely P_{0n} , P_{1n} , P_{2n} , Q_β , and T_β . The precise meaning of the tabulated quantities is as follows. When both β^+ and β^- decay are possible, we tabulate \pm in the columns for Q_β and T_β . When neither β^+ nor β^- decay is possible, we tabulate “...” in the column for Q_β , “ β -stable” in the column for T_β , and blank fields in the columns for P_{0n} , P_{1n} , and P_{2n} . When only EC or β^+ decay is possible, we tabulate Q_{EC} in the column for Q_β , the calculated half-life with respect to Gamow–Teller decay for combined EC and β^+ decay in the column for T_β , and blank fields in the columns for P_{0n} , P_{1n} , and P_{2n} . Finally, when only β^- decay is possible, we tabulate Q_{β^-} in the column for Q_β , the calculated half-life with respect to Gamow–Teller β^- and phenomenologically treated first-forbidden transitions in the column for T_β , and the calculated β^- -delayed neutron emission probabilities in the columns for P_{0n} , P_{1n} , and P_{2n} . The electron binding energy has been neglected in the determination of Q_{EC} .

To obtain more accurate values of T_β and P_{in} , we have calculated the Q values that enter Eqs. (11) and (19) from experimental mass differences when all experimental masses that are required for the calculation of a quantity are available and otherwise from calculated mass differences. The neutron separation energies that enter in the calculations of P_{in} are also obtained from experimental mass differences when available and otherwise from calculated mass differences. One should note that the neutron-separation energies refer to separation energies in the daughter of the β decay. *It is possible to find out whether calculated or experimental mass differences were used to calculate the decay Q value and separation energies by checking the font used for these quantities.*

Table 1
Calculated nuclear ground-state properties.

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 8 (O)																		
8	16			3.49	3.66								...	β -st				
9	17		1/2	3.56	3.23	4.42							...	β -st				
10	18			3.58	2.88	9.39	13.81						...	β -st				
11	19		1/2 ⁺	3.50	2.73	3.11	12.50	1.00	0.00	0.00	0.00	0.00	4.34	5.4722				
12	20			3.44	2.52	8.03	11.14	1.00	0.00	0.00	0.00	0.00	1.99	> 100				
13	21		5/2 ⁺	3.38	2.33	2.17	10.20	1.00	0.00	0.00	0.00	0.00	8.59	0.8767				
14	22			3.40	2.19	6.24	8.41	0.98	0.02	0.00	0.29	0.02	6.99	8.2989				
15	23		1/2 ⁺	3.41	1.98	0.77	7.01	0.95	0.05	0.00	0.54	0.05	13.32	1.0373				
16	24			3.42	1.81	3.81	4.59	0.63	0.37	0.00	0.89	0.37	12.41	0.2434				
17	25		1/2 ⁺	3.43	1.77	-1.06	2.75	0.94	0.06	0.00	1.76	0.06	17.72	0.0082				
18	26			3.45	1.69	2.50	1.43	0.12	0.83	0.05	1.33	0.93	16.18	0.0143				
19	27		1/2 ⁺	3.45	1.63	-1.91	0.58	0.62	0.21	0.16	1.67	0.56	20.93	0.0028				
20	28			3.45	1.69	1.33	-0.59	0.01	0.86	0.09	1.54	1.16	19.85	0.0030				
21	29		1/2 ⁻	3.41	1.70	-2.90	-1.58	0.05	0.12	0.70	2.03	1.95	24.67	0.0024				
22	30			3.38	1.62	1.20	-1.70	0.00	0.41	0.28	1.89	1.94	22.79	0.0019				
23	31		3/2 ⁻	3.29	1.62	-2.67	-1.47	0.03	0.04	0.47	2.13	2.68	27.01	0.0016				
24	32			3.26	1.56	-0.04	-2.71	0.00	0.13	0.15	2.12	2.96	24.89	0.0015				
25	33		5/2 ⁻	3.20	1.52	-5.96	-6.00	0.00	0.01	0.12	2.37	4.16	31.33	0.0007				
26	34			3.25	1.52	-1.01	-6.97	0.00	0.02	0.05	2.30	4.63	29.30	0.0006				
27	35		1/2 ⁻	3.09	1.35	-1.88	-2.88	0.00	0.01	0.02	2.38	5.65	30.15	0.0010				
28	36			3.04	1.34	-0.75	-2.62	0.00	0.01	0.03	2.24	6.03	28.37	0.0008				
29	37		3/2 ⁻	3.05	1.29	-6.72	-7.46	0.01	0.01	0.01	2.37	7.10	36.48	0.0003				
30	38			3.12	1.26	-2.50	-9.21	0.00	0.01	0.02	2.45	8.00	34.04	0.0003				
31	39		1/2 ⁻	3.10	1.24	-4.79	-7.29	0.00	0.00	0.00	2.66	9.18	36.02	0.0004				
32	40			3.14	1.21	-0.60	-5.40	0.00	0.00	0.00	2.56	9.34	34.41	0.0003				
33	41		1/2 ⁻	3.12	1.24	-5.02	-5.63	0.00	0.00	0.00	2.75	9.74	37.29	0.0003				
34	42			3.09	1.21	-4.79	-9.81	0.00	0.00	0.00	2.84	9.84	36.85	0.0002				
Z = 9 (F)																		
8	17	1/2 ⁺		3.07	3.58								2.45	> 100	1.19			
9	18	1/2 ⁺	1/2 ⁺	2.95	3.18	7.52							4.32	> 100	4.29			
10	19	1/2 ⁺		3.15	2.88	11.77	19.29						...	β -st	6.67			
11	20	1/2 ⁺	3/2 ⁺	3.09	2.73	5.68	17.45	1.00	0.00	0.00	0.00	0.00	7.41	1.9397	9.24			
12	21	1/2 ⁺		3.00	2.54	8.77	14.44	1.00	0.00	0.00	0.00	0.00	4.80	1.1020	9.97			
13	22	1/2 ⁺	5/2 ⁺	2.94	2.38	4.64	13.41	1.00	0.00	0.00	0.00	0.00	11.16	0.5366	12.45			
14	23	1/2 ⁺		2.90	2.28	7.10	11.75	0.99	0.01	0.00	0.47	0.01	8.77	0.3001	13.31			
15	24	1/2 ⁺	1/2 ⁺	2.88	2.05	2.90	10.00	0.97	0.03	0.00	0.59	0.03	15.79	0.1184	15.44			
16	25	1/2 ⁺		2.88	1.93	4.26	7.16	0.94	0.06	0.00	1.05	0.06	14.55	0.0362	15.88			
17	26	1/2 ⁺	1/2 ⁺	2.88	1.82	0.95	5.20	0.80	0.20	0.00	1.14	0.20	20.23	0.0063	17.89			
18	27	1/2 ⁺		2.89	1.71	2.84	3.79	0.51	0.47	0.02	1.60	0.51	18.51	0.0066	18.24			
19	28	1/2 ⁺	3/2 ⁺	2.89	1.74	0.25	3.09	0.35	0.51	0.14	1.44	0.79	23.44	0.0020	20.40			
20	29	5/2 ⁺		2.88	1.75	1.92	2.17	0.05	0.82	0.10	1.64	1.11	21.68	0.0022	20.99			
21	30	1/2 ⁺	1/2 ⁻	2.91	1.77	-0.69	1.23	0.19	0.21	0.55	1.82	1.47	26.10	0.0021	23.21			
22	31	1/2 ⁺		2.97	1.65	1.55	0.87	0.00	0.63	0.17	1.92	1.58	24.43	0.0018	23.55			
23	32	1/2 ⁺	3/2 ⁻	2.97	1.65	-2.16	-0.61	0.04	0.10	0.61	2.01	2.22	29.53	0.0012	24.07			
24	33	1/2 ⁺		2.96	1.57	0.48	-1.68	0.00	0.27	0.15	2.12	2.46	27.69	0.0011	24.59			
25	34	1/2 ⁺	5/2 ⁻	2.94	1.55	-3.04	-2.56	0.01	0.03	0.29	2.22	3.37	32.63	0.0008	27.51			
26	35	1/2 ⁺		2.92	1.49	-1.02	-4.06	0.00	0.05	0.08	2.24	3.86	31.29	0.0007	27.50			
27	36	1/2 ⁺	1/2 ⁻	2.88	1.43	-2.53	-3.55	0.00	0.01	0.07	2.30	4.75	34.34	0.0006	26.84			
28	37	5/2 ⁺		2.85	1.36	1.39	-1.13	0.00	0.03	0.09	2.14	4.65	31.50	0.0006	28.98			
29	38	5/2 ⁺	3/2 ⁻	2.81	1.32	-4.94	-3.54	0.00	0.01	0.03	2.26	5.86	37.68	0.0003	30.76			
30	39	5/2 ⁺		2.77	1.27	-2.82	-7.76	0.00	0.00	0.01	2.39	7.06	35.04	0.0004	30.44			
31	40	5/2 ⁺	1/2 ⁻	2.74	1.26	-2.21	-5.03	0.00	0.00	0.00	2.42	7.93	36.88	0.0004	33.02			
32	41	5/2 ⁺		2.73	1.23	-2.15	-4.36	0.00	0.00	0.01	2.46	8.44	35.72	0.0004	31.48			
33	42	5/2 ⁺	1/2 ⁻	2.72	1.25	-5.23	-7.38	0.00	0.00	0.00	2.61	9.29	39.88	0.0003	31.27			
34	43	5/2 ⁺		2.70	1.23	-3.23	-8.46	0.00	0.00	0.00	2.66	9.53	39.45	0.0002	32.83			
35	44	5/2 ⁺	1/2 ⁻	2.69	1.22	-3.80	-7.04	0.00	0.00	0.00	2.86	9.90	39.92	0.0003				
36	45	1/2 ⁺		2.82	1.23	-1.23	-5.04	0.00	0.01	0.00	2.67	9.66	40.06	0.0002				

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 9 (F)																		
37	46	1/2 ⁺	1/2 ⁻	2.80	1.21	-5.60	-6.83	0.00	0.00	0.00	2.86	9.88	43.12	0.0002				
Z = 10 (Ne)																		
8	18			2.68	3.49								1.59	> 100	5.15	6.34		
9	19	1/2 ⁺		2.80	3.12	10.30							3.06	48.4108	7.93	12.22		
10	20			2.88	3.07	16.14	26.44						...	β -st	12.30	18.97	-4.48	
11	21	3/2 ⁺		2.86	2.87	6.15	22.30						...	β -st	12.78	22.02	-6.21	
12	22			2.89	2.66	11.01	17.16						...	β -st	15.02	24.99	-7.83	
13	23	5/2 ⁺		2.84	2.45	4.71	15.72	1.00	0.00	0.00	0.00	0.00	3.95	14.5986	15.09	27.54	-9.44	
14	24			2.79	2.33	9.92	14.64	1.00	0.00	0.00	0.00	0.00	0.59	> 100	17.91	31.22	-11.33	
15	25	1/2 ⁺		2.74	2.09	3.01	12.94	1.00	0.00	0.00	0.00	0.00	7.10	2.0349	18.02	33.46	-12.18	
16	26			2.72	1.97	6.63	9.64	0.98	0.02	0.00	0.44	0.02	5.62	2.5012	20.40	36.28	-12.56	
17	27	1/2 ⁺		2.71	1.89	1.13	7.76	0.98	0.02	0.00	1.00	0.02	11.69	0.0245	20.58	38.47	-12.92	
18	28			2.72	1.90	5.18	6.30	0.78	0.22	0.00	1.29	0.22	10.18	0.0560	22.91	41.15	-14.28	
19	29	1/2 ⁺		2.72	1.81	0.16	5.34	0.85	0.14	0.01	1.16	0.16	15.85	0.0095	22.82	43.22	-15.50	
20	30			2.72	1.82	3.73	3.89	0.78	0.21	0.01	1.54	0.23	14.19	0.0111	24.63	45.62	-16.73	
21	31	1/2 ⁻		2.73	1.85	-0.12	3.61	0.30	0.59	0.11	1.24	0.81	18.31	0.0150	25.20	48.41	-18.53	
22	32			2.79	1.64	2.95	2.83	0.21	0.75	0.04	1.16	0.83	16.75	0.0087	26.59	50.15	-20.15	
23	33	3/2 ⁻		2.84	1.63	-1.36	1.59	0.13	0.43	0.42	1.45	1.33	21.12	0.0059	27.39	51.46	-21.69	
24	34			2.84	1.53	1.90	0.54	0.04	0.75	0.15	1.46	1.23	19.89	0.0037	28.81	53.40	-22.39	
25	35	5/2 ⁻		2.80	1.59	-2.37	-0.47	0.04	0.14	0.64	1.72	2.01	24.43	0.0027	29.48	56.99	-22.69	
26	36			2.78	1.49	0.53	-1.84	0.00	0.27	0.29	1.72	2.26	23.15	0.0022	31.03	58.53	-23.26	
27	37	1/2 ⁻		2.75	1.36	-1.45	-0.92	0.02	0.02	0.38	1.84	2.92	25.75	0.0022	32.11	58.95	-27.77	
28	38			2.74	1.39	1.24	-0.21	0.00	0.27	0.12	1.66	2.70	24.39	0.0016	31.96	60.94	-30.02	
29	39	3/2 ⁻		2.67	1.35	-5.45	-4.21	0.01	0.01	0.17	1.94	4.07	30.51	0.0009	31.44	62.20	-26.44	
30	40			2.68	1.36	-0.37	-5.83	0.00	0.01	0.03	1.98	4.71	28.33	0.0009	33.89	64.33	-26.82	
31	41	1/2 ⁻		2.62	1.27	-3.31	-3.68	0.00	0.00	0.01	2.14	5.91	30.79	0.0010	32.79	65.82	-30.23	
32	42			2.60	1.24	-1.08	-4.38	0.00	0.01	0.01	2.13	6.39	29.16	0.0009	33.86	65.34	-31.64	
33	43	5/2 ⁻		2.60	1.24	-3.66	-4.74	0.00	0.00	0.00	2.19	7.34	31.73	0.0007	35.43	66.71	-32.78	
34	44			2.62	1.26	-3.33	-6.99	0.00	0.00	0.00	2.28	8.23	31.83	0.0005	35.33	68.16	-30.05	
35	45	3/2 ⁻		2.73	1.27	-1.09	-4.42	0.00	0.00	0.00	2.37	8.96	31.07	0.0009	38.04		-33.98	
36	46			2.71	1.25	-2.54	-3.63	0.00	0.01	0.01	2.32	9.03	32.07	0.0004	36.74		-36.23	
37	47	3/2 ⁺		2.74	1.23	-6.59	-9.13	0.00	0.00	0.01	2.54	9.63	36.46	0.0003	35.75			
38	48			2.73	1.21	-2.53	-9.12	0.00	0.00	0.00	2.62	9.81	34.74	0.0003				
39	49	1/2 ⁻		2.72	1.19	-4.92	-7.46	0.00	0.00	0.00	2.78	9.94	37.62	0.0002				
40	50			2.67	1.16	-3.10	-8.02	0.00	0.00	0.00	2.84	9.97	35.20	0.0002				
41	51	3/2 ⁻		2.70	1.14	-4.75	-7.84	0.00	0.00	0.00	2.98	10.00	36.84	0.0002				
Z = 11 (Na)																		
8	19	5/2 ⁺		2.54	3.43								10.60	0.1233	-1.09	4.06		
9	20	3/2 ⁺	1/2 ⁺	2.54	3.03	12.92							13.83	0.0956	1.53	9.46		
10	21	3/2 ⁺		2.61	2.99	16.76	29.68						3.23	61.3287	2.14	14.45	-5.44	
11	22	3/2 ⁺	3/2 ⁺	2.64	2.82	9.98	26.74						4.25	> 100	5.97	18.75	-7.90	
12	23	3/2 ⁺		2.63	2.72	12.92	22.90						...	β -st	7.88	22.90	-9.05	
13	24	3/2 ⁺	5/2 ⁺	2.73	2.60	6.56	19.48	1.00	0.00	0.00	0.00	0.00	5.75	21.2118	9.73	24.82	-9.93	
14	25	3/2 ⁺		2.64	2.42	9.52	16.09	1.00	0.00	0.00	0.00	0.00	3.47	10.0750	9.33	27.25	-10.69	
15	26	3/2 ⁺	1/2 ⁺	2.59	2.29	5.15	14.67	1.00	0.00	0.00	0.00	0.00	10.38	0.2388	11.47	29.49	-11.20	
16	27	3/2 ⁺		2.57	2.21	7.20	12.35	1.00	0.00	0.00	0.00	0.00	8.03	0.0993	12.04	32.43	-11.29	
17	28	3/2 ⁺	1/2 ⁺	2.55	2.13	3.66	10.86	0.98	0.02	0.00	0.67	0.02	13.53	0.0352	14.57	35.15	-12.05	
18	29	3/2 ⁺		2.56	1.99	5.83	9.49	0.86	0.14	0.00	1.17	0.14	11.85	0.0205	15.23	38.13	-13.62	
19	30	3/2 ⁺	1/2 ⁺	2.56	1.89	2.07	7.90	0.90	0.10	0.00	1.02	0.10	17.10	0.0075	17.13	39.95	-14.75	
20	31	1/2 ⁺		2.56	1.88	4.01	6.08	0.76	0.24	0.00	1.48	0.24	15.89	0.0065	17.41	42.04	-15.91	
21	32	3/2 ⁺	1/2 ⁻	2.55	1.87	1.38	5.39	0.70	0.25	0.05	1.25	0.35	20.33	0.0069	18.91	44.11	-17.04	
22	33	3/2 ⁺		2.57	1.70	3.02	4.40	0.34	0.63	0.03	1.21	0.69	18.77	0.0027	18.98	45.57	-18.14	
23	34	3/2 ⁺	3/2 ⁻	2.60	1.65	0.66	3.68	0.37	0.43	0.19	1.33	0.84	22.79	0.0033	21.01	48.40	-19.49	
24	35	3/2 ⁺		2.62	1.58	2.17	2.84	0.14	0.73	0.10	1.54	1.02	21.57	0.0025	21.28	50.09	-20.11	
25	36	3/2 ⁺	5/2 ⁻	2.60	1.61	-0.75	1.42	0.11	0.30	0.52	1.66	1.57	26.07	0.0019	22.89	52.37	-21.51	
26	37	3/2 ⁺		2.60	1.52	1.15	0.40	0.00	0.51	0.24	1.82	1.75	24.66	0.0018	23.51	54.55	-22.18	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 11 (Na)																		
27	38	3/2 ⁺	1/2 ⁻	2.63	1.39	-0.12	1.03	0.04	0.05	0.61	1.89	2.31	27.71	0.0017	24.85	56.95	-25.10	
28	39	3/2 ⁺		2.63	1.39	0.67	0.55	0.00	0.30	0.07	1.88	2.48	27.00	0.0013	24.27	56.23	-26.80	
29	40	3/2 ⁺	7/2 ⁻	2.56	1.45	-2.55	-1.88	0.01	0.04	0.40	2.01	3.07	32.42	0.0008	27.18	58.62	-26.77	
30	41	3/2 ⁺		2.50	1.38	-0.85	-3.40	0.00	0.05	0.07	2.13	3.71	30.12	0.0008	26.70	60.59	-24.53	
31	42	3/2 ⁺	1/2 ⁻	2.49	1.38	-2.71	-3.56	0.00	0.01	0.07	2.23	4.54	33.75	0.0006	27.30	60.09	-26.76	
32	43	3/2 ⁺		2.48	1.35	-1.08	-3.80	0.00	0.01	0.03	2.29	5.16	32.10	0.0006	27.29	61.15	-28.49	
33	44	3/2 ⁺	3/2 ⁻	2.47	1.33	-3.24	-4.32	0.00	0.01	0.01	2.39	6.14	35.34	0.0005	27.71	63.15	-27.47	
34	45	3/2 ⁺		2.47	1.29	-1.85	-5.08	0.00	0.00	0.01	2.41	6.83	34.04	0.0004	29.20	64.53	-27.77	
35	46	3/2 ⁺	3/2 ⁻	2.55	1.31	-1.55	-3.39	0.00	0.01	0.00	2.45	7.48	35.47	0.0005	28.74	66.79	-31.45	
36	47	3/2 ⁺		2.53	1.28	-2.19	-3.74	0.00	0.00	0.01	2.47	8.18	34.37	0.0004	29.09	65.82	-32.49	
37	48	3/2 ⁺	3/2 ⁺	2.52	1.25	-4.26	-6.45	0.00	0.00	0.00	2.57	9.04	37.48	0.0003	31.42	67.17	-32.03	
38	49	3/2 ⁺		2.53	1.24	-2.04	-6.30	0.00	0.00	0.00	2.61	9.28	35.78	0.0003	31.91		-31.23	
39	50	3/2 ⁺	3/2 ⁻	2.52	1.21	-5.51	-7.55	0.00	0.00	0.00	2.76	9.77	39.86	0.0002	31.32		-31.31	
40	51	3/2 ⁺		2.51	1.19	-3.11	-8.62	0.00	0.00	0.00	2.79	9.82	39.21	0.0002	31.31			
41	52	3/2 ⁺	1/2 ⁻	2.49	1.15	-4.38	-7.49	0.00	0.00	0.00	2.92	9.95	42.04	0.0002	31.68			
42	53	3/2 ⁺		2.46	1.13	-1.79	-6.17	0.00	0.00	0.00	2.94	9.97	38.76	0.0002				
43	54	3/2 ⁺	1/2 ⁺	2.47	1.11	-5.10	-6.89	0.00	0.00	0.00	3.10	9.99	41.08	0.0002				
44	55	3/2 ⁺		2.45	1.09	-3.52	-8.62	0.00	0.00	0.00	3.06	10.00	41.61	0.0001				
Z = 12 (Mg)																		
8	20			2.31	3.34								8.94	0.4073	3.20	2.11		
9	21	1/2 ⁺		2.40	2.95	13.71							11.98	0.0322	3.99	5.52		
10	22			2.47	2.88	18.95	32.66						3.01	89.9659	6.19	8.33	-6.47	
11	23	3/2 ⁺		2.53	2.75	12.08	31.03						3.86	29.8079	8.28	14.26	-8.25	
12	24			2.54	2.72	16.17	28.24						...	β -st	11.53	19.41	-8.27	
13	25	5/2 ⁺		2.51	2.55	7.24	23.41						...	β -st	12.21	21.94	-9.36	
14	26			2.52	2.66	12.06	19.30						...	β -st	14.75	24.08	-10.41	
15	27	1/2 ⁺		2.55	2.33	4.85	16.91	1.00	0.00	0.00	0.00	0.00	2.80	57.3464	14.45	25.92	-10.55	
16	28			2.52	2.27	9.16	14.01	1.00	0.00	0.00	0.00	0.00	1.55	> 100	16.41	28.45	-9.79	
17	29	1/2 ⁺		2.47	2.15	4.14	13.30	1.00	0.00	0.00	0.00	0.00	6.82	0.4883	16.89	31.46	-10.92	
18	30			2.40	2.06	7.32	11.47	1.00	0.00	0.00	0.00	0.00	4.70	2.7473	18.39	33.61	-11.62	
19	31	1/2 ⁺		2.38	1.95	2.80	10.12	0.99	0.01	0.00	0.72	0.01	10.88	0.0369	19.12	36.25	-13.29	
20	32			2.37	1.93	5.82	8.61	0.88	0.12	0.00	0.76	0.12	8.96	0.1141	20.92	38.34	-13.93	
21	33	1/2 ⁻		2.39	1.94	1.46	7.28	0.62	0.38	0.00	0.88	0.38	13.96	0.1676	21.01	39.92	-15.23	
22	34			2.44	1.76	4.69	6.15	0.73	0.27	0.00	0.88	0.27	12.08	0.0633	22.67	41.66	-16.19	
23	35	3/2 ⁻		2.47	1.72	0.95	5.64	0.65	0.32	0.03	1.01	0.38	16.34	0.0390	22.96	43.96	-17.25	
24	36			2.50	1.63	3.75	4.69	0.46	0.53	0.01	1.11	0.55	14.69	0.0181	24.53	45.81	-18.05	
25	37	5/2 ⁻		2.51	1.63	-0.26	3.49	0.27	0.57	0.16	1.22	0.89	19.12	0.0102	25.03	47.92	-19.15	
26	38			2.52	1.52	2.92	2.67	0.09	0.81	0.09	1.39	1.02	17.53	0.0088	26.80	50.32	-20.18	
27	39	1/2 ⁻		2.59	1.43	-0.04	2.89	0.16	0.50	0.32	1.35	1.20	20.86	0.0052	26.89	51.73	-22.51	
28	40			2.44	1.47	2.87	2.83	0.19	0.61	0.14	1.61	1.07	19.92	0.0049	29.09	53.36	-24.85	
29	41	3/2 ⁻		2.42	1.42	-3.15	-0.28	0.03	0.28	0.52	1.94	1.88	25.99	0.0024	28.49	55.67	-23.15	
30	42			2.42	1.39	0.92	-2.23	0.00	0.21	0.44	2.12	2.20	23.24	0.0025	30.25	56.95	-22.83	
31	43	1/2 ⁻		2.41	1.42	-2.73	-1.82	0.01	0.03	0.38	2.22	2.82	26.93	0.0015	30.23	57.53	-25.55	
32	44			2.40	1.39	0.01	-2.72	0.00	0.06	0.07	2.26	3.39	25.78	0.0015	31.32	58.61	-25.93	
33	45	3/2 ⁻		2.40	1.35	-3.15	-3.14	0.00	0.01	0.08	2.35	4.27	28.89	0.0012	31.41	59.13	-26.09	
34	46			2.42	1.32	-0.12	-3.27	0.00	0.02	0.04	2.22	4.56	27.53	0.0009	33.14	62.34	-27.04	
35	47	3/2 ⁻		2.40	1.35	-3.29	-3.41	0.00	0.01	0.02	2.25	5.33	30.79	0.0006	31.39	60.14	-27.41	
36	48			2.46	1.32	-1.15	-4.44	0.00	0.01	0.03	2.20	5.85	29.70	0.0005	32.44	61.53	-29.60	
37	49	3/2 ⁺		2.47	1.29	-3.74	-4.88	0.00	0.01	0.01	2.34	7.06	32.10	0.0005	32.96	64.38	-26.95	
38	50			2.47	1.26	-1.44	-5.18	0.00	0.00	0.00	2.27	7.84	30.13	0.0005	33.56	65.47	-28.05	
39	51	3/2 ⁻		2.46	1.23	-3.75	-5.19	0.00	0.00	0.00	2.35	8.79	32.85	0.0004	35.32	66.65	-30.89	
40	52			2.45	1.21	-1.55	-5.30	0.00	0.00	0.00	2.33	9.22	31.42	0.0004	36.88	68.20	-31.87	
41	53	1/2 ⁻		2.43	1.17	-5.08	-6.62	0.00	0.00	0.00	2.50	9.74	35.07	0.0003	36.18	67.87	-31.72	
42	54			2.41	1.15	-2.78	-7.86	0.00	0.00	0.00	2.52	9.87	34.62	0.0002	35.19		-32.04	
43	55	5/2 ⁺		2.42	1.12	-2.99	-5.77	0.00	0.00	0.00	2.69	9.95	34.90	0.0003	37.31		-33.80	
44	56			2.42	1.09	-2.34	-5.33	0.00	0.00	0.00	2.66	9.99	33.66	0.0003	38.48			
45	57	1/2 ⁺		2.41	1.07	-4.83	-7.17	0.00	0.01	0.00	2.72	9.91	37.95	0.0002				

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 12 (Mg)																		
46	58			2.40	1.05	-2.72	-7.54	0.00	0.00	0.00	2.74	10.00	35.71	0.0002				
47	59		5/2 ⁻	2.36	1.03	-5.40	-8.11	0.00	0.00	0.00	2.84	10.00	38.50	0.0002				
Z = 13 (Al)																		
8	21	5/2 ⁺		2.16	3.34								15.63	0.0437	-2.70	0.50		
9	22	5/2 ⁺	1/2 ⁺	2.24	2.95	16.12							18.46	0.0222	-0.30	3.70		
10	23	5/2 ⁺		2.30	2.80	19.00	35.12						11.54	0.1029	-0.24	5.94	-7.32	
11	24	5/2 ⁺	3/2 ⁺	2.34	2.67	14.28	33.28						13.43	0.1855	1.96	10.24	-8.68	
12	25	5/2 ⁺		2.35	2.64	16.54	30.82						4.13	24.0854	2.33	13.86	-8.46	
13	26	5/2 ⁺	5/2 ⁺	2.36	2.47	10.98	27.51						5.21	75.7593	6.06	18.27	-9.45	
14	27	3/2 ⁺		2.43	2.67	12.87	23.85						...	β -st	6.88	21.62	-9.41	
15	28	5/2 ⁺	1/2 ⁺	2.37	2.29	7.91	20.78	1.00	0.00	0.00	0.00	0.00	4.03	> 100	9.93	24.38	-10.75	
16	29	5/2 ⁺		2.39	2.22	9.41	17.32	1.00	0.00	0.00	0.00	0.00	2.02	34.3554	10.18	26.59	-10.64	
17	30	5/2 ⁺	1/2 ⁺	2.33	2.13	5.20	14.62	1.00	0.00	0.00	0.00	0.00	8.78	3.9379	11.24	28.14	-10.69	
18	31	1/2 ⁺		2.30	2.07	8.98	14.18	1.00	0.00	0.00	0.00	0.00	6.26	0.2060	12.90	31.29	-12.48	
19	32	5/2 ⁺	3/2 ⁺	2.28	1.97	3.89	12.87	1.00	0.00	0.00	0.00	0.00	12.10	0.0357	13.99	33.11	-12.71	
20	33	5/2 ⁺		2.27	1.97	6.46	10.35	0.95	0.05	0.00	1.19	0.05	10.43	0.0157	14.64	35.56	-13.34	
21	34	5/2 ⁺	1/2 ⁻	2.28	1.98	2.81	9.27	0.94	0.06	0.00	1.31	0.06	15.65	0.0125	15.99	36.99	-14.08	
22	35	5/2 ⁺		2.28	1.90	5.21	8.02	0.84	0.16	0.00	0.86	0.16	13.80	0.0121	16.51	39.18	-15.28	
23	36	5/2 ⁺	3/2 ⁻	2.31	1.78	2.10	7.31	0.84	0.14	0.02	1.21	0.18	18.40	0.0081	17.66	40.62	-16.00	
24	37	5/2 ⁺		2.32	1.68	4.17	6.27	0.78	0.21	0.01	1.33	0.23	16.01	0.0063	18.08	42.61	-17.15	
25	38	5/2 ⁺	5/2 ⁻	2.32	1.68	1.34	5.50	0.70	0.24	0.06	1.22	0.36	20.69	0.0060	19.67	44.70	-17.82	
26	39	5/2 ⁺		2.32	1.59	3.29	4.62	0.14	0.82	0.03	1.15	0.91	19.06	0.0041	20.04	46.84	-18.94	
27	40	3/2 ⁺	1/2 ⁻	2.35	1.39	1.93	5.22	0.21	0.59	0.20	1.44	0.99	21.57	0.0061	22.01	48.90	-21.62	
28	41	3/2 ⁺		2.35	1.51	2.92	4.85	0.27	0.63	0.08	1.63	0.85	21.02	0.0034	22.06	51.14	-23.39	
29	42	1/2 ⁺	3/2 ⁻	2.31	1.46	-1.83	1.09	0.10	0.48	0.36	2.01	1.39	27.42	0.0017	23.37	51.86	-21.68	
30	43	1/2 ⁺		2.31	1.37	0.96	-0.87	0.00	0.42	0.38	2.39	1.79	25.09	0.0024	23.42	53.67	-21.97	
31	44	1/2 ⁺	1/2 ⁻	2.30	1.38	-1.15	-0.19	0.01	0.06	0.52	2.50	2.46	28.58	0.0017	25.00	55.23	-23.37	
32	45	1/2 ⁺		2.30	1.38	-0.03	-1.18	0.00	0.12	0.12	2.48	2.89	27.35	0.0016	24.96	56.28	-24.18	
33	46	1/2 ⁺	5/2 ⁻	2.32	1.33	-1.48	-1.52	0.00	0.03	0.26	2.45	3.38	30.30	0.0009	26.62	58.04	-25.41	
34	47	1/2 ⁺		2.35	1.32	-0.02	-1.51	0.00	0.05	0.08	2.45	3.83	28.74	0.0010	26.72	59.86	-26.48	
35	48	1/2 ⁺	9/2 ⁺	2.35	1.35	-2.24	-2.26	0.00	0.02	0.08	2.52	4.61	32.10	0.0010	27.77	59.17	-27.47	
36	49	1/2 ⁺		2.33	1.34	-1.34	-3.58	0.00	0.02	0.04	2.47	5.00	31.12	0.0007	27.58	60.02	-27.98	
37	50	1/2 ⁺	3/2 ⁺	2.40	1.29	-3.41	-4.75	0.00	0.01	0.02	2.52	5.91	34.67	0.0005	27.90	60.87	-26.11	
38	51	1/2 ⁺		2.40	1.26	-1.03	-4.44	0.00	0.01	0.02	2.45	6.31	33.25	0.0004	28.32	61.88	-27.28	
39	52	1/2 ⁺	3/2 ⁻	2.32	1.26	-2.98	-4.00	0.00	0.00	0.00	2.50	7.47	35.24	0.0004	29.09	64.42	-28.56	
40	53	1/2 ⁺		2.32	1.24	-1.43	-4.41	0.00	0.00	0.01	2.47	8.01	33.82	0.0004	29.21	66.09	-29.17	
41	54	1/2 ⁺	1/2 ⁻	2.29	1.21	-3.22	-4.66	0.00	0.01	0.00	2.51	8.83	36.69	0.0003	31.06	67.24	-31.46	
42	55	1/2 ⁺		2.29	1.18	-2.71	-5.93	0.00	0.00	0.01	2.52	9.19	36.00	0.0003	31.14	66.33	-31.86	
43	56	1/2 ⁺	1/2 ⁻	2.29	1.14	-3.59	-6.29	0.00	0.00	0.00	2.62	9.74	38.33	0.0003	30.54	67.84	-32.65	
44	57	1/2 ⁺		2.29	1.11	-0.54	-4.12	0.00	0.00	0.00	2.55	9.80	35.33	0.0003	32.34	70.82	-33.91	
45	58	5/2 ⁺	5/2 ⁺	2.15	1.09	-4.96	-5.49	0.00	0.00	0.00	2.64	9.98	39.25	0.0002	32.21		-34.05	
46	59	5/2 ⁺		2.15	1.05	-2.61	-7.56	0.00	0.00	0.00	2.58	9.97	38.88	0.0002	32.32		-34.96	
47	60	5/2 ⁺	1/2 ⁺	2.17	1.04	-4.25	-6.86	0.00	0.00	0.00	2.68	10.00	40.91	0.0002	33.46			
48	61	1/2 ⁺		2.19	1.02	-2.27	-6.52	0.00	0.00	0.00	2.67	10.00	39.55	0.0002				
49	62	1/2 ⁺	7/2 ⁺	2.18	1.00	-4.16	-6.43	0.00	0.00	0.00	2.74	10.00	42.18	0.0001				
50	63	1/2 ⁺		2.20	0.97	-3.41	-7.58	0.00	0.00	0.00	2.73	10.00	41.56	0.0001				
Z = 14 (Si)																		
8	22			2.02	3.40								15.18	0.0512	0.16	-2.55		
9	23		5/2 ⁺	2.13	2.93	17.82							16.36	0.0151	1.86	1.57		
10	24			2.22	2.78	21.57	39.40						9.06	0.2816	4.43	4.19	-8.55	
11	25		1/2 ⁺	2.33	2.66	14.55	36.13						11.05	0.0367	4.71	6.67	-9.39	
12	26			2.39	2.55	18.23	32.78						3.79	41.0911	6.40	8.73	-8.67	
13	27		3/2 ⁺	2.41	2.47	12.39	30.62						4.27	21.1472	7.82	13.88	-8.99	
14	28			2.41	2.60	16.21	28.61						...	β -st	11.16	18.03	-9.04	
15	29		1/2 ⁺	2.36	2.38	7.40	23.62						...	β -st	10.65	20.59	-9.20	
16	30			2.30	2.23	11.96	19.37						...	β -st	13.20	23.39	-9.10	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p}	Δ_{LN_n}	S_{1n}	S_{2n}	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n	\bar{n}	Q_β	T_β	S_{1p}	S_{2p}	Q_α	T_α
				(MeV)	(MeV)	(MeV)	(MeV)				(MeV)		(MeV)	(s)	(MeV)	(MeV)	(MeV)	(s)
Z = 14 (Si)																		
17	31		3/2 ⁺	2.34	2.18	6.46	18.42	1.00	0.00	0.00	0.00	0.00	1.77	> 100	14.46	25.70	-10.70	
18	32			2.28	2.09	9.73	16.19	1.00	0.00	0.00	0.00	0.00	...	β -st	15.21	28.11	-11.28	
19	33		1/2 ⁺	2.27	2.10	4.79	14.52	1.00	0.00	0.00	0.00	0.00	4.99	1.5476	16.11	30.10	-11.92	
20	34			2.25	2.11	8.03	12.82	1.00	0.00	0.00	0.00	0.00	3.42	20.5712	17.68	32.32	-12.63	
21	35		7/2 ⁻	2.25	1.99	3.35	11.38	0.99	0.01	0.00	0.34	0.01	8.61	1.1462	18.22	34.21	-13.18	
22	36			2.24	1.92	6.71	10.06	0.63	0.37	0.00	0.91	0.37	6.73	2.4399	19.72	36.23	-14.07	
23	37		3/2 ⁻	2.22	1.81	1.77	8.48	0.90	0.10	0.00	0.77	0.10	11.81	0.2123	19.39	37.05	-14.39	
24	38			2.22	1.71	6.02	7.79	0.69	0.31	0.00	1.00	0.31	9.52	0.1779	21.24	39.32	-15.72	
25	39		5/2 ⁻	2.21	1.72	1.66	7.67	0.62	0.37	0.01	1.09	0.39	14.07	0.0763	21.56	41.24	-16.42	
26	40			2.21	1.63	4.45	6.11	0.47	0.53	0.00	1.44	0.53	12.85	0.0532	22.72	42.76	-17.13	
27	41		1/2 ⁻	2.38	1.42	2.37	6.82	0.45	0.50	0.05	1.27	0.60	15.67	0.0087	23.16	45.17	-19.75	
28	42			2.39	1.54	4.57	6.94	0.51	0.48	0.01	1.47	0.50	13.13	0.0320	24.81	46.87	-21.40	
29	43		3/2 ⁻	2.33	1.50	-1.37	3.20	0.27	0.52	0.21	1.48	0.94	18.98	0.0125	25.27	48.64	-20.07	
30	44			2.32	1.44	2.34	0.97	0.07	0.79	0.13	1.93	1.08	17.98	0.0106	26.65	50.07	-19.54	
31	45		1/2 ⁻	2.29	1.42	-1.27	1.07	0.04	0.32	0.59	1.94	1.65	21.83	0.0058	26.53	51.53	-21.41	
32	46			2.28	1.38	1.47	0.20	0.00	0.50	0.32	1.98	1.68	20.61	0.0043	28.03	52.99	-21.97	
33	47		5/2 ⁻	2.30	1.37	-1.58	-0.11	0.05	0.27	0.52	1.63	1.84	24.00	0.0016	27.94	54.56	-23.12	
34	48			2.36	1.35	1.12	-0.46	0.00	0.34	0.20	1.89	2.19	22.41	0.0019	29.08	55.80	-24.23	
35	49		9/2 ⁺	2.37	1.39	-2.32	-1.20	0.01	0.03	0.39	2.03	3.00	25.96	0.0016	29.00	56.77	-25.06	
36	50			2.40	1.31	0.14	-2.18	0.00	0.16	0.12	1.91	2.96	24.71	0.0010	30.48	58.06	-25.32	
37	51		7/2 ⁺	2.40	1.36	-2.45	-2.32	0.00	0.02	0.16	2.02	3.92	27.54	0.0010	31.44	59.34	-26.16	
38	52			2.34	1.28	-0.98	-3.43	0.00	0.04	0.06	1.96	4.29	26.97	0.0007	31.49	59.81	-26.33	
39	53		3/2 ⁻	2.33	1.25	-2.86	-3.84	0.00	0.01	0.03	2.05	5.36	29.66	0.0006	31.61	60.70	-27.21	
40	54			2.24	1.27	-0.36	-3.22	0.00	0.01	0.02	1.97	5.81	27.83	0.0006	32.68	61.89	-28.29	
41	55		5/2 ⁺	2.24	1.24	-3.39	-3.75	0.00	0.01	0.00	2.07	7.02	30.96	0.0005	32.52	63.58	-28.65	
42	56			2.23	1.22	-1.26	-4.65	0.00	0.00	0.01	2.00	7.59	29.78	0.0004	33.96	65.10	-28.94	
43	57		1/2 ⁻	2.23	1.17	-3.54	-4.80	0.00	0.00	0.00	2.12	8.82	31.96	0.0005	34.01	64.55	-30.48	
44	58			2.19	1.14	-1.04	-4.58	0.00	0.00	0.00	2.09	9.11	30.39	0.0004	33.51	65.85	-32.22	
45	59		1/2 ⁺	2.22	1.10	-2.97	-4.01	0.00	0.00	0.00	2.20	9.82	32.06	0.0005	35.49	67.71	-32.24	
46	60			2.06	1.07	-2.23	-5.20	0.00	0.00	0.00	2.17	9.82	31.63	0.0003	35.87	68.19	-32.35	
47	61		1/2 ⁺	2.08	1.05	-3.63	-5.86	0.00	0.00	0.00	2.29	9.98	33.86	0.0003	36.50	69.96	-33.55	
48	62			2.10	1.01	-1.54	-5.16	0.00	0.00	0.00	2.21	9.97	33.62	0.0003	37.23		-34.73	
49	63		7/2 ⁺	2.10	1.01	-4.03	-5.57	0.00	0.00	0.00	2.38	10.00	34.26	0.0003	37.37		-36.10	
50	64			2.16	1.02	0.41	-3.62	0.00	0.00	0.00	2.24	10.00	30.78	0.0004	41.19			
51	65		3/2 ⁺	2.12	0.97	-8.82	-8.41	0.00	0.00	0.00	2.45	10.00	37.94	0.0002				
52	66			2.15	0.96	-3.05	-11.87	0.00	0.00	0.00	2.47	10.00	37.03	0.0002				
53	67		1/2 ⁺	2.14	0.96	-5.15	-8.20	0.00	0.00	0.00	2.57	10.00	39.27	0.0001				
54	68			2.15	0.98	-3.40	-8.55	0.00	0.00	0.00	2.60	10.00	38.24	0.0001				
Z = 15 (P)																		
8	23	1/2		1.83	3.40								21.35	0.0189	-4.31	-4.15		
9	24	1/2 ⁺	1/2 ⁺	1.91	2.94	18.95							23.98	0.0050	-3.19	-1.33		
10	25	1/2 ⁺		1.97	2.77	22.51	41.46						16.03	0.0272	-2.25	2.18	-9.00	
11	26	1/2 ⁺	3/2 ⁺	2.04	2.61	15.78	38.29						18.48	0.0116	-1.03	3.68	-8.66	
12	27	1/2 ⁺		2.07	2.56	19.10	34.88						11.77	0.1259	-0.16	6.24	-8.76	
13	28	1/2 ⁺	5/2 ⁺	2.11	2.38	14.87	33.97						13.12	0.1880	2.32	10.13	-9.35	
14	29	1/2 ⁺		2.20	2.50	16.00	30.86						4.52	8.4221	2.10	13.26	-8.81	
15	30	1/2 ⁺	1/2 ⁺	2.08	2.22	11.83	27.83						4.65	29.8948	6.53	17.18	-9.66	
16	31	1/2 ⁺		2.15	2.17	12.88	24.71						...	β -st	7.45	20.65	-9.67	
17	32	1/2 ⁺	3/2 ⁺	2.17	2.16	7.28	20.16	1.00	0.00	0.00	0.00	0.00	\pm	\pm	8.27	22.73	-9.04	
18	33	1/2 ⁺		2.18	2.10	10.46	17.74	1.00	0.00	0.00	0.00	0.00	0.56	> 100	9.00	24.21	-10.09	
19	34	1/2 ⁺	1/2 ⁺	2.16	2.08	6.46	16.92	1.00	0.00	0.00	0.00	0.00	5.89	9.0275	10.66	26.77	-11.34	
20	35	1/2 ⁺		2.14	2.10	8.55	15.00	1.00	0.00	0.00	0.00	0.00	4.46	7.9000	11.18	28.86	-10.91	
21	36	1/2 ⁺	7/2 ⁻	2.13	1.99	4.82	13.37	1.00	0.00	0.00	0.00	0.00	9.87	0.9366	12.65	30.87	-11.84	
22	37	1/2 ⁺		2.13	1.94	6.85	11.67	0.97	0.03	0.00	0.68	0.03	8.20	1.1547	12.80	32.52	-12.23	
23	38	1/2 ⁺	3/2 ⁻	2.14	1.87	3.73	10.58	0.98	0.02	0.00	0.55	0.02	12.90	0.3715	14.75	34.14	-13.15	
24	39	1/2 ⁺		2.15	1.82	6.21	9.94	0.94	0.06	0.00	1.13	0.06	10.76	0.3519	14.95	36.19	-14.16	
25	40	1/2 ⁺	5/2 ⁻	2.15	1.74	3.22	9.44	0.86	0.14	0.00	0.88	0.14	15.28	0.1501	16.51	38.08	-15.28	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 15 (P)																		
26	41	1/2 ⁺		2.15	1.65	5.18	8.41	0.76	0.24	0.00	1.72	0.24	13.69	0.0878	17.25	39.97	-16.30	
27	42	1/2 ⁺	7/2 ⁻	2.14	1.59	2.03	7.22	0.49	0.46	0.05	1.31	0.56	18.42	0.0384	16.92	40.07	-16.99	
28	43	3/2 ⁺		2.18	1.54	4.49	6.52	0.39	0.59	0.02	1.93	0.63	16.59	0.0126	16.83	41.64	-18.19	
29	44	3/2 ⁺	3/2 ⁻	2.18	1.48	1.34	5.83	0.24	0.55	0.21	1.71	0.97	20.66	0.0141	19.54	44.82	-17.60	
30	45	3/2 ⁺		2.15	1.41	2.57	3.91	0.07	0.70	0.21	2.17	1.18	19.51	0.0152	19.77	46.43	-17.25	
31	46	3/2 ⁺	1/2 ⁻	2.17	1.43	0.25	2.82	0.03	0.35	0.58	2.06	1.63	23.49	0.0066	21.30	47.83	-19.34	
32	47	3/2 ⁺		2.17	1.39	1.82	2.07	0.01	0.45	0.35	2.15	1.72	22.05	0.0055	21.64	49.68	-20.19	
33	48	3/2 ⁺	5/2 ⁻	2.17	1.40	-0.47	1.35	0.01	0.23	0.64	1.94	1.90	25.65	0.0019	22.75	50.69	-20.87	
34	49	3/2 ⁺		2.18	1.38	1.22	0.75	0.00	0.22	0.25	2.06	2.37	24.46	0.0022	22.85	51.93	-22.13	
35	50	3/2 ⁺	9/2 ⁺	2.22	1.41	-1.11	0.11	0.01	0.03	0.42	2.15	2.85	27.77	0.0018	24.07	53.07	-22.50	
36	51	3/2 ⁺		2.22	1.39	0.38	-0.73	0.00	0.07	0.09	2.08	3.14	26.30	0.0014	24.31	54.79	-22.91	
37	52	3/2 ⁺	1/2 ⁻	2.21	1.39	-1.55	-1.17	0.01	0.01	0.15	2.08	3.75	29.55	0.0010	25.21	56.65	-23.60	
38	53	3/2 ⁺		2.13	1.35	-0.17	-1.72	0.00	0.02	0.03	2.04	4.29	27.95	0.0010	26.02	57.51	-24.77	
39	54	5/2 ⁺	3/2 ⁻	2.15	1.33	-2.19	-2.35	0.00	0.01	0.06	2.04	4.80	31.53	0.0006	26.69	58.30	-25.99	
40	55	5/2 ⁺		2.15	1.29	-0.26	-2.45	0.00	0.02	0.02	2.00	5.18	29.86	0.0006	26.79	59.47	-26.76	
41	56	5/2 ⁺	5/2 ⁺	2.14	1.27	-2.44	-2.71	0.00	0.01	0.02	2.04	6.10	32.89	0.0005	27.73	60.25	-27.29	
42	57	5/2 ⁺		2.11	1.25	-1.35	-3.80	0.00	0.00	0.01	2.03	6.78	31.53	0.0005	27.64	61.60	-27.37	
43	58	1/2 ⁺	5/2 ⁻	2.04	1.22	-2.61	-3.97	0.00	0.01	0.00	2.04	7.58	34.42	0.0004	28.56	62.58	-27.98	
44	59	1/2 ⁺		2.03	1.16	-1.29	-3.91	0.00	0.00	0.01	2.06	8.18	32.84	0.0004	28.31	61.82	-29.39	
45	60	1/2 ⁺	5/2 ⁺	2.03	1.12	-2.66	-3.95	0.00	0.01	0.00	2.11	8.89	35.30	0.0004	28.62	64.11	-30.32	
46	61	1/2 ⁺		2.02	1.09	-1.40	-4.06	0.00	0.00	0.01	2.09	9.21	33.96	0.0003	29.45	65.32	-29.46	
47	62	1/2 ⁺	1/2 ⁺	2.03	1.06	-1.77	-3.17	0.00	0.01	0.00	2.14	9.48	35.38	0.0004	31.30	67.80	-32.64	
48	63	1/2 ⁺		2.02	1.02	-3.39	-5.16	0.00	0.00	0.01	2.15	9.67	35.79	0.0003	29.45	66.68	-31.86	
49	64	1/2 ⁺	1/2 ⁺	2.03	1.00	-3.08	-6.47	0.00	0.01	0.00	2.21	9.84	37.95	0.0002	30.40	67.77	-33.04	
50	65	5/2 ⁺		2.06	0.98	-1.66	-4.74	0.00	0.00	0.00	2.20	9.97	36.65	0.0002	28.33	69.52	-33.64	
51	66	5/2 ⁺	3/2 ⁺	2.06	0.98	-3.96	-5.62	0.00	0.00	0.00	2.30	9.99	39.07	0.0002	33.19		-33.85	
52	67	5/2 ⁺		2.06	0.95	-2.90	-6.86	0.00	0.00	0.00	2.32	10.00	38.60	0.0002	33.34		-34.36	
53	68	5/2 ⁺	1/2 ⁺	2.06	0.97	-4.44	-7.35	0.00	0.00	0.00	2.41	10.00	41.23	0.0001	34.05			
54	69	5/2 ⁺		2.07	0.98	-3.41	-7.85	0.00	0.00	0.00	2.45	10.00	40.24	0.0001	34.04			
55	70	5/2 ⁺	9/2 ⁺	2.05	0.98	-4.53	-7.94	0.00	0.00	0.00	2.56	10.00	42.79	0.0001				
56	71	5/2 ⁺		2.04	0.98	-3.65	-8.18	0.00	0.00	0.00	2.56	10.00	42.57	0.0001				
57	72	3/2 ⁺	1/2 ⁺	2.04	0.93	-2.26	-5.92	0.00	0.00	0.00	2.49	10.00	42.26	0.0001				
58	73	1/2 ⁺		2.04	0.93	-2.78	-5.05	0.00	0.00	0.00	2.49	10.00	40.28	0.0001				
Z = 16 (S)																		
8	24			1.68	3.42								20.52	0.0105	-2.36	-6.67		
9	25	1/2 ⁺		1.79	2.95	19.65							23.38	0.0030	-1.66	-4.85		
10	26			1.82	2.76	24.71	44.36						14.45	0.0732	0.54	-1.71	-9.39	
11	27	3/2 ⁺		2.01	2.61	16.59	41.30						16.97	0.0080	1.35	0.32	-8.15	
12	28			2.07	2.55	21.00	37.59						10.83	0.2730	3.25	3.09	-7.58	
13	29	5/2 ⁺		2.06	2.36	14.95	35.94						11.89	0.0449	3.33	5.65	-7.97	
14	30			2.01	2.38	18.63	33.58						5.09	12.3090	5.96	8.06	-8.37	
15	31	1/2 ⁺		2.06	2.22	12.23	30.86						5.73	10.0542	6.36	12.89	-8.21	
16	32			2.15	2.21	15.82	28.05						...	β -st	9.30	16.75	-7.81	
17	33	3/2 ⁺		2.06	2.15	8.22	24.04						...	β -st	10.24	18.51	-8.63	
18	34			2.12	2.15	11.78	20.01						...	β -st	11.56	20.57	-8.45	
19	35	1/2 ⁺		2.06	2.07	7.12	18.91	1.00	0.00	0.00	0.00	0.00	...	β -st	12.23	22.89	-9.11	
20	36			2.04	2.10	10.22	17.34						...	β -st	13.90	25.09	-9.61	
21	37	7/2 ⁻		2.04	1.99	5.19	15.41	1.00	0.00	0.00	0.00	0.00	3.86	> 100	14.27	26.92	-10.00	
22	38			2.05	1.97	8.42	13.61	1.00	0.00	0.00	0.00	0.00	2.25	> 100	15.84	28.64	-10.40	
23	39	3/2 ⁻		2.08	1.91	4.07	12.50	1.00	0.00	0.00	0.00	0.00	7.10	5.1071	16.19	30.94	-11.12	
24	40			2.11	1.83	7.75	11.82	1.00	0.00	0.00	0.00	0.00	4.50	83.5887	17.73	32.67	-12.16	
25	41	5/2 ⁻		2.13	1.75	3.58	11.33	1.00	0.00	0.00	0.00	0.00	9.51	2.4734	18.09	34.60	-13.97	
26	42			2.13	1.66	6.77	10.35	0.98	0.02	0.00	0.42	0.02	7.59	3.9018	19.67	36.92	-14.72	
27	43	7/2 ⁻		2.09	1.59	2.66	9.42	0.82	0.18	0.00	0.68	0.18	11.89	0.4242	20.29	37.21	-15.72	
28	44			2.07	1.54	5.41	8.07	0.68	0.32	0.00	1.02	0.32	10.31	0.1369	21.22	38.05	-16.69	
29	45	3/2 ⁻		2.06	1.53	1.43	6.84	0.72	0.28	0.00	1.33	0.28	15.09	0.0661	21.30	40.85	-15.75	
30	46			2.06	1.44	4.23	5.65	0.37	0.63	0.00	1.68	0.63	13.63	0.0679	22.96	42.73	-15.41	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p}	Δ_{LN_n}	S_{1n}	S_{2n}	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n	\bar{n}	Q_β	T_β	S_{1p}	S_{2p}	Q_α	T_α
				(MeV)	(MeV)	(MeV)	(MeV)				(MeV)		(MeV)	(s)	(MeV)	(MeV)	(MeV)	(s)
Z = 16 (S)																		
31	47		1/2 ⁻	2.07	1.45	0.38	4.61	0.29	0.57	0.14	1.48	0.85	17.49	0.0232	23.09	44.39	-17.15	
32	48			2.10	1.39	3.12	3.50	0.15	0.77	0.08	1.50	0.93	16.04	0.0139	24.39	46.04	-17.93	
33	49		5/2 ⁻	2.10	1.36	0.03	3.15	0.54	0.31	0.14	1.38	0.62	19.35	0.0040	24.90	47.65	-19.24	
34	50			2.10	1.35	2.20	2.24	0.05	0.78	0.13	1.52	1.16	18.23	0.0048	25.88	48.73	-19.97	
35	51		1/2 ⁻	2.10	1.45	-1.09	1.11	0.04	0.36	0.53	1.58	1.64	21.93	0.0032	25.90	49.96	-20.46	
36	52			2.09	1.43	1.70	0.61	0.00	0.55	0.28	1.68	1.63	20.43	0.0028	27.22	51.53	-21.04	
37	53		3/2 ⁻	2.07	1.41	-1.77	-0.07	0.01	0.09	0.63	1.68	2.27	23.37	0.0017	27.00	52.21	-21.59	
38	54			2.07	1.38	1.39	-0.38	0.00	0.17	0.17	1.54	2.61	21.91	0.0018	28.56	54.58	-22.85	
39	55		9/2 ⁺	2.07	1.38	-1.93	-0.53	0.01	0.01	0.24	1.64	3.40	25.44	0.0015	28.82	55.51	-23.37	
40	56			2.06	1.37	0.58	-1.35	0.00	0.09	0.06	1.53	3.41	24.03	0.0011	29.66	56.45	-24.93	
41	57		5/2 ⁺	2.08	1.29	-2.70	-2.12	0.01	0.01	0.17	1.65	4.18	27.66	0.0008	29.40	57.13	-25.09	
42	58			2.08	1.26	0.27	-2.43	0.00	0.05	0.04	1.59	4.24	26.18	0.0007	31.02	58.67	-25.72	
43	59		5/2 ⁺	2.04	1.25	-2.87	-2.60	0.00	0.01	0.05	1.65	5.20	29.76	0.0005	30.77	59.33	-26.23	
44	60			2.01	1.18	-0.20	-3.07	0.00	0.02	0.02	1.59	5.32	28.42	0.0004	31.86	60.17	-27.30	
45	61		5/2 ⁺	2.01	1.15	-2.74	-2.94	0.00	0.00	0.01	1.71	6.75	30.23	0.0005	31.78	60.40	-28.09	
46	62			2.01	1.10	-0.35	-3.09	0.00	0.00	0.00	1.67	7.16	28.37	0.0004	32.82	62.27	-28.78	
47	63		7/2 ⁺	2.02	1.08	-2.98	-3.34	0.00	0.00	0.00	1.75	8.27	31.27	0.0004	31.62	62.92	-28.76	
48	64			2.01	1.03	-0.91	-3.89	0.00	0.00	0.01	1.72	8.54	30.55	0.0003	34.09	63.54	-30.08	
49	65		1/2 ⁺	2.02	1.01	-2.97	-3.88	0.00	0.00	0.00	1.81	9.44	32.74	0.0003	34.20	64.60	-30.74	
50	66			2.01	0.99	-1.53	-4.50	0.00	0.00	0.00	1.82	9.55	31.75	0.0003	34.33	62.66	-30.74	
51	67		3/2 ⁺	2.02	0.99	-3.38	-4.91	0.00	0.00	0.00	1.95	9.92	33.56	0.0003	34.91	68.11	-31.39	
52	68			2.02	0.97	-1.81	-5.19	0.00	0.00	0.00	1.98	9.96	32.17	0.0003	36.00	69.35	-29.17	
53	69		1/2 ⁺	2.02	0.97	-4.40	-6.21	0.00	0.00	0.00	2.10	10.00	34.74	0.0003	36.05	70.10	-33.59	
54	70			1.97	0.97	-1.98	-6.37	0.00	0.00	0.00	2.13	10.00	33.11	0.0003	37.48	71.52	-34.67	
55	71		3/2 ⁺	1.97	0.99	-3.88	-5.85	0.00	0.00	0.00	2.18	10.00	35.84	0.0002	38.13		-35.94	
56	72			1.97	0.99	-2.57	-6.45	0.00	0.00	0.00	2.15	10.00	35.77	0.0002	39.21		-36.78	
57	73		7/2 ⁺	1.97	1.00	-4.76	-7.34	0.00	0.00	0.00	2.25	10.00	38.00	0.0002	36.71			
58	74			1.99	0.99	-4.11	-8.87	0.00	0.00	0.00	2.28	10.00	38.05	0.0001	35.39			
59	75		3/2 ⁺	1.97	1.00	-4.24	-8.35	0.00	0.00	0.00	2.38	10.00	39.10	0.0001				
60	76			1.98	1.00	-3.36	-7.60	0.00	0.00	0.00	2.40	10.00	37.79	0.0001				
Z = 17 (Cl)																		
8	25	3/2		1.59	3.42								25.48	0.0014	-6.62	-8.98		
9	26	1/2 ⁺	1/2 ⁺	1.63	2.95	20.97							29.22	0.0007	-5.30	-6.96		
10	27	1/2 ⁺		1.77	2.77	25.19	46.16						20.62	0.0045	-4.81	-4.27	-8.88	
11	28	1/2 ⁺	3/2 ⁺	1.79	2.59	19.01	44.20						22.61	0.0040	-2.39	-1.04	-8.95	
12	29	3/2 ⁺		1.85	2.46	21.31	40.32						16.24	0.0184	-2.08	1.17	-7.75	
13	30	3/2 ⁺	1/2 ⁺	1.89	2.35	16.84	38.15						18.03	0.0204	-0.18	3.15	-8.81	
14	31	3/2 ⁺		1.92	2.35	18.99	35.83						11.27	0.1460	0.18	6.14	-8.70	
15	32	3/2 ⁺	1/2 ⁺	1.92	2.20	14.09	33.08						13.00	0.2167	2.03	8.39	-7.93	
16	33	3/2 ⁺		1.91	2.13	15.91	30.00						5.31	26.9504	2.13	11.43	-7.84	
17	34	3/2 ⁺	3/2 ⁺	1.98	2.13	10.98	26.89						6.12	> 100	4.88	15.13	-6.98	
18	35	3/2 ⁺		2.11	2.13	13.23	24.20						0.01		6.33	17.89	-7.33	
19	36	3/2 ⁺	1/2 ⁺	2.02	2.06	8.57	21.80	1.00	0.00	0.00	0.00	0.00	±	±	7.78	20.01	-8.63	
20	37	1/2 ⁺		2.00	2.09	10.71	19.28						...	β-st	8.26	22.17	-8.87	
21	38	3/2 ⁺	7/2 ⁻	1.99	2.02	6.82	17.52	1.00	0.00	0.00	0.00	0.00	5.28	> 100	9.89	24.16	-9.23	
22	39	1/2 ⁺		1.99	1.95	8.92	15.74	1.00	0.00	0.00	0.00	0.00	3.67	> 100	10.39	26.23	-9.61	
23	40	1/2 ⁺	3/2 ⁻	2.01	1.91	5.15	14.07	1.00	0.00	0.00	0.00	0.00	9.12	15.4601	11.46	27.65	-9.93	
24	41	1/2 ⁺		2.03	1.83	8.60	13.74	1.00	0.00	0.00	0.00	0.00	6.24	10.5862	12.31	30.04	-11.68	
25	42	1/2 ⁺	5/2 ⁻	2.04	1.75	4.85	13.44	1.00	0.00	0.00	0.00	0.00	11.23	2.8534	13.57	31.66	-12.80	
26	43	1/2 ⁺		2.03	1.70	6.96	11.81	0.98	0.02	0.00	0.41	0.02	8.88	3.2839	13.77	33.43	-13.54	
27	44	3/2 ⁺	1/2 ⁻	2.04	1.63	3.83	10.79	0.97	0.03	0.00	0.52	0.03	13.62	0.7516	14.94	35.23	-14.15	
28	45	3/2 ⁺		2.03	1.58	6.20	10.04	0.79	0.21	0.00	1.34	0.21	11.98	0.4577	15.73	36.95	-15.17	
29	46	3/2 ⁺	3/2 ⁻	2.04	1.55	2.77	8.97	0.81	0.19	0.00	1.40	0.19	16.49	0.1994	17.08	38.38	-15.91	
30	47	1/2 ⁺		2.05	1.46	4.24	7.01	0.23	0.76	0.01	1.69	0.78	15.07	0.0596	17.08	40.04	-15.66	
31	48	1/2 ⁺	1/2 ⁻	2.06	1.47	1.67	5.91	0.17	0.69	0.14	1.52	0.97	18.66	0.0256	18.38	41.47	-15.99	
32	49	1/2 ⁺		2.07	1.43	3.34	5.02	0.07	0.84	0.09	2.00	1.02	17.31	0.0206	18.60	43.00	-16.76	
33	50	1/2 ⁺	5/2 ⁻	2.08	1.39	1.08	4.42	0.16	0.66	0.18	1.41	1.02	20.63	0.0055	19.65	44.54	-17.59	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 17 (Cl)																		
34	51	1/2 ⁺		2.08	1.38	2.61	3.69	0.05	0.71	0.20	1.96	1.23	19.47	0.0070	20.06	45.93	−18.38	
35	52	1/2 ⁺	1/2 [−]	2.08	1.49	0.20	2.81	0.02	0.33	0.59	1.81	1.70	23.16	0.0042	21.35	47.24	−19.05	
36	53	1/2 ⁺		2.06	1.48	1.17	1.37	0.00	0.31	0.46	1.83	1.93	21.91	0.0036	20.81	48.03	−19.00	
37	54	1/2 ⁺	3/2 [−]	2.06	1.45	−0.06	1.11	0.01	0.03	0.71	1.77	2.27	24.97	0.0020	22.52	49.52	−20.05	
38	55	1/2 ⁺		2.06	1.42	1.60	1.54	0.00	0.14	0.13	1.70	2.69	23.38	0.0023	22.73	51.29	−21.27	
39	56	1/2 ⁺	9/2 ⁺	2.06	1.41	−0.83	0.77	0.01	0.02	0.30	1.76	3.19	26.90	0.0019	23.83	52.64	−21.99	
40	57	1/2 ⁺		2.06	1.39	0.93	0.10	0.00	0.06	0.06	1.72	3.27	25.30	0.0015	24.18	53.84	−23.09	
41	58	1/2 ⁺	7/2 ⁺	2.07	1.37	−1.21	−0.28	0.01	0.01	0.12	1.73	3.92	28.60	0.0013	25.67	55.07	−24.06	
42	59	1/2 ⁺		2.08	1.33	0.70	−0.51	0.00	0.03	0.03	1.68	4.14	26.73	0.0012	26.10	57.13	−25.03	
43	60	1/2 ⁺	5/2 ⁺	2.07	1.32	−1.54	−0.84	0.01	0.01	0.04	1.70	4.88	29.90	0.0010	27.44	58.20	−25.93	
44	61	3/2 ⁺		1.96	1.21	−0.93	−2.47	0.00	0.01	0.02	1.65	5.00	29.70	0.0005	26.70	58.57	−26.36	
45	62	3/2 ⁺	5/2 ⁺	1.96	1.19	−2.21	−3.14	0.00	0.00	0.01	1.73	6.19	31.68	0.0006	27.24	59.02	−26.76	
46	63	3/2 ⁺		1.95	1.14	−0.08	−2.29	0.00	0.00	0.01	1.70	6.51	30.12	0.0005	27.51	60.33	−27.98	
47	64	3/2 ⁺	7/2 ⁺	1.95	1.11	−1.64	−1.72	0.00	0.00	0.00	1.73	7.46	32.38	0.0005	28.85	60.47	−29.00	
48	65	3/2 ⁺		1.95	1.07	−0.78	−2.42	0.00	0.01	0.01	1.73	7.74	31.27	0.0004	28.99	63.08	−29.62	
49	66	3/2 ⁺	1/2 ⁺	1.95	1.05	−2.52	−3.30	0.00	0.00	0.00	1.78	8.70	34.19	0.0004	29.44	63.64	−28.87	
50	67	1/2 ⁺		1.95	1.05	−1.57	−4.09	0.00	0.01	0.01	1.79	8.84	33.56	0.0003	29.40	63.73	−30.69	
51	68	1/2 ⁺	5/2 ⁺	1.95	1.03	−3.20	−4.77	0.00	0.01	0.00	1.87	9.34	36.70	0.0003	29.58	64.49	−30.57	
52	69	1/2 ⁺		1.94	0.98	−1.83	−5.03	0.00	0.00	0.01	1.91	9.55	35.49	0.0002	29.56	65.57	−30.40	
53	70	1/2 ⁺	1/2 ⁺	1.95	0.99	−3.61	−5.44	0.00	0.01	0.00	2.00	9.68	38.00	0.0002	30.35	66.40	−30.76	
54	71	1/2 ⁺		1.96	0.98	−1.15	−4.76	0.00	0.00	0.01	2.01	9.80	35.76	0.0002	31.18	68.66	−32.51	
55	72	1/2 ⁺	3/2 ⁺	1.96	1.01	−2.64	−3.79	0.00	0.00	0.00	2.09	9.91	36.71	0.0003	32.41	70.55	−34.31	
56	73	1/2 ⁺		1.96	1.00	−2.53	−5.17	0.00	0.00	0.00	2.09	9.96	36.62	0.0002	32.46	71.67	−35.19	
57	74	1/2 ⁺	7/2 ⁺	1.96	1.01	−4.06	−6.59	0.00	0.00	0.00	2.19	9.99	38.25	0.0002	33.16	69.87	−35.66	
58	75	1/2 ⁺		1.96	1.01	−3.19	−7.24	0.00	0.00	0.00	2.23	10.00	38.02	0.0002	34.08	69.47	−36.12	
59	76	1/2 ⁺	3/2 ⁺	1.96	1.01	−4.67	−7.86	0.00	0.00	0.00	2.33	10.00	40.37	0.0002	33.65		−33.71	
60	77	1/2 ⁺		1.95	1.01	−3.31	−7.98	0.00	0.00	0.00	2.36	10.00	39.70	0.0001	33.70		−33.19	
61	78	1/2 ⁺	1/2 ⁺	1.95	1.02	−4.57	−7.88	0.00	0.00	0.00	2.45	10.00	41.36	0.0001				
62	79	1/2 ⁺		1.96	1.02	−4.50	−9.07	0.00	0.00	0.00	2.51	10.00	40.50	0.0001				
Z = 18 (Ar)																		
9	27	1/2 ⁺		1.53	2.96								28.33	0.0008	−3.92	−9.22		
10	28			1.59	2.77	26.91							20.43	0.0064	−2.20	−7.01	−9.04	
11	29	3/2 ⁺		1.79	2.60	19.77	46.69						21.97	0.0023	−1.44	−3.83	−9.17	
12	30			1.86	2.46	23.61	43.38						15.19	0.0369	0.86	−1.22	−8.07	
13	31	1/2 ⁺		1.92	2.36	17.50	41.11						16.68	0.0084	1.52	1.34	−8.99	
14	32			1.96	2.36	20.62	38.12						10.15	0.2386	3.15	3.33	−8.61	
15	33	1/2 ⁺		1.95	2.19	14.64	35.26						11.43	0.0767	3.70	5.74	−8.30	
16	34			1.98	2.12	17.50	32.14						4.90	11.1357	5.29	7.42	−7.17	
17	35	3/2 ⁺		1.97	2.11	12.27	29.77						5.86	6.6791	6.58	11.47	−7.21	
18	36			2.12	2.14	15.53	27.81						...	β -st	8.89	15.22	−6.92	
19	37	1/2 ⁺		2.00	2.03	9.55	25.09						0.05	> 100	9.87	17.65	−8.26	
20	38			1.98	2.08	12.15	21.71						...	β -st	11.32	19.58	−8.62	
21	39	7/2 [−]		1.97	2.01	7.31	19.46	1.00	0.00	0.00	0.00	0.00	...	β -st	11.81	21.70	−8.81	
22	40			1.96	1.98	10.59	17.90						...	β -st	13.48	23.88	−9.19	
23	41	3/2 [−]		1.97	1.97	5.71	16.31	1.00	0.00	0.00	0.00	0.00	2.93	> 100	14.05	25.52	−9.71	
24	42			1.97	1.96	9.84	15.56	1.00	0.00	0.00	0.00	0.00	0.49	> 100	15.30	27.61	−11.13	
25	43	5/2 [−]		1.99	1.80	4.60	14.45	1.00	0.00	0.00	0.00	0.00	5.65	87.8618	15.05	28.63	−11.66	
26	44			2.02	1.73	8.58	13.18	1.00	0.00	0.00	0.00	0.00	3.65	> 100	16.68	30.44	−12.49	
27	45	1/2 [−]		2.03	1.65	4.56	13.14	1.00	0.00	0.00	0.00	0.00	7.95	8.3229	17.40	32.35	−13.47	
28	46			2.02	1.61	7.28	11.84	1.00	0.00	0.00	0.00	0.00	6.17	24.6323	18.48	34.21	−13.98	
29	47	3/2 [−]		2.03	1.54	2.82	10.10	0.99	0.01	0.00	0.43	0.01	11.27	1.0902	18.53	35.60	−14.14	
30	48			2.08	1.47	5.26	8.08	0.72	0.28	0.00	1.13	0.28	10.17	0.2123	19.55	36.63	−13.99	
31	49	1/2 [−]		2.09	1.47	1.99	7.25	0.72	0.28	0.00	1.12	0.28	13.55	0.0668	19.87	38.25	−14.56	
32	50			2.09	1.45	4.40	6.39	0.72	0.28	0.00	1.34	0.28	11.91	0.0418	20.92	39.53	−14.73	
33	51	5/2 [−]		2.11	1.42	1.45	5.85	0.85	0.13	0.02	1.07	0.17	14.91	0.0082	21.30	40.94	−15.80	
34	52			2.11	1.40	3.89	5.34	0.59	0.40	0.01	1.10	0.42	13.15	0.0159	22.57	42.63	−16.56	
35	53	1/2 [−]		2.11	1.52	−0.07	3.82	0.62	0.31	0.07	1.12	0.45	17.47	0.0062	22.30	43.65	−16.46	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 18 (Ar)																		
36	54			2.11	1.50	3.00	2.93	0.14	0.81	0.05	1.19	0.91	15.54	0.0071	24.13	44.95	−17.26	
37	55		3/2 [−]	2.09	1.48	0.01	3.01	0.48	0.31	0.20	1.17	0.74	18.85	0.0031	24.20	46.72	−18.35	
38	56			2.10	1.42	2.69	2.69	0.05	0.85	0.06	1.27	1.09	17.22	0.0037	25.29	48.02	−19.34	
39	57		9/2 ⁺	2.09	1.45	−0.66	2.02	0.05	0.40	0.48	1.24	1.59	21.15	0.0026	25.45	49.28	−20.44	
40	58			2.09	1.42	2.09	1.43	0.00	0.73	0.16	1.48	1.39	19.05	0.0024	26.61	50.79	−21.14	
41	59		7/2 ⁺	2.10	1.39	−1.17	0.92	0.02	0.04	0.74	1.44	2.20	22.33	0.0021	26.65	52.33	−21.90	
42	60			2.09	1.36	1.63	0.46	0.00	0.42	0.10	1.29	2.14	20.75	0.0017	27.58	53.68	−22.95	
43	61		5/2 ⁺	2.09	1.33	−1.13	0.50	0.01	0.02	0.48	1.37	2.92	23.54	0.0016	27.99	55.43	−24.53	
44	62			1.96	1.29	−0.23	−1.36	0.00	0.10	0.07	1.33	3.11	23.34	0.0010	28.69	55.40	−24.03	
45	63		5/2 ⁺	1.94	1.22	−1.65	−1.88	0.01	0.01	0.17	1.40	3.90	26.19	0.0009	29.25	56.49	−25.25	
46	64			1.94	1.16	0.63	−1.02	0.00	0.05	0.03	1.36	3.98	24.70	0.0008	29.96	57.47	−26.08	
47	65		7/2 ⁺	1.93	1.13	−1.89	−1.26	0.01	0.00	0.06	1.44	4.93	27.51	0.0007	29.71	58.57	−26.93	
48	66			1.98	1.14	0.39	−1.49	0.00	0.02	0.02	1.41	5.03	26.17	0.0007	30.89	59.87	−27.68	
49	67		1/2 ⁺	1.97	1.09	−2.19	−1.80	0.00	0.00	0.03	1.48	5.99	29.11	0.0006	31.21	60.65	−28.47	
50	68			1.97	1.10	−0.07	−2.26	0.00	0.01	0.01	1.45	6.02	27.94	0.0004	32.71	62.11	−29.31	
51	69		5/2 ⁺	1.97	1.02	−3.03	−3.10	0.00	0.01	0.01	1.55	7.19	31.21	0.0004	32.88	62.46	−29.25	
52	70			1.97	0.98	−1.10	−4.13	0.00	0.00	0.01	1.59	7.63	29.99	0.0004	33.61	63.18	−29.69	
53	71		1/2 ⁺	1.97	1.00	−3.40	−4.49	0.00	0.01	0.00	1.70	8.58	32.28	0.0003	33.83	64.18	−29.67	
54	72			1.96	0.99	−1.69	−5.09	0.00	0.00	0.00	1.76	9.11	31.25	0.0003	33.28	64.46	−29.79	
55	73		3/2 ⁺	1.97	1.02	−2.62	−4.31	0.00	0.00	0.00	1.87	9.61	32.22	0.0004	33.31	65.72	−31.57	
56	74			1.96	1.01	−2.43	−5.05	0.00	0.01	0.00	1.92	9.65	31.53	0.0003	33.41	65.86	−31.11	
57	75		1/2 ⁺	1.97	1.02	−3.41	−5.84	0.00	0.01	0.00	2.02	9.84	33.29	0.0003	34.05	67.21	−31.58	
58	76			1.97	1.01	−2.33	−5.74	0.00	0.00	0.00	2.02	9.97	33.63	0.0002	34.91	68.99	−31.82	
59	77		3/2 ⁺	1.96	1.03	−3.97	−6.30	0.00	0.00	0.00	2.12	10.00	35.31	0.0002	35.61	69.26	−32.61	
60	78			1.96	1.03	−2.91	−6.88	0.00	0.00	0.00	2.16	10.00	34.23	0.0002	36.01	69.71	−33.81	
61	79		1/2 ⁺	1.97	1.03	−5.37	−8.27	0.00	0.00	0.00	2.27	10.00	36.94	0.0002	35.22		−32.69	
62	80			1.97	1.03	−3.30	−8.67	0.00	0.00	0.00	2.28	10.00	36.02	0.0001	36.42		−32.74	
63	81		5/2 ⁺	1.99	1.02	−5.06	−8.37	0.00	0.00	0.00	2.36	10.00	38.64	0.0001				
64	82			1.98	1.02	−2.94	−8.01	0.00	0.00	0.00	2.46	10.00	34.84	0.0002				
65	83		11/2 [−]	1.96	1.02	−5.61	−8.55	0.00	0.00	0.00	2.56	10.00	37.51	0.0002				
Z = 19 (K)																		
10	29		3/2 ⁺	1.58	2.77								25.31	0.0012	−6.32	−8.52	−9.34	
11	30		3/2 ⁺	1.63	2.58	21.56							27.36	0.0010	−4.53	−5.97	−9.94	
12	31		3/2 ⁺	1.70	2.41	23.94	45.50						20.92	0.0040	−4.20	−3.34	−8.68	
13	32		5/2 ⁺	1.77	2.29	19.02	42.96						22.52	0.0035	−2.68	−1.16	−8.69	
14	33		3/2 ⁺	1.72	2.27	21.57	40.60						15.59	0.0363	−1.73	1.42	−8.96	
15	34		3/2 ⁺	1.75	2.15	16.09	37.66						17.00	0.0212	−0.28	3.42	−8.20	
16	35		1/2 ⁺	1.77	2.05	18.17	34.26						11.10	0.1742	0.39	5.68	−7.38	
17	36		3/2 ⁺	1.78	2.01	14.13	32.30						12.50	0.1991	2.25	8.84	−7.43	
18	37		1/2 ⁺	1.97	2.00	16.06	30.19						6.00	4.2395	2.78	11.67	−7.57	
19	38		1/2 ⁺	1.95	2.03	11.42	27.48						6.73	18.9716	4.64	14.52	−8.02	
20	39		1/2 ⁺	1.93	2.09	13.59	25.01						0.45		6.08	17.40	−8.38	
21	40		7/2 [−]	1.93	2.03	8.69	22.28						±	±	7.46	19.27	−8.50	
22	41		1/2 ⁺	1.92	2.00	11.00	19.69						...	β-st	7.86	21.35	−8.79	
23	42		5/2 [−]	1.99	1.98	7.40	18.40	1.00	0.00	0.00	0.00	0.00	4.09	> 100	9.55	23.60	−9.37	
24	43		1/2 ⁺	1.99	1.93	9.76	17.16	1.00	0.00	0.00	0.00	0.00	2.07	> 100	9.47	24.76	−10.21	
25	44		3/2 [−]	1.99	1.83	6.59	16.35	1.00	0.00	0.00	0.00	0.00	6.78	> 100	11.45	26.51	−11.65	
26	45		1/2 ⁺	2.03	1.72	8.86	15.45	1.00	0.00	0.00	0.00	0.00	4.85	> 100	11.73	28.40	−11.91	
27	46		3/2 ⁺	2.03	1.65	5.50	14.35	1.00	0.00	0.00	0.00	0.00	9.64	68.2902	12.66	30.07	−12.56	
28	47		1/2 ⁺	2.05	1.63	7.93	13.42	1.00	0.00	0.00	0.00	0.00	7.60	73.1582	13.31	31.79	−13.53	
29	48		3/2 [−]	2.05	1.51	4.15	12.08	0.99	0.01	0.00	0.63	0.01	12.56	1.7327	14.64	33.17	−13.84	
30	49		1/2 ⁺	2.06	1.45	5.38	9.53	0.71	0.29	0.00	1.74	0.29	11.46	1.1930	14.76	34.31	−13.01	
31	50		1/2 [−]	2.06	1.47	2.76	8.13	0.81	0.19	0.00	2.07	0.19	15.38	0.6846	15.52	35.39	−13.00	
32	51		1/2 ⁺	2.06	1.49	4.45	7.20	0.41	0.59	0.00	1.46	0.59	13.84	0.1394	15.57	36.50	−13.21	
33	52		5/2 [−]	2.05	1.56	2.13	6.58	0.74	0.24	0.02	1.10	0.28	17.42	0.0104	16.26	37.55	−13.67	
34	53		7/2 [−]	2.04	1.42	4.25	6.38	0.56	0.43	0.01	1.76	0.45	15.06	0.0088	16.62	39.19	−14.58	
35	54		1/2 ⁺	2.04	1.53	1.07	5.32	0.31	0.50	0.19	1.27	0.88	19.37	0.0085	17.75	40.06	−14.57	

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 19 (K)																		
36	55	1/2 ⁺		2.04	1.50	3.32	4.39	0.05	0.87	0.07	1.89	1.04	17.71	0.0092	18.07	42.20	-15.27	
37	56	1/2 ⁺	3/2 ⁻	2.05	1.48	1.06	4.38	0.14	0.51	0.34	1.40	1.22	21.14	0.0039	19.12	43.32	-16.13	
38	57	1/2 ⁺		2.05	1.45	3.27	4.33	0.02	0.69	0.24	1.69	1.32	18.91	0.0056	19.71	44.99	-18.23	
39	58	1/2 ⁺	1/2 ⁻	2.05	1.48	-0.01	3.26	0.02	0.23	0.69	1.60	1.80	22.86	0.0031	20.36	45.81	-18.28	
40	59	1/2 ⁺		2.06	1.40	2.11	2.10	0.01	0.31	0.45	1.50	1.91	21.48	0.0029	20.38	46.99	-18.79	
41	60	1/2	9/2	2.05	1.46	0.05	2.16	0.01	0.05	0.66	1.65	2.30	25.13	0.0023	21.60	48.25	-19.68	
42	61	1/2 ⁺		2.05	1.45	1.66	1.72	0.00	0.12	0.29	1.52	2.55	23.52	0.0019	21.63	49.21	-20.41	
43	62	1/2	7/2	2.04	1.42	-0.43	1.24	0.01	0.01	0.33	1.58	3.01	26.71	0.0016	22.34	50.33	-21.19	
44	63	1/2 ⁺		2.03	1.40	1.19	0.77	0.00	0.05	0.06	1.55	3.13	25.15	0.0013	23.76	52.45	-21.68	
45	64	1/2 ⁺	5/2 ⁺	1.99	1.27	-0.86	0.33	0.00	0.01	0.11	1.54	3.87	28.38	0.0011	24.55	53.80	-22.36	
46	65	1/2 ⁺		1.99	1.21	0.93	0.07	0.00	0.03	0.03	1.50	3.97	26.91	0.0009	24.84	54.81	-24.21	
47	66	1/2 ⁺	7/2 ⁺	1.99	1.17	-0.95	-0.02	0.00	0.01	0.05	1.53	4.64	29.81	0.0008	25.78	55.50	-25.48	
48	67	1/2 ⁺		2.01	1.13	0.74	-0.20	0.00	0.02	0.02	1.51	4.69	28.37	0.0007	26.13	57.02	-26.30	
49	68	1/2 ⁺	1/2 ⁺	2.01	1.09	-1.24	-0.49	0.00	0.00	0.03	1.56	5.45	31.13	0.0006	27.09	58.30	-26.70	
50	69	1/2 ⁺		2.03	1.08	0.24	-1.00	0.00	0.02	0.01	1.58	5.70	29.78	0.0006	27.39	60.11	-27.72	
51	70	1/2 ⁺	5/2 ⁺	2.00	1.06	-2.31	-2.08	0.00	0.00	0.02	1.63	6.43	33.19	0.0004	28.11	60.99	-27.92	
52	71	1/2 ⁺		2.00	1.00	-1.10	-3.42	0.00	0.01	0.01	1.68	6.95	32.01	0.0004	28.10	61.72	-28.39	
53	72	1/2 ⁺	1/2 ⁺	1.99	1.02	-2.73	-3.83	0.00	0.01	0.00	1.75	7.96	34.51	0.0004	28.77	62.60	-28.86	
54	73	1/2 ⁺		1.99	1.02	-1.64	-4.37	0.00	0.00	0.01	1.81	8.42	33.28	0.0004	28.82	62.11	-29.05	
55	74	1/2 ⁺	3/2 ⁺	1.99	1.02	-3.13	-4.77	0.00	0.01	0.00	1.90	9.14	35.55	0.0003	28.31	61.62	-29.53	
56	75	1/2 ⁺		2.02	1.04	-1.65	-4.78	0.00	0.01	0.01	1.95	9.25	34.01	0.0003	29.09	62.50	-29.02	
57	76	1/2 ⁺	1/2 ⁺	2.02	1.05	-1.98	-3.63	0.00	0.03	0.00	2.01	9.29	35.00	0.0004	30.52	64.58	-29.68	
58	77	1/2 ⁺		2.02	1.05	-2.30	-4.28	0.00	0.03	0.02	2.03	9.40	35.46	0.0002	30.55	65.47	-29.92	
59	78	1/2 ⁺	1/2 ⁺	2.01	1.08	-3.99	-6.29	0.00	0.01	0.00	2.12	9.75	36.99	0.0003	30.54	66.15	-29.99	
60	79	1/2 ⁺		2.01	1.08	-2.66	-6.64	0.00	0.01	0.00	2.16	9.88	36.51	0.0002	30.79	66.80	-30.52	
61	80	1/2 ⁺	3/2 ⁺	1.99	1.07	-4.22	-6.88	0.00	0.00	0.00	2.22	10.00	38.95	0.0002	31.94	67.15	-30.97	
62	81	1/2 ⁺		1.99	1.07	-2.45	-6.67	0.00	0.00	0.00	2.25	10.00	37.75	0.0002	32.79	69.21	-31.84	
63	82	1/2 ⁺	5/2 ⁺	1.98	1.07	-6.75	-9.19	0.00	0.00	0.00	2.40	10.00	40.08	0.0001	31.11		-29.66	
64	83	1/2 ⁺		1.97	1.05	-2.94	-9.68	0.00	0.00	0.00	2.44	10.00	38.26	0.0001	31.12		-31.22	
65	84	1/2 ⁺	1/2 ⁺	1.97	1.03	-4.41	-7.35	0.00	0.00	0.00	2.51	10.00	40.38	0.0001	32.32			
66	85	1/2 ⁺		1.97	1.01	-3.29	-7.70	0.00	0.00	0.00	2.53	10.00	39.39	0.0001				
67	86	1/2 ⁺	3/2 ⁺	1.96	0.99	-4.33	-7.62	0.00	0.00	0.00	2.59	10.00	41.35	0.0001				
68	87	1/2 ⁺		1.97	0.96	-3.56	-7.88	0.00	0.00	0.00	2.61	10.00	40.26	0.0001				
Z = 20 (Ca)																		
10	30			1.63	2.77								24.42	0.0015	-3.65	-9.96		
11	31		3/2 ⁺	1.69	2.58	22.05							26.31	0.0008	-3.15	-7.68	-10.70	
12	32			1.76	2.38	25.91	47.96						19.42	0.0069	-1.18	-5.38	-9.70	
13	33		5/2 ⁺	1.80	2.27	19.58	45.49						21.41	0.0019	-0.62	-3.30	-9.51	
14	34			1.85	2.27	23.17	42.76						14.33	0.0629	0.98	-0.75	-9.07	
15	35		1/2 ⁺	1.89	2.14	16.71	39.88						15.79	0.0158	1.60	1.32	-8.28	
16	36			1.91	2.04	19.56	36.27						10.36	0.3008	2.99	3.38	-7.22	
17	37		3/2 ⁺	1.92	2.01	14.50	34.06						11.92	0.1580	3.35	5.60	-7.07	
18	38			1.98	1.98	17.59	32.09						5.75	3.1275	4.89	7.66	-7.17	
19	39		3/2 ⁺	1.97	2.03	12.83	30.42						6.51	1.5296	6.30	10.94	-7.73	
20	40			1.97	2.11	16.07	28.90						...	β -st	8.78	14.86	-8.26	
21	41		7/2 ⁻	1.96	2.05	9.00	25.07						1.13	> 100	9.08	16.54	-7.71	
22	42			1.96	2.00	12.62	21.62						...	β -st	10.71	18.57	-8.18	
23	43		1/2 ⁻	2.04	1.98	7.74	20.36						...	β -st	11.05	20.60	-8.61	
24	44			2.04	1.93	11.30	19.04						...	β -st	12.59	22.05	-9.31	
25	45		3/2 ⁻	2.05	1.82	6.93	18.22	1.00	0.00	0.00	0.00	0.00	0.78	> 100	12.92	24.38	-10.52	
26	46			2.05	1.70	10.29	17.22						...	β -st	14.36	26.09	-10.97	
27	47		7/2 ⁻	2.12	1.63	5.88	16.17	1.00	0.00	0.00	0.00	0.00	3.37	> 100	14.74	27.40	-12.25	
28	48			2.13	1.63	9.11	14.99	1.00	0.00	0.00	0.00	0.00	1.44	> 100	15.92	29.23	-12.77	
29	49		1/2 ⁻	2.14	1.50	4.29	13.39	1.00	0.00	0.00	0.00	0.00	6.50	> 100	16.06	30.70	-12.50	
30	50			2.15	1.56	6.68	10.96	1.00	0.00	0.00	0.00	0.00	5.33	40.8745	17.36	32.12	-11.89	
31	51		3/2 ⁻	2.16	1.55	2.91	9.58	1.00	0.00	0.00	0.00	0.00	9.41	34.6816	17.51	33.03	-11.98	
32	52			2.17	1.57	5.71	8.61	1.00	0.00	0.00	0.00	0.00	7.81	0.6122	18.77	34.34	-12.43	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 20 (Ca)																		
33	53		1/2 ⁻	2.14	1.57	1.89	7.59	1.00	0.00	0.00	0.00	0.00	11.69	0.0185	18.52	34.78	-12.33	
34	54			2.18	1.59	5.38	7.27	1.00	0.00	0.00	0.00	0.00	9.33	0.0981	19.65	36.27	-13.31	
35	55		1/2	2.14	1.58	1.66	7.04	1.00	0.00	0.00	0.00	0.00	13.25	0.0191	20.25	38.00	-13.52	
36	56			2.14	1.55	4.49	6.15	0.92	0.08	0.00	1.06	0.08	11.50	0.0242	21.42	39.49	-14.12	
37	57		3/2	2.14	1.52	1.04	5.52	0.83	0.16	0.01	0.67	0.18	15.15	0.0070	21.40	40.52	-15.23	
38	58			2.18	1.49	3.94	4.98	0.84	0.15	0.01	0.98	0.17	13.45	0.0079	22.07	41.77	-16.17	
39	59		1/2	2.18	1.47	0.73	4.67	0.45	0.49	0.06	0.74	0.61	17.03	0.0048	22.81	43.17	-16.89	
40	60			2.17	1.40	3.70	4.43	0.51	0.46	0.03	0.65	0.52	15.09	0.0043	24.40	44.78	-17.90	
41	61		9/2	2.17	1.47	0.05	3.75	0.10	0.74	0.15	0.93	1.07	18.79	0.0038	24.40	46.00	-18.62	
42	62			2.17	1.47	2.77	2.82	0.02	0.89	0.07	1.06	1.09	17.10	0.0027	25.50	47.14	-19.30	
43	63		3/2 ⁺	2.16	1.46	-0.37	2.40	0.02	0.36	0.56	1.13	1.67	20.47	0.0025	25.56	47.89	-20.09	
44	64			2.16	1.42	2.37	2.00	0.01	0.81	0.08	1.28	1.27	18.87	0.0020	26.74	50.49	-20.84	
45	65		7/2 ⁺	2.16	1.38	-0.55	1.83	0.01	0.10	0.74	1.25	2.10	21.75	0.0020	27.05	51.60	-21.42	
46	66			2.16	1.31	1.95	1.40	0.00	0.58	0.24	1.24	1.65	20.22	0.0014	28.08	52.92	-23.60	
47	67		7/2 ⁺	2.15	1.24	-0.69	1.26	0.01	0.04	0.61	1.31	2.49	22.97	0.0015	28.33	54.12	-24.56	
48	68			2.15	1.17	1.52	0.83	0.00	0.35	0.27	1.21	2.21	21.61	0.0011	29.11	55.25	-25.45	
49	69		9/2 ⁺	2.14	1.11	-1.12	0.40	0.01	0.01	0.45	1.32	2.95	24.59	0.0010	29.23	56.32	-26.22	
50	70			2.14	1.10	1.09	-0.02	0.00	0.15	0.14	1.26	3.03	23.51	0.0009	30.09	57.48	-26.92	
51	71		5/2 ⁺	2.13	1.10	-2.28	-1.18	0.01	0.00	0.19	1.40	3.90	26.95	0.0007	30.13	58.24	-26.84	
52	72			2.13	1.10	-0.23	-2.51	0.00	0.02	0.02	1.45	4.35	25.70	0.0007	31.00	59.11	-26.68	
53	73		3/2 ⁺	2.13	1.08	-2.87	-3.10	0.00	0.01	0.02	1.57	5.56	28.41	0.0006	30.86	59.63	-26.84	
54	74			2.12	1.07	-0.86	-3.73	0.00	0.00	0.01	1.58	6.15	27.17	0.0006	31.64	60.46	-27.07	
55	75		5/2 ⁺	2.12	1.07	-3.19	-4.05	0.00	0.00	0.00	1.68	7.39	29.60	0.0005	31.58	59.89	-27.28	
56	76			2.12	1.05	-0.99	-4.18	0.00	0.00	0.00	1.70	7.98	28.10	0.0005	32.24	61.33	-27.98	
57	77		1/2 ⁺	2.11	1.07	-1.84	-2.83	0.00	0.00	0.00	1.78	8.94	28.82	0.0007	32.38	62.90	-28.76	
58	78			2.11	1.08	-2.46	-4.30	0.00	0.00	0.00	1.81	9.32	29.11	0.0004	32.22	62.77	-28.73	
59	79		1/2 ⁺	2.10	1.12	-3.13	-5.59	0.00	0.00	0.00	1.92	9.83	31.15	0.0004	33.08	63.61	-29.01	
60	80			2.10	1.12	-1.78	-4.92	0.00	0.00	0.00	1.98	9.92	29.06	0.0004	33.95	64.74	-29.56	
61	81		3/2 ⁺	2.08	1.11	-3.65	-5.43	0.00	0.00	0.00	2.07	10.00	31.15	0.0004	34.52	66.46	-29.88	
62	82			2.06	1.11	-4.41	-8.06	0.00	0.00	0.00	2.12	10.00	31.89	0.0002	32.55	65.35	-28.38	
63	83		5/2 ⁺	2.05	1.10	-4.76	-9.17	0.00	0.00	0.00	2.22	10.00	34.27	0.0002	34.54	65.65	-28.99	
64	84			2.05	1.08	-2.29	-7.05	0.00	0.00	0.00	2.22	10.00	33.05	0.0002	35.18	66.30	-29.99	
65	85		1/2 ⁺	2.04	1.06	-4.27	-6.57	0.00	0.00	0.00	2.32	10.00	35.04	0.0002	35.32	67.64	-30.78	
66	86			2.04	1.04	-2.38	-6.65	0.00	0.00	0.00	2.30	10.00	33.75	0.0002	36.23		-31.35	
67	87		1/2 ⁺	2.05	1.02	-4.64	-7.02	0.00	0.00	0.00	2.37	10.00	36.54	0.0001	35.92		-32.32	
68	88			2.05	0.99	-2.30	-6.94	0.00	0.00	0.00	2.34	10.00	34.85	0.0001	37.18			
69	89		1/2 ⁺	2.04	0.96	-4.54	-6.84	0.00	0.00	0.00	2.45	10.00	36.47	0.0001				
70	90			2.03	0.94	-2.52	-7.06	0.00	0.00	0.00	2.40	10.00	35.37	0.0001				
71	91		11/2 ⁻	2.02	0.93	-4.94	-7.46	0.00	0.00	0.00	2.51	10.00	37.58	0.0001				
72	92			2.02	0.91	-2.90	-7.85	0.00	0.00	0.00	2.48	10.00	36.37	0.0001				
Z = 21 (Sc)																		
11	32	3/2 ⁻	3/2 ⁺	1.63	2.74								31.94	0.0006	-6.81	-9.96		
12	33	1/2 ⁻		1.73	2.42	27.34							24.19	0.0048	-5.38	-6.57	-10.63	
13	34	1/2 ⁻	5/2 ⁺	1.76	2.30	20.80	48.14						26.56	0.0013	-4.17	-4.79	-9.87	
14	35	1/2 ⁻		1.84	2.27	23.10	43.90						20.17	0.0154	-4.24	-3.26	-9.03	
15	36	1/2 ⁻	1/2 ⁺	1.90	2.15	18.23	41.33						21.50	0.0071	-2.72	-1.12	-8.24	
16	37	1/2 ⁻		1.95	2.04	19.90	38.13						16.09	0.0416	-2.38	0.61	-6.57	
17	38	7/2 ⁻	3/2 ⁺	1.96	2.01	16.30	36.20						17.39	0.0313	-0.58	2.77	-6.78	
18	39	7/2 ⁻		1.97	1.99	17.99	34.29						12.23	0.0612	-0.18	4.70	-6.59	
19	40	7/2 ⁻	1/2 ⁺	1.96	2.03	14.27	32.26						14.03	0.0733	1.26	7.55	-6.73	
20	41	7/2 ⁻		1.94	2.11	16.28	30.55						6.75	0.9937	1.46	10.24	-6.95	
21	42	7/2 ⁻	7/2 ⁻	1.88	2.04	11.29	27.57						8.08	1.5953	3.76	12.84	-6.82	
22	43	7/2 ⁻		1.87	2.02	13.70	24.99						2.12	> 100	4.83	15.54	-6.93	
23	44	1/2 ⁻	3/2 ⁻	1.86	2.00	9.37	23.06						4.06	> 100	6.46	17.51	-7.61	
24	45	1/2 ⁻		1.90	1.98	11.76	21.13						...	β -st	6.93	19.51	-8.37	
25	46	7/2 ⁻	3/2 ⁻	1.90	1.88	8.04	19.80	1.00	0.00	0.00	0.00	0.00	\pm	\pm	8.04	20.96	-9.01	
26	47	7/2 ⁻		1.91	1.81	10.72	18.76	1.00	0.00	0.00	0.00	0.00	0.38	> 100	8.47	22.83	-9.97	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 21 (Sc)																		
27	48	1/2 ⁻	7/2 ⁻	1.98	1.73	7.18	17.90	1.00	0.00	0.00	0.00	0.00	4.99	> 100	9.77	24.51	-10.56	
28	49	7/2 ⁻		2.06	1.74	9.35	16.52	1.00	0.00	0.00	0.00	0.00	3.24	> 100	10.01	25.93	-11.05	
29	50	7/2 ⁻	3/2 ⁻	2.07	1.64	5.51	14.85	1.00	0.00	0.00	0.00	0.00	8.38	44.7022	11.22	27.28	-11.06	
30	51	7/2 ⁻		2.08	1.55	6.98	12.49	1.00	0.00	0.00	0.00	0.00	7.12	2.9490	11.53	28.89	-10.12	
31	52	7/2 ⁻	1/2 ⁻	2.09	1.54	4.11	11.10	1.00	0.00	0.00	0.00	0.00	11.29	3.2310	12.74	30.25	-10.08	
32	53	1/2 ⁻		2.09	1.56	5.76	9.88	1.00	0.00	0.00	0.00	0.00	9.92	0.1329	12.80	31.56	-10.47	
33	54	1/2 ⁻	1/2 ⁻	2.06	1.53	3.02	8.78	0.99	0.01	0.00	0.58	0.01	14.07	0.0388	13.92	32.45	-10.73	
34	55	7/2 ⁻		2.07	1.57	5.58	8.60	0.85	0.15	0.00	0.57	0.15	11.63	0.0274	14.13	33.78	-11.86	
35	56	7/2 ⁻	1/2 ⁻	2.07	1.57	2.74	8.32	0.90	0.10	0.00	0.89	0.10	15.24	0.0162	15.20	35.45	-12.47	
36	57	7/2 ⁻		2.07	1.55	4.69	7.42	0.69	0.31	0.00	1.26	0.31	13.56	0.0145	15.40	36.82	-12.90	
37	58	7/2 ⁻	3/2 ⁻	2.07	1.53	2.24	6.93	0.82	0.17	0.01	1.20	0.19	17.31	0.0067	16.61	38.01	-14.08	
38	59	7/2		2.10	1.51	4.31	6.55	0.57	0.42	0.01	1.52	0.44	15.41	0.0082	16.98	39.04	-15.07	
39	60	7/2	1/2	2.11	1.49	1.76	6.07	0.57	0.32	0.11	1.31	0.54	19.03	0.0053	18.01	40.82	-15.77	
40	61	7/2		2.11	1.42	3.75	5.51	0.44	0.53	0.03	1.57	0.59	17.19	0.0050	18.06	42.46	-16.26	
41	62	7/2	9/2	2.10	1.49	1.08	4.83	0.39	0.27	0.33	1.24	0.96	20.92	0.0042	19.09	43.48	-17.34	
42	63	7/2 ⁻		2.12	1.49	3.00	4.08	0.13	0.71	0.13	1.18	1.06	19.07	0.0035	19.32	44.82	-18.24	
43	64	1/2 ⁻	3/2 ⁺	2.10	1.48	0.77	3.78	0.15	0.29	0.51	1.32	1.47	22.53	0.0029	20.46	46.02	-18.96	
44	65	1/2 ⁻		2.03	1.29	2.33	3.10	0.02	0.59	0.27	1.31	1.49	21.01	0.0021	20.42	47.16	-19.62	
45	66	1/2 ⁻	5/2 ⁺	2.03	1.31	0.43	2.75	0.05	0.22	0.59	1.38	1.87	24.24	0.0017	21.39	48.44	-20.48	
46	67	1/2 ⁻		2.02	1.22	2.06	2.49	0.00	0.41	0.25	1.35	1.97	22.63	0.0016	21.50	49.58	-21.34	
47	68	1/2 ⁻	7/2 ⁺	2.01	1.17	0.16	2.22	0.01	0.10	0.54	1.40	2.40	25.52	0.0014	22.35	50.68	-22.36	
48	69	7/2 ⁻		2.09	1.16	1.87	2.02	0.00	0.32	0.14	1.41	2.37	23.94	0.0013	22.69	51.80	-23.30	
49	70	1/2 ⁻	9/2 ⁺	2.08	1.11	0.01	1.88	0.00	0.08	0.41	1.40	2.84	26.87	0.0011	23.82	53.05	-24.26	
50	71	7/2 ⁻		2.09	1.11	1.16	1.17	0.00	0.24	0.12	1.46	2.76	25.72	0.0009	23.89	53.98	-24.67	
51	72	7/2 ⁻	5/2 ⁺	2.05	1.10	-1.48	-0.31	0.00	0.01	0.26	1.52	3.64	29.30	0.0008	24.69	54.82	-24.44	
52	73	7/2 ⁻		2.08	1.08	-0.16	-1.63	0.00	0.03	0.03	1.57	4.15	28.03	0.0008	24.76	55.76	-24.04	
53	74	7/2 ⁻	3/2 ⁺	2.07	1.10	-2.10	-2.26	0.00	0.00	0.03	1.65	5.13	30.79	0.0007	25.53	56.39	-24.26	
54	75	7/2 ⁻		2.06	1.10	-0.77	-2.87	0.00	0.00	0.01	1.68	5.69	29.50	0.0007	25.63	57.26	-24.60	
55	76	7/2 ⁻	1/2 ⁺	2.05	1.10	-2.48	-3.25	0.00	0.00	0.00	1.76	6.77	32.02	0.0006	26.33	57.91	-24.84	
56	77	7/2 ⁻		2.05	1.09	-1.12	-3.61	0.00	0.00	0.01	1.77	7.35	30.72	0.0006	26.20	58.44	-25.36	
57	78	7/2 ⁻	1/2 ⁺	2.05	1.11	-2.17	-3.29	0.00	0.00	0.00	1.83	8.41	32.53	0.0006	25.87	58.25	-26.32	
58	79	1/2 ⁻		2.04	1.11	-1.10	-3.27	0.00	0.00	0.00	1.84	8.84	31.35	0.0005	27.23	59.45	-26.87	
59	80	1/2 ⁻	1/2 ⁺	2.01	1.13	-3.87	-4.97	0.00	0.00	0.00	1.94	9.65	34.24	0.0004	26.49	59.57	-24.98	
60	81	1/2 ⁻		2.01	1.12	-1.56	-5.43	0.00	0.00	0.00	2.00	9.82	32.29	0.0004	26.71	60.66	-25.72	
61	82	7/2 ⁻	3/2 ⁺	2.00	1.14	-3.67	-5.23	0.00	0.00	0.00	2.09	9.97	35.22	0.0003	26.69	61.21	-26.04	
62	83	7/2 ⁻		2.00	1.14	-2.38	-6.04	0.00	0.00	0.00	2.11	9.99	34.21	0.0003	28.73	61.28	-26.32	
63	84	7/2 ⁻	1/2 ⁺	1.99	1.12	-3.52	-5.90	0.00	0.00	0.00	2.20	10.00	36.11	0.0003	29.97	64.51	-27.02	
64	85	7/2 ⁻		1.98	1.11	-2.28	-5.80	0.00	0.00	0.00	2.20	10.00	34.77	0.0002	29.98	65.17	-27.18	
65	86	7/2 ⁻	1/2 ⁺	1.98	1.09	-3.67	-5.95	0.00	0.00	0.00	2.27	10.00	37.01	0.0002	30.59	65.91	-30.26	
66	87	7/2 ⁻		1.97	1.06	-1.85	-5.51	0.00	0.00	0.00	2.26	10.00	35.29	0.0002	31.12	67.35	-31.35	
67	88	7/2 ⁻	3/2 ⁺	1.96	1.04	-3.99	-5.84	0.00	0.00	0.00	2.34	10.00	37.73	0.0002	31.77	67.69	-31.77	
68	89	1/2 ⁻		1.98	1.02	-2.92	-6.91	0.00	0.00	0.00	2.36	10.00	36.64	0.0002	31.15	68.33	-32.14	
69	90	7/2 ⁻	1/2 ⁺	1.96	0.99	-3.62	-6.54	0.00	0.00	0.00	2.42	10.00	38.70	0.0002	32.07		-32.85	
70	91	7/2 ⁻		1.97	0.96	-2.74	-6.36	0.00	0.00	0.00	2.41	10.00	37.53	0.0001	31.85		-33.66	
71	92	7/2 ⁻	11/2 ⁻	1.95	0.95	-4.11	-6.85	0.00	0.00	0.00	2.50	10.00	39.91	0.0001	32.68			
72	93	7/2 ⁻		1.95	0.93	-2.93	-7.04	0.00	0.00	0.00	2.50	10.00	38.62	0.0001	32.66			
73	94	1/2 ⁻	3/2 ⁻	1.94	0.92	-4.00	-6.93	0.00	0.00	0.00	2.58	10.00	40.55	0.0001				
74	95	1/2 ⁻		1.91	0.89	-1.35	-5.34	0.00	0.00	0.00	2.57	10.00	37.58	0.0001				
Z = 22 (Ti)																		
12	34			1.57	2.50								22.86	0.0030	-2.84	-8.23	-11.44	
13	35		5/2	1.63	2.35	21.22							24.73	0.0007	-2.42	-6.59	-10.61	
14	36			1.78	2.26	24.47	45.69						18.50	0.0188	-1.05	-5.29	-9.16	
15	37		1/2 ⁺	1.80	2.15	18.56	43.03						19.84	0.0074	-0.72	-3.43	-8.14	
16	38			1.85	2.05	21.59	40.15						14.54	0.0690	0.97	-1.41	-6.56	
17	39		1/2 ⁺	1.89	2.02	16.17	37.76						16.36	0.0179	0.84	0.26	-6.02	
18	40			1.89	1.99	19.97	36.14						10.66	0.2930	2.82	2.64	-6.43	
19	41		1/2 ⁺	1.89	2.04	14.58	34.55						12.36	0.0927	3.14	4.39	-6.52	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 22 (Ti)																		
20	42			1.88	2.12	17.80	32.38						5.85	1.7415	4.66	6.12	-6.72	
21	43		7/2 ⁻	1.87	2.06	12.30	30.10						7.25	2.2221	5.66	9.42	-6.19	
22	44			1.85	2.03	15.87	28.16						0.75	> 100	7.83	12.67	-5.98	
23	45		3/2 ⁻	1.83	2.00	9.74	25.61						2.78	> 100	8.21	14.67	-6.73	
24	46			1.84	1.97	12.64	22.38						...	β -st	9.08	16.01	-6.75	
25	47		5/2 ⁻	1.83	1.87	9.27	21.91						...	β -st	10.32	18.35	-8.28	
26	48			1.84	1.79	11.80	21.06						...	β -st	11.39	19.86	-8.77	
27	49		7/2 ⁻	1.91	1.73	7.60	19.39						...	β -st	11.81	21.58	-9.44	
28	50			1.97	1.73	10.64	18.23						...	β -st	13.10	23.10	-9.79	
29	51		1/2 ⁻	1.98	1.62	5.73	16.36	1.00	0.00	0.00	0.00	0.00	3.01	> 100	13.32	24.55	-9.64	
30	52			1.99	1.53	8.28	14.01	1.00	0.00	0.00	0.00	0.00	1.72	> 100	14.62	26.15	-8.81	
31	53		3/2 ⁻	2.04	1.53	4.39	12.68	1.00	0.00	0.00	0.00	0.00	5.55	> 100	14.90	27.64	-8.92	
32	54			2.06	1.55	7.17	11.57	1.00	0.00	0.00	0.00	0.00	3.92	29.5435	16.31	29.10	-9.42	
33	55		1/2 ⁻	2.04	1.55	3.13	10.30	1.00	0.00	0.00	0.00	0.00	7.87	0.1960	16.43	30.35	-9.64	
34	56			2.02	1.55	6.35	9.48	1.00	0.00	0.00	0.00	0.00	6.22	0.3636	17.19	31.32	-10.28	
35	57		3/2 ⁻	2.02	1.56	3.01	9.36	1.00	0.00	0.00	0.00	0.00	9.97	0.0398	17.46	32.67	-11.41	
36	58			2.05	1.55	5.99	9.00	0.99	0.01	0.00	0.60	0.01	8.24	0.1413	18.77	34.17	-12.02	
37	59		3/2 ⁻	2.05	1.53	2.41	8.40	0.99	0.01	0.00	0.72	0.01	11.86	0.0220	18.94	35.55	-12.77	
38	60			2.09	1.52	5.38	7.79	0.97	0.03	0.00	1.03	0.03	9.88	0.0393	20.01	36.99	-13.67	
39	61		1/2 ⁻	2.09	1.51	1.91	7.29	0.94	0.06	0.00	0.79	0.06	13.51	0.0192	20.16	38.17	-14.54	
40	62			2.09	1.45	4.81	6.72	0.93	0.07	0.00	1.29	0.07	11.77	0.0155	21.22	39.28	-15.41	
41	63		9/2 ⁺	2.09	1.52	1.15	5.96	0.65	0.32	0.03	0.65	0.38	15.59	0.0123	21.29	40.38	-15.83	
42	64			2.08	1.50	4.23	5.38	0.59	0.40	0.01	0.53	0.42	13.53	0.0095	22.52	41.84	-16.36	
43	65		3/2 ⁺	2.08	1.50	0.81	5.03	0.23	0.69	0.08	0.80	0.85	17.15	0.0079	22.55	43.01	-17.11	
44	66			2.08	1.45	3.66	4.47	0.11	0.85	0.04	0.91	0.93	15.33	0.0065	23.89	44.30	-18.01	
45	67		5/2 ⁺	2.03	1.29	0.45	4.12	0.11	0.67	0.21	1.01	1.12	18.71	0.0048	23.91	45.31	-18.83	
46	68			2.02	1.23	3.04	3.49	0.06	0.83	0.08	1.16	1.08	17.25	0.0041	24.89	46.39	-19.50	
47	69		7/2 ⁺	2.01	1.18	0.29	3.33	0.03	0.48	0.43	1.18	1.53	20.19	0.0034	25.02	47.37	-20.34	
48	70			2.06	1.17	2.94	3.23	0.02	0.81	0.09	1.25	1.23	18.58	0.0026	26.10	48.79	-21.32	
49	71		9/2 ⁺	2.05	1.11	0.01	2.95	0.02	0.25	0.61	1.25	1.87	21.11	0.0027	26.10	49.92	-22.02	
50	72			2.05	1.13	2.10	2.11	0.02	0.60	0.19	1.35	1.57	20.24	0.0020	27.04	50.93	-22.60	
51	73		5/2 ⁺	2.04	1.15	-1.42	0.68	0.01	0.08	0.59	1.44	2.39	23.86	0.0016	27.09	51.78	-22.29	
52	74			2.04	1.15	0.66	-0.76	0.00	0.10	0.30	1.48	2.74	22.63	0.0016	27.91	52.67	-21.86	
53	75		3/2 ⁺	2.03	1.13	-2.06	-1.40	0.01	0.01	0.12	1.61	3.68	25.37	0.0014	27.95	53.48	-22.08	
54	76			2.03	1.13	0.04	-2.03	0.00	0.02	0.02	1.61	4.09	24.05	0.0013	28.75	54.38	-22.34	
55	77		5/2 ⁺	2.02	1.13	-2.42	-2.38	0.00	0.01	0.02	1.70	5.16	26.55	0.0012	28.82	55.15	-22.80	
56	78			2.02	1.12	-0.36	-2.78	0.00	0.01	0.01	1.67	5.66	25.15	0.0011	29.58	55.78	-23.30	
57	79		1/2 ⁺	2.01	1.14	-2.27	-2.64	0.00	0.01	0.00	1.74	6.73	27.17	0.0012	29.47	55.34	-24.21	
58	80			2.00	1.14	-0.98	-3.25	0.00	0.00	0.01	1.71	7.36	26.35	0.0009	29.59	56.82	-24.22	
59	81		1/2 ⁺	1.99	1.19	-3.51	-4.49	0.00	0.00	0.00	1.78	8.46	28.86	0.0007	29.95	56.44	-22.55	
60	82			1.98	1.18	-0.75	-4.26	0.00	0.00	0.00	1.76	9.07	27.47	0.0006	30.77	57.48	-24.26	
61	83		3/2 ⁺	1.97	1.18	-3.39	-4.13	0.00	0.00	0.00	1.82	9.69	30.19	0.0005	31.05	57.74	-24.01	
62	84			1.97	1.17	-1.61	-5.00	0.00	0.00	0.00	1.85	9.85	29.21	0.0004	31.81	60.54	-24.18	
63	85		5/2 ⁺	1.94	1.15	-3.62	-5.24	0.00	0.00	0.00	1.93	9.99	31.76	0.0003	31.71	61.67	-24.20	
64	86			1.95	1.14	-1.43	-5.05	0.00	0.00	0.00	1.93	9.99	30.53	0.0003	32.56	62.54	-27.19	
65	87		1/2 ⁺	1.94	1.12	-3.56	-4.99	0.00	0.00	0.00	2.04	10.00	32.65	0.0003	32.67	63.26	-28.39	
66	88			1.93	1.10	-1.56	-5.12	0.00	0.00	0.00	2.00	10.00	31.18	0.0002	32.96	64.08	-29.13	
67	89		1/2 ⁺	1.94	1.08	-4.01	-5.57	0.00	0.00	0.00	2.12	10.00	33.48	0.0002	32.93	64.70	-29.39	
68	90			1.93	1.04	-1.56	-5.58	0.00	0.00	0.00	2.07	10.00	31.88	0.0002	34.29	65.44	-30.20	
69	91		1/2 ⁺	1.92	1.01	-3.90	-5.46	0.00	0.00	0.00	2.18	10.00	33.76	0.0002	34.01	66.08	-30.94	
70	92			1.91	0.99	-1.73	-5.64	0.00	0.00	0.00	2.14	10.00	32.26	0.0002	35.02	66.87	-31.51	
71	93		11/2 ⁻	1.90	0.97	-4.22	-5.95	0.00	0.00	0.00	2.24	10.00	34.78	0.0002	34.91	67.59	-31.83	
72	94			1.90	0.95	-2.07	-6.29	0.00	0.00	0.00	2.23	10.00	33.27	0.0002	35.77	68.42	-32.28	
73	95		9/2 ⁻	1.89	0.94	-4.32	-6.39	0.00	0.00	0.00	2.32	10.00	35.67	0.0002	35.45		-32.90	
74	96			1.88	0.93	-2.36	-6.68	0.00	0.00	0.00	2.30	10.00	34.51	0.0001	34.43		-33.44	
75	97		5/2 ⁻	1.88	0.88	-2.96	-5.32	0.00	0.00	0.00	2.33	10.00	36.21	0.0001				
76	98			1.86	0.86	-3.18	-6.14	0.00	0.00	0.00	2.34	10.00	35.57	0.0001				

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 23 (V)																		
13	36	3/2 ⁻	5/2 ⁺	1.64	2.35								29.15	0.0007	-5.47	-7.89	-11.95	
14	37	3/2 ⁻		1.70	2.27	24.64							23.08	0.0058	-5.29	-6.34	-9.25	
15	38	3/2 ⁻	1/2 ⁺	1.73	2.17	19.86	44.50						24.80	0.0035	-4.00	-4.71	-8.32	
16	39	3/2 ⁻		1.75	2.11	21.83	41.69						19.14	0.0106	-3.75	-2.78	-7.05	
17	40	3/2 ⁻	1/2 ⁺	1.79	2.04	17.99	39.82						21.12	0.0057	-1.93	-1.09	-6.80	
18	41	3/2 ⁻		1.85	2.01	19.54	37.52						16.17	0.0215	-2.37	0.45	-6.44	
19	42	3/2 ⁻	3/2 ⁺	1.88	2.04	16.39	35.93						17.57	0.0258	-0.56	2.58	-6.54	
20	43	1/2 ⁻		1.88	2.12	18.16	34.56						11.71	0.0614	-0.19	4.46	-6.71	
21	44	3/2 ⁻	1/2 ⁻	1.86	2.05	13.90	32.07						13.67	0.0485	1.41	7.08	-6.35	
22	45	3/2 ⁻		1.86	2.03	16.21	30.12						7.20	0.7794	1.76	9.59	-6.28	
23	46	3/2 ⁻	3/2 ⁻	1.76	1.95	11.41	27.62						8.44	4.7959	3.42	11.63	-6.39	
24	47	3/2 ⁻		1.75	1.92	14.20	25.61						3.50	> 100	4.98	14.07	-6.90	
25	48	3/2 ⁻	5/2 ⁻	1.74	1.86	10.03	24.23						5.27	> 100	5.74	16.06	-7.56	
26	49	3/2 ⁻		1.79	1.80	12.24	22.27						0.63	> 100	6.19	17.58	-8.04	
27	50	3/2 ⁻	7/2 ⁻	1.83	1.73	8.97	21.21						±	±	7.56	19.37	-8.97	
28	51	3/2 ⁻		1.92	1.72	11.03	20.00						...	β-st	7.95	21.05	-9.27	
29	52	3/2 ⁻	1/2 ⁻	1.91	1.61	6.99	18.02	1.00	0.00	0.00	0.00	0.00	4.65	> 100	9.22	22.54	-9.09	
30	53	3/2 ⁻		1.94	1.55	8.23	15.22	1.00	0.00	0.00	0.00	0.00	3.72	29.8166	9.17	23.79	-7.97	
31	54	3/2 ⁻	3/2 ⁻	1.95	1.53	5.53	13.77	1.00	0.00	0.00	0.00	0.00	7.39	4.5193	10.30	25.21	-8.00	
32	55	3/2 ⁻		1.93	1.57	7.09	12.62	1.00	0.00	0.00	0.00	0.00	6.08	0.8265	10.22	26.53	-8.11	
33	56	3/2 ⁻	3/2 ⁻	1.93	1.57	4.69	11.78	1.00	0.00	0.00	0.00	0.00	10.35	0.2965	11.78	28.21	-8.69	
34	57	3/2 ⁻		1.92	1.57	6.77	11.46	1.00	0.00	0.00	0.00	0.00	8.56	0.1232	12.20	29.39	-9.69	
35	58	3/2 ⁻	3/2 ⁻	1.95	1.55	4.26	11.03	0.99	0.01	0.00	0.54	0.01	12.10	0.0556	13.45	30.91	-10.93	
36	59	3/2 ⁻		1.96	1.57	6.03	10.29	0.94	0.06	0.00	0.58	0.06	10.19	0.0367	13.49	32.26	-11.38	
37	60	5/2 ⁻	3/2 ⁻	1.96	1.52	3.40	9.44	0.95	0.05	0.00	0.72	0.05	13.95	0.0148	14.48	33.42	-12.05	
38	61	5/2 ⁻		1.98	1.52	5.54	8.94	0.80	0.20	0.00	0.76	0.20	11.98	0.0219	14.64	34.65	-12.90	
39	62	3/2 ⁻	1/2 ⁻	2.02	1.51	3.07	8.61	0.81	0.19	0.00	0.87	0.19	15.48	0.0167	15.80	35.96	-13.73	
40	63	3/2 ⁻		2.02	1.46	4.97	8.04	0.66	0.34	0.00	0.86	0.34	13.84	0.0110	15.96	37.18	-14.39	
41	64	5/2 ⁻	9/2 ⁺	2.01	1.52	2.16	7.13	0.69	0.29	0.02	1.16	0.33	17.63	0.0090	16.97	38.27	-14.79	
42	65	3/2 ⁻		2.01	1.51	4.43	6.59	0.61	0.38	0.01	1.44	0.40	15.56	0.0076	17.17	39.69	-15.47	
43	66	3/2 ⁻	3/2 ⁺	1.98	1.39	1.85	6.27	0.50	0.37	0.13	1.10	0.63	19.11	0.0058	18.21	40.77	-16.24	
44	67	3/2 ⁻		1.97	1.27	3.83	5.67	0.35	0.61	0.04	1.35	0.69	17.36	0.0047	18.38	42.27	-17.07	
45	68	3/2 ⁻	5/2 ⁺	1.95	1.25	1.59	5.41	0.33	0.40	0.26	1.26	0.95	20.47	0.0040	19.51	43.42	-17.88	
46	69	3/2 ⁻		1.94	1.19	3.23	4.81	0.13	0.74	0.10	1.30	1.03	19.08	0.0036	19.70	44.59	-18.78	
47	70	3/2 ⁻	7/2 ⁺	1.95	1.19	1.33	4.56	0.09	0.47	0.41	1.30	1.38	21.92	0.0032	20.74	45.76	-19.68	
48	71	3/2 ⁻		1.94	1.13	2.54	3.87	0.01	0.66	0.25	1.42	1.40	20.51	0.0029	20.34	46.43	-20.16	
49	72	3/2 ⁻	9/2 ⁺	1.97	1.11	1.23	3.77	0.03	0.37	0.50	1.39	1.70	23.13	0.0025	21.56	47.66	-21.23	
50	73	1/2 ⁻		1.97	1.14	2.20	3.43	0.01	0.55	0.24	1.43	1.65	22.29	0.0019	21.65	48.69	-21.56	
51	74	3/2 ⁻	1/2 ⁺	1.97	1.18	-0.57	1.63	0.01	0.17	0.54	1.53	2.23	25.91	0.0015	22.51	49.60	-20.99	
52	75	5/2 ⁻		1.96	1.17	0.68	0.11	0.00	0.13	0.32	1.61	2.60	24.74	0.0016	22.53	50.43	-20.50	
53	76	5/2 ⁻	3/2 ⁺	1.95	1.15	-1.29	-0.61	0.00	0.01	0.21	1.71	3.41	27.55	0.0014	23.30	51.25	-20.69	
54	77	5/2 ⁻		1.95	1.15	0.09	-1.20	0.00	0.02	0.04	1.72	3.84	26.25	0.0013	23.35	52.10	-20.94	
55	78	5/2 ⁻	1/2 ⁺	1.94	1.16	-1.77	-1.67	0.00	0.00	0.03	1.77	4.77	28.87	0.0012	24.01	52.82	-21.27	
56	79	5/2 ⁻		1.93	1.16	-0.25	-2.02	0.00	0.01	0.01	1.75	5.23	27.51	0.0011	24.12	53.69	-21.78	
57	80	1/2 ⁻	1/2 ⁺	1.93	1.18	-1.81	-2.06	0.00	0.00	0.01	1.80	6.19	29.79	0.0011	24.58	54.06	-22.46	
58	81	3/2 ⁻		1.87	1.14	-1.00	-2.80	0.00	0.00	0.01	1.78	6.81	28.88	0.0007	24.56	54.16	-22.59	
59	82	3/2 ⁻	3/2 ⁻	1.84	1.06	-2.14	-3.13	0.00	0.00	0.00	1.80	7.62	31.19	0.0005	25.94	55.89	-22.62	
60	83	3/2 ⁻		1.84	1.04	-0.67	-2.80	0.00	0.00	0.01	1.79	8.13	29.55	0.0005	26.02	56.79	-23.05	
61	84	3/2 ⁻	3/2 ⁺	1.82	1.03	-2.60	-3.26	0.00	0.00	0.00	1.82	8.98	32.25	0.0004	26.81	57.86	-24.33	
62	85	3/2 ⁻		1.82	1.03	-1.07	-3.67	0.00	0.00	0.00	1.83	9.28	30.97	0.0004	27.36	59.16	-24.82	
63	86	3/2 ⁻	5/2 ⁺	1.82	1.03	-2.66	-3.73	0.00	0.00	0.00	1.90	9.69	33.38	0.0004	28.32	60.03	-25.83	
64	87	3/2 ⁻		1.81	1.02	-1.44	-4.09	0.00	0.00	0.00	1.89	9.82	32.02	0.0003	28.31	60.87	-26.77	
65	88	3/2 ⁻	5/2 ⁺	1.80	1.02	-3.03	-4.46	0.00	0.00	0.00	1.98	9.93	34.35	0.0003	28.84	61.51	-27.26	
66	89	3/2 ⁻		1.79	1.01	-1.71	-4.74	0.00	0.00	0.00	1.97	9.97	33.14	0.0003	28.69	61.64	-27.83	
67	90	3/2 ⁻	5/2 ⁻	1.77	1.00	-3.16	-4.88	0.00	0.00	0.00	2.05	9.99	35.34	0.0003	29.54	62.47	-28.33	
68	91	3/2 ⁻		1.85	1.07	-2.02	-5.18	0.00	0.00	0.00	2.03	10.00	34.15	0.0002	29.08	63.37	-28.16	
69	92	3/2 ⁻	3/2 ⁺	1.85	1.04	-3.24	-5.26	0.00	0.00	0.00	2.11	10.00	36.21	0.0002	29.74	63.76	-28.91	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 23 (V)																		
70	93	5/2 ⁻		1.84	1.01	-1.70	-4.94	0.00	0.00	0.00	2.08	10.00	34.66	0.0002	29.78	64.80	-30.13	
71	94	5/2 ⁻	11/2 ⁻	1.83	1.00	-3.58	-5.28	0.00	0.00	0.00	2.19	10.00	36.99	0.0002	30.41	65.32	-30.17	
72	95	3/2 ⁻		1.83	0.98	-1.92	-5.50	0.00	0.00	0.00	2.18	10.00	35.36	0.0002	30.57	66.34	-31.00	
73	96	3/2 ⁻	3/2 ⁻	1.82	0.96	-3.52	-5.44	0.00	0.00	0.00	2.27	10.00	37.66	0.0002	31.36	66.82	-31.59	
74	97	3/2 ⁻		1.82	0.93	-1.25	-4.77	0.00	0.00	0.00	2.25	10.00	35.46	0.0002	32.47	66.91	-33.26	
75	98	3/2 ⁻	5/2 ⁻	1.82	0.90	-3.83	-5.08	0.00	0.00	0.00	2.33	10.00	37.83	0.0002	31.61		-33.43	
76	99	3/2 ⁻		1.81	0.87	-2.57	-6.40	0.00	0.00	0.00	2.33	10.00	36.80	0.0002	32.21		-32.21	
77	100	3/2 ⁻	7/2 ⁻	1.79	0.84	-3.91	-6.49	0.00	0.00	0.00	2.40	10.00	39.42	0.0001				
78	101	3/2 ⁻		1.78	0.80	-2.62	-6.54	0.00	0.00	0.00	2.40	10.00	38.44	0.0001				
Z = 24 (Cr)																		
14	38			1.54	2.25								21.67	0.0044	-2.59	-7.89	-9.50	
15	39		1/2 ⁺	1.60	2.17	20.18							23.32	0.0027	-2.27	-6.27	-8.46	
16	40			1.64	2.14	23.56	43.74						17.75	0.0113	-0.55	-4.30	-7.55	
17	41		1/2 ⁺	1.69	2.05	18.34	41.90						18.94	0.0063	-0.19	-2.12	-7.33	
18	42			1.77	2.01	20.99	39.33						14.35	0.0453	1.26	-1.11	-6.73	
19	43		3/2 ⁺	1.80	2.04	16.51	37.50						16.00	0.0235	1.38	0.82	-7.07	
20	44			1.82	2.14	19.64	36.15						10.27	0.1115	2.85	2.66	-6.74	
21	45		1/2 ⁻	1.78	2.05	14.19	33.82						12.29	0.0580	3.14	4.55	-6.35	
22	46			1.70	2.00	17.31	31.50						6.39	1.0575	4.24	6.00	-5.86	
23	47		3/2 ⁻	1.67	1.94	12.83	30.15						7.75	1.2125	5.66	9.09	-6.39	
24	48			1.66	1.91	16.20	29.03						1.59	> 100	7.66	12.64	-6.73	
25	49		5/2 ⁻	1.65	1.85	10.34	26.53						3.49	> 100	7.97	13.71	-7.32	
26	50			1.71	1.81	13.50	23.84						...	β -st	9.23	15.42	-8.18	
27	51		7/2 ⁻	1.74	1.72	9.35	22.85						0.64	> 100	9.61	17.17	-8.26	
28	52			1.85	1.72	12.28	21.63						...	β -st	10.86	18.81	-8.75	
29	53		1/2 ⁻	1.84	1.60	7.30	19.59						...	β -st	11.17	20.39	-8.45	
30	54			1.84	1.60	9.20	16.50						...	β -st	12.14	21.31	-7.02	
31	55		1/2 ⁻	1.87	1.57	5.78	14.98	1.00	0.00	0.00	0.00	0.00	2.70	60.8207	12.39	22.69	-7.07	
32	56			1.87	1.56	8.96	14.74	1.00	0.00	0.00	0.00	0.00	1.21	> 100	14.26	24.48	-7.75	
33	57		3/2 ⁻	1.88	1.55	4.98	13.94	1.00	0.00	0.00	0.00	0.00	4.94	2.0733	14.54	26.33	-8.33	
34	58			1.88	1.56	7.80	12.78	1.00	0.00	0.00	0.00	0.00	3.30	9.8874	15.58	27.78	-8.96	
35	59		3/2 ⁻	1.89	1.56	4.12	11.92	1.00	0.00	0.00	0.00	0.00	7.20	0.3594	15.44	28.89	-9.95	
36	60			1.90	1.57	7.17	11.29	1.00	0.00	0.00	0.00	0.00	5.26	0.7345	16.58	30.07	-10.77	
37	61		3/2 ⁻	1.91	1.54	3.57	10.73	1.00	0.00	0.00	0.00	0.00	9.06	0.0722	16.74	31.22	-11.32	
38	62			1.92	1.53	6.57	10.13	1.00	0.00	0.00	0.00	0.00	7.00	0.1924	17.76	32.40	-11.90	
39	63		1/2 ⁻	1.95	1.52	3.34	9.90	0.98	0.02	0.00	0.64	0.02	10.53	0.1473	18.03	33.83	-12.82	
40	64			1.95	1.46	5.95	9.29	0.97	0.03	0.00	0.61	0.03	8.86	0.0906	19.01	34.97	-13.39	
41	65		9/2 ⁺	1.95	1.51	2.35	8.30	0.92	0.08	0.00	0.67	0.08	12.67	0.0585	19.20	36.17	-13.83	
42	66			1.94	1.51	5.40	7.76	0.91	0.09	0.00	1.00	0.09	10.65	0.0439	20.18	37.35	-14.43	
43	67		3/2 ⁺	1.93	1.36	2.08	7.48	0.82	0.17	0.01	0.81	0.19	14.15	0.0238	20.40	38.62	-15.35	
44	68			1.92	1.29	4.69	6.77	0.82	0.18	0.00	0.87	0.18	12.42	0.0176	21.27	39.65	-15.82	
45	69		5/2 ⁺	1.92	1.26	1.85	6.54	0.65	0.32	0.03	0.83	0.38	15.41	0.0138	21.53	41.04	-16.86	
46	70			1.91	1.20	4.17	6.02	0.62	0.37	0.01	0.81	0.39	14.05	0.0116	22.47	42.17	-17.36	
47	71		7/2 ⁺	1.89	1.18	1.12	5.29	0.27	0.63	0.10	0.94	0.83	17.09	0.0091	22.26	43.00	-18.03	
48	72			1.90	1.11	3.86	4.98	0.23	0.71	0.06	0.97	0.83	15.55	0.0086	23.58	43.92	-18.85	
49	73		9/2 ⁺	1.91	1.10	1.35	5.21	0.10	0.71	0.18	1.14	1.10	18.24	0.0079	23.70	45.26	-19.91	
50	74			1.90	1.16	3.06	4.41	0.07	0.75	0.16	1.30	1.13	17.39	0.0059	24.56	46.22	-20.03	
51	75		1/2 ⁺	1.90	1.22	-0.50	2.56	0.03	0.42	0.46	1.44	1.62	21.21	0.0039	24.63	47.14	-19.52	
52	76			1.89	1.19	1.52	1.02	0.00	0.32	0.46	1.56	1.91	19.89	0.0044	25.48	48.00	-18.94	
53	77		3/2 ⁺	1.88	1.18	-1.21	0.32	0.02	0.02	0.42	1.69	2.66	22.75	0.0038	25.56	48.86	-19.16	
54	78			1.88	1.18	0.85	-0.35	0.00	0.09	0.06	1.62	3.05	21.42	0.0033	26.32	49.68	-19.35	
55	79		1/2 ⁺	1.87	1.13	-1.61	-0.75	0.01	0.01	0.22	1.57	3.49	23.97	0.0016	26.48	50.49	-19.80	
56	80			1.86	1.12	0.47	-1.14	0.00	0.03	0.03	1.58	3.96	22.60	0.0016	27.20	51.32	-20.24	
57	81		3/2 ⁺	1.85	1.15	-1.91	-1.44	0.00	0.01	0.07	1.59	4.56	25.22	0.0012	27.10	51.68	-20.75	
58	82			1.85	1.15	0.17	-1.74	0.00	0.02	0.02	1.57	5.04	23.75	0.0012	28.27	52.83	-21.28	
59	83		3/2 ⁻	1.84	1.08	-2.30	-2.13	0.01	0.01	0.03	1.61	5.72	26.50	0.0008	28.10	54.04	-21.25	
60	84			1.84	1.06	0.10	-2.20	0.00	0.01	0.01	1.56	6.13	24.67	0.0008	28.87	54.89	-22.33	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 24 (Cr)																		
61	85		3/2 ⁺	1.82	1.05	-2.35	-2.25	0.00	0.00	0.01	1.59	6.96	27.13	0.0007	29.12	55.93	-23.49	
62	86			1.82	1.03	-0.24	-2.59	0.00	0.00	0.01	1.55	7.43	25.90	0.0006	29.94	57.30	-24.00	
63	87		1/2 ⁺	1.80	1.04	-2.80	-3.04	0.00	0.00	0.00	1.61	8.43	28.47	0.0005	29.80	58.13	-24.59	
64	88			1.79	1.03	-0.71	-3.50	0.00	0.00	0.00	1.59	8.69	27.26	0.0005	30.54	58.85	-25.50	
65	89		5/2 ⁺	1.79	1.03	-2.92	-3.63	0.00	0.00	0.00	1.69	9.46	29.61	0.0004	30.64	59.48	-26.20	
66	90			1.78	1.02	-0.96	-3.88	0.00	0.00	0.00	1.66	9.57	28.44	0.0004	31.40	60.08	-26.67	
67	91		5/2 ⁻	1.77	1.01	-3.21	-4.16	0.00	0.00	0.00	1.79	9.88	30.80	0.0004	31.35	60.89	-27.02	
68	92			1.74	0.99	-1.18	-4.39	0.00	0.00	0.00	1.74	9.94	29.76	0.0003	32.19	61.27	-27.39	
69	93		5/2 ⁺	1.74	0.98	-3.25	-4.44	0.00	0.00	0.00	1.85	9.99	31.93	0.0003	32.17	61.92	-28.15	
70	94			1.78	1.04	-1.25	-4.50	0.00	0.00	0.00	1.81	10.00	30.45	0.0003	32.63	62.40	-28.47	
71	95		11/2 ⁻	1.77	1.03	-3.54	-4.79	0.00	0.00	0.00	1.94	10.00	32.71	0.0003	32.67	63.08	-28.83	
72	96			1.77	1.00	-1.22	-4.76	0.00	0.00	0.00	1.90	10.00	31.13	0.0002	33.36	63.93	-29.34	
73	97		3/2 ⁻	1.76	0.99	-3.45	-4.67	0.00	0.00	0.00	2.01	10.00	33.28	0.0002	33.43	64.79	-30.11	
74	98			1.76	0.97	-1.46	-4.91	0.00	0.00	0.00	1.98	10.00	31.88	0.0002	33.22	65.70	-30.72	
75	99		5/2 ⁻	1.75	0.94	-3.61	-5.07	0.00	0.00	0.00	2.08	10.00	34.06	0.0002	33.45	65.05	-31.43	
76	100			1.76	0.88	-1.30	-4.90	0.00	0.00	0.00	2.05	10.00	32.43	0.0002	34.72	66.94	-32.49	
77	101		7/2 ⁻	1.76	0.84	-3.60	-4.90	0.00	0.00	0.00	2.14	10.00	34.37	0.0002	35.03		-31.85	
78	102			1.75	0.80	-2.08	-5.68	0.00	0.00	0.00	2.11	10.00	33.72	0.0002	35.58		-32.95	
79	103		9/2 ⁻	1.73	0.77	-3.95	-6.03	0.00	0.00	0.00	2.19	10.00	35.74	0.0002				
Z = 25 (Mn)																		
15	40	5/2 ⁻	1/2 ⁺	1.59	2.17								27.86	0.0019	-5.08	-7.35	-8.85	
16	41	5/2 ⁻		1.63	2.16	23.99							22.21	0.0046	-4.65	-5.20	-8.20	
17	42	5/2 ⁻	1/2 ⁺	1.67	2.07	19.59	43.58						23.61	0.0030	-3.40	-3.59	-7.93	
18	43	5/2 ⁻		1.71	2.02	21.41	41.00						18.70	0.0111	-2.98	-1.71	-7.51	
19	44	5/2 ⁻	3/2 ⁺	1.70	2.05	17.58	38.99						20.76	0.0091	-1.91	-0.53	-7.10	
20	45	5/2 ⁻		1.74	2.15	20.11	37.69						14.84	0.0201	-1.44	1.42	-7.67	
21	46	5/2 ⁻	1/2 ⁻	1.68	2.05	15.38	35.49						16.78	0.0237	-0.24	2.89	-6.66	
22	47	5/2 ⁻		1.67	2.04	18.13	33.51						11.48	0.0682	0.57	4.81	-6.62	
23	48	5/2 ⁻	3/2 ⁻	1.62	1.94	13.81	31.93						13.87	0.1016	1.54	7.21	-6.52	
24	49	5/2 ⁻		1.61	1.91	16.57	30.37						7.64	1.0533	1.91	9.57	-6.88	
25	50	5/2 ⁻	5/2 ⁻	1.60	1.85	12.32	28.89						8.82	2.9214	3.90	11.87	-7.80	
26	51	5/2 ⁻		1.60	1.80	14.18	26.50						3.99	> 100	4.57	13.80	-7.77	
27	52	5/2 ⁻	7/2 ⁻	1.64	1.73	10.63	24.80						5.65	> 100	5.86	15.46	-8.37	
28	53	3/2 ⁻		1.69	1.71	12.71	23.34						0.24	> 100	6.28	17.14	-8.84	
29	54	5/2 ⁻	1/2 ⁻	1.65	1.61	8.32	21.02						±	±	7.29	18.47	-8.19	
30	55	5/2 ⁻		1.70	1.59	9.61	17.92						0.54		7.70	19.84	-6.76	
31	56	5/2 ⁻	1/2 ⁻	1.76	1.56	7.47	17.08	1.00	0.00	0.00	0.00	0.00	3.89	> 100	9.39	21.78	-7.24	
32	57	5/2 ⁻		1.78	1.55	8.70	16.18	1.00	0.00	0.00	0.00	0.00	2.21	46.3548	9.13	23.39	-7.71	
33	58	5/2 ⁻	3/2 ⁻	1.81	1.54	6.17	14.87	1.00	0.00	0.00	0.00	0.00	6.41	1.2439	10.32	24.87	-8.35	
34	59	5/2 ⁻		1.81	1.55	8.02	14.19	1.00	0.00	0.00	0.00	0.00	4.76	1.0574	10.55	26.12	-9.28	
35	60	5/2 ⁻	3/2 ⁻	1.81	1.56	5.22	13.25	1.00	0.00	0.00	0.00	0.00	8.70	0.4377	11.65	27.09	-9.81	
36	61	5/2 ⁻		1.82	1.57	7.36	12.59	1.00	0.00	0.00	0.00	0.00	6.87	0.2063	11.84	28.42	-10.41	
37	62	3/2 ⁻	3/2 ⁻	1.80	1.53	4.50	11.87	1.00	0.00	0.00	0.00	0.00	10.82	0.0618	12.78	29.52	-10.65	
38	63	3/2 ⁻		1.80	1.52	6.86	11.36	0.98	0.02	0.00	0.42	0.02	8.76	0.0637	13.08	30.84	-11.49	
39	64	3/2 ⁻	1/2 ⁻	1.81	1.53	4.29	11.15	0.98	0.02	0.00	0.47	0.02	12.42	0.0531	14.03	32.06	-12.37	
40	65	3/2 ⁻		1.81	1.51	6.16	10.45	0.95	0.05	0.00	0.72	0.05	10.64	0.0413	14.24	33.25	-12.99	
41	66	3/2 ⁻	9/2 ⁺	1.81	1.51	3.39	9.55	0.95	0.05	0.00	0.91	0.05	14.46	0.0556	15.27	34.47	-13.31	
42	67	3/2 ⁻		1.80	1.51	5.57	8.96	0.88	0.12	0.00	1.03	0.12	12.43	0.0210	15.44	35.62	-13.91	
43	68	5/2 ⁻	3/2 ⁺	1.82	1.42	2.96	8.53	0.83	0.16	0.01	1.01	0.18	16.02	0.0141	16.33	36.73	-14.70	
44	69	5/2 ⁻		1.83	1.33	4.84	7.79	0.75	0.25	0.00	1.05	0.25	14.31	0.0105	16.47	37.74	-15.11	
45	70	5/2 ⁻	5/2 ⁺	1.83	1.28	2.82	7.65	0.70	0.27	0.03	1.05	0.33	17.20	0.0101	17.44	38.97	-16.08	
46	71	5/2 ⁻		1.82	1.21	4.16	6.97	0.55	0.43	0.02	1.12	0.47	15.89	0.0074	17.43	39.90	-16.41	
47	72	5/2 ⁻	7/2 ⁺	1.82	1.16	2.32	6.48	0.54	0.38	0.08	1.09	0.54	18.94	0.0060	18.63	40.89	-17.15	
48	73	5/2 ⁻		1.79	1.11	4.05	6.37	0.29	0.66	0.05	1.23	0.76	17.43	0.0059	18.82	42.40	-17.96	
49	74	5/2 ⁻	9/2 ⁺	1.78	1.10	2.21	6.25	0.23	0.59	0.18	1.15	0.95	19.97	0.0055	19.67	43.37	-18.84	
50	75	3/2 ⁻		1.77	1.19	3.32	5.53	0.08	0.78	0.12	1.26	1.08	19.11	0.0044	19.93	44.50	-19.63	
51	76	5/2 ⁻	1/2 ⁺	1.77	1.24	0.20	3.52	0.02	0.61	0.32	1.55	1.40	23.11	0.0029	20.63	45.26	-18.59	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 25 (Mn)																		
52	77	3/2 ⁻		1.76	1.21	1.66	1.85	0.00	0.48	0.34	1.74	1.71	21.70	0.0034	20.76	46.24	-18.05	
53	78	3/2 ⁻	3/2 ⁺	1.75	1.20	-0.48	1.18	0.01	0.04	0.61	1.80	2.39	24.68	0.0030	21.49	47.05	-18.14	
54	79	3/2 ⁻		1.75	1.21	0.94	0.46	0.00	0.09	0.16	1.69	2.85	23.32	0.0026	21.58	47.90	-18.40	
55	80	5/2 ⁻	1/2 ⁺	1.79	1.14	-0.89	0.05	0.00	0.01	0.26	1.70	3.33	25.96	0.0014	22.29	48.77	-18.80	
56	81	5/2 ⁻		1.79	1.14	0.71	-0.18	0.00	0.03	0.04	1.72	3.78	23.99	0.0018	22.53	49.74	-19.42	
57	82	5/2 ⁻	3/2 ⁺	1.79	1.16	-1.30	-0.59	0.00	0.01	0.08	1.72	4.31	26.86	0.0011	23.14	50.24	-19.88	
58	83	5/2 ⁻		1.79	1.16	0.45	-0.86	0.00	0.02	0.03	1.70	4.69	25.32	0.0012	23.41	51.68	-20.58	
59	84	5/2 ⁻	3/2 ⁻	1.79	1.10	-1.72	-1.28	0.00	0.01	0.05	1.72	5.25	28.11	0.0009	23.99	52.09	-20.66	
60	85	5/2 ⁻		1.78	1.07	0.10	-1.62	0.00	0.01	0.02	1.70	5.55	26.10	0.0009	23.99	52.87	-21.76	
61	86	5/2 ⁻	3/2 ⁺	1.77	1.06	-1.47	-1.37	0.00	0.00	0.01	1.70	6.22	28.49	0.0008	24.87	53.99	-22.43	
62	87	5/2 ⁻		1.76	1.05	-0.22	-1.70	0.00	0.01	0.01	1.66	6.50	27.71	0.0006	24.89	54.84	-22.87	
63	88	5/2 ⁻	5/2 ⁻	1.75	1.04	-1.92	-2.14	0.00	0.00	0.01	1.68	7.41	30.23	0.0006	25.77	55.58	-23.55	
64	89	5/2 ⁻		1.74	1.04	-0.57	-2.49	0.00	0.00	0.00	1.65	7.65	29.15	0.0005	25.91	56.44	-24.05	
65	90	5/2 ⁻	1/2 ⁺	1.73	1.03	-2.12	-2.70	0.00	0.00	0.00	1.69	8.49	31.39	0.0005	26.71	57.35	-24.58	
66	91	5/2 ⁻		1.72	1.01	-0.85	-2.98	0.00	0.00	0.00	1.67	8.76	30.06	0.0004	26.81	58.21	-25.17	
67	92	5/2 ⁻	5/2 ⁻	1.70	1.00	-2.22	-3.08	0.00	0.00	0.00	1.73	9.48	32.19	0.0004	27.79	59.15	-25.97	
68	93	5/2 ⁻		1.69	0.98	-1.08	-3.30	0.00	0.00	0.00	1.71	9.55	30.87	0.0003	27.90	60.09	-26.60	
69	94	5/2 ⁻	5/2 ⁺	1.70	0.99	-2.73	-3.80	0.00	0.00	0.00	1.79	9.78	33.39	0.0003	28.42	60.60	-27.04	
70	95	5/2 ⁻		1.70	0.97	-1.28	-4.01	0.00	0.00	0.00	1.77	9.87	32.16	0.0003	28.39	61.01	-27.77	
71	96	5/2 ⁻	7/2 ⁻	1.69	0.96	-2.80	-4.09	0.00	0.00	0.00	1.85	9.97	34.37	0.0003	29.12	61.79	-28.21	
72	97	5/2 ⁻		1.66	1.04	-1.30	-4.11	0.00	0.00	0.00	1.82	9.99	32.90	0.0002	29.04	62.40	-28.60	
73	98	3/2 ⁻	9/2 ⁻	1.66	1.03	-2.85	-4.15	0.00	0.00	0.00	1.92	10.00	34.97	0.0003	29.64	63.07	-29.34	
74	99	5/2 ⁻		1.66	0.99	-1.43	-4.28	0.00	0.00	0.00	1.90	10.00	33.57	0.0002	29.67	62.90	-29.82	
75	100	5/2 ⁻	5/2 ⁻	1.66	0.95	-2.93	-4.36	0.00	0.00	0.00	1.97	10.00	35.81	0.0002	30.35	63.79	-30.41	
76	101	3/2 ⁻		1.65	0.93	-1.66	-4.60	0.00	0.00	0.00	1.96	10.00	34.58	0.0002	29.98	64.70	-30.00	
77	102	5/2 ⁻	7/2 ⁻	1.68	0.85	-2.72	-4.38	0.00	0.00	0.00	2.03	10.00	36.50	0.0002	30.86	65.90	-31.11	
78	103	5/2 ⁻		1.67	0.81	-1.94	-4.66	0.00	0.00	0.00	2.03	10.00	35.52	0.0002	31.00	66.58	-31.74	
79	104	5/2 ⁻	9/2 ⁻	1.65	0.77	-3.12	-5.07	0.00	0.00	0.00	2.10	10.00	37.32	0.0002	31.83		-32.53	
80	105	5/2 ⁻		1.62	0.72	-2.05	-5.18	0.00	0.00	0.00	2.07	10.00	36.46	0.0001			-33.10	
Z = 26 (Fe)																		
16	42			1.53	2.19								21.01	0.0039	-2.20	-6.85	-8.59	
17	43	1/2 ⁺		1.58	2.07	19.99							22.43	0.0029	-1.80	-5.20	-8.40	
18	44			1.61	2.05	22.93	42.92						17.08	0.0119	-0.29	-3.26	-7.76	
19	45	3/2 ⁺		1.62	2.06	17.88	40.81						19.31	0.0062	0.02	-1.89	-7.31	
20	46			1.65	2.16	21.44	39.32						13.26	0.0227	1.34	-0.10	-7.75	
21	47	1/2 ⁻		1.63	2.09	15.81	37.25						15.57	0.0213	1.78	1.53	-7.05	
22	48			1.63	2.08	19.25	35.07						10.12	0.1020	2.90	3.47	-6.67	
23	49	3/2 ⁻		1.57	1.98	14.26	33.51						12.43	0.0634	3.35	4.89	-6.74	
24	50			1.56	1.92	17.65	31.90						7.11	1.0371	4.43	6.35	-7.07	
25	51	5/2 ⁻		1.56	1.85	13.03	30.67						8.26	0.9569	5.13	9.04	-7.27	
26	52			1.54	1.77	16.74	29.77						2.14	> 100	7.70	12.28	-7.82	
27	53	7/2 ⁻		1.53	1.72	10.70	27.45						4.15	74.7050	7.78	13.63	-8.18	
28	54			1.57	1.71	13.87	24.57						...	β -st	8.94	15.22	-8.55	
29	55	1/2 ⁻		1.59	1.58	8.74	22.61						...	β -st	9.37	16.66	-7.95	
30	56			1.59	1.53	10.82	19.56						...	β -st	10.58	18.28	-6.48	
31	57	1/2 ⁻		1.67	1.54	7.02	17.84						...	β -st	10.13	19.52	-6.20	
32	58			1.70	1.53	10.36	17.38						...	β -st	11.79	20.92	-7.36	
33	59	3/2 ⁻		1.73	1.53	6.38	16.74	1.00	0.00	0.00	0.00	0.00	1.59	> 100	12.00	22.33	-7.97	
34	60			1.74	1.54	9.16	15.54	1.00	0.00	0.00	0.00	0.00	...	β -st	13.14	23.69	-8.17	
35	61	3/2 ⁻		1.73	1.54	5.53	14.70	1.00	0.00	0.00	0.00	0.00	3.68	17.5935	13.45	25.10	-8.72	
36	62			1.74	1.55	8.45	13.98	1.00	0.00	0.00	0.00	0.00	2.11	> 100	14.54	26.38	-9.37	
37	63	3/2 ⁻		1.71	1.54	4.81	13.26	1.00	0.00	0.00	0.00	0.00	5.99	0.6969	14.85	27.63	-10.06	
38	64			1.70	1.54	7.94	12.75	1.00	0.00	0.00	0.00	0.00	4.06	3.4013	15.93	29.00	-10.83	
39	65	1/2 ⁻		1.69	1.52	4.38	12.33	1.00	0.00	0.00	0.00	0.00	7.71	0.4951	16.02	30.05	-11.65	
40	66			1.69	1.51	7.20	11.59	1.00	0.00	0.00	0.00	0.00	5.83	0.7703	17.07	31.30	-12.29	
41	67	9/2 ⁺		1.69	1.51	3.54	10.74	0.99	0.01	0.00	0.40	0.01	9.64	0.8286	17.22	32.49	-12.50	
42	68			1.68	1.51	6.55	10.09	0.97	0.03	0.00	0.39	0.03	7.65	0.3015	18.20	33.64	-13.09	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 26 (Fe)																		
43	69		3/2 ⁺	1.68	1.48	3.12	9.68	0.92	0.08	0.00	0.47	0.08	11.25	0.2540	18.36	34.69	-13.87	
44	70			1.73	1.36	5.70	8.83	0.91	0.09	0.00	0.64	0.09	9.66	0.1061	19.23	35.70	-14.17	
45	71		5/2 ⁺	1.73	1.33	2.85	8.55	0.84	0.16	0.00	0.71	0.16	12.89	0.0698	19.27	36.70	-14.94	
46	72			1.72	1.26	5.37	8.22	0.78	0.22	0.00	0.97	0.22	11.00	0.0663	20.48	37.91	-15.62	
47	73		7/2 ⁺	1.72	1.18	2.53	7.91	0.70	0.29	0.01	0.92	0.31	14.01	0.0449	20.69	39.32	-16.31	
48	74			1.72	1.11	4.75	7.28	0.71	0.29	0.00	1.17	0.29	12.72	0.0315	21.40	40.21	-16.89	
49	75		9/2 ⁺	1.66	1.09	2.46	7.21	0.42	0.53	0.05	1.03	0.63	15.61	0.0297	21.65	41.32	-18.23	
50	76			1.65	1.19	4.20	6.66	0.25	0.73	0.02	1.11	0.77	14.48	0.0213	22.53	42.46	-18.57	
51	77		1/2 ⁺	1.65	1.25	0.24	4.44	0.09	0.63	0.28	1.47	1.19	18.58	0.0123	22.57	43.20	-17.46	
52	78			1.64	1.23	2.50	2.74	0.05	0.58	0.34	1.68	1.35	17.10	0.0143	23.41	44.18	-16.90	
53	79		3/2 ⁺	1.63	1.22	-0.42	2.08	0.05	0.12	0.63	1.75	1.99	20.09	0.0116	23.47	44.96	-16.98	
54	80			1.63	1.23	1.75	1.34	0.01	0.24	0.27	1.63	2.24	18.70	0.0095	24.29	45.86	-17.21	
55	81		1/2 ⁺	1.73	1.16	-1.26	0.50	0.01	0.14	0.57	1.49	2.24	21.88	0.0023	23.92	46.22	-17.16	
56	82			1.73	1.15	1.56	0.30	0.00	0.18	0.22	1.48	2.58	20.28	0.0026	24.77	47.30	-17.86	
57	83		3/2 ⁺	1.73	1.18	-1.09	0.47	0.01	0.02	0.47	1.51	2.88	22.83	0.0017	24.98	48.12	-18.38	
58	84			1.73	1.18	1.07	-0.02	0.00	0.07	0.07	1.49	3.24	21.03	0.0020	25.60	49.02	-18.98	
59	85		3/2 ⁻	1.76	1.10	-1.91	-0.84	0.01	0.01	0.17	1.55	3.87	24.15	0.0013	25.42	49.41	-18.98	
60	86			1.75	1.07	0.92	-0.98	0.00	0.07	0.06	1.47	3.82	22.51	0.0012	26.24	50.23	-19.73	
61	87		3/2 ⁺	1.75	1.08	-1.01	-0.08	0.00	0.01	0.13	1.51	4.51	23.92	0.0013	26.70	51.58	-21.03	
62	88			1.74	1.06	0.60	-0.41	0.00	0.02	0.03	1.44	4.72	22.59	0.0012	27.53	52.42	-21.53	
63	89		5/2 ⁻	1.73	1.05	-1.65	-1.05	0.00	0.00	0.02	1.49	5.68	24.90	0.0012	27.79	53.56	-22.23	
64	90			1.73	1.04	0.12	-1.53	0.00	0.02	0.02	1.38	5.65	24.27	0.0009	28.48	54.39	-22.58	
65	91		1/2 ⁺	1.71	1.04	-2.18	-2.06	0.00	0.00	0.03	1.42	6.62	26.74	0.0007	28.43	55.13	-23.20	
66	92			1.70	1.02	-0.10	-2.27	0.00	0.00	0.01	1.37	6.88	25.48	0.0007	29.18	55.99	-23.81	
67	93		5/2 ⁺	1.69	1.00	-2.39	-2.49	0.00	0.00	0.00	1.42	7.87	27.96	0.0005	29.01	56.81	-24.34	
68	94			1.68	0.98	-0.21	-2.60	0.00	0.00	0.00	1.37	8.08	26.61	0.0005	29.88	57.78	-25.09	
69	95		5/2 ⁺	1.67	0.98	-2.52	-2.73	0.00	0.00	0.00	1.46	8.91	29.13	0.0004	30.09	58.51	-25.78	
70	96			1.67	0.96	-0.59	-3.11	0.00	0.00	0.00	1.43	9.14	27.87	0.0004	30.78	59.17	-26.37	
71	97		5/2 ⁺	1.66	0.94	-2.78	-3.37	0.00	0.00	0.00	1.55	9.60	30.01	0.0004	30.81	59.93	-26.85	
72	98			1.56	1.07	-0.77	-3.55	0.00	0.00	0.00	1.50	9.74	28.68	0.0003	31.34	60.39	-27.32	
73	99		3/2 ⁻	1.56	1.05	-2.83	-3.61	0.00	0.00	0.00	1.64	9.97	30.75	0.0003	31.36	61.00	-28.03	
74	100			1.57	1.01	-0.70	-3.53	0.00	0.00	0.00	1.61	9.98	29.38	0.0003	32.09	61.76	-28.55	
75	101		5/2 ⁻	1.57	0.97	-2.89	-3.58	0.00	0.00	0.00	1.72	10.00	31.54	0.0003	32.14	62.49	-29.12	
76	102			1.61	0.90	-0.81	-3.69	0.00	0.00	0.00	1.68	10.00	30.12	0.0003	32.99	62.97	-29.77	
77	103		7/2 ⁻	1.61	0.86	-2.92	-3.72	0.00	0.00	0.00	1.77	10.00	32.14	0.0003	32.80	63.66	-30.46	
78	104			1.56	0.82	-1.33	-4.25	0.00	0.00	0.00	1.74	10.00	31.22	0.0002	33.41	64.41	-30.43	
79	105		9/2 ⁻	1.56	0.77	-2.91	-4.24	0.00	0.00	0.00	1.82	10.00	33.09	0.0002	33.62	65.45	-31.12	
80	106			1.54	0.72	-1.33	-4.24	0.00	0.00	0.00	1.76	10.00	32.14	0.0002	34.35		-31.87	
81	107		11/2 ⁻	1.54	0.69	-3.07	-4.40	0.00	0.00	0.00	1.86	10.00	33.97	0.0002			-32.75	
Z = 27 (Co)																		
17	44	1/2 ⁻	3/2 ⁺	1.47	2.06								27.15	0.0023	-5.01	-6.81	-8.47	
18	45	1/2 ⁻		1.52	2.08	23.28							21.76	0.0045	-4.66	-4.95	-7.76	
19	46	7/2 ⁻	3/2 ⁺	1.54	2.06	19.10	42.38						24.09	0.0029	-3.44	-3.42	-7.27	
20	47	7/2 ⁻		1.46	2.15	21.85	40.95						18.06	0.0085	-3.03	-1.68	-7.70	
21	48	7/2 ⁻	1/2 ⁻	1.46	2.11	17.19	39.04						20.12	0.0096	-1.65	0.13	-7.32	
22	49	7/2 ⁻		1.45	2.09	19.62	36.81						14.76	0.0273	-1.29	1.62	-6.82	
23	50	7/2 ⁻	3/2 ⁻	1.44	2.04	15.74	35.35						16.67	0.0337	0.19	3.55	-7.18	
24	51	7/2 ⁻		1.43	1.98	18.09	33.83						11.60	0.0691	0.64	5.07	-7.15	
25	52	7/2 ⁻	5/2 ⁻	1.51	1.86	14.30	32.40						14.04	0.0954	1.92	7.05	-7.65	
26	53	7/2 ⁻		1.40	1.76	16.77	31.08						7.97	1.4760	1.95	9.65	-7.85	
27	54	7/2 ⁻	7/2 ⁻	1.38	1.70	12.75	29.52						9.09	3.8634	4.00	11.77	-8.28	
28	55	7/2 ⁻		1.46	1.72	14.42	27.18						3.41	> 100	4.55	13.49	-8.52	
29	56	7/2 ⁻	1/2 ⁻	1.47	1.59	9.86	24.29						4.37	> 100	5.67	15.04	-7.76	
30	57	7/2 ⁻		1.51	1.51	11.21	21.07						0.19	> 100	6.05	16.64	-6.25	
31	58	7/2 ⁻	3/2 ⁻	1.53	1.50	8.46	19.67						±	±	7.49	17.62	-6.40	
32	59	7/2 ⁻		1.59	1.49	10.05	18.51						...	β-st	7.18	18.97	-6.85	
33	60	7/2 ⁻	3/2 ⁻	1.64	1.51	7.35	17.40	1.00	0.00	0.00	0.00	0.00	±	±	8.15	20.16	-6.73	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 27 (Co)																		
34	61	7/2 ⁻		1.66	1.51	9.44	16.79	1.00	0.00	0.00	0.00	0.00	1.22	> 100	8.43	21.57	-7.46	
35	62	7/2 ⁻	3/2 ⁻	1.66	1.52	6.88	16.32	1.00	0.00	0.00	0.00	0.00	4.82	> 100	9.78	23.23	-8.18	
36	63	7/2 ⁻		1.66	1.53	8.69	15.57	1.00	0.00	0.00	0.00	0.00	3.19	9.0300	10.02	24.55	-8.84	
37	64	1/2 ⁻	3/2 ⁻	1.65	1.53	6.01	14.70	1.00	0.00	0.00	0.00	0.00	7.17	1.3635	11.22	26.06	-9.63	
38	65	7/2 ⁻		1.64	1.53	8.04	14.05	1.00	0.00	0.00	0.00	0.00	5.39	0.3876	11.31	27.24	-10.30	
39	66	7/2 ⁻	1/2 ⁻	1.63	1.51	5.33	13.36	1.00	0.00	0.00	0.00	0.00	9.00	0.1359	12.25	28.28	-11.13	
40	67	7/2 ⁻		1.63	1.50	7.35	12.68	1.00	0.00	0.00	0.00	0.00	7.31	0.0657	12.40	29.47	-11.61	
41	68	7/2 ⁻	1/2 ⁺	1.63	1.50	4.55	11.91	0.99	0.01	0.00	0.51	0.01	11.13	0.0553	13.41	30.63	-11.88	
42	69	7/2 ⁻		1.63	1.51	6.73	11.28	0.98	0.02	0.00	1.12	0.02	9.13	0.0481	13.59	31.79	-12.45	
43	70	7/2 ⁻	3/2 ⁺	1.63	1.51	4.11	10.84	0.98	0.02	0.00	0.92	0.02	12.70	0.0354	14.58	32.94	-13.17	
44	71	7/2 ⁻		1.63	1.46	6.09	10.20	0.96	0.04	0.00	1.20	0.04	10.80	0.0333	14.96	34.19	-13.69	
45	72	7/2 ⁻	5/2 ⁺	1.66	1.34	3.47	9.56	0.94	0.06	0.00	0.96	0.06	14.33	0.0221	15.59	34.85	-14.20	
46	73	7/2 ⁻		1.66	1.26	5.55	9.02	0.91	0.09	0.00	1.29	0.09	12.68	0.0190	15.76	36.24	-14.91	
47	74	7/2 ⁻	7/2 ⁺	1.65	1.18	3.46	9.01	0.89	0.10	0.01	1.06	0.12	15.70	0.0147	16.68	37.38	-15.56	
48	75	7/2 ⁻		1.61	1.15	5.36	8.82	0.88	0.12	0.00	1.14	0.12	14.02	0.0163	17.29	38.69	-16.76	
49	76	7/2 ⁻	9/2 ⁺	1.60	1.09	3.06	8.42	0.80	0.18	0.02	1.02	0.22	16.94	0.0127	17.89	39.54	-17.50	
50	77	7/2 ⁻		1.59	1.20	4.35	7.41	0.43	0.55	0.02	0.99	0.59	15.78	0.0108	18.04	40.57	-17.80	
51	78	7/2 ⁻	1/2 ⁺	1.60	1.28	1.02	5.36	0.18	0.68	0.14	1.21	0.96	20.15	0.0059	18.81	41.39	-16.61	
52	79	7/2 ⁻		1.59	1.24	2.58	3.59	0.02	0.82	0.14	1.96	1.16	18.62	0.0081	18.89	42.31	-15.86	
53	80	7/2 ⁻	3/2 ⁺	1.59	1.23	0.37	2.94	0.02	0.17	0.73	1.74	1.87	21.64	0.0065	19.68	43.15	-16.03	
54	81	7/2 ⁻		1.58	1.24	1.92	2.28	0.01	0.32	0.40	1.71	1.94	20.08	0.0061	19.84	44.13	-16.29	
55	82	7/2 ⁻	5/2 ⁺	1.58	1.26	-0.04	1.88	0.01	0.05	0.59	1.80	2.43	22.78	0.0055	21.06	44.98	-16.73	
56	83	7/2 ⁻		1.57	1.26	1.45	1.41	0.00	0.12	0.22	1.66	2.70	21.30	0.0046	20.95	45.72	-17.24	
57	84	7/2 ⁻	5/2 ⁺	1.62	1.23	-0.73	0.73	0.00	0.02	0.36	1.70	3.05	24.22	0.0027	21.32	46.30	-17.41	
58	85	7/2 ⁻		1.63	1.23	1.21	0.48	0.00	0.05	0.10	1.64	3.19	22.39	0.0022	21.46	47.06	-17.90	
59	86	7/2 ⁻	5/2 ⁺	1.62	1.23	-0.71	0.49	0.00	0.01	0.17	1.65	3.73	25.20	0.0019	22.65	48.07	-18.49	
60	87	1/2 ⁻		1.72	1.08	0.41	-0.31	0.00	0.05	0.04	1.64	3.92	23.55	0.0016	22.13	48.37	-18.45	
61	88	1/2 ⁻	3/2 ⁺	1.72	1.09	-0.73	-0.33	0.00	0.02	0.12	1.63	4.34	25.99	0.0013	22.41	49.11	-19.44	
62	89	1/2 ⁻		1.71	1.08	0.66	-0.08	0.00	0.05	0.03	1.58	4.47	24.80	0.0012	22.47	49.99	-20.00	
63	90	1/2 ⁻	5/2 ⁻	1.71	1.06	-0.52	0.14	0.00	0.01	0.07	1.58	5.08	26.81	0.0013	23.60	51.39	-20.95	
64	91	1/2 ⁻		1.70	1.06	0.30	-0.22	0.00	0.04	0.02	1.51	4.96	26.04	0.0010	23.78	52.26	-21.47	
65	92	1/2 ⁻	1/2 ⁺	1.69	1.04	-1.36	-1.06	0.00	0.01	0.06	1.52	5.66	28.51	0.0008	24.60	53.03	-22.03	
66	93	1/2 ⁻		1.69	1.03	0.09	-1.27	0.00	0.02	0.01	1.48	5.91	27.06	0.0008	24.78	53.97	-22.69	
67	94	1/2 ⁻	1/2 ⁺	1.68	1.01	-1.56	-1.47	0.00	0.00	0.02	1.50	6.78	29.35	0.0007	25.62	54.63	-23.26	
68	95	1/2 ⁻		1.67	0.99	0.00	-1.56	0.00	0.01	0.01	1.45	7.01	27.84	0.0006	25.83	55.71	-24.11	
69	96	1/2 ⁻	7/2 ⁻	1.67	0.98	-1.85	-1.85	0.00	0.00	0.01	1.49	7.85	30.33	0.0006	26.50	56.59	-24.48	
70	97	1/2 ⁻		1.67	0.96	-0.64	-2.49	0.00	0.00	0.01	1.47	8.21	29.23	0.0005	26.45	57.23	-24.92	
71	98	1/2 ⁻	5/2 ⁺	1.66	0.94	-2.10	-2.74	0.00	0.00	0.00	1.51	8.96	31.56	0.0004	27.13	57.94	-25.55	
72	99	7/2 ⁻		1.52	1.10	-0.77	-2.86	0.00	0.00	0.00	1.48	9.26	30.19	0.0003	27.13	58.47	-26.07	
73	100	7/2 ⁻	3/2 ⁻	1.52	1.08	-2.07	-2.83	0.00	0.00	0.00	1.57	9.78	32.11	0.0004	27.90	59.26	-26.80	
74	101	7/2 ⁻		1.52	1.03	-0.73	-2.79	0.00	0.00	0.00	1.55	9.83	30.72	0.0003	27.87	59.96	-27.38	
75	102	7/2 ⁻	5/2 ⁻	1.51	0.99	-2.22	-2.95	0.00	0.00	0.00	1.62	9.97	32.95	0.0003	28.53	60.67	-28.01	
76	103	7/2 ⁻		1.51	0.94	-0.90	-3.12	0.00	0.00	0.00	1.60	9.96	31.65	0.0003	28.44	61.43	-28.54	
77	104	7/2 ⁻	7/2 ⁻	1.51	0.89	-2.25	-3.14	0.00	0.00	0.00	1.66	10.00	33.70	0.0003	29.11	61.91	-29.22	
78	105	7/2 ⁻		1.51	0.83	-1.05	-3.29	0.00	0.00	0.00	1.64	9.99	32.56	0.0002	29.40	62.80	-29.84	
79	106	7/2 ⁻	9/2 ⁻	1.50	0.77	-2.28	-3.32	0.00	0.00	0.00	1.71	10.00	34.45	0.0002	30.03	63.65	-30.29	
80	107	7/2 ⁻		1.50	0.71	-1.24	-3.52	0.00	0.00	0.00	1.69	10.00	33.61	0.0002	30.11	64.46	-30.98	
81	108	7/2 ⁻	11/2 ⁻	1.49	0.69	-2.39	-3.63	0.00	0.00	0.00	1.75	10.00	35.42	0.0002	30.79		-31.72	
82	109	7/2 ⁻		1.49	0.82	-1.55	-3.94	0.00	0.00	0.00	1.73	10.00	34.68	0.0002			-32.22	
Z = 28 (Ni)																		
18	46			1.46	2.09								20.71	0.0036	-2.39	-7.05	-7.57	
19	47		1/2 ⁺	1.47	2.07	20.39							22.16	0.0040	-1.10	-4.53	-7.97	
20	48			1.50	2.17	22.67	43.06						16.68	0.0073	-0.27	-3.30	-7.72	
21	49		7/2 ⁻	1.50	2.12	17.46	40.13						18.84	0.0074	-0.00	-1.65	-7.30	
22	50			1.52	2.11	20.82	38.28						13.75	0.0215	1.20	-0.09	-6.68	
23	51		3/2 ⁻	1.53	2.06	15.83	36.64						16.02	0.0210	1.29	1.48	-6.69	
24	52			1.53	2.01	19.33	35.15						11.00	0.2175	2.52	3.16	-6.76	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 28 (Ni)																		
25	53		3/2 ⁻	1.54	1.87	14.78	34.11						12.99	0.0743	3.00	4.92	-7.29	
26	54			1.54	1.75	17.96	32.74						7.78	0.4903	4.19	6.13	-7.61	
27	55		7/2 ⁻	1.54	1.69	13.49	31.45						8.71	0.7049	4.93	8.92	-8.07	
28	56			1.55	1.72	16.45	29.94						2.13	> 100	6.95	11.50	-7.77	
29	57		1/2 ⁻	1.57	1.58	10.01	26.46						3.32	> 100	7.11	12.78	-7.09	
30	58			1.59	1.48	12.58	22.59						...	β -st	8.48	14.53	-5.80	
31	59		1/2 ⁻	1.59	1.49	8.65	21.23						0.60	> 100	8.67	16.16	-5.70	
32	60			1.59	1.51	11.33	19.98						...	β -st	9.95	17.13	-6.21	
33	61		3/2 ⁻	1.60	1.49	7.28	18.61						...	β -st	9.88	18.03	-6.47	
34	62			1.63	1.50	10.48	17.77						...	β -st	10.92	19.35	-6.59	
35	63		3/2 ⁻	1.63	1.51	7.06	17.54	1.00	0.00	0.00	0.00	0.00	...	β -st	11.09	20.88	-7.27	
36	64			1.66	1.52	9.99	17.04						...	β -st	12.39	22.41	-8.09	
37	65		3/2 ⁻	1.66	1.52	6.26	16.25	1.00	0.00	0.00	0.00	0.00	1.42	> 100	12.64	23.86	-8.82	
38	66			1.67	1.52	8.94	15.20	1.00	0.00	0.00	0.00	0.00	...	β -st	13.55	24.86	-9.31	
39	67		1/2 ⁻	1.67	1.52	5.66	14.60	1.00	0.00	0.00	0.00	0.00	3.42	4.0737	13.88	26.13	-10.16	
40	68			1.67	1.51	8.37	14.03	1.00	0.00	0.00	0.00	0.00	1.64	> 100	14.90	27.30	-10.59	
41	69		9/2 ⁺	1.66	1.50	4.73	13.10	1.00	0.00	0.00	0.00	0.00	5.37	27.1789	15.08	28.49	-10.93	
42	70			1.66	1.50	7.68	12.41	1.00	0.00	0.00	0.00	0.00	3.43	14.1208	16.03	29.62	-11.42	
43	71		9/2	1.66	1.51	4.18	11.87	1.00	0.00	0.00	0.00	0.00	7.08	3.6210	16.10	30.68	-12.06	
44	72			1.65	1.46	7.01	11.19	1.00	0.00	0.00	0.00	0.00	5.28	2.4778	17.03	31.99	-12.52	
45	73		7/2 ⁺	1.65	1.41	3.89	10.90	0.99	0.01	0.00	0.25	0.01	8.61	1.0994	17.44	33.03	-13.28	
46	74			1.64	1.34	6.49	10.38	0.96	0.04	0.00	0.39	0.04	6.76	1.6327	18.38	34.14	-14.06	
47	75		7/2 ⁺	1.63	1.26	3.67	10.16	0.94	0.06	0.00	0.44	0.06	9.75	0.6787	18.59	35.28	-14.88	
48	76			1.63	1.16	5.98	9.65	0.83	0.17	0.00	0.66	0.17	8.25	0.4986	19.22	36.51	-15.49	
49	77		9/2 ⁺	1.62	1.08	3.19	9.17	0.77	0.23	0.00	0.82	0.23	11.32	0.2577	19.34	37.23	-16.14	
50	78			1.62	1.22	5.39	8.57	0.58	0.42	0.00	0.89	0.42	10.08	0.1404	20.38	38.42	-16.78	
51	79		5/2 ⁺	1.61	1.32	1.04	6.43	0.36	0.63	0.01	1.16	0.65	14.49	0.0585	20.41	39.22	-15.36	
52	80			1.60	1.24	3.39	4.43	0.18	0.79	0.03	1.66	0.85	13.14	0.0562	21.22	40.12	-14.56	
53	81		1/2 ⁺	1.60	1.24	0.36	3.75	0.13	0.34	0.53	1.54	1.40	16.30	0.0389	21.22	40.89	-14.67	
54	82			1.59	1.25	2.66	3.02	0.07	0.54	0.35	1.51	1.36	14.84	0.0294	21.96	41.80	-14.83	
55	83		5/2 ⁺	1.59	1.27	-0.03	2.63	0.07	0.18	0.58	1.60	1.86	17.30	0.0284	21.97	43.03	-15.22	
56	84			1.58	1.28	2.20	2.17	0.04	0.40	0.32	1.46	1.76	16.04	0.0156	22.71	43.67	-15.67	
57	85		7/2 ⁺	1.58	1.23	-0.63	1.57	0.18	0.47	0.26	1.09	1.29	19.11	0.0033	22.81	44.13	-16.30	
58	86			1.57	1.31	2.10	1.47	0.01	0.43	0.27	1.41	1.87	17.48	0.0069	23.71	45.16	-16.84	
59	87		3/2 ⁻	1.70	1.13	-1.25	0.85	0.02	0.09	0.60	1.37	2.29	20.95	0.0025	23.17	45.83	-16.68	
60	88			1.72	1.08	1.71	0.46	0.00	0.37	0.22	1.28	2.13	19.11	0.0022	24.48	46.61	-17.33	
61	89		3/2 ⁺	1.72	1.10	-0.54	1.17	0.06	0.04	0.48	1.30	2.56	21.48	0.0018	24.67	47.08	-18.70	
62	90			1.72	1.08	1.50	0.96	0.00	0.26	0.08	1.23	2.63	20.07	0.0018	25.52	47.98	-19.27	
63	91		5/2 ⁻	1.72	1.07	-0.48	1.02	0.01	0.01	0.39	1.24	3.24	22.43	0.0017	25.55	49.15	-19.80	
64	92			1.72	1.06	1.12	0.64	0.00	0.17	0.06	1.15	3.12	21.10	0.0014	26.37	50.15	-20.32	
65	93		1/2 ⁺	1.71	1.04	-1.37	-0.25	0.03	0.01	0.22	1.22	3.80	23.63	0.0012	26.36	50.96	-20.60	
66	94			1.70	1.04	0.73	-0.64	0.00	0.05	0.03	1.19	3.92	22.22	0.0011	27.01	51.79	-21.21	
67	95		1/2 ⁺	1.69	1.01	-1.50	-0.77	0.01	0.01	0.07	1.23	4.70	24.62	0.0009	27.06	52.68	-21.89	
68	96			1.69	0.99	0.64	-0.86	0.00	0.03	0.01	1.17	4.89	23.17	0.0008	27.70	53.53	-22.63	
69	97		7/2 ⁻	1.69	0.98	-1.74	-1.10	0.00	0.00	0.03	1.24	5.86	25.57	0.0008	27.81	54.31	-23.28	
70	98			1.68	0.95	0.23	-1.52	0.00	0.01	0.01	1.20	6.03	24.25	0.0007	28.68	55.12	-23.72	
71	99		5/2 ⁺	1.68	0.95	-2.14	-1.91	0.00	0.00	0.01	1.26	7.07	26.66	0.0006	28.64	55.77	-24.10	
72	100			1.50	1.13	-0.15	-2.28	0.00	0.00	0.00	1.18	6.89	25.54	0.0004	29.26	56.39	-24.54	
73	101		3/2 ⁻	1.50	1.11	-2.12	-2.27	0.00	0.00	0.00	1.26	8.25	27.51	0.0004	29.21	57.11	-25.20	
74	102			1.49	1.07	0.01	-2.11	0.00	0.00	0.00	1.22	8.19	26.18	0.0004	29.94	57.81	-25.98	
75	103		5/2 ⁻	1.49	1.02	-2.19	-2.18	0.00	0.00	0.00	1.31	9.23	28.33	0.0004	29.97	58.51	-26.62	
76	104			1.48	0.98	-0.20	-2.40	0.00	0.00	0.00	1.26	9.23	27.01	0.0003	30.67	59.11	-27.12	
77	105		7/2 ⁻	1.48	0.90	-2.18	-2.38	0.00	0.00	0.00	1.36	9.73	29.22	0.0003	30.73	59.85	-27.82	
78	106			1.48	0.85	-0.39	-2.57	0.00	0.00	0.00	1.32	9.77	27.99	0.0003	31.39	60.79	-28.24	
79	107		3/2 ⁻	1.47	0.79	-2.09	-2.48	0.00	0.00	0.00	1.41	9.95	29.71	0.0003	31.58	61.61	-29.07	
80	108			1.47	0.73	-0.58	-2.67	0.00	0.00	0.00	1.36	9.95	28.72	0.0002	32.25	62.36	-29.82	
81	109		11/2 ⁻	1.47	0.69	-2.28	-2.86	0.00	0.00	0.00	1.46	10.00	30.50	0.0003	32.35	63.15	-30.45	

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 28 (Ni)																		
82	110			1.46	0.84	-0.85	-3.14	0.00	0.00	0.00	1.42	9.98	29.73	0.0002	33.05			-30.93
83	111		7/2 ⁻	1.46	0.81	-4.20	-5.05	0.00	0.00	0.00	1.55	10.00	33.11	0.0002				-29.80
Z = 29 (Cu)																		
19	48	3/2 ⁻	1/2 ⁺	1.47	2.07								27.19	0.0020	-5.30	-6.40		-7.68
20	49	1/2 ⁻		1.49	2.18	22.85							21.80	0.0050	-5.12	-5.39		-7.26
21	50	1/2 ⁻	1/2 ⁻	1.52	2.12	18.39	41.24						24.23	0.0033	-4.19	-4.19		-6.54
22	51	1/2 ⁻		1.50	2.12	21.27	39.66						18.78	0.0081	-3.74	-2.54		-5.97
23	52	1/2 ⁻	3/2 ⁻	1.57	2.05	16.94	38.21						21.17	0.0069	-2.62	-1.33		-5.72
24	53	1/2 ⁻		1.56	2.00	19.58	36.52						16.37	0.0159	-2.37	0.15		-5.68
25	54	1/2 ⁻	5/2 ⁻	1.56	1.87	15.80	35.38						18.53	0.0164	-1.35	1.65		-5.75
26	55	1/2 ⁻		1.53	1.76	18.27	34.08						13.75	0.0498	-1.04	3.15		-5.93
27	56	1/2 ⁻	7/2 ⁻	1.52	1.70	14.60	32.88						15.59	0.0471	0.07	5.00		-6.22
28	57	1/2 ⁻		1.52	1.72	16.57	31.17						9.04	0.3070	0.19	7.14		-6.02
29	58	1/2 ⁻	1/2 ⁻	1.49	1.59	11.83	28.40						9.79	0.5702	2.01	9.11		-5.10
30	59	1/2 ⁻		1.50	1.51	13.10	24.93						5.34	20.5168	2.52	11.00		-3.77
31	60	1/2 ⁻	1/2 ⁻	1.50	1.50	9.81	22.90						6.87	19.6019	3.68	12.35		-3.71
32	61	1/2 ⁻		1.49	1.49	11.36	21.17						2.79	> 100	3.71	13.66		-3.87
33	62	1/2 ⁻	3/2 ⁻	1.51	1.49	8.90	20.26						4.37	> 100	5.33	15.21		-4.31
34	63	1/2 ⁻		1.51	1.50	10.77	19.67						0.66		5.61	16.54		-5.03
35	64	1/2 ⁻	3/2 ⁻	1.52	1.50	8.27	19.04	1.00	0.00	0.00	0.00	0.00	±	±	6.82	17.92		-5.94
36	65	3/2 ⁻		1.55	1.50	10.06	18.33						...	β-st	6.90	19.29		-6.56
37	66	3/2 ⁻	3/2 ⁻	1.55	1.51	7.28	17.35	1.00	0.00	0.00	0.00	0.00	±	±	7.92	20.57		-6.97
38	67	3/2 ⁻		1.54	1.51	9.31	16.59	1.00	0.00	0.00	0.00	0.00	0.57	> 100	8.29	21.84		-7.59
39	68	3/2 ⁻	1/2 ⁻	1.53	1.51	6.60	15.90	1.00	0.00	0.00	0.00	0.00	4.36	3.7154	9.23	23.11		-8.17
40	69	3/2 ⁻		1.53	1.50	8.46	15.06	1.00	0.00	0.00	0.00	0.00	2.79	44.6795	9.32	24.22		-8.59
41	70	1/2 ⁻	1/2 ⁺	1.53	1.50	5.74	14.21	1.00	0.00	0.00	0.00	0.00	6.56	14.5635	10.33	25.41		-9.01
42	71	1/2 ⁻		1.53	1.50	7.83	13.57	1.00	0.00	0.00	0.00	0.00	4.76	7.1877	10.48	26.51		-9.49
43	72	1/2 ⁻	3/2 ⁺	1.53	1.49	5.22	13.04	1.00	0.00	0.00	0.00	0.00	8.33	3.1937	11.51	27.61		-10.15
44	73	1/2 ⁻		1.53	1.45	7.22	12.43	1.00	0.00	0.00	0.00	0.00	6.29	2.9232	11.72	28.74		-10.64
45	74	1/2 ⁻	5/2 ⁺	1.55	1.37	4.64	11.85	1.00	0.00	0.00	0.00	0.00	9.80	1.3104	12.46	29.90		-11.16
46	75	1/2 ⁻		1.54	1.30	6.66	11.30	0.95	0.05	0.00	0.53	0.05	8.23	0.9425	12.64	31.02		-11.74
47	76	1/2 ⁻	7/2 ⁺	1.54	1.22	4.48	11.14	0.96	0.04	0.00	0.48	0.04	11.29	0.6033	13.45	32.04		-12.74
48	77	1/2 ⁻		1.51	1.16	6.26	10.74	0.84	0.16	0.00	0.79	0.16	9.74	0.3069	13.73	32.94		-13.46
49	78	1/2 ⁻	9/2 ⁺	1.50	1.12	4.14	10.41	0.76	0.24	0.00	0.80	0.24	12.43	0.2441	14.68	34.03		-14.14
50	79	1/2 ⁻		1.49	1.22	5.45	9.60	0.70	0.30	0.00	1.22	0.30	11.36	0.2084	14.75	35.13		-14.24
51	80	1/2 ⁻	1/2 ⁺	1.49	1.26	2.04	7.49	0.49	0.48	0.03	1.11	0.54	15.68	0.0881	15.75	36.16		-13.22
52	81	1/2 ⁻		1.49	1.25	3.52	5.56	0.14	0.80	0.06	1.65	0.92	14.26	0.0887	15.88	37.10		-12.39
53	82	1/2 ⁻	3/2 ⁺	1.48	1.25	1.20	4.72	0.14	0.41	0.45	1.56	1.31	17.03	0.0651	16.72	37.93		-12.58
54	83	1/2 ⁻		1.51	1.20	2.43	3.63	0.04	0.68	0.23	1.61	1.29	16.11	0.0255	16.49	38.45		-12.43
55	84	1/2 ⁻	1/2 ⁺	1.51	1.20	0.94	3.38	0.04	0.65	0.28	1.22	1.30	18.88	0.0071	17.46	39.43		-13.01
56	85	1/2 ⁻		1.54	1.17	2.44	3.38	0.02	0.60	0.29	1.52	1.45	17.60	0.0095	17.70	40.42		-13.53
57	86	1/2 ⁻	3/2 ⁺	1.54	1.22	0.47	2.91	0.01	0.33	0.58	1.36	1.75	20.53	0.0042	18.80	41.61		-14.03
58	87	1/2 ⁻		1.53	1.23	2.23	2.70	0.01	0.31	0.46	1.39	1.90	18.78	0.0059	18.92	42.63		-14.81
59	88	7/2 ⁻	3/2 ⁺	1.60	1.19	-0.13	2.09	0.01	0.09	0.70	1.40	2.15	21.92	0.0026	20.04	43.21		-15.40
60	89	7/2 ⁻		1.66	1.11	1.83	1.70	0.00	0.27	0.28	1.32	2.24	20.34	0.0027	20.16	44.64		-16.03
61	90	7/2 ⁻	3/2 ⁺	1.67	1.12	0.09	1.92	0.00	0.04	0.59	1.35	2.57	22.83	0.0021	20.78	45.46		-16.83
62	91	7/2 ⁻		1.67	1.11	1.89	1.97	0.00	0.15	0.20	1.25	2.68	21.41	0.0021	21.17	46.68		-18.31
63	92	7/2 ⁻	5/2 ⁻	1.68	1.09	-0.21	1.67	0.00	0.02	0.40	1.30	3.08	23.98	0.0019	21.44	46.99		-18.83
64	93	7/2 ⁻		1.67	1.08	1.16	0.95	0.00	0.05	0.14	1.24	3.24	22.68	0.0016	21.48	47.85		-19.33
65	94	7/2 ⁻	5/2 ⁺	1.67	1.07	-0.68	0.48	0.00	0.00	0.16	1.26	3.75	25.10	0.0012	22.17	48.53		-19.16
66	95	7/2 ⁻		1.66	1.06	0.90	0.22	0.00	0.02	0.02	1.24	3.96	23.75	0.0012	22.33	49.34		-19.77
67	96	7/2 ⁻	1/2 ⁺	1.66	1.03	-0.81	0.09	0.00	0.00	0.07	1.26	4.58	26.13	0.0010	23.03	50.09		-20.32
68	97	7/2 ⁻		1.66	1.01	0.66	-0.15	0.00	0.01	0.01	1.21	4.82	24.83	0.0009	23.04	50.75		-20.89
69	98	7/2 ⁻	5/2 ⁺	1.65	1.01	-1.09	-0.44	0.00	0.00	0.03	1.24	5.56	27.30	0.0008	23.69	51.50		-21.35
70	99	7/2 ⁻		1.64	0.99	0.28	-0.82	0.00	0.01	0.01	1.22	5.68	26.25	0.0007	23.74	52.42		-21.63
71	100	7/2 ⁻	7/2 ⁻	1.64	0.97	-1.27	-0.99	0.00	0.00	0.01	1.26	6.57	28.39	0.0007	24.61	53.25		-22.21
72	101	7/2 ⁻		1.64	0.95	-0.15	-1.42	0.00	0.00	0.00	1.25	6.93	27.16	0.0006	24.61	53.87		-22.70

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 29 (Cu)																		
73	102	1/2 ⁻	3/2 ⁻	1.42	1.13	-1.32	-1.47	0.00	0.00	0.00	1.26	7.69	29.12	0.0005	25.40	54.61	-23.48	
74	103	1/2 ⁻		1.42	1.08	-0.04	-1.36	0.00	0.00	0.00	1.25	7.83	27.43	0.0004	25.35	55.30	-24.20	
75	104	1/2 ⁻	5/2 ⁻	1.44	1.01	-1.52	-1.56	0.00	0.00	0.00	1.30	8.69	29.58	0.0004	26.03	56.01	-24.75	
76	105	1/2 ⁻		1.45	0.94	0.02	-1.49	0.00	0.00	0.00	1.28	8.84	28.09	0.0004	26.26	56.92	-25.50	
77	106	1/2 ⁻	7/2 ⁻	1.43	0.90	-1.62	-1.59	0.00	0.00	0.00	1.32	9.42	30.35	0.0004	26.82	57.56	-26.11	
78	107	1/2 ⁻		1.42	0.85	-0.36	-1.98	0.00	0.00	0.00	1.31	9.41	29.21	0.0003	26.84	58.24	-26.64	
79	108	1/2 ⁻	9/2 ⁻	1.41	0.79	-1.57	-1.93	0.00	0.00	0.00	1.36	9.79	30.97	0.0003	27.36	58.95	-27.32	
80	109	1/2 ⁻		1.40	0.72	-0.51	-2.08	0.00	0.00	0.00	1.35	9.72	29.96	0.0003	27.43	59.68	-27.86	
81	110	1/2 ⁻	11/2 ⁻	1.40	0.69	-1.62	-2.14	0.00	0.00	0.00	1.40	9.87	31.74	0.0003	28.09	60.45	-28.51	
82	111	1/2 ⁻		1.39	0.85	-0.81	-2.44	0.00	0.00	0.00	1.38	9.78	31.06	0.0002	28.13	61.18	-28.94	
83	112	1/2 ⁻	1/2 ⁻	1.40	0.82	-3.49	-4.31	0.00	0.01	0.01	1.47	9.71	34.41	0.0002	28.83		-27.84	
Z = 30 (Zn)																		
21	51		1/2 ⁻	1.48	2.11								23.21	0.0028	-2.72	-6.92	-4.91	
22	52			1.58	2.13	22.59							17.56	0.0105	-1.40	-5.14	-4.84	
23	53		3/2 ⁻	1.57	2.00	16.77	39.36						20.37	0.0040	-1.57	-4.19	-4.15	
24	54			1.57	1.97	20.74	37.52						15.42	0.0218	-0.41	-2.77	-4.08	
25	55		5/2 ⁻	1.55	1.88	16.06	36.81						17.64	0.0136	-0.15	-1.49	-4.31	
26	56			1.51	1.79	19.32	35.38						12.92	0.0886	0.89	-0.14	-4.30	
27	57		7/2 ⁻	1.50	1.71	15.07	34.39						14.42	0.0525	1.37	1.44	-4.59	
28	58			1.52	1.72	17.91	32.98						8.34	0.5239	2.71	2.90	-4.54	
29	59		1/2 ⁻	1.45	1.60	12.23	30.14						9.21	0.6263	3.10	5.11	-3.27	
30	60			1.49	1.57	14.70	26.92						4.32	> 100	4.71	7.23	-1.52	
31	61		1/2 ⁻	1.47	1.51	10.16	24.86						5.52	14.4414	5.06	8.74	-1.67	
32	62			1.41	1.51	12.64	22.80						1.77	> 100	6.34	10.05	-1.73	
33	63		3/2 ⁻	1.49	1.50	9.72	22.36						2.82	> 100	7.17	12.49	-2.80	
34	64			1.48	1.50	11.33	21.05						...	β -st	7.72	13.34	-2.80	
35	65		3/2 ⁻	1.48	1.50	8.40	19.73						1.42	> 100	7.86	14.68	-3.92	
36	66			1.49	1.50	11.17	19.57						...	β -st	8.97	15.87	-4.61	
37	67		3/2 ⁻	1.49	1.50	7.41	18.58						...	β -st	9.09	17.02	-4.96	
38	68			1.48	1.50	10.39	17.80						...	β -st	10.18	18.47	-5.37	
39	69		1/2 ⁻	1.46	1.51	6.89	17.28	1.00	0.00	0.00	0.00	0.00	0.27	> 100	10.47	19.70	-5.99	
40	70			1.46	1.50	9.51	16.40						...	β -st	11.52	20.84	-6.56	
41	71		9/2 ⁺	1.46	1.49	6.04	15.55	1.00	0.00	0.00	0.00	0.00	2.32	> 100	11.81	22.14	-6.94	
42	72			1.46	1.49	8.78	14.82	1.00	0.00	0.00	0.00	0.00	0.30	> 100	12.76	23.24	-7.36	
43	73		3/2 ⁺	1.49	1.47	5.17	13.95	1.00	0.00	0.00	0.00	0.00	4.07	> 100	12.72	24.23	-7.80	
44	74			1.50	1.43	8.15	13.32	1.00	0.00	0.00	0.00	0.00	2.05	> 100	13.65	25.36	-8.26	
45	75		5/2 ⁺	1.50	1.37	5.10	13.24	1.00	0.00	0.00	0.00	0.00	5.40	14.3736	14.11	26.57	-9.17	
46	76			1.50	1.31	7.54	12.63	1.00	0.00	0.00	0.00	0.00	3.76	31.8701	14.98	27.62	-9.70	
47	77		7/2 ⁺	1.47	1.22	4.71	12.25	1.00	0.00	0.00	0.00	0.00	6.84	5.1377	15.22	28.67	-10.52	
48	78			1.47	1.16	6.84	11.55	1.00	0.00	0.00	0.00	0.00	5.53	3.2668	15.79	29.52	-10.87	
49	79		9/2 ⁺	1.42	1.14	4.38	11.22	0.97	0.03	0.00	0.48	0.03	8.36	1.1585	16.03	30.71	-11.58	
50	80			1.41	1.28	6.36	10.74	0.89	0.11	0.00	0.52	0.11	7.16	1.3470	16.93	31.68	-11.96	
51	81		1/2 ⁺	1.41	1.26	2.10	8.46	0.82	0.18	0.00	0.83	0.18	11.53	0.2824	17.00	32.75	-10.87	
52	82			1.47	1.15	3.97	6.08	0.58	0.42	0.00	1.06	0.42	10.45	0.1667	17.45	33.33	-9.46	
53	83		3/2 ⁺	1.46	1.18	1.51	5.48	0.61	0.35	0.04	0.92	0.43	13.12	0.0716	17.76	34.48	-9.93	
54	84			1.51	1.17	3.71	5.22	0.49	0.50	0.01	0.82	0.52	11.80	0.0427	19.04	35.53	-10.24	
55	85		3/2 ⁺	1.51	1.17	1.17	4.87	0.48	0.45	0.07	0.85	0.59	14.43	0.0221	19.26	36.72	-11.05	
56	86			1.52	1.18	3.40	4.56	0.39	0.57	0.04	0.83	0.65	13.27	0.0161	20.22	37.92	-11.79	
57	87		3/2 ⁺	1.53	1.22	0.48	3.87	0.51	0.41	0.08	0.94	0.57	16.46	0.0060	20.23	39.02	-12.30	
58	88			1.54	1.22	3.01	3.48	0.04	0.87	0.08	1.00	1.06	14.65	0.0083	21.00	39.93	-13.10	
59	89		3/2 ⁺	1.58	1.20	0.26	3.26	0.29	0.39	0.29	1.00	1.06	17.51	0.0047	21.39	41.43	-13.98	
60	90			1.61	1.15	2.58	2.83	0.04	0.75	0.14	1.05	1.24	15.85	0.0058	22.14	42.30	-14.46	
61	91		3/2 ⁺	1.64	1.12	0.46	3.04	0.19	0.30	0.44	1.04	1.41	18.22	0.0045	22.51	43.30	-16.17	
62	92			1.64	1.11	2.35	2.82	0.04	0.63	0.19	1.04	1.44	16.87	0.0046	22.98	44.15	-16.81	
63	93		5/2 ⁻	1.66	1.09	-0.14	2.21	0.02	0.20	0.60	1.09	2.01	19.37	0.0041	23.05	44.49	-17.21	
64	94			1.64	1.09	1.74	1.60	0.01	0.43	0.29	1.06	1.87	18.10	0.0032	23.64	45.11	-17.45	
65	95		5/2 ⁺	1.64	1.08	-0.46	1.29	0.03	0.11	0.54	1.06	2.30	20.67	0.0022	23.86	46.03	-17.48	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 30 (Zn)																		
66	96			1.64	1.07	1.58	1.12	0.00	0.28	0.20	1.02	2.39	19.30	0.0022	24.54	46.88	-17.94	
67	97		$1/2^+$	1.65	1.03	-0.64	0.94	0.04	0.01	0.38	1.07	2.95	21.73	0.0018	24.71	47.74	-18.66	
68	98			1.64	1.02	1.38	0.74	0.00	0.19	0.12	1.02	2.82	20.55	0.0015	25.43	48.47	-19.31	
69	99		$7/2^-$	1.66	0.99	-0.78	0.60	0.01	0.01	0.24	1.06	3.63	22.75	0.0014	25.74	49.44	-20.04	
70	100			1.64	0.98	0.87	0.09	0.00	0.08	0.06	1.04	3.53	21.67	0.0012	26.34	50.08	-20.27	
71	101		$5/2^+$	1.62	0.97	-1.38	-0.51	0.00	0.00	0.12	1.09	4.40	24.18	0.0010	26.22	50.83	-20.63	
72	102			1.60	0.98	0.64	-0.74	0.00	0.03	0.01	1.07	4.52	22.92	0.0009	27.02	51.62	-21.04	
73	103		$1/2^+$	1.53	1.00	-1.73	-1.09	0.00	0.00	0.03	1.12	5.48	25.47	0.0007	26.61	52.01	-21.44	
74	104			1.40	1.07	0.63	-1.10	0.00	0.01	0.01	1.07	5.33	23.71	0.0006	27.28	52.63	-22.22	
75	105		$3/2^+$	1.40	1.02	-1.47	-0.83	0.00	0.00	0.01	1.13	6.45	25.77	0.0006	27.33	53.36	-22.88	
76	106			1.40	0.96	0.64	-0.83	0.00	0.00	0.01	1.08	6.49	24.15	0.0006	27.95	54.21	-23.51	
77	107		$7/2^-$	1.40	0.90	-1.50	-0.86	0.00	0.00	0.01	1.13	7.47	26.21	0.0006	28.07	54.89	-24.20	
78	108			1.39	0.83	0.19	-1.31	0.00	0.01	0.00	1.10	7.47	25.16	0.0005	28.62	55.46	-24.59	
79	109		$9/2^-$	1.37	0.79	-1.52	-1.33	0.00	0.00	0.01	1.14	8.31	27.12	0.0005	28.66	56.03	-25.25	
80	110			1.35	0.72	0.15	-1.37	0.00	0.00	0.00	1.11	8.17	26.01	0.0004	29.33	56.76	-25.79	
81	111		$11/2^-$	1.35	0.69	-1.49	-1.33	0.00	0.00	0.00	1.15	8.83	27.83	0.0004	29.47	57.56	-26.39	
82	112			1.34	0.87	-0.15	-1.63	0.00	0.00	0.01	1.12	8.30	27.06	0.0003	30.13	58.26	-26.83	
83	113		$1/2^-$	1.34	0.83	-3.60	-3.75	0.00	0.01	0.02	1.25	8.98	30.56	0.0002	30.03	58.86	-25.51	
Z = 31 (Ga)																		
22	53	$3/2^-$		1.51	2.10								21.60	0.0047	-5.61	-7.01	-4.35	
23	54	$1/2^-$	$3/2^-$	1.57	1.99	18.54							23.81	0.0023	-3.84	-5.41	-4.50	
24	55	$1/2^-$		1.58	1.96	20.93	39.47						18.93	0.0070	-3.65	-4.06	-4.16	
25	56	$1/2^-$	$5/2^-$	1.57	1.88	17.20	38.13						21.05	0.0071	-2.52	-2.66	-4.42	
26	57	$1/2^-$		1.55	1.81	19.01	36.21						17.12	0.0133	-2.83	-1.93	-3.85	
27	58	$1/2^-$	$7/2^-$	1.54	1.72	16.03	35.04						19.00	0.0138	-1.87	-0.50	-4.08	
28	59	$1/2^-$		1.54	1.72	18.43	34.46						12.79	0.0480	-1.35	1.36	-4.23	
29	60	$1/2^-$	$1/2^-$	1.51	1.60	13.09	31.52						14.40	0.0579	-0.48	2.62	-2.72	
30	61	$1/2^-$		1.50	1.56	15.23	28.31						9.33	0.3585	0.04	4.75	-1.38	
31	62	$1/2^-$	$1/2^-$	1.50	1.54	12.23	27.45						9.75	0.6666	2.11	7.17	-1.77	
32	63	$1/2^-$		1.48	1.51	13.49	25.72						5.98	7.1726	2.96	9.31	-2.17	
33	64	$1/2^-$	$3/2^-$	1.47	1.50	10.36	23.86						6.94	18.0309	3.61	10.77	-2.73	
34	65	$1/2^-$		1.46	1.51	12.05	22.41						3.30	> 100	4.32	12.05	-3.42	
35	66	$5/2^-$	$9/2^+$	1.44	1.53	9.47	21.52						4.99	> 100	5.39	13.25	-3.99	
36	67	$5/2^-$		1.48	1.51	11.12	20.59						1.29	> 100	5.34	14.31	-4.34	
37	68	$5/2^-$	$3/2^-$	1.48	1.51	8.43	19.55						±	±	6.36	15.45	-4.50	
38	69	$5/2^-$		1.48	1.50	10.40	18.83						...	β -st	6.37	16.55	-4.84	
39	70	$5/2^-$	$9/2^+$	1.48	1.50	7.74	18.14	1.00	0.00	0.00	0.00	0.00	±	±	7.22	17.69	-5.29	
40	71	$3/2^-$		1.48	1.50	9.86	17.60						...	β -st	7.57	19.09	-5.84	
41	72	$3/2^-$	$7/2^+$	1.49	1.49	6.77	16.63	1.00	0.00	0.00	0.00	0.00	3.83	> 100	8.30	20.11	-6.01	
42	73	$3/2^-$		1.49	1.48	8.95	15.71	1.00	0.00	0.00	0.00	0.00	1.97	> 100	8.46	21.23	-6.50	
43	74	$1/2^-$	$3/2^+$	1.47	1.49	6.12	15.07	1.00	0.00	0.00	0.00	0.00	5.77	62.9271	9.41	22.13	-6.88	
44	75	$1/2^-$		1.47	1.44	8.45	14.57	1.00	0.00	0.00	0.00	0.00	3.80	35.9467	9.72	23.36	-7.50	
45	76	$1/2^-$	$5/2^+$	1.49	1.37	5.89	14.34	1.00	0.00	0.00	0.00	0.00	6.89	8.4023	10.51	24.62	-8.17	
46	77	$1/2^-$		1.48	1.31	7.79	13.69	1.00	0.00	0.00	0.00	0.00	5.21	5.9603	10.77	25.75	-8.75	
47	78	$1/2^-$	$7/2^+$	1.46	1.27	5.52	13.32	1.00	0.00	0.00	0.00	0.00	8.44	3.3978	11.58	26.80	-9.64	
48	79	$1/2^-$		1.44	1.22	7.22	12.74	1.00	0.00	0.00	0.00	0.00	6.84	2.4383	11.96	27.76	-10.19	
49	80	$1/2^-$	$9/2^+$	1.42	1.16	5.15	12.37	0.99	0.01	0.00	0.37	0.01	9.78	0.7712	12.74	28.77	-10.87	
50	81	$1/2^-$		1.42	1.30	6.47	11.62	0.93	0.07	0.00	0.68	0.07	8.33	1.1063	12.85	29.79	-11.08	
51	82	$3/2^-$	$5/2^+$	1.43	1.21	2.89	9.36	0.87	0.13	0.00	0.55	0.13	12.90	0.2891	13.64	30.64	-9.83	
52	83	$1/2^-$		1.43	1.14	4.18	7.08	0.40	0.60	0.00	1.01	0.60	11.59	0.1869	13.85	31.30	-8.56	
53	84	$1/2^-$	$3/2^+$	1.44	1.18	2.39	6.57	0.49	0.47	0.04	0.93	0.55	14.48	0.0683	14.73	32.49	-8.91	
54	85	$1/2^-$		1.47	1.18	3.80	6.18	0.07	0.91	0.02	1.27	0.95	12.98	0.0552	14.82	33.86	-9.19	
55	86	$1/2^-$	$3/2^+$	1.48	1.18	2.23	6.02	0.39	0.54	0.07	0.99	0.68	15.97	0.0225	15.88	35.14	-10.22	
56	87	$3/2^-$		1.49	1.18	3.67	5.90	0.03	0.94	0.03	1.26	1.00	14.53	0.0203	16.15	36.37	-11.45	
57	88	$3/2^-$	$3/2^+$	1.49	1.22	1.20	4.87	0.21	0.61	0.18	0.99	0.97	17.57	0.0080	16.88	37.10	-11.71	
58	89	$3/2^-$		1.50	1.22	3.11	4.32	0.02	0.86	0.10	1.37	1.12	16.05	0.0105	16.98	37.99	-12.38	
59	90	$3/2^-$	$1/2^-$	1.51	1.24	0.92	4.03	0.03	0.27	0.66	1.19	1.71	18.98	0.0086	17.65	39.04	-12.83	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 31 (Ga)																		
60	91	1/2 ⁺		1.59	1.08	2.84	3.75	0.15	0.58	0.20	1.17	1.19	17.31	0.0055	17.90	40.04	-13.44	
61	92	1/2 ⁺	3/2 ⁺	1.59	1.12	1.00	3.83	0.17	0.29	0.48	1.09	1.44	19.85	0.0041	18.44	40.95	-14.57	
62	93	1/2 ⁺		1.60	1.11	2.36	3.35	0.07	0.52	0.24	1.11	1.52	18.62	0.0041	18.44	41.42	-15.10	
63	94	1/2 ⁺	5/2 ⁻	1.62	1.09	0.48	2.84	0.06	0.19	0.56	1.13	1.94	21.22	0.0036	19.07	42.12	-15.49	
64	95	1/2 ⁺		1.62	1.08	2.10	2.59	0.01	0.36	0.29	1.09	2.01	19.74	0.0032	19.43	43.06	-15.71	
65	96	3/2 ⁻	5/2 ⁻	1.60	1.10	0.22	2.32	0.01	0.03	0.46	1.16	2.66	22.29	0.0034	20.10	43.96	-16.14	
66	97	3/2 ⁻		1.60	1.08	1.79	2.00	0.00	0.11	0.20	1.09	2.76	20.94	0.0026	20.31	44.85	-16.77	
67	98	3/2 ⁻	1/2 ⁺	1.60	1.06	0.19	1.98	0.01	0.03	0.29	1.11	3.13	23.27	0.0023	21.14	45.85	-17.64	
68	99	3/2 ⁻		1.60	1.03	1.43	1.62	0.00	0.07	0.12	1.09	3.10	22.14	0.0018	21.19	46.62	-18.17	
69	100	3/2 ⁻	7/2 ⁻	1.61	1.02	-0.21	1.22	0.00	0.01	0.15	1.11	3.73	24.54	0.0017	21.76	47.50	-18.76	
70	101	3/2 ⁻		1.61	0.99	1.13	0.91	0.00	0.03	0.04	1.10	3.73	23.29	0.0014	22.01	48.35	-19.23	
71	102	3/2 ⁻	7/2 ⁻	1.57	0.99	-0.62	0.51	0.00	0.00	0.07	1.12	4.35	25.84	0.0012	22.78	49.00	-19.71	
72	103	3/2 ⁻		1.56	0.99	0.82	0.20	0.00	0.02	0.01	1.10	4.51	24.47	0.0010	22.96	49.97	-20.25	
73	104	3/2 ⁻	1/2 ⁺	1.50	1.01	-1.13	-0.31	0.00	0.00	0.03	1.13	5.24	26.98	0.0008	23.56	50.17	-20.39	
74	105	3/2 ⁻		1.46	1.01	0.60	-0.53	0.00	0.01	0.00	1.12	5.41	25.23	0.0008	23.52	50.81	-21.14	
75	106	3/2 ⁻	3/2 ⁺	1.38	1.03	-0.98	-0.38	0.00	0.00	0.01	1.12	6.13	27.52	0.0006	24.01	51.34	-21.48	
76	107	3/2 ⁻		1.37	0.97	0.56	-0.42	0.00	0.01	0.00	1.10	6.25	26.01	0.0005	23.93	51.88	-22.08	
77	108	3/2 ⁻	7/2 ⁻	1.37	0.91	-0.86	-0.30	0.00	0.00	0.01	1.13	7.19	27.72	0.0006	24.57	52.63	-22.74	
78	109	3/2 ⁻		1.37	0.85	0.44	-0.42	0.00	0.00	0.00	1.12	7.30	26.44	0.0005	24.81	53.43	-23.15	
79	110	3/2 ⁻	9/2 ⁻	1.37	0.81	-0.96	-0.52	0.00	0.00	0.01	1.14	7.90	28.50	0.0005	25.38	54.04	-23.81	
80	111	3/2 ⁻		1.35	0.73	0.33	-0.62	0.00	0.00	0.00	1.13	7.92	27.29	0.0005	25.56	54.89	-24.51	
81	112	3/2 ⁻	11/2 ⁻	1.34	0.69	-0.92	-0.58	0.00	0.00	0.01	1.16	8.30	29.05	0.0004	26.13	55.60	-25.16	
82	113	3/2 ⁻		1.34	0.89	-0.10	-1.01	0.00	0.00	0.00	1.15	7.99	28.30	0.0003	26.18	56.31	-25.58	
83	114	3/2 ⁻	1/2 ⁻	1.34	0.83	-2.96	-3.06	0.00	0.00	0.02	1.23	8.77	31.81	0.0003	26.82	56.85	-24.24	
Z = 32 (Ge)																		
23	55		3/2 ⁻	1.53	1.99								22.84	0.0019	-2.69	-6.54	-4.53	
24	56			1.54	1.96	22.05							17.99	0.0094	-1.58	-5.23	-3.98	
25	57		5/2 ⁻	1.54	1.88	17.55	39.60						19.45	0.0061	-1.22	-3.74	-4.76	
26	58			1.56	1.81	20.48	38.03						15.00	0.0282	0.25	-2.57	-4.50	
27	59		7/2 ⁻	1.55	1.73	15.79	36.28						17.64	0.0144	0.01	-1.85	-4.24	
28	60			1.57	1.70	19.19	34.98						11.54	0.1063	0.77	-0.58	-4.11	
29	61		1/2 ⁻	1.52	1.60	13.64	32.82						13.13	0.0559	1.32	0.83	-2.67	
30	62			1.49	1.56	16.29	29.93						9.07	0.6005	2.38	2.42	-1.05	
31	63		1/2 ⁻	1.47	1.53	13.07	29.36						9.49	0.3727	3.23	5.34	-1.90	
32	64			1.46	1.51	15.16	28.24						4.69	64.5318	4.90	7.86	-2.36	
33	65		3/2 ⁻	1.45	1.51	10.51	25.68						6.22	10.6222	5.04	8.65	-2.71	
34	66			1.44	1.52	13.23	23.74						2.46	> 100	6.23	10.55	-3.30	
35	67		9/2 ⁺	1.42	1.54	9.69	22.92						3.89	> 100	6.45	11.84	-3.27	
36	68			1.48	1.53	12.35	22.04						...	β -st	7.68	13.02	-4.29	
37	69		1/2 ⁻	1.47	1.52	8.44	20.78						1.94	> 100	7.68	14.04	-4.32	
38	70			1.49	1.52	11.31	19.74						...	β -st	8.59	14.96	-4.46	
39	71		9/2 ⁺	1.49	1.51	8.20	19.50						0.03	> 100	9.05	16.27	-5.25	
40	72			1.49	1.50	10.63	18.83						...	β -st	9.82	17.38	-5.48	
41	73		7/2 ⁺	1.49	1.49	7.09	17.72						...	β -st	10.14	18.44	-5.68	
42	74			1.50	1.46	9.92	17.00						...	β -st	11.11	19.57	-6.09	
43	75		1/2 ⁻	1.47	1.48	6.48	16.40	1.00	0.00	0.00	0.00	0.00	1.44	> 100	11.47	20.88	-6.53	
44	76			1.46	1.45	8.98	15.46						...	β -st	12.00	21.71	-6.73	
45	77		5/2 ⁺	1.47	1.40	6.11	15.09	1.00	0.00	0.00	0.00	0.00	2.84	> 100	12.22	22.73	-7.67	
46	78			1.47	1.34	8.76	14.87	1.00	0.00	0.00	0.00	0.00	1.09	> 100	13.18	23.95	-8.28	
47	79		7/2 ⁺	1.46	1.29	5.62	14.38	1.00	0.00	0.00	0.00	0.00	4.48	> 100	13.28	24.86	-8.81	
48	80			1.44	1.26	8.09	13.71	1.00	0.00	0.00	0.00	0.00	2.90	> 100	14.15	26.12	-9.37	
49	81		9/2 ⁺	1.43	1.23	5.02	13.11	1.00	0.00	0.00	0.00	0.00	6.14	18.3997	14.02	26.75	-9.67	
50	82			1.44	1.31	7.47	12.48	1.00	0.00	0.00	0.00	0.00	4.58	30.0553	15.01	27.87	-10.30	
51	83		1/2 ⁺	1.42	1.18	2.87	10.33	1.00	0.00	0.00	0.00	0.00	9.04	0.7911	14.99	28.63	-8.79	
52	84			1.42	1.14	5.28	8.15	0.92	0.08	0.00	0.62	0.08	7.69	0.9345	16.09	29.94	-7.71	
53	85		1/2 ⁺	1.45	1.18	2.29	7.58	0.99	0.01	0.00	0.69	0.01	10.84	0.0512	16.00	30.72	-7.91	
54	86			1.44	1.18	5.22	7.51	0.93	0.07	0.00	0.90	0.07	8.74	0.1615	17.42	32.24	-9.15	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 32 (Ge)																		
55	87		3/2 ⁺	1.45	1.18	2.23	7.45	0.93	0.07	0.00	0.60	0.07	11.39	0.0572	17.42	33.30	-9.87	
56	88			1.46	1.18	4.24	6.47	0.92	0.08	0.00	0.94	0.08	10.48	0.0403	18.00	34.15	-10.41	
57	89		3/2 ⁺	1.47	1.22	1.58	5.83	0.80	0.19	0.01	0.60	0.21	13.31	0.0152	18.38	35.25	-10.83	
58	90			1.47	1.22	3.85	5.43	0.57	0.42	0.01	0.60	0.44	11.87	0.0203	19.11	36.10	-11.28	
59	91		1/2 ⁻	1.50	1.22	1.17	5.02	0.37	0.57	0.06	0.71	0.69	14.79	0.0155	19.37	37.01	-11.97	
60	92			1.56	1.07	3.53	4.70	0.36	0.60	0.04	0.94	0.68	13.12	0.0161	20.06	37.97	-12.50	
61	93		3/2 ⁺	1.58	1.12	1.13	4.66	0.47	0.36	0.17	0.88	0.70	15.75	0.0100	20.20	38.63	-13.37	
62	94			1.58	1.11	3.08	4.21	0.23	0.68	0.08	0.90	0.87	14.48	0.0104	20.92	39.36	-13.88	
63	95		5/2 ⁻	1.59	1.10	0.63	3.71	0.12	0.49	0.36	0.89	1.30	17.14	0.0083	21.07	40.13	-14.04	
64	96			1.57	1.12	2.76	3.39	0.08	0.76	0.12	0.93	1.12	15.66	0.0059	21.72	41.15	-14.45	
65	97		5/2 ⁻	1.57	1.11	0.44	3.20	0.05	0.34	0.53	0.92	1.65	18.13	0.0052	21.94	42.04	-15.03	
66	98			1.58	1.09	2.52	2.96	0.05	0.67	0.17	0.92	1.35	16.83	0.0038	22.68	42.99	-15.81	
67	99		1/2 ⁺	1.59	1.06	0.30	2.82	0.06	0.22	0.59	0.94	1.84	19.13	0.0033	22.79	43.93	-16.56	
68	100			1.59	1.03	2.19	2.49	0.04	0.56	0.25	0.91	1.53	18.09	0.0025	23.55	44.74	-17.18	
69	101		7/2 ⁻	1.59	1.02	-0.13	2.06	0.01	0.14	0.61	0.99	2.19	20.47	0.0023	23.63	45.39	-17.69	
70	102			1.60	0.99	1.93	1.80	0.01	0.32	0.37	0.92	2.05	19.18	0.0020	24.44	46.45	-18.25	
71	103		5/2 ⁺	1.58	0.98	-0.55	1.38	0.01	0.06	0.42	0.98	2.70	21.52	0.0017	24.51	47.28	-18.47	
72	104			1.54	0.99	1.38	0.83	0.00	0.15	0.20	0.93	2.78	20.41	0.0015	25.07	48.02	-18.98	
73	105		1/2 ⁺	1.49	1.01	-1.15	0.23	0.01	0.01	0.19	1.00	3.52	22.96	0.0012	25.05	48.60	-19.21	
74	106			1.47	0.99	1.32	0.17	0.00	0.04	0.06	0.97	3.56	21.28	0.0012	25.76	49.29	-19.89	
75	107		1/2 ⁺	1.44	0.98	-0.96	0.35	0.01	0.00	0.07	1.00	4.30	23.55	0.0010	25.78	49.79	-20.66	
76	108			1.40	0.95	0.85	-0.11	0.00	0.03	0.01	0.96	4.21	22.37	0.0008	26.07	50.00	-20.87	
77	109		3/2 ⁺	1.36	0.93	-0.84	0.01	0.00	0.00	0.04	0.99	5.09	24.20	0.0007	26.09	50.66	-21.50	
78	110			1.36	0.86	1.11	0.27	0.00	0.02	0.01	0.95	4.83	22.74	0.0007	26.76	51.57	-21.96	
79	111		9/2 ⁻	1.36	0.82	-0.88	0.23	0.00	0.00	0.03	0.99	5.55	24.85	0.0007	26.84	52.22	-22.58	
80	112			1.35	0.74	0.85	-0.03	0.00	0.02	0.01	0.96	5.30	23.72	0.0006	27.35	52.91	-23.24	
81	113		11/2 ⁻	1.35	0.70	-0.84	0.00	0.00	0.00	0.03	1.00	5.90	25.54	0.0005	27.42	53.55	-23.92	
82	114			1.35	0.91	0.55	-0.30	0.00	0.02	0.01	0.98	5.24	24.72	0.0004	28.07	54.25	-24.31	
83	115		1/2 ⁻	1.34	0.84	-2.97	-2.43	0.02	0.00	0.02	1.07	6.61	28.36	0.0003	28.05	54.87	-22.82	
84	116			1.34	0.78	-1.31	-4.29	0.00	0.00	0.01	1.15	7.65	27.28	0.0004			-21.66	
Z = 33 (As)																		
24	57	3/2 ⁻		1.55	1.95								22.08	0.0025	-5.32	-6.89	-4.28	
25	58	3/2 ⁻	5/2 ⁻	1.56	1.87	18.64							23.93	0.0022	-4.23	-5.45	-4.38	
26	59	3/2 ⁻		1.56	1.82	20.68	39.32						19.04	0.0075	-4.03	-3.77	-4.13	
27	60	3/2 ⁻	7/2 ⁻	1.55	1.74	16.90	37.58						21.33	0.0077	-2.92	-2.91	-3.83	
28	61	3/2 ⁻		1.54	1.68	19.12	36.02						15.85	0.0268	-2.99	-2.22	-3.94	
29	62	3/2 ⁻	1/2 ⁻	1.53	1.60	15.02	34.14						17.12	0.0220	-1.61	-0.29	-2.93	
30	63	3/2 ⁻		1.52	1.55	17.05	32.06						13.15	0.0861	-0.85	1.53	-1.54	
31	64	3/2 ⁻	1/2 ⁻	1.50	1.52	13.71	30.75						14.60	0.0665	-0.22	3.01	-2.16	
32	65	3/2 ⁻		1.49	1.51	15.49	29.19						9.63	0.6435	0.10	5.00	-2.42	
33	66	3/2 ⁻	3/2 ⁻	1.49	1.52	12.19	27.67						10.67	1.7795	1.78	6.82	-2.38	
34	67	3/2 ⁻		1.48	1.53	13.87	26.06						6.49	10.8043	2.42	8.65	-2.76	
35	68	1/2 ⁻	9/2 ⁺	1.44	1.55	10.81	24.68						8.02	34.8041	3.54	9.99	-3.21	
36	69	1/2 ⁻		1.44	1.54	12.42	23.23						4.04	> 100	3.62	11.29	-3.58	
37	70	1/2 ⁻	1/2 ⁻	1.47	1.53	9.59	22.01						5.75	22.8252	4.77	12.45	-3.70	
38	71	1/2 ⁻		1.47	1.53	11.48	21.07						2.47	> 100	4.95	13.53	-4.06	
39	72	1/2 ⁻	3/2 ⁻	1.47	1.52	8.79	20.27						4.31	> 100	5.53	14.58	-4.42	
40	73	1/2 ⁻		1.49	1.51	10.93	19.72						0.47	> 100	5.84	15.66	-4.95	
41	74	1/2 ⁻	7/2 ⁺	1.49	1.49	8.23	19.16						±	±	6.98	17.12	-5.44	
42	75	1/2 ⁻		1.50	1.47	10.07	18.30						...	β-st	7.14	18.24	-5.66	
43	76	1/2 ⁻	5/2 ⁺	1.50	1.43	7.50	17.58	1.00	0.00	0.00	0.00	0.00	±	±	8.16	19.62	-6.39	
44	77	3/2 ⁻		1.47	1.47	9.00	16.50	1.00	0.00	0.00	0.00	0.00	1.35	> 100	8.18	20.17	-6.44	
45	78	3/2 ⁻	5/2 ⁺	1.47	1.42	7.01	16.00	1.00	0.00	0.00	0.00	0.00	4.23	> 100	9.07	21.29	-7.33	
46	79	3/2 ⁻		1.46	1.36	9.01	16.01	1.00	0.00	0.00	0.00	0.00	2.42	> 100	9.32	22.50	-7.88	
47	80	3/2 ⁻	7/2 ⁺	1.46	1.32	6.52	15.52	1.00	0.00	0.00	0.00	0.00	5.79	79.4893	10.21	23.49	-8.51	
48	81	3/2 ⁻		1.45	1.28	8.26	14.78	1.00	0.00	0.00	0.00	0.00	4.25	> 100	10.38	24.53	-8.98	
49	82	3/2 ⁻	9/2 ⁺	1.44	1.27	5.91	14.17	1.00	0.00	0.00	0.00	0.00	7.50	16.3737	11.27	25.29	-9.36	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 33 (As)																		
50	83	3/2 ⁻		1.44	1.35	7.32	13.23	1.00	0.00	0.00	0.00	0.00	6.17	30.1003	11.12	26.14	-9.46	
51	84	3/2 ⁻	1/2 ⁺	1.43	1.22	3.93	11.26	1.00	0.00	0.00	0.00	0.00	10.42	1.1745	12.19	27.18	-8.24	
52	85	1/2 ⁻		1.43	1.18	5.45	9.38	0.85	0.15	0.00	0.71	0.15	8.95	0.8150	12.35	28.44	-7.22	
53	86	1/2 ⁻	3/2 ⁺	1.43	1.20	3.12	8.57	0.89	0.11	0.00	0.61	0.11	12.10	0.2546	13.18	29.18	-7.45	
54	87	1/2 ⁻		1.44	1.18	4.88	8.00	0.60	0.40	0.00	0.59	0.40	10.47	0.1342	12.84	30.26	-8.14	
55	88	1/2 ⁻	3/2 ⁺	1.45	1.18	3.33	8.21	0.72	0.28	0.00	0.58	0.28	12.81	0.0788	13.95	31.36	-9.09	
56	89	1/2 ⁻		1.47	1.14	4.41	7.75	0.28	0.72	0.00	0.69	0.72	11.76	0.0589	14.11	32.11	-9.70	
57	90	1/2 ⁻	3/2 ⁺	1.47	1.22	2.40	6.82	0.59	0.40	0.01	0.78	0.42	14.72	0.0205	14.93	33.31	-9.88	
58	91	1/2 ⁻		1.47	1.23	4.10	6.50	0.04	0.95	0.01	1.01	0.97	13.22	0.0285	15.18	34.30	-10.31	
59	92	1/2 ⁻	5/2 ⁺	1.47	1.24	1.86	5.96	0.20	0.73	0.07	0.90	0.87	16.11	0.0133	15.87	35.23	-10.96	
60	93	1/2 ⁻		1.52	1.07	3.76	5.61	0.06	0.87	0.07	1.04	1.01	14.77	0.0204	16.09	36.16	-11.61	
61	94	3/2 ⁻	3/2 ⁺	1.52	1.12	1.81	5.57	0.22	0.52	0.26	0.95	1.04	17.25	0.0137	16.78	36.97	-12.51	
62	95	3/2 ⁻		1.54	1.11	3.29	5.11	0.03	0.78	0.17	1.10	1.18	16.01	0.0151	16.99	37.91	-12.96	
63	96	3/2 ⁻	5/2 ⁻	1.56	1.11	1.28	4.57	0.05	0.34	0.57	1.05	1.60	18.81	0.0112	17.64	38.71	-13.24	
64	97	1/2 ⁻		1.54	1.13	2.90	4.18	0.01	0.62	0.30	1.07	1.43	17.23	0.0076	17.78	39.50	-13.79	
65	98	1/2 ⁻	5/2 ⁻	1.55	1.12	1.22	4.13	0.02	0.12	0.75	1.07	1.97	19.61	0.0070	18.57	40.51	-14.53	
66	99	1/2 ⁻		1.56	1.10	2.60	3.82	0.01	0.44	0.38	1.00	1.72	18.33	0.0050	18.65	41.32	-15.03	
67	100	1/2 ⁻	5/2 ⁻	1.57	1.07	1.16	3.76	0.02	0.08	0.72	1.05	2.12	20.62	0.0047	19.50	42.29	-15.97	
68	101	1/2 ⁻		1.57	1.03	2.25	3.40	0.01	0.30	0.42	0.97	1.98	19.59	0.0033	19.56	43.10	-16.42	
69	102	1/2 ⁻	7/2 ⁻	1.57	1.02	0.64	2.89	0.01	0.04	0.62	1.03	2.40	22.08	0.0030	20.33	43.96	-16.88	
70	103	1/2 ⁻		1.54	1.02	1.79	2.43	0.01	0.13	0.34	0.97	2.49	21.02	0.0023	20.18	44.62	-17.24	
71	104	1/2 ⁻	5/2 ⁺	1.54	1.00	0.27	2.06	0.00	0.02	0.37	1.01	2.91	23.30	0.0020	21.01	45.51	-17.72	
72	105	1/2 ⁻		1.51	1.00	1.40	1.68	0.00	0.04	0.12	1.00	3.09	22.11	0.0017	21.03	46.10	-18.00	
73	106	1/2 ⁻	1/2 ⁺	1.48	1.01	-0.37	1.04	0.00	0.01	0.10	1.02	3.77	24.56	0.0014	21.81	46.86	-18.25	
74	107	1/2 ⁻		1.47	0.99	1.31	0.94	0.00	0.02	0.03	1.00	3.74	23.32	0.0012	21.81	47.57	-18.74	
75	108	1/2 ⁻	1/2 ⁺	1.44	0.99	-0.34	0.97	0.00	0.00	0.04	1.03	4.47	25.27	0.0011	22.43	48.21	-19.53	
76	109	1/2 ⁻		1.40	0.96	0.99	0.65	0.00	0.01	0.01	0.98	4.52	23.79	0.0009	22.58	48.65	-19.92	
77	110	1/2 ⁻	3/2 ⁺	1.37	0.93	-0.35	0.64	0.00	0.00	0.02	0.99	5.10	25.80	0.0007	23.06	49.16	-20.55	
78	111	1/2 ⁻		1.37	0.87	1.23	0.88	0.00	0.01	0.01	0.98	5.22	24.00	0.0008	23.19	49.94	-21.22	
79	112	1/2 ⁻	9/2 ⁻	1.37	0.81	-0.28	0.95	0.00	0.00	0.02	0.99	5.70	26.13	0.0007	23.79	50.62	-21.80	
80	113	1/2 ⁻		1.36	0.75	0.97	0.69	0.00	0.01	0.01	0.98	5.64	24.95	0.0007	23.91	51.26	-22.34	
81	114	5/2 ⁻	11/2 ⁻	1.36	0.70	-0.27	0.71	0.00	0.00	0.02	1.00	5.92	26.78	0.0006	24.49	51.91	-23.03	
82	115	5/2 ⁻		1.36	0.92	0.66	0.40	0.00	0.01	0.01	1.01	5.41	25.95	0.0005	24.61	52.67	-23.36	
83	116	5/2 ⁻	1/2 ⁻	1.36	0.86	-2.40	-1.74	0.00	0.00	0.03	1.07	6.54	29.71	0.0004	25.18	53.23	-21.88	
84	117	1/2 ⁻		1.35	0.77	-1.39	-3.79	0.00	0.00	0.01	1.15	7.49	28.74	0.0004	25.11		-20.58	
85	118	1/2 ⁻	3/2 ⁻	1.35	0.80	-2.56	-3.95	0.00	0.00	0.00	1.22	8.62	30.56	0.0004			-20.98	
86	119	1/2 ⁻		1.35	0.81	-1.54	-4.10	0.00	0.00	0.00	1.28	9.10	29.39	0.0004				
Z = 34 (Se)																		
25	59		5/2 ⁻	1.54	1.87								22.37	0.0018	-2.47	-6.69	-4.60	
26	60			1.55	1.83	21.76							17.50	0.0081	-1.39	-5.41	-4.32	
27	61		7/2 ⁻	1.55	1.74	17.20	38.97						19.42	0.0066	-1.08	-4.00	-3.97	
28	62			1.56	1.73	20.26	37.46						14.18	0.0248	0.06	-2.93	-3.74	
29	63		3/2 ⁻	1.55	1.63	15.20	35.46						16.03	0.0145	0.24	-1.37	-3.15	
30	64			1.53	1.56	17.80	33.00						11.93	0.0874	1.00	0.14	-1.77	
31	65		1/2 ⁻	1.52	1.54	14.00	31.80						13.42	0.0418	1.29	1.07	-2.13	
32	66			1.50	1.52	16.57	30.57						9.03	0.5325	2.37	2.47	-2.41	
33	67		3/2 ⁻	1.50	1.52	12.93	29.51						9.97	0.3502	3.12	4.90	-2.27	
34	68			1.50	1.55	15.42	28.36						5.36	54.3359	4.67	7.09	-2.53	
35	69		9/2 ⁺	1.41	1.55	11.08	26.50						6.71	4.7333	4.93	8.47	-3.09	
36	70			1.41	1.54	13.49	24.56						2.81	> 100	6.00	9.61	-3.35	
37	71		1/2 ⁻	1.45	1.53	9.70	23.18						4.59	65.9923	6.10	10.88	-3.36	
38	72			1.45	1.53	12.52	22.22						0.86	> 100	7.15	12.09	-3.53	
39	73		3/2 ⁻	1.46	1.52	8.99	21.51						2.80	> 100	7.35	12.88	-4.09	
40	74			1.49	1.51	11.77	20.76						...	β -st	8.18	14.02	-4.55	
41	75		7/2 ⁺	1.49	1.49	8.42	20.18						0.92	> 100	8.37	15.35	-4.77	
42	76			1.49	1.47	11.02	19.44						...	β -st	9.32	16.46	-5.16	
43	77		5/2 ⁺	1.49	1.43	7.74	18.77						...	β -st	9.56	17.72	-5.82	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 34 (Se)																		
44	78			1.48	1.47	9.89	17.64						...	β -st	10.46	18.64	-5.79	
45	79		5/2 ⁺	1.47	1.42	7.20	17.09	1.00	0.00	0.00	0.00	0.00	0.11	> 100	10.65	19.72	-6.51	
46	80			1.47	1.36	9.88	17.08						...	β -st	11.52	20.84	-7.41	
47	81		7/2 ⁺	1.47	1.32	6.72	16.61	1.00	0.00	0.00	0.00	0.00	1.78	> 100	11.73	21.94	-8.02	
48	82			1.46	1.31	9.15	15.88						0.15		12.62	23.00	-8.42	
49	83		9/2 ⁺	1.46	1.31	5.99	15.15	1.00	0.00	0.00	0.00	0.00	3.59	> 100	12.71	23.98	-8.79	
50	84			1.45	1.37	8.19	14.18	1.00	0.00	0.00	0.00	0.00	2.33	> 100	13.57	24.70	-8.88	
51	85		1/2 ⁺	1.44	1.24	3.98	12.17	1.00	0.00	0.00	0.00	0.00	6.85	6.1493	13.62	25.81	-7.84	
52	86			1.44	1.19	6.27	10.25	1.00	0.00	0.00	0.00	0.00	5.50	9.1024	14.44	26.80	-6.64	
53	87		3/2 ⁺	1.45	1.20	3.25	9.52	1.00	0.00	0.00	0.00	0.00	8.45	0.7803	14.57	27.75	-7.02	
54	88			1.46	1.19	5.68	8.92	1.00	0.00	0.00	0.00	0.00	6.67	0.3953	15.37	28.21	-7.42	
55	89		3/2 ⁺	1.47	1.18	3.36	9.04	0.99	0.01	0.00	0.59	0.01	8.76	0.0900	15.39	29.34	-8.48	
56	90			1.49	1.19	5.36	8.72	0.98	0.02	0.00	0.72	0.02	7.62	0.1265	16.34	30.46	-8.63	
57	91		3/2 ⁺	1.49	1.22	2.60	7.96	0.99	0.01	0.00	0.55	0.01	10.53	0.0365	16.54	31.47	-9.00	
58	92			1.49	1.23	4.75	7.35	0.97	0.03	0.00	0.75	0.03	9.14	0.0527	17.19	32.37	-9.50	
59	93		11/2 ⁻	1.52	1.14	2.41	7.16	0.73	0.27	0.00	0.51	0.27	11.74	0.0574	17.74	33.61	-10.33	
60	94			1.49	1.06	4.30	6.71	0.76	0.24	0.00	0.63	0.24	10.56	0.0458	18.28	34.38	-10.78	
61	95		3/2 ⁺	1.49	1.12	2.05	6.34	0.73	0.26	0.01	0.62	0.28	13.29	0.0238	18.52	35.29	-11.66	
62	96			1.51	1.11	4.08	6.13	0.54	0.45	0.01	0.71	0.47	11.99	0.0279	19.31	36.30	-12.20	
63	97		5/2 ⁻	1.52	1.10	1.32	5.40	0.35	0.56	0.09	0.73	0.74	14.85	0.0194	19.35	36.99	-12.40	
64	98			1.53	1.10	3.60	4.92	0.29	0.67	0.04	0.82	0.75	13.36	0.0147	20.05	37.83	-12.92	
65	99		5/2 ⁺	1.54	1.09	1.32	4.92	0.46	0.43	0.11	0.70	0.65	15.71	0.0072	20.15	38.72	-13.61	
66	100			1.54	1.10	3.44	4.77	0.24	0.69	0.06	0.74	0.84	14.26	0.0075	20.99	39.64	-14.30	
67	101		5/2 ⁻	1.55	1.07	1.22	4.66	0.17	0.62	0.19	0.75	1.06	16.72	0.0064	21.05	40.56	-15.08	
68	102			1.55	1.04	3.13	4.35	0.16	0.74	0.07	0.80	0.97	15.27	0.0052	21.94	41.50	-15.69	
69	103		7/2 ⁻	1.57	1.01	0.72	3.86	0.11	0.47	0.38	0.79	1.35	17.82	0.0045	22.03	42.36	-16.12	
70	104			1.56	1.00	2.55	3.27	0.07	0.74	0.11	0.85	1.20	16.69	0.0036	22.79	42.97	-16.47	
71	105		5/2 ⁺	1.54	1.00	0.22	2.77	0.08	0.27	0.54	0.85	1.72	19.12	0.0028	22.73	43.74	-16.82	
72	106			1.52	1.00	2.08	2.30	0.02	0.54	0.29	0.84	1.59	17.96	0.0024	23.41	44.44	-16.97	
73	107		9/2 ⁻	1.51	1.00	0.08	2.16	0.01	0.08	0.62	0.91	2.31	19.87	0.0025	23.85	45.66	-17.60	
74	108			1.48	0.99	1.61	1.68	0.01	0.24	0.34	0.83	2.28	18.81	0.0019	24.15	45.96	-17.82	
75	109		1/2 ⁺	1.47	0.98	-0.49	1.12	0.01	0.02	0.37	0.88	2.92	21.06	0.0016	24.00	46.43	-18.48	
76	110			1.44	0.95	1.66	1.17	0.00	0.13	0.23	0.82	2.76	19.59	0.0014	24.66	47.24	-18.82	
77	111		9/2 ⁻	1.42	0.92	-0.57	1.09	0.00	0.01	0.26	0.87	3.38	21.97	0.0011	24.45	47.51	-19.22	
78	112			1.38	0.88	1.85	1.28	0.00	0.10	0.10	0.80	3.07	20.48	0.0010	25.07	48.25	-20.22	
79	113		9/2 ⁻	1.37	0.81	-0.21	1.64	0.00	0.01	0.25	0.85	3.65	22.38	0.0010	25.14	48.92	-20.85	
80	114			1.36	0.75	1.56	1.35	0.00	0.07	0.12	0.85	3.24	21.24	0.0010	25.73	49.64	-21.31	
81	115		11/2 ⁻	1.36	0.70	-0.16	1.40	0.00	0.01	0.24	0.89	3.63	23.12	0.0009	25.84	50.32	-22.03	
82	116			1.36	0.94	1.35	1.19	0.00	0.09	0.20	0.85	3.13	22.34	0.0006	26.52	51.13	-22.53	
83	117		7/2 ⁻	1.36	0.87	-2.35	-1.00	0.01	0.01	0.11	0.99	4.27	26.23	0.0005	26.57	51.75	-21.02	
84	118			1.36	0.81	-0.74	-3.09	0.00	0.02	0.03	1.06	5.15	25.09	0.0006	27.22	52.33	-19.74	
85	119		3/2 ⁻	1.36	0.80	-2.72	-3.45	0.00	0.00	0.01	1.14	6.48	27.13	0.0005	27.07		-20.00	
86	120			1.36	0.82	-1.00	-3.71	0.00	0.00	0.00	1.18	7.25	25.93	0.0005	27.61		-20.31	
Z = 35 (Br)																		
26	61	3/2 ⁻		1.58	1.82								21.52	0.0037	-5.10	-6.49	-4.54	
27	62	3/2 ⁻	7/2 ⁻	1.58	1.74	18.20							23.58	0.0033	-4.11	-5.19	-4.09	
28	63	9/2 ⁺		1.52	1.75	20.86	39.06						17.92	0.0117	-3.50	-3.45	-4.27	
29	64	9/2 ⁺	3/2 ⁻	1.52	1.65	16.04	36.90						19.68	0.0097	-2.66	-2.42	-3.42	
30	65	9/2 ⁺		1.51	1.59	17.62	33.67						16.05	0.0195	-2.84	-1.84	-1.92	
31	66	9/2 ⁺	5/2 ⁻	1.47	1.57	15.47	33.09						17.16	0.0235	-1.37	-0.08	-2.37	
32	67	9/2 ⁺		1.46	1.56	16.83	32.30						13.26	0.0469	-1.11	1.26	-2.15	
33	68	9/2 ⁺	1/2 ⁻	1.45	1.56	13.93	30.76						14.76	0.0420	-0.12	3.00	-2.37	
34	69	9/2 ⁺		1.44	1.56	15.79	29.71						10.05	0.1558	0.24	4.91	-2.67	
35	70	9/2 ⁺	9/2 ⁺	1.43	1.56	12.46	28.24						11.08	0.2948	1.63	6.56	-2.94	
36	71	9/2 ⁺		1.42	1.56	14.17	26.63						6.60	2.1820	2.31	8.31	-3.24	
37	72	9/2 ⁺	7/2 ⁺	1.42	1.55	10.71	24.88						8.42	0.9491	3.32	9.43	-3.14	
38	73	3/2 ⁻		1.43	1.47	12.56	23.26						4.85	> 100	3.36	10.50	-3.27	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 35 (Br)																		
39	74	3/2 ⁻	5/2 ⁺	1.45	1.44	9.97	22.53						6.65	> 100	4.34	11.69	-3.65	
40	75	9/2 ⁺		1.44	1.52	11.85	21.82						3.21	> 100	4.42	12.60	-4.02	
41	76	9/2 ⁺	7/2 ⁺	1.45	1.50	9.26	21.11						4.98	53.1665	5.26	13.63	-4.50	
42	77	9/2 ⁺		1.47	1.47	11.24	20.49						1.49	> 100	5.47	14.80	-4.80	
43	78	9/2 ⁺	5/2 ⁺	1.48	1.43	8.64	19.87						2.74	> 100	6.37	15.93	-5.21	
44	79	9/2 ⁺		1.48	1.39	10.05	18.69						...	β -st	6.53	16.99	-5.18	
45	80	3/2 ⁻	5/2 ⁺	1.49	1.48	8.22	18.27	1.00	0.00	0.00	0.00	0.00	\pm	\pm	7.55	18.20	-5.90	
46	81	3/2 ⁻		1.48	1.42	10.05	18.27						...	β -st	7.72	19.24	-6.96	
47	82	3/2 ⁻	7/2 ⁺	1.47	1.36	7.52	17.58	1.00	0.00	0.00	0.00	0.00	3.30	> 100	8.52	20.25	-7.47	
48	83	3/2 ⁻		1.47	1.32	9.43	16.95	1.00	0.00	0.00	0.00	0.00	1.55	> 100	8.79	21.42	-7.90	
49	84	3/2 ⁻	9/2 ⁺	1.47	1.32	6.93	16.36	1.00	0.00	0.00	0.00	0.00	5.01	> 100	9.74	22.45	-8.31	
50	85	1/2 ⁻		1.48	1.41	8.50	15.43	1.00	0.00	0.00	0.00	0.00	3.53	> 100	10.04	23.62	-8.55	
51	86	3/2 ⁻	5/2 ⁺	1.46	1.28	4.92	13.41	1.00	0.00	0.00	0.00	0.00	8.02	9.6909	10.98	24.60	-7.56	
52	87	3/2 ⁻		1.46	1.21	6.20	11.12	1.00	0.00	0.00	0.00	0.00	6.87	6.5425	10.92	25.36	-6.44	
53	88	3/2 ⁻	3/2 ⁺	1.45	1.19	3.89	10.09	0.99	0.01	0.00	0.29	0.01	9.88	1.3990	11.56	26.13	-6.40	
54	89	1/2 ⁺		1.47	1.19	5.45	9.34	0.99	0.01	0.00	0.39	0.01	8.39	0.1771	11.33	26.70	-6.40	
55	90	1/2 ⁺	3/2 ⁺	1.48	1.20	4.23	9.68	0.97	0.03	0.00	0.45	0.03	10.49	0.1059	12.20	27.59	-7.50	
56	91	1/2 ⁺		1.49	1.19	5.50	9.73	0.91	0.09	0.00	0.57	0.09	9.21	0.0513	12.34	28.68	-8.13	
57	92	1/2 ⁺	3/2 ⁺	1.49	1.22	3.36	8.86	0.89	0.11	0.00	0.68	0.11	12.12	0.0338	13.11	29.64	-8.16	
58	93	1/2 ⁺		1.48	1.22	5.01	8.38	0.73	0.27	0.00	0.62	0.27	10.63	0.0403	13.37	30.56	-8.76	
59	94	1/2 ⁻	3/2 ⁻	1.45	1.11	3.12	8.13	0.45	0.54	0.01	0.64	0.56	13.26	0.1084	14.07	31.82	-9.47	
60	95	1/2 ⁻		1.45	1.08	4.78	7.89	0.33	0.67	0.00	0.74	0.67	11.96	0.0680	14.55	32.84	-10.15	
61	96	1/2 ⁻	3/2 ⁺	1.46	1.12	2.79	7.56	0.51	0.47	0.02	0.72	0.51	14.75	0.0343	15.29	33.81	-11.08	
62	97	1/2 ⁻		1.47	1.12	4.18	6.97	0.09	0.89	0.02	0.94	0.93	13.51	0.0385	15.39	34.70	-11.51	
63	98	1/2 ⁻	5/2 ⁻	1.47	1.11	2.11	6.29	0.09	0.74	0.17	0.88	1.08	16.39	0.0260	16.18	35.53	-11.80	
64	99	1/2 ⁻		1.48	1.11	3.68	5.78	0.04	0.88	0.08	0.95	1.04	15.18	0.0176	16.25	36.30	-12.18	
65	100	1/2 ⁺	5/2 ⁺	1.49	1.09	1.99	5.67	0.25	0.58	0.17	0.79	0.92	17.53	0.0058	16.92	37.07	-12.90	
66	101	1/2 ⁺		1.50	1.09	3.68	5.67	0.08	0.81	0.10	0.87	1.04	15.85	0.0072	17.16	38.15	-13.67	
67	102	1/2 ⁺	1/2 ⁺	1.51	1.06	1.68	5.36	0.15	0.46	0.37	0.86	1.26	18.48	0.0054	17.62	38.67	-14.13	
68	103	1/2 ⁺		1.52	1.03	3.28	4.96	0.06	0.76	0.14	0.91	1.16	17.03	0.0049	17.76	39.70	-14.81	
69	104	1/2 ⁺	7/2 ⁻	1.54	1.00	1.42	4.70	0.08	0.36	0.51	0.89	1.54	19.46	0.0043	18.46	40.48	-15.07	
70	105	1/2 ⁺		1.53	0.98	2.65	4.07	0.05	0.56	0.30	0.90	1.43	18.25	0.0038	18.56	41.35	-15.48	
71	106	1/2 ⁺	5/2 ⁺	1.52	0.99	0.92	3.57	0.06	0.18	0.63	0.90	1.87	20.61	0.0031	19.26	41.99	-15.75	
72	107	1/2 ⁺		1.50	0.99	1.98	2.90	0.02	0.35	0.34	0.87	1.93	19.56	0.0026	19.16	42.57	-15.94	
73	108	1/2 ⁺	9/2 ⁻	1.50	1.00	0.56	2.54	0.01	0.06	0.51	0.92	2.50	21.66	0.0026	19.64	43.49	-16.23	
74	109	1/2 ⁺		1.47	0.99	1.76	2.32	0.00	0.16	0.22	0.88	2.60	20.38	0.0021	19.79	43.94	-16.59	
75	110	1/2 ⁺	1/2 ⁺	1.46	0.98	0.19	1.95	0.01	0.02	0.30	0.89	3.12	22.57	0.0018	20.47	44.47	-17.14	
76	111	3/2 ⁻		1.45	0.96	1.81	2.00	0.00	0.03	0.07	0.90	3.24	21.07	0.0017	20.62	45.29	-17.64	
77	112	3/2 ⁻	3/2 ⁻	1.45	0.90	0.36	2.17	0.00	0.01	0.11	0.88	3.76	23.20	0.0016	21.55	46.00	-18.33	
78	113	5/2 ⁻		1.39	0.88	1.68	2.04	0.00	0.04	0.07	0.87	3.30	22.17	0.0012	21.39	46.45	-19.03	
79	114	5/2 ⁻	9/2 ⁻	1.38	0.81	0.42	2.11	0.00	0.01	0.17	0.88	3.68	24.10	0.0011	22.02	47.15	-19.80	
80	115	5/2 ⁻		1.38	0.74	1.73	2.15	0.00	0.02	0.07	0.93	3.47	22.52	0.0012	22.18	47.91	-20.30	
81	116	1/2 ⁻	11/2 ⁻	1.38	0.68	0.57	2.30	0.00	0.00	0.10	0.92	3.85	24.35	0.0010	22.91	48.75	-21.15	
82	117	1/2 ⁻		1.37	1.00	1.54	2.11	0.00	0.02	0.04	0.96	3.56	23.54	0.0009	23.10	49.62	-21.72	
83	118	3/2 ⁻	7/2 ⁻	1.37	0.88	-1.88	-0.34	0.00	0.01	0.07	1.01	4.35	27.61	0.0005	23.57	50.14	-20.11	
84	119	1/2 ⁻		1.37	0.82	-0.68	-2.56	0.00	0.01	0.02	1.09	5.26	26.42	0.0007	23.63	50.85	-18.76	
85	120	1/2 ⁻	3/2 ⁻	1.37	0.82	-2.20	-2.88	0.00	0.00	0.01	1.16	6.37	28.57	0.0006	24.15	51.22	-18.96	
86	121	5/2 ⁻		1.37	0.83	-1.04	-3.23	0.00	0.00	0.00	1.20	7.18	27.35	0.0006	24.11	51.72	-19.32	
87	122	5/2 ⁻	5/2 ⁻	1.37	0.87	-2.28	-3.32	0.00	0.00	0.00	1.25	8.26	29.14	0.0006			-19.59	
88	123	5/2 ⁻		1.37	0.88	-1.19	-3.48	0.00	0.00	0.00	1.28	8.93	28.05	0.0005			-19.95	
Z = 36 (Kr)																		
27	63		1/2 ⁻	1.57	1.71								22.40	0.0018	-2.32	-6.42	-4.24	
28	64			1.57	1.70	21.66							16.78	0.0083	-1.52	-5.02	-4.14	
29	65		3/2 ⁻	1.57	1.59	16.35	38.01						18.06	0.0064	-1.22	-3.87	-3.28	
30	66			1.49	1.60	19.03	35.37						14.50	0.0282	0.19	-2.65	-2.05	
31	67		5/2 ⁻	1.49	1.57	15.32	34.35						16.01	0.0232	0.04	-1.33	-2.17	
32	68			1.45	1.57	17.79	33.11						12.15	0.0676	1.00	-0.11	-2.16	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
$Z = 36$ (Kr)																		
33	69		1/2 ⁻	1.43	1.57	14.14	31.92						13.79	0.0349	1.21	1.09	-2.30	
34	70			1.43	1.56	16.87	31.00						9.39	0.2992	2.29	2.53	-2.59	
35	71		9/2 ⁺	1.41	1.56	13.14	30.01						10.42	0.1825	2.97	4.60	-2.80	
36	72			1.41	1.57	15.61	28.75						5.52	15.4529	4.41	6.72	-2.98	
37	73		7/2 ⁺	1.40	1.55	11.08	26.69						7.00	3.1493	4.78	8.10	-2.98	
38	74			1.37	1.48	13.69	24.77						3.28	> 100	5.91	9.27	-3.19	
39	75		5/2 ⁺	1.38	1.44	10.32	24.01						4.80	86.6904	6.26	10.60	-3.81	
40	76			1.40	1.41	12.60	22.93						1.46	> 100	7.02	11.44	-3.89	
41	77		3/2 ⁻	1.40	1.39	9.39	21.99						3.30	> 100	7.15	12.41	-4.30	
42	78			1.48	1.49	11.88	21.27						0.06		7.79	13.27	-4.41	
43	79		5/2 ⁺	1.48	1.45	8.80	20.68						1.31	> 100	7.96	14.33	-4.79	
44	80			1.48	1.40	11.33	20.13						...	β -st	9.23	15.76	-5.10	
45	81		5/2 ⁺	1.51	1.49	8.15	19.47						0.11	> 100	9.16	16.71	-5.50	
46	82			1.50	1.43	10.93	19.08						...	β -st	10.04	17.76	-6.54	
47	83		7/2 ⁺	1.49	1.37	7.68	18.61						...	β -st	10.20	18.72	-7.02	
48	84			1.50	1.33	10.39	18.07						...	β -st	11.16	19.95	-7.53	
49	85		9/2 ⁺	1.48	1.34	7.02	17.41	1.00	0.00	0.00	0.00	0.00	1.02	> 100	11.25	20.98	-7.83	
50	86			1.50	1.42	9.41	16.43						...	β -st	12.16	22.20	-8.08	
51	87		5/2 ⁺	1.47	1.28	5.05	14.45	1.00	0.00	0.00	0.00	0.00	4.03	> 100	12.29	23.27	-7.14	
52	88			1.47	1.21	6.91	11.95	1.00	0.00	0.00	0.00	0.00	2.97	> 100	12.99	23.91	-5.86	
53	89		3/2 ⁺	1.48	1.20	3.95	10.86	1.00	0.00	0.00	0.00	0.00	6.05	5.2808	13.05	24.61	-5.83	
54	90			1.48	1.19	6.33	10.29	1.00	0.00	0.00	0.00	0.00	4.42	2.6928	13.94	25.27	-5.89	
55	91		3/2 ⁺	1.48	1.20	4.22	10.55	1.00	0.00	0.00	0.00	0.00	6.68	0.4970	13.93	26.13	-6.87	
56	92			1.48	1.22	6.28	10.49	1.00	0.00	0.00	0.00	0.00	5.18	0.4254	14.70	27.04	-7.46	
57	93		3/2 ⁺	1.48	1.22	3.53	9.80	1.00	0.00	0.00	0.00	0.00	8.14	0.1045	14.86	27.97	-7.63	
58	94			1.43	1.16	5.74	9.26	0.98	0.02	0.00	0.45	0.02	6.76	0.2912	15.59	28.96	-8.01	
59	95		3/2 ⁻	1.42	1.11	3.48	9.22	0.94	0.06	0.00	0.42	0.06	9.41	0.2328	15.95	30.03	-8.89	
60	96			1.42	1.08	5.58	9.06	0.94	0.06	0.00	0.52	0.06	8.15	0.1659	16.76	31.31	-9.72	
61	97		3/2 ⁺	1.43	1.13	2.94	8.52	0.92	0.08	0.00	0.51	0.08	10.89	0.0664	16.91	32.20	-10.25	
62	98			1.44	1.12	4.99	7.93	0.88	0.12	0.00	0.56	0.12	9.69	0.0838	17.72	33.11	-10.94	
63	99		5/2 ⁻	1.44	1.12	2.47	7.46	0.74	0.26	0.00	0.52	0.26	12.25	0.0600	18.08	34.26	-11.36	
64	100			1.45	1.10	4.33	6.80	0.70	0.30	0.00	0.52	0.30	11.06	0.0379	18.73	34.99	-11.61	
65	101		5/2 ⁺	1.45	1.08	2.00	6.33	0.77	0.22	0.01	0.56	0.24	13.64	0.0129	18.75	35.67	-12.29	
66	102			1.47	1.07	4.31	6.31	0.55	0.44	0.01	0.52	0.46	12.15	0.0193	19.37	36.53	-13.00	
67	103		1/2 ⁺	1.48	1.04	1.83	6.14	0.38	0.56	0.06	0.59	0.68	14.50	0.0145	19.53	37.14	-13.51	
68	104			1.48	1.02	3.85	5.68	0.38	0.59	0.03	0.59	0.65	13.11	0.0122	20.10	37.86	-13.91	
69	105		7/2 ⁻	1.49	0.99	1.44	5.29	0.27	0.61	0.12	0.69	0.85	15.61	0.0102	20.12	38.57	-14.13	
70	106			1.49	0.98	3.28	4.72	0.22	0.70	0.07	0.70	0.87	14.44	0.0082	20.75	39.31	-14.28	
71	107		5/2 ⁺	1.49	1.00	0.93	4.21	0.17	0.53	0.28	0.73	1.15	16.81	0.0065	20.76	40.02	-14.49	
72	108			1.47	0.99	2.66	3.59	0.07	0.73	0.14	0.78	1.19	15.67	0.0060	21.44	40.60	-14.60	
73	109		9/2 ⁻	1.48	1.00	0.47	3.14	0.03	0.29	0.58	0.80	1.77	17.89	0.0052	21.36	41.00	-14.85	
74	110			1.46	0.99	2.38	2.85	0.02	0.55	0.32	0.77	1.53	16.38	0.0040	21.98	41.77	-15.15	
75	111		5/2 ⁻	1.47	1.01	0.30	2.68	0.01	0.09	0.77	0.80	2.07	18.56	0.0027	22.09	42.56	-15.38	
76	112			1.47	0.95	2.50	2.80	0.01	0.57	0.27	0.76	1.61	17.25	0.0024	22.78	43.40	-16.27	
77	113		3/2 ⁻	1.44	0.91	0.65	3.14	0.01	0.13	0.73	0.79	2.07	19.31	0.0022	23.07	44.62	-17.40	
78	114			1.44	0.85	2.36	3.01	0.01	0.53	0.32	0.78	1.66	18.25	0.0019	23.74	45.13	-18.11	
79	115		9/2 ⁻	1.40	0.81	0.14	2.50	0.01	0.13	0.73	0.83	2.07	20.45	0.0014	23.47	45.48	-18.82	
80	116			1.39	0.74	2.40	2.54	0.01	0.30	0.51	0.80	1.94	18.86	0.0015	24.14	46.32	-19.37	
81	117		11/2 ⁻	1.39	0.69	0.73	3.13	0.01	0.06	0.73	0.88	2.24	20.65	0.0014	24.30	47.21	-20.31	
82	118			1.39	1.01	2.19	2.92	0.01	0.48	0.31	0.87	1.81	19.82	0.0012	24.95	48.05	-20.94	
83	119		7/2 ⁻	1.39	0.89	-1.87	0.32	0.01	0.04	0.59	1.00	2.60	23.95	0.0007	24.96	48.53	-19.23	
84	120			1.39	0.84	-0.05	-1.92	0.00	0.04	0.08	1.07	3.45	22.72	0.0010	25.59	49.22	-17.83	
85	121		3/2 ⁻	1.39	0.83	-2.26	-2.30	0.00	0.00	0.04	1.15	4.64	24.91	0.0009	25.53	49.68	-17.93	
86	122			1.39	0.85	-0.49	-2.75	0.00	0.00	0.01	1.17	5.27	23.82	0.0008	26.08	50.18	-18.17	
87	123		5/2	1.38	0.87	-2.28	-2.78	0.00	0.00	0.00	1.22	6.53	25.61	0.0008	26.08		-18.60	
88	124			1.38	0.87	-0.50	-2.79	0.00	0.00	0.00	1.22	7.26	24.37	0.0007	26.76		-19.10	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 37 (Rb)																		
29	66	3/2 ⁻	3/2 ⁻	1.56	1.58								22.37	0.0031	-4.13	-5.34	-3.26	
30	67	3/2 ⁺		1.50	1.70	19.20							18.49	0.0075	-3.95	-3.77	-1.60	
31	68	1/2 ⁻	5/2 ⁻	1.50	1.56	16.13	35.33						20.15	0.0071	-3.15	-3.11	-1.68	
32	69	7/2 ⁺		1.46	1.58	18.07	34.20						16.22	0.0144	-2.87	-1.87	-2.13	
33	70	7/2 ⁺	1/2 ⁻	1.43	1.57	15.28	33.35						17.81	0.0133	-1.72	-0.51	-1.94	
34	71	7/2 ⁺		1.41	1.57	17.09	32.38						13.85	0.0338	-1.50	0.79	-2.21	
35	72	7/2 ⁺	9/2 ⁺	1.40	1.57	14.09	31.18						15.38	0.0284	-0.55	2.42	-2.36	
36	73	7/2 ⁺		1.40	1.57	15.88	29.96						10.58	0.1950	-0.28	4.13	-2.46	
37	74	3/2 ⁺	3/2 ⁺	1.38	1.49	12.74	28.62						11.52	0.6080	1.39	6.16	-2.74	
38	75	3/2 ⁺		1.34	1.48	14.64	27.39						7.21	2.8757	2.34	8.25	-3.21	
39	76	3/2 ⁺	5/2 ⁺	1.34	1.45	11.30	25.94						8.51	3.8309	3.31	9.57	-3.80	
40	77	3/2 ⁺		1.34	1.40	12.82	24.11						5.08	20.2331	3.52	10.54	-4.06	
41	78	3/2 ⁺	3/2 ⁻	1.36	1.38	10.13	22.94						6.84	49.1214	4.26	11.41	-4.22	
42	79	3/2 ⁺		1.36	1.38	11.92	22.05						3.72	> 100	4.30	12.10	-4.29	
43	80	3/2 ⁻	5/2 ⁺	1.48	1.46	9.47	21.39						5.57	> 100	4.97	12.93	-4.50	
44	81	3/2 ⁻		1.49	1.44	11.55	21.02						2.17	> 100	5.20	14.43	-4.82	
45	82	5/2 ⁻	5/2 ⁺	1.52	1.55	9.19	20.74						3.91	> 100	6.24	15.40	-5.37	
46	83	5/2 ⁻		1.52	1.48	11.06	20.25						0.53	> 100	6.37	16.41	-6.38	
47	84	5/2 ⁻	7/2 ⁺	1.51	1.39	8.49	19.55						±	±	7.18	17.38	-6.65	
48	85	5/2 ⁻		1.51	1.34	10.48	18.97						...	β-st	7.27	18.42	-7.07	
49	86	3/2 ⁻	9/2 ⁺	1.51	1.33	7.91	18.38	1.00	0.00	0.00	0.00	0.00	±	±	8.15	19.40	-7.46	
50	87	1/2 ⁻		1.50	1.42	9.55	17.46	1.00	0.00	0.00	0.00	0.00	1.04	> 100	8.29	20.45	-7.58	
51	88	1/2 ⁻	5/2 ⁺	1.48	1.28	5.85	15.40	1.00	0.00	0.00	0.00	0.00	5.68	> 100	9.09	21.38	-6.49	
52	89	1/2 ⁻		1.49	1.20	7.03	12.88	1.00	0.00	0.00	0.00	0.00	4.56	89.1846	9.22	22.21	-5.03	
53	90	1/2 ⁻	3/2 ⁺	1.48	1.21	4.71	11.74	1.00	0.00	0.00	0.00	0.00	7.71	28.9973	9.97	23.03	-4.82	
54	91	1/2 ⁻		1.49	1.22	6.47	11.18	1.00	0.00	0.00	0.00	0.00	6.21	8.9200	10.11	24.05	-5.09	
55	92	3/2 ⁺	3/2 ⁺	1.47	1.22	4.78	11.26	1.00	0.00	0.00	0.00	0.00	8.44	0.2706	10.68	24.60	-5.98	
56	93	3/2 ⁺		1.46	1.22	6.48	11.26	1.00	0.00	0.00	0.00	0.00	6.75	0.1752	10.88	25.58	-7.01	
57	94	3/2 ⁺	1/2 ⁻	1.43	1.22	4.36	10.84	0.99	0.01	0.00	0.67	0.01	9.59	0.1502	11.72	26.58	-7.15	
58	95	3/2 ⁺		1.41	1.17	6.13	10.49	0.96	0.04	0.00	0.58	0.04	8.00	0.0736	12.11	27.70	-7.77	
59	96	3/2 ⁺	3/2 ⁻	1.41	1.13	4.31	10.44	0.89	0.11	0.00	0.43	0.11	10.64	0.0676	12.94	28.90	-8.73	
60	97	3/2 ⁺		1.40	1.11	5.69	10.00	0.84	0.16	0.00	0.48	0.16	9.37	0.0451	13.05	29.81	-9.40	
61	98	3/2 ⁺	3/2 ⁺	1.41	1.10	3.78	9.47	0.87	0.13	0.00	0.46	0.13	12.17	0.0442	13.89	30.81	-10.07	
62	99	3/2 ⁺		1.41	1.10	5.03	8.81	0.78	0.22	0.00	0.54	0.22	10.96	0.0397	13.94	31.65	-10.32	
63	100	3/2 ⁺	5/2 ⁻	1.42	1.11	3.15	8.18	0.71	0.29	0.00	0.58	0.29	13.63	0.0353	14.61	32.69	-10.68	
64	101	3/2 ⁺		1.42	1.10	4.58	7.73	0.60	0.40	0.00	0.77	0.40	12.34	0.0365	14.86	33.59	-11.08	
65	102	3/2 ⁺	5/2 ⁺	1.42	1.09	2.81	7.39	0.71	0.28	0.01	0.68	0.30	14.80	0.0130	15.67	34.42	-11.78	
66	103	3/2 ⁺		1.43	1.07	4.18	7.00	0.40	0.59	0.01	0.74	0.61	13.53	0.0159	15.55	34.92	-12.29	
67	104	3/2 ⁺	1/2 ⁺	1.44	1.03	2.47	6.65	0.39	0.53	0.08	0.73	0.69	15.98	0.0121	16.18	35.71	-12.77	
68	105	3/2 ⁺		1.45	1.00	3.94	6.40	0.22	0.74	0.04	0.76	0.82	14.61	0.0108	16.27	36.37	-13.02	
69	106	3/2 ⁺	7/2 ⁻	1.45	0.99	2.11	6.05	0.25	0.58	0.17	0.75	0.92	17.12	0.0087	16.95	37.06	-13.46	
70	107	3/2 ⁺		1.45	0.98	3.30	5.41	0.15	0.76	0.08	0.86	0.95	16.03	0.0073	16.96	37.71	-13.48	
71	108	3/2 ⁺	5/2 ⁺	1.44	1.00	1.52	4.82	0.15	0.44	0.39	0.81	1.28	18.41	0.0059	17.55	38.31	-13.58	
72	109	3/2 ⁺		1.44	0.99	2.69	4.21	0.05	0.61	0.27	0.84	1.36	17.17	0.0059	17.58	39.02	-13.62	
73	110	3/2 ⁺	1/2 ⁻	1.43	1.00	0.87	3.56	0.05	0.17	0.67	0.86	1.86	19.63	0.0047	17.98	39.33	-13.57	
74	111	3/2 ⁺		1.43	1.01	2.49	3.36	0.01	0.40	0.35	0.82	1.84	18.29	0.0044	18.09	40.06	-14.08	
75	112	1/2 ⁻	5/2 ⁻	1.49	0.99	1.18	3.67	0.01	0.02	0.69	0.89	2.31	20.11	0.0036	18.96	41.06	-14.70	
76	113	1/2 ⁻		1.46	0.95	2.70	3.89	0.01	0.18	0.49	0.80	2.17	18.95	0.0028	19.17	41.95	-15.65	
77	114	1/2 ⁻	3/2 ⁻	1.47	0.90	1.30	4.01	0.01	0.03	0.67	0.88	2.34	20.77	0.0030	19.83	42.90	-16.77	
78	115	1/2 ⁻		1.46	0.85	2.34	3.64	0.01	0.12	0.54	0.84	2.26	19.88	0.0024	19.81	43.55	-17.29	
79	116	3/2 ⁻	9/2 ⁻	1.43	0.85	0.81	3.15	0.01	0.02	0.70	0.93	2.33	22.10	0.0017	20.48	43.94	-17.75	
80	117	3/2 ⁻		1.42	0.75	2.52	3.33	0.00	0.08	0.50	0.87	2.43	20.67	0.0017	20.60	44.73	-18.58	
81	118	3/2 ⁻	11/2 ⁻	1.42	0.66	1.36	3.88	0.00	0.02	0.56	0.97	2.55	22.14	0.0017	21.23	45.52	-19.52	
82	119	3/2 ⁻		1.42	1.02	2.26	3.62	0.01	0.09	0.41	0.93	2.50	21.28	0.0014	21.29	46.24	-20.05	
83	120	1/2 ⁻	7/2 ⁻	1.42	0.90	-1.27	0.99	0.00	0.02	0.38	1.03	2.93	25.50	0.0008	21.89	46.85	-18.21	
84	121	3/2 ⁻		1.42	0.83	-0.07	-1.34	0.00	0.02	0.04	1.13	3.82	24.26	0.0012	21.87	47.46	-16.60	
85	122	3/2 ⁻	3/2 ⁻	1.42	0.85	-1.59	-1.65	0.00	0.00	0.03	1.20	4.77	26.43	0.0011	22.54	48.07	-16.90	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 37 (Rb)																		
86	123	3/2 ⁻		1.41	0.87	-0.49	-2.08	0.00	0.00	0.01	1.23	5.45	25.30	0.0010	22.54	48.61	-17.08	
87	124	3/2	5/2	1.41	0.88	-1.74	-2.24	0.00	0.00	0.00	1.26	6.51	27.15	0.0010	23.08	49.15	-17.53	
88	125	3/2		1.40	0.88	-0.51	-2.26	0.00	0.00	0.00	1.27	7.21	25.87	0.0009	23.07	49.84	-18.06	
89	126	3/2	5/2	1.39	0.87	-1.82	-2.33	0.00	0.00	0.00	1.30	8.24	27.74	0.0008			-18.53	
90	127	3/2		1.39	0.88	-0.63	-2.45	0.00	0.00	0.00	1.29	8.92	26.51	0.0007			-19.08	
91	128	3/2 ⁺	3/2 ⁺	1.34	0.85	-2.62	-3.25	0.00	0.00	0.00	1.29	9.52	29.00	0.0004				
Z = 38 (Sr)																		
30	68			1.37	1.75								17.11	0.0064	-1.76	-5.72	-1.36	
31	69	1/2 ⁻		1.48	1.65	16.66							18.51	0.0066	-1.23	-4.37	-1.67	
32	70			1.44	1.65	19.01	35.68						14.78	0.0176	-0.28	-3.15	-1.66	
33	71	1/2 ⁻		1.48	1.56	15.45	34.47						16.42	0.0129	-0.11	-1.83	-1.79	
34	72			1.45	1.57	18.00	33.45						12.51	0.0497	0.80	-0.70	-2.01	
35	73	3/2 ⁻		1.33	1.58	14.14	32.14						14.24	0.0428	0.85	0.30	-2.01	
36	74			1.32	1.54	17.27	31.40						9.72	0.3367	2.24	1.96	-2.41	
37	75	3/2 ⁺		1.32	1.51	13.55	30.82						10.81	0.2114	3.04	4.43	-2.82	
38	76			1.32	1.48	16.02	29.57						6.09	8.0469	4.43	6.77	-3.23	
39	77	5/2 ⁺		1.31	1.45	11.57	27.59						7.34	3.9054	4.70	8.01	-3.72	
40	78			1.31	1.40	13.73	25.29						3.74	> 100	5.61	9.13	-3.76	
41	79	3/2 ⁻		1.31	1.37	10.25	23.97						5.41	> 100	5.73	9.99	-3.68	
42	80			1.32	1.36	12.56	22.81						2.32	> 100	6.37	10.67	-3.64	
43	81	1/2 ⁺		1.32	1.36	9.38	21.94						4.50	> 100	6.27	11.24	-3.62	
44	82			1.52	1.64	12.61	21.99						1.07	> 100	7.33	12.53	-4.36	
45	83	5/2 ⁺		1.52	1.61	9.30	21.91						2.84	> 100	7.44	13.68	-4.85	
46	84			1.53	1.53	12.09	21.39						...	β -st	8.47	14.84	-5.62	
47	85	3/2 ⁺		1.52	1.43	8.78	20.87						0.93	> 100	8.76	15.94	-6.25	
48	86			1.53	1.35	11.44	20.22						...	β -st	9.72	16.99	-6.76	
49	87	9/2 ⁺		1.51	1.34	8.00	19.43						...	β -st	9.81	17.96	-7.08	
50	88			1.51	1.42	10.49	18.48						...	β -st	10.75	19.04	-7.17	
51	89	5/2 ⁺		1.50	1.27	5.91	16.40	1.00	0.00	0.00	0.00	0.00	1.67	> 100	10.81	19.90	-6.06	
52	90			1.50	1.19	7.86	13.77	1.00	0.00	0.00	0.00	0.00	0.51	> 100	11.64	20.86	-4.51	
53	91	3/2 ⁺		1.50	1.21	4.96	12.83	1.00	0.00	0.00	0.00	0.00	3.54	> 100	11.90	21.87	-4.43	
54	92			1.50	1.21	7.02	11.99	1.00	0.00	0.00	0.00	0.00	2.26	> 100	12.45	22.56	-4.54	
55	93	3/2 ⁺		1.45	1.21	4.78	11.81	1.00	0.00	0.00	0.00	0.00	4.52	2.8574	12.45	23.12	-5.38	
56	94			1.43	1.22	7.20	11.98	1.00	0.00	0.00	0.00	0.00	2.84	7.5223	13.17	24.05	-6.24	
57	95	1/2 ⁻		1.40	1.22	4.55	11.75	1.00	0.00	0.00	0.00	0.00	5.72	5.1834	13.35	25.07	-6.57	
58	96			1.40	1.19	6.95	11.50	1.00	0.00	0.00	0.00	0.00	4.09	0.9768	14.17	26.29	-7.25	
59	97	3/2 ⁻		1.40	1.15	4.42	11.37	1.00	0.00	0.00	0.00	0.00	6.77	0.9299	14.28	27.22	-8.14	
60	98			1.39	1.15	6.58	11.00	1.00	0.00	0.00	0.00	0.00	5.35	0.7254	15.17	28.22	-8.98	
61	99	3/2 ⁺		1.39	1.12	3.82	10.40	1.00	0.00	0.00	0.00	0.00	8.24	0.3208	15.20	29.10	-9.32	
62	100			1.39	1.12	5.83	9.64	0.99	0.01	0.00	0.38	0.01	6.97	0.3879	16.00	29.93	-9.57	
63	101	5/2 ⁻		1.40	1.09	3.28	9.11	0.97	0.03	0.00	0.45	0.03	9.68	0.3010	16.14	30.75	-9.91	
64	102			1.39	1.10	5.27	8.56	0.94	0.06	0.00	0.44	0.06	8.41	0.1190	16.83	31.69	-10.19	
65	103	5/2 ⁺		1.40	1.08	2.92	8.19	0.97	0.03	0.00	0.48	0.03	10.91	0.0318	16.93	32.60	-10.64	
66	104			1.40	1.05	4.92	7.83	0.89	0.11	0.00	0.51	0.11	9.58	0.0651	17.67	33.21	-11.22	
67	105	1/2 ⁺		1.41	1.03	2.56	7.48	0.81	0.19	0.00	0.47	0.19	12.05	0.0411	17.76	33.95	-11.78	
68	106			1.41	1.00	4.63	7.19	0.80	0.20	0.00	0.53	0.20	10.65	0.0349	18.45	34.72	-12.10	
69	107	7/2 ⁻		1.41	0.99	2.20	6.83	0.67	0.31	0.02	0.51	0.35	13.15	0.0269	18.54	35.49	-12.48	
70	108			1.41	0.98	3.90	6.10	0.62	0.37	0.01	0.56	0.39	12.18	0.0201	19.15	36.10	-12.53	
71	109	5/2 ⁺		1.41	1.01	1.46	5.36	0.37	0.55	0.08	0.59	0.71	14.76	0.0138	19.08	36.63	-12.54	
72	110			1.41	1.00	3.33	4.79	0.16	0.77	0.07	0.66	0.91	13.38	0.0149	19.72	37.30	-12.59	
73	111	1/2 ⁻		1.40	1.00	1.14	4.47	0.11	0.62	0.26	0.68	1.17	15.67	0.0117	19.99	37.97	-12.80	
74	112			1.51	1.04	3.01	4.15	0.07	0.86	0.05	0.68	1.02	14.24	0.0051	20.51	38.60	-13.15	
75	113	5/2 ⁻		1.51	0.98	1.54	4.55	0.05	0.61	0.32	0.64	1.31	15.96	0.0057	20.87	39.84	-14.22	
76	114			1.50	0.94	3.13	4.67	0.09	0.83	0.05	0.67	1.02	14.78	0.0048	21.30	40.47	-14.97	
77	115	3/2 ⁻		1.49	0.90	1.44	4.57	0.06	0.75	0.16	0.66	1.16	16.87	0.0039	21.43	41.26	-16.10	
78	116			1.49	0.85	3.04	4.47	0.06	0.85	0.06	0.72	1.06	15.87	0.0034	22.13	41.93	-16.64	
79	117	1/2 ⁻		1.49	0.81	1.09	4.13	0.03	0.60	0.32	0.75	1.40	17.88	0.0030	22.41	42.88	-17.09	

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n^-}$ (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 38 (Sr)																		
80	118			1.47	0.76	2.83	3.92	0.01	0.86	0.08	0.77	1.17	16.75	0.0021	22.72	43.32	-17.56	
81	119		11/2 ⁻	1.47	0.64	1.39	4.23	0.01	0.56	0.37	0.80	1.49	18.29	0.0023	22.75	43.98	-18.81	
82	120			1.46	1.04	2.95	4.34	0.02	0.82	0.08	0.85	1.23	17.34	0.0021	23.45	44.74	-19.36	
83	121		7/2 ⁻	1.46	0.92	-1.30	1.65	0.01	0.40	0.46	0.91	1.76	21.71	0.0010	23.42	45.31	-17.33	
84	122			1.46	0.84	0.58	-0.73	0.00	0.07	0.41	1.07	2.58	20.38	0.0017	24.06	45.93	-15.71	
85	123		3/2 ⁻	1.46	0.86	-1.62	-1.05	0.01	0.01	0.09	1.16	3.50	22.63	0.0016	24.02	46.57	-15.96	
86	124			1.46	0.89	0.10	-1.52	0.00	0.01	0.01	1.17	4.11	21.42	0.0015	24.62	47.16	-16.11	
87	125		5/2	1.44	0.88	-1.79	-1.69	0.00	0.00	0.01	1.22	5.16	23.40	0.0014	24.58	47.66	-16.58	
88	126			1.43	0.88	0.05	-1.73	0.00	0.00	0.01	1.19	5.80	22.16	0.0013	25.14	48.22	-17.13	
89	127		5/2	1.41	0.87	-1.86	-1.81	0.00	0.00	0.00	1.23	6.87	24.14	0.0012	25.10		-17.55	
90	128			1.41	0.89	-0.13	-1.99	0.00	0.00	0.00	1.18	7.54	23.00	0.0010	25.60		-17.92	
91	129		3/2 ⁺	1.33	0.86	-2.75	-2.88	0.00	0.00	0.00	1.19	8.45	25.65	0.0005	25.47			
92	130			1.32	0.84	0.43	-2.32	0.00	0.00	0.00	1.14	9.11	23.73	0.0006				
93	131		3/2 ⁻	1.31	0.84	-1.71	-1.28	0.00	0.00	0.00	1.18	9.81	25.12	0.0006				
Z = 39 (Y)																		
31	70	5/2 ⁺	1/2 ⁺	1.37	1.74								22.15	0.0039	-3.92	-5.15	-1.88	
32	71	5/2 ⁺		1.37	1.73	19.13							18.47	0.0075	-3.80	-4.08	-1.81	
33	72	5/2 ⁺	1/2 ⁻	1.37	1.70	16.13	35.26						20.35	0.0058	-3.13	-3.24	-1.81	
34	73	5/2 ⁺		1.36	1.66	18.36	34.48						16.13	0.0177	-2.77	-1.97	-2.10	
35	74	5/2 ⁺	3/2 ⁻	1.36	1.59	15.32	33.68						18.07	0.0170	-1.59	-0.74	-2.14	
36	75	5/2 ⁺		1.35	1.55	17.46	32.78						14.16	0.0404	-1.39	0.85	-2.51	
37	76	5/2 ⁺	3/2 ⁺	1.34	1.51	14.49	31.95						15.70	0.0378	-0.45	2.59	-2.91	
38	77	5/2 ⁺		1.32	1.49	16.34	30.83						10.92	0.1844	-0.14	4.29	-3.38	
39	78	5/2 ⁺	5/2 ⁺	1.31	1.45	12.87	29.21						11.78	0.2292	1.17	5.86	-3.50	
40	79	5/2 ⁺		1.31	1.42	14.34	27.21						7.69	3.6800	1.78	7.38	-3.20	
41	80	5/2 ⁺	1/2 ⁺	1.30	1.38	11.06	25.39						9.20	3.4058	2.59	8.31	-2.96	
42	81	5/2 ⁺		1.30	1.36	12.84	23.90						5.73	22.8137	2.86	9.23	-2.98	
43	82	5/2 ⁺	1/2 ⁺	1.29	1.36	10.26	23.10						8.08	11.8352	3.75	10.02	-3.11	
44	83	1/2 ⁻		1.54	1.65	12.60	22.85						4.78	> 100	3.73	11.07	-3.78	
45	84	1/2 ⁻	5/2 ⁺	1.54	1.61	10.15	22.75						6.72	> 100	4.59	12.03	-4.47	
46	85	1/2 ⁻		1.54	1.54	12.28	22.43						3.22	> 100	4.78	13.25	-5.20	
47	86	1/2 ⁻	3/2 ⁺	1.54	1.44	9.57	21.85						5.09	> 100	5.57	14.33	-5.58	
48	87	1/2 ⁻		1.55	1.35	11.67	21.24						1.41	> 100	5.80	15.52	-6.19	
49	88	1/2 ⁻	9/2 ⁺	1.51	1.34	8.81	20.48						3.09	> 100	6.61	16.43	-6.51	
50	89	1/2 ⁻		1.51	1.42	10.67	19.48						...	β -st	6.80	17.55	-6.70	
51	90	1/2 ⁻	5/2 ⁺	1.51	1.27	6.70	17.37	1.00	0.00	0.00	0.00	0.00	3.12	> 100	7.59	18.40	-5.50	
52	91	1/2 ⁻		1.52	1.19	8.00	14.70	1.00	0.00	0.00	0.00	0.00	1.96	> 100	7.72	19.36	-3.94	
53	92	1/2 ⁻	3/2 ⁺	1.52	1.21	5.74	13.74	1.00	0.00	0.00	0.00	0.00	5.07	> 100	8.50	20.40	-3.84	
54	93	9/2 ⁺		1.51	1.21	7.04	12.78	1.00	0.00	0.00	0.00	0.00	3.86	12.0948	8.52	20.97	-3.85	
55	94	3/2 ⁻	3/2 ⁺	1.47	1.22	5.52	12.56	1.00	0.00	0.00	0.00	0.00	6.03	36.7802	9.26	21.71	-4.66	
56	95	5/2 ⁺		1.39	1.24	7.42	12.95	1.00	0.00	0.00	0.00	0.00	4.47	1.9907	9.48	22.65	-5.61	
57	96	5/2 ⁺	1/2 ⁻	1.37	1.25	5.32	12.75	1.00	0.00	0.00	0.00	0.00	7.26	1.5916	10.26	23.61	-6.16	
58	97	5/2 ⁺		1.37	1.23	7.09	12.42	1.00	0.00	0.00	0.00	0.00	5.41	0.2823	10.40	24.58	-6.77	
59	98	5/2 ⁺	3/2 ⁻	1.37	1.20	5.16	12.26	0.99	0.01	0.00	0.46	0.01	7.95	0.3257	11.15	25.43	-7.57	
60	99	5/2 ⁺		1.37	1.16	6.71	11.88	1.00	0.00	0.00	0.00	0.00	6.44	0.1648	11.28	26.45	-8.15	
61	100	5/2 ⁺	5/2 ⁻	1.37	1.13	4.55	11.27	1.00	0.00	0.00	0.00	0.00	9.35	0.2825	12.02	27.22	-8.39	
62	101	5/2 ⁺		1.37	1.12	5.99	10.55	0.99	0.01	0.00	0.34	0.01	8.07	0.1338	12.18	28.18	-8.70	
63	102	5/2 ⁺	3/2 ⁺	1.37	1.10	4.00	9.99	0.98	0.02	0.00	0.36	0.02	10.79	0.1720	12.90	29.03	-8.91	
64	103	5/2 ⁺		1.37	1.10	5.42	9.41	0.94	0.06	0.00	0.48	0.06	9.49	0.0676	13.04	29.87	-9.30	
65	104	5/2 ⁺	5/2 ⁺	1.37	1.08	3.59	9.01	0.96	0.04	0.00	0.54	0.04	12.05	0.0288	13.72	30.65	-9.74	
66	105	5/2 ⁺		1.37	1.06	5.03	8.62	0.81	0.19	0.00	0.51	0.19	10.72	0.0426	13.83	31.50	-10.19	
67	106	5/2 ⁺	1/2 ⁺	1.38	1.03	3.23	8.26	0.80	0.20	0.00	0.53	0.20	13.18	0.0314	14.49	32.26	-10.61	
68	107	5/2 ⁺		1.38	1.00	4.71	7.94	0.61	0.39	0.00	0.50	0.39	11.84	0.0265	14.58	33.03	-11.13	
69	108	5/2 ⁺	7/2 ⁻	1.39	0.99	2.93	7.64	0.60	0.38	0.02	0.54	0.42	14.24	0.0216	15.30	33.85	-11.60	
70	109	5/2 ⁺		1.39	0.97	4.03	6.96	0.43	0.56	0.01	0.68	0.58	13.24	0.0172	15.43	34.58	-11.69	
71	110	5/2 ⁺	1/2 ⁻	1.38	1.01	1.96	5.98	0.34	0.59	0.07	0.75	0.73	15.98	0.0117	15.93	35.01	-11.53	
72	111	5/2 ⁺		1.38	1.00	3.43	5.39	0.26	0.68	0.06	0.83	0.80	14.69	0.0120	16.03	35.76	-11.67	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 39 (Y)																		
73	112	5/2 ⁺	5/2 ⁺	1.37	1.01	1.58	5.01	0.27	0.40	0.32	0.78	1.07	17.15	0.0089	16.47	36.46	-11.73	
74	113	9/2 ⁺		1.52	1.04	3.26	4.84	0.02	0.81	0.15	0.81	1.17	15.63	0.0059	16.72	37.23	-12.29	
75	114	9/2 ⁺	5/2 ⁻	1.52	1.00	1.95	5.21	0.06	0.43	0.49	0.76	1.47	17.94	0.0054	17.13	38.00	-13.37	
76	115	9/2 ⁺		1.51	0.94	3.52	5.47	0.03	0.85	0.09	0.80	1.12	16.84	0.0043	17.52	38.82	-14.41	
77	116	9/2 ⁺	3/2 ⁻	1.51	0.89	2.04	5.56	0.02	0.48	0.48	0.82	1.50	18.62	0.0045	18.12	39.55	-15.26	
78	117	9/2 ⁺		1.51	0.85	3.11	5.14	0.01	0.69	0.26	0.84	1.33	17.57	0.0037	18.19	40.32	-15.66	
79	118	9/2 ⁺	1/2 ⁻	1.50	0.80	1.70	4.80	0.01	0.34	0.59	0.89	1.71	19.49	0.0035	18.80	41.20	-16.05	
80	119	1/2 ⁻		1.51	0.76	2.94	4.64	0.01	0.54	0.36	0.91	1.53	18.42	0.0031	18.90	41.63	-16.66	
81	120	1/2 ⁻	11/2 ⁻	1.51	0.65	2.00	4.94	0.01	0.10	0.80	0.96	1.99	19.94	0.0035	19.51	42.26	-17.84	
82	121	1/2 ⁻		1.51	1.06	3.06	5.06	0.01	0.45	0.42	0.97	1.66	18.96	0.0032	19.62	43.07	-18.39	
83	122	1/2 ⁻	7/2 ⁻	1.50	0.92	-0.75	2.31	0.01	0.08	0.73	1.07	2.15	23.40	0.0013	20.18	43.59	-16.28	
84	123	1/2 ⁻		1.50	0.85	0.62	-0.13	0.00	0.05	0.15	1.17	2.92	22.07	0.0025	20.22	44.28	-14.64	
85	124	1/2 ⁻	3/2 ⁻	1.50	0.87	-1.10	-0.48	0.00	0.00	0.07	1.23	3.78	24.36	0.0022	20.75	44.77	-14.81	
86	125	1/2 ⁻		1.50	0.90	0.18	-0.91	0.00	0.02	0.01	1.24	4.33	23.09	0.0021	20.83	45.45	-15.07	
87	126	1/2	5/2	1.48	0.89	-1.19	-1.00	0.00	0.00	0.02	1.27	5.23	25.04	0.0020	21.43	46.01	-15.47	
88	127	1/2		1.47	0.89	0.12	-1.07	0.00	0.01	0.01	1.26	5.81	23.67	0.0019	21.49	46.64	-16.08	
89	128	1/2	7/2	1.46	0.89	-1.27	-1.15	0.00	0.00	0.01	1.28	6.75	25.64	0.0018	22.09	47.18	-16.56	
90	129	1/2		1.45	0.90	-0.10	-1.37	0.00	0.01	0.01	1.25	7.31	24.51	0.0014	22.11	47.71	-16.96	
91	130	1/2	7/2	1.42	0.89	-1.49	-1.59	0.00	0.00	0.00	1.25	8.31	26.46	0.0011	23.38	48.84	-17.29	
92	131	5/2 ⁻		1.31	0.85	-0.32	-1.81	0.00	0.00	0.00	1.18	8.83	25.14	0.0007	22.63		-17.61	
93	132	5/2 ⁻	3/2 ⁻	1.30	0.85	-1.08	-1.40	0.00	0.00	0.00	1.19	9.53	26.56	0.0007	23.26		-19.15	
94	133	5/2 ⁻		1.30	0.84	-0.10	-1.17	0.00	0.00	0.00	1.17	9.62	25.50	0.0007				
95	134	5/2 ⁻	5/2 ⁺	1.30	0.85	-1.42	-1.52	0.00	0.00	0.00	1.19	9.84	27.35	0.0006				
Z = 40 (Zr)																		
32	72			1.48	1.53								16.71	0.0078	-1.37	-5.17	-2.21	
33	73		1/2 ⁻	1.47	1.54	16.41							18.66	0.0049	-1.08	-4.21	-1.96	
34	74			1.32	1.67	18.95	35.36						15.03	0.0207	-0.49	-3.27	-1.89	
35	75		3/2 ⁻	1.32	1.61	15.48	34.42						17.02	0.0177	-0.34	-1.93	-1.91	
36	76			1.30	1.57	18.38	33.86						13.12	0.0521	0.58	-0.81	-2.30	
37	77		3/2 ⁺	1.29	1.52	14.65	33.03						14.82	0.0297	0.74	0.29	-2.81	
38	78			1.29	1.50	17.22	31.87						10.46	0.2369	1.62	1.49	-2.76	
39	79		5/2 ⁺	1.28	1.46	13.48	30.70						11.32	0.1669	2.23	3.40	-2.69	
40	80			1.28	1.42	15.63	29.11						6.75	21.5346	3.52	5.30	-2.29	
41	81		1/2 ⁺	1.26	1.39	11.26	26.89						8.33	4.1921	3.73	6.32	-1.99	
42	82			1.26	1.36	13.68	24.94						4.91	> 100	4.56	7.43	-1.94	
43	83		5/2 ⁺	1.40	1.48	10.77	24.44						6.74	8.8796	5.07	8.82	-2.46	
44	84			1.41	1.44	13.52	24.28						3.38	> 100	5.99	9.72	-3.41	
45	85		5/2 ⁺	1.48	1.62	10.27	23.79						5.39	88.0305	6.11	10.70	-4.31	
46	86			1.48	1.55	13.14	23.41						1.81	> 100	6.97	11.75	-4.84	
47	87		3/2 ⁺	1.49	1.45	9.76	22.91						3.72	> 100	7.17	12.73	-5.31	
48	88			1.49	1.35	12.50	22.26						0.04	> 100	7.99	13.79	-5.71	
49	89		9/2 ⁺	1.54	1.34	9.09	21.58						1.62	> 100	8.27	14.88	-6.02	
50	90			1.51	1.43	11.44	20.53						...	β -st	9.04	15.84	-6.02	
51	91		5/2 ⁺	1.52	1.27	6.84	18.28						...	β -st	9.18	16.77	-4.86	
52	92			1.52	1.18	8.85	15.69						...	β -st	10.03	17.75	-3.22	
53	93		3/2 ⁺	1.54	1.20	5.83	14.68	1.00	0.00	0.00	0.00	0.00	1.11	> 100	10.12	18.62	-3.15	
54	94			1.51	1.20	7.70	13.53						0.04		10.77	19.29	-2.98	
55	95		1/2 ⁺	1.50	1.21	5.86	13.56	1.00	0.00	0.00	0.00	0.00	2.28	> 100	11.11	20.37	-3.88	
56	96			1.43	1.23	8.11	13.98	1.00	0.00	0.00	0.00	0.00	0.58	> 100	11.80	21.29	-4.97	
57	97		1/2 ⁻	1.35	1.24	5.24	13.36	1.00	0.00	0.00	0.00	0.00	3.48	> 100	11.72	21.98	-5.43	
58	98			1.34	1.23	7.70	12.95	1.00	0.00	0.00	0.00	0.00	1.87	> 100	12.33	22.73	-5.93	
59	99		3/2 ⁻	1.33	1.19	5.20	12.91	1.00	0.00	0.00	0.00	0.00	4.56	38.4962	12.37	23.52	-6.59	
60	100			1.33	1.18	7.46	12.66	1.00	0.00	0.00	0.00	0.00	2.57	20.7718	13.12	24.40	-7.10	
61	101		5/2 ⁻	1.33	1.15	4.72	12.18	1.00	0.00	0.00	0.00	0.00	5.51	14.7513	13.28	25.30	-7.40	
62	102			1.33	1.13	6.72	11.43	1.00	0.00	0.00	0.00	0.00	4.29	6.9965	14.01	26.19	-7.53	
63	103		3/2 ⁺	1.33	1.12	4.12	10.84	1.00	0.00	0.00	0.00	0.00	7.01	1.4616	14.13	27.02	-7.83	
64	104			1.34	1.11	6.15	10.27	1.00	0.00	0.00	0.00	0.00	5.71	0.7416	14.86	27.90	-8.16	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 40 (Zr)																		
65	105		5/2 ⁺	1.34	1.08	3.69	9.84	1.00	0.00	0.00	0.00	0.00	8.20	0.0503	14.96	28.68	−8.57	
66	106			1.35	1.06	5.69	9.39	0.99	0.01	0.00	0.32	0.01	6.74	0.3711	15.62	29.45	−8.99	
67	107		1/2 ⁺	1.35	1.03	3.37	9.06	0.98	0.02	0.00	0.34	0.02	9.17	0.1868	15.77	30.26	−9.44	
68	108			1.35	1.00	5.33	8.70	0.98	0.02	0.00	0.41	0.02	7.92	0.1498	16.39	30.96	−9.86	
69	109		7/2 [−]	1.35	0.99	3.03	8.36	0.94	0.06	0.00	0.46	0.06	10.38	0.1022	16.49	31.79	−10.32	
70	110			1.35	0.97	4.69	7.72	0.92	0.08	0.00	0.57	0.08	9.37	0.0745	17.15	32.58	−10.39	
71	111		1/2 [−]	1.36	1.01	2.14	6.83	0.82	0.18	0.00	0.49	0.18	12.09	0.0423	17.34	33.27	−10.33	
72	112			1.35	1.00	4.04	6.19	0.65	0.35	0.00	0.48	0.35	10.92	0.0428	17.95	33.98	−10.47	
73	113		5/2 ⁺	1.35	1.00	1.74	5.78	0.47	0.48	0.05	0.53	0.58	13.42	0.0262	18.11	34.58	−10.75	
74	114			1.53	1.05	4.26	6.00	0.44	0.55	0.01	0.50	0.57	11.73	0.0152	19.11	35.83	−11.68	
75	115		5/2 [−]	1.53	1.00	2.42	6.68	0.43	0.54	0.03	0.43	0.60	13.81	0.0134	19.58	36.71	−12.96	
76	116			1.53	0.94	3.81	6.23	0.47	0.52	0.01	0.51	0.54	12.88	0.0096	19.87	37.39	−13.76	
77	117		3/2 [−]	1.53	0.89	2.06	5.88	0.26	0.69	0.05	0.54	0.79	15.03	0.0084	19.90	38.02	−14.28	
78	118			1.53	0.84	3.61	5.68	0.19	0.77	0.04	0.66	0.85	13.71	0.0080	20.40	38.60	−14.77	
79	119		1/2 [−]	1.54	0.80	1.88	5.49	0.12	0.78	0.10	0.65	0.98	15.59	0.0070	20.58	39.38	−15.21	
80	120			1.57	0.77	3.52	5.39	0.16	0.78	0.05	0.59	0.91	14.44	0.0045	21.16	40.06	−15.69	
81	121		11/2 [−]	1.57	0.65	2.08	5.60	0.05	0.83	0.11	0.68	1.08	15.96	0.0051	21.24	40.75	−16.68	
82	122			1.57	1.07	3.69	5.77	0.15	0.78	0.06	0.65	0.93	15.01	0.0045	21.87	41.49	−17.54	
83	123		7/2 [−]	1.56	0.94	−0.71	2.98	0.02	0.78	0.16	0.91	1.22	19.47	0.0018	21.90	42.08	−15.43	
84	124			1.56	0.86	1.20	0.49	0.00	0.18	0.69	1.09	1.96	18.09	0.0037	22.48	42.71	−13.68	
85	125		3/2 [−]	1.56	0.88	−1.08	0.12	0.01	0.00	0.30	1.18	2.80	20.47	0.0031	22.50	43.24	−13.90	
86	126			1.56	0.91	0.75	−0.33	0.00	0.04	0.01	1.19	3.27	19.22	0.0030	23.07	43.89	−14.08	
87	127		5/2	1.54	0.92	−1.25	−0.49	0.01	0.00	0.04	1.22	4.19	21.25	0.0028	23.01	44.44	−14.45	
88	128			1.52	0.90	0.70	−0.54	0.00	0.03	0.01	1.14	4.74	19.88	0.0026	23.59	45.08	−15.05	
89	129		7/2	1.50	0.90	−1.24	−0.54	0.01	0.00	0.03	1.17	5.64	21.78	0.0026	23.62	45.71	−15.60	
90	130			1.50	0.91	0.47	−0.77	0.00	0.02	0.01	1.09	6.10	20.60	0.0021	24.19	46.31	−16.01	
91	131		1/2	1.48	0.92	−1.64	−1.17	0.00	0.00	0.01	1.10	6.95	22.79	0.0015	24.04	47.42	−16.24	
92	132			1.31	0.84	0.34	−1.30	0.00	0.01	0.00	1.02	6.96	21.29	0.0010	24.70	47.33	−16.71	
93	133		3/2 [−]	1.30	0.85	−1.16	−0.82	0.00	0.00	0.01	1.03	7.71	23.17	0.0009	24.62	47.88	−18.30	
94	134			1.29	0.84	0.43	−0.73	0.00	0.01	0.01	0.98	7.77	22.08	0.0009	25.15		−18.30	
95	135		5/2 ⁺	1.28	0.84	−1.46	−1.03	0.00	0.00	0.01	1.01	8.56	24.09	0.0008	25.11		−18.55	
96	136			1.27	0.83	0.23	−1.23	0.00	0.00	0.00	0.98	8.48	22.98	0.0007				
97	137		5/2 [−]	1.27	0.83	−1.56	−1.33	0.00	0.00	0.00	1.02	9.14	24.65	0.0006				
Z = 41 (Nb)																		
33	74	7/2 ⁺	1/2 [−]	1.41	1.54								22.27	0.0029	−4.11	−5.19	−1.77	
34	75	7/2 ⁺		1.41	1.55	19.09							18.66	0.0055	−3.96	−4.46	−1.73	
35	76	3/2 [−]	3/2 [−]	1.35	1.61	16.22	35.31						20.82	0.0062	−3.22	−3.56	−1.82	
36	77	1/2 ⁺		1.33	1.57	18.47	34.70						17.00	0.0117	−3.13	−2.55	−1.94	
37	78	1/2 ⁺	3/2 ⁺	1.32	1.53	15.53	34.00						18.69	0.0101	−2.25	−1.51	−2.14	
38	79	1/2 ⁺		1.31	1.49	17.46	32.99						14.71	0.0330	−2.01	−0.39	−2.14	
39	80	1/2 ⁺	5/2 ⁺	1.31	1.46	14.38	31.83						15.96	0.0405	−1.11	1.12	−2.03	
40	81	1/2 ⁺		1.30	1.43	15.86	30.24						11.36	0.1733	−0.88	2.64	−1.55	
41	82	1/2 ⁺	1/2 ⁺	1.30	1.39	12.63	28.49						12.40	0.2008	0.49	4.22	−1.31	
42	83	7/2 ⁺		1.37	1.52	14.45	27.09						8.72	1.5993	1.27	5.83	−1.43	
43	84	7/2 ⁺	5/2 ⁺	1.37	1.48	11.81	26.27						10.42	0.5538	2.32	7.39	−2.19	
44	85	7/2 ⁺		1.37	1.44	13.67	25.49						7.02	4.3224	2.47	8.47	−3.02	
45	86	7/2 ⁺	3/2 ⁺	1.37	1.40	11.03	24.70						9.13	12.8334	3.23	9.34	−3.79	
46	87	1/2		1.45	1.55	13.15	24.18						5.74	10.1319	3.24	10.21	−4.35	
47	88	1/2	7/2	1.46	1.45	10.59	23.74						7.65	53.0117	4.06	11.23	−4.78	
48	89	1/2		1.46	1.35	12.66	23.24						4.08	96.5429	4.22	12.21	−5.16	
49	90	1/2	9/2	1.48	1.34	9.85	22.51						5.67	> 100	4.99	13.26	−5.44	
50	91	1/2		1.49	1.43	11.68	21.53						0.83	> 100	5.22	14.26	−5.44	
51	92	1/2	1/2	1.53	1.27	7.57	19.25						±	±	5.96	15.14	−4.21	
52	93	1/2		1.53	1.18	9.05	16.63						...	β-st	6.16	16.19	−2.59	
53	94	1/2	3/2	1.56	1.20	6.62	15.67	1.00	0.00	0.00	0.00	0.00	2.82	> 100	6.95	17.07	−2.51	
54	95	7/2 ⁺		1.47	1.19	8.11	14.73	1.00	0.00	0.00	0.00	0.00	1.52	> 100	7.37	18.14	−2.62	
55	96	3/2 ⁺	3/2 ⁺	1.49	1.21	6.41	14.52	1.00	0.00	0.00	0.00	0.00	3.86	44.1325	7.91	19.02	−3.29	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 41 (Nb)																		
56	97	3/2 ⁻		1.40	1.23	8.15	14.55	1.00	0.00	0.00	0.00	0.00	2.35	> 100	7.94	19.75	-4.39	
57	98	3/2 ⁻	1/2 ⁻	1.37	1.24	6.10	14.24	1.00	0.00	0.00	0.00	0.00	5.04	> 100	8.79	20.52	-4.97	
58	99	3/2 ⁻		1.34	1.23	7.89	13.98	1.00	0.00	0.00	0.00	0.00	3.20	> 100	8.98	21.31	-5.43	
59	100	1/2 ⁺	9/2 ⁺	1.32	1.16	5.48	13.36	1.00	0.00	0.00	0.00	0.00	6.12	9.3127	9.25	21.63	-5.58	
60	101	1/2 ⁺		1.31	1.15	7.66	13.13	1.00	0.00	0.00	0.00	0.00	4.31	9.1456	9.45	22.57	-6.14	
61	102	1/2 ⁺	5/2 ⁻	1.31	1.12	5.50	13.15	1.00	0.00	0.00	0.00	0.00	6.95	4.8793	10.23	23.51	-6.48	
62	103	1/2 ⁺		1.31	1.12	6.84	12.33	1.00	0.00	0.00	0.00	0.00	5.64	6.3529	10.35	24.35	-6.60	
63	104	1/2 ⁺	3/2 ⁺	1.31	1.11	4.84	11.68	1.00	0.00	0.00	0.00	0.00	8.33	2.0596	11.07	25.20	-6.89	
64	105	1/2 ⁺		1.31	1.11	6.19	11.03	0.99	0.01	0.00	0.36	0.01	6.86	2.7788	11.11	25.97	-7.09	
65	106	1/2 ⁺	5/2 ⁺	1.31	1.09	4.23	10.42	1.00	0.00	0.00	0.00	0.00	9.58	0.1090	11.65	26.61	-7.32	
66	107	1/2 ⁺		1.32	1.08	5.80	10.03	0.92	0.08	0.00	0.41	0.08	8.29	0.2336	11.76	27.39	-7.70	
67	108	5/2 ⁻	1/2 ⁺	1.31	1.04	4.08	9.88	0.88	0.12	0.00	0.53	0.12	10.74	0.2031	12.47	28.24	-8.20	
68	109	5/2 ⁻		1.31	1.01	5.49	9.57	0.74	0.26	0.00	0.48	0.26	9.32	0.2629	12.63	29.02	-8.65	
69	110	5/2 ⁻	7/2 ⁻	1.32	0.99	3.68	9.17	0.81	0.19	0.00	0.45	0.19	11.94	0.1696	13.28	29.77	-9.11	
70	111	5/2 ⁻		1.32	0.98	4.86	8.55	0.41	0.59	0.00	0.47	0.59	10.74	0.1322	13.45	30.60	-9.26	
71	112	5/2 ⁻	5/2 ⁺	1.31	1.01	2.88	7.74	0.42	0.57	0.01	0.55	0.59	13.40	0.0749	14.18	31.52	-9.21	
72	113	5/2 ⁻		1.31	0.99	4.24	7.12	0.12	0.87	0.01	0.82	0.89	12.24	0.0764	14.38	32.33	-9.42	
73	114	7/2 ⁺	5/2 ⁻	1.50	1.08	2.57	6.81	0.45	0.51	0.04	0.75	0.59	14.77	0.0190	15.21	33.32	-10.03	
74	115	7/2 ⁺		1.51	1.04	4.49	7.06	0.43	0.56	0.01	0.78	0.58	13.42	0.0143	15.45	34.56	-11.09	
75	116	7/2 ⁺	5/2 ⁻	1.51	0.99	2.89	7.39	0.41	0.54	0.05	0.74	0.64	15.47	0.0129	15.91	35.49	-12.40	
76	117	7/2 ⁺		1.53	0.94	4.21	7.10	0.36	0.62	0.02	0.81	0.66	14.30	0.0104	16.31	36.18	-13.35	
77	118	7/2 ⁺	3/2 ⁻	1.52	0.88	2.30	6.50	0.30	0.59	0.11	0.78	0.81	16.77	0.0080	16.54	36.44	-13.70	
78	119	7/2 ⁺		1.52	0.84	3.76	6.05	0.07	0.87	0.06	0.83	0.99	15.43	0.0079	16.69	37.09	-13.93	
79	120	7/2 ⁺	1/2 ⁻	1.52	0.82	2.36	6.12	0.13	0.56	0.30	0.81	1.19	17.43	0.0070	17.17	37.76	-14.26	
80	121	1/2		1.61	0.77	3.60	5.96	0.24	0.66	0.08	0.93	0.88	16.36	0.0050	17.25	38.41	-14.75	
81	122	1/2	11/2	1.61	0.65	2.74	6.34	0.24	0.42	0.33	0.88	1.11	17.93	0.0054	17.92	39.16	-15.80	
82	123	1/2		1.61	1.07	3.75	6.49	0.22	0.68	0.08	1.00	0.90	16.96	0.0045	17.97	39.84	-16.60	
83	124	9/2 ⁺	7/2 ⁻	1.61	0.95	-0.18	3.57	0.06	0.45	0.44	0.98	1.48	21.55	0.0018	18.51	40.41	-14.43	
84	125	1/2		1.60	0.87	1.30	1.12	0.00	0.23	0.46	1.17	2.10	20.12	0.0038	18.61	41.09	-12.66	
85	126	1/2	3/2	1.60	0.89	-0.50	0.80	0.00	0.01	0.35	1.25	2.83	22.45	0.0034	19.19	41.69	-12.91	
86	127	1/2		1.60	0.92	0.78	0.28	0.00	0.02	0.03	1.25	3.38	21.22	0.0032	19.22	42.29	-13.07	
87	128	1/2	5/2	1.58	0.93	-0.67	0.11	0.00	0.00	0.04	1.26	4.22	23.24	0.0029	19.79	42.80	-13.50	
88	129	1/2		1.57	0.94	0.66	-0.01	0.00	0.01	0.01	1.22	4.75	21.87	0.0027	19.75	43.35	-13.98	
89	130	9/2	7/2	1.54	0.91	-0.71	-0.05	0.00	0.00	0.02	1.23	5.61	23.75	0.0028	20.29	43.91	-14.45	
90	131	9/2		1.53	0.92	0.55	-0.16	0.00	0.01	0.01	1.17	5.93	22.49	0.0023	20.37	44.56	-14.89	
91	132	3/2 ⁻	3/2 ⁺	1.34	0.89	-1.16	-0.60	0.00	0.00	0.01	1.15	6.66	24.64	0.0012	20.85	44.89	-15.00	
92	133	3/2 ⁻		1.34	0.88	0.72	-0.44	0.00	0.00	0.00	1.12	7.02	22.86	0.0013	21.23	45.93	-15.82	
93	134	3/2 ⁻	3/2 ⁻	1.31	0.86	-0.66	0.05	0.00	0.00	0.01	1.09	7.36	24.67	0.0010	21.72	46.34	-16.65	
94	135	3/2 ⁻		1.29	0.84	0.56	-0.11	0.00	0.01	0.00	1.07	7.46	23.43	0.0010	21.85	47.00	-17.52	
95	136	5/2 ⁺	5/2 ⁺	1.29	0.85	-0.88	-0.33	0.00	0.00	0.01	1.07	8.01	25.33	0.0009	22.43	47.54	-17.72	
96	137	5/2 ⁺		1.27	0.84	0.11	-0.77	0.00	0.00	0.00	1.04	8.03	24.23	0.0008	22.30		-17.92	
97	138	5/2 ⁻	5/2 ⁻	1.27	0.83	-1.00	-0.89	0.00	0.00	0.00	1.07	8.67	25.92	0.0008	22.86		-18.34	
98	139	5/2 ⁻		1.26	0.81	0.07	-0.93	0.00	0.00	0.00	1.05	8.58	24.86	0.0007				
99	140	5/2 ⁻	1/2 ⁻	1.26	0.81	-1.18	-1.11	0.00	0.00	0.00	1.08	9.04	26.70	0.0006				
Z = 42 (Mo)																		
35	77		9/2 ⁺	1.36	1.56								19.01	0.0043	-1.32	-4.54	-1.59	
36	78			1.34	1.56	18.88							15.66	0.0176	-0.91	-4.04	-1.52	
37	79		3/2 ⁺	1.34	1.51	15.83	34.71						17.29	0.0105	-0.61	-2.86	-1.87	
38	80			1.31	1.49	18.18	34.00						13.49	0.0443	0.11	-1.91	-1.66	
39	81		5/2 ⁺	1.30	1.46	14.50	32.67						14.85	0.0317	0.23	-0.88	-1.51	
40	82			1.30	1.42	16.72	31.22						10.76	0.2141	1.09	0.21	-1.02	
41	83		1/2 ⁺	1.31	1.41	13.28	30.00						11.94	0.1403	1.73	2.23	-0.82	
42	84			1.32	1.52	16.26	29.54						7.49	1.4314	3.54	4.81	-1.45	
43	85		5/2 ⁺	1.32	1.48	12.04	28.31						9.12	0.8183	3.77	6.09	-2.23	
44	86			1.32	1.44	14.54	26.59						5.60	30.5100	4.64	7.12	-3.10	
45	87		3/2 ⁺	1.31	1.39	11.20	25.74						7.56	6.6865	4.82	8.04	-3.53	
46	88			1.45	1.56	13.97	25.17						4.17	> 100	5.63	8.87	-3.99	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 42 (Mo)																		
47	89		3/2 ⁺	1.45	1.46	10.76	24.73						6.07	15.1339	5.81	9.87		-4.47
48	90			1.46	1.35	13.49	24.25						2.43	> 100	6.64	10.86		-4.82
49	91		9/2 ⁺	1.47	1.34	10.03	23.51						4.08	96.9266	6.81	11.80		-5.08
50	92			1.47	1.43	12.53	22.55						...	β -st	7.66	12.88		-5.11
51	93		5/2 ⁺	1.54	1.26	7.83	20.36						0.35	> 100	7.92	13.88		-3.86
52	94			1.54	1.18	9.79	17.63						...	β -st	8.66	14.82		-2.21
53	95		3/2 ⁺	1.54	1.20	6.81	16.60						...	β -st	8.85	15.80		-2.18
54	96			1.48	1.20	8.75	15.56						...	β -st	9.49	16.85		-2.08
55	97		3/2 ⁺	1.46	1.20	6.63	15.39						0.04		9.72	17.63		-2.88
56	98			1.42	1.22	8.79	15.42						...	β -st	10.36	18.30		-3.98
57	99		1/2 ⁻	1.37	1.23	6.04	14.83	1.00	0.00	0.00	0.00	0.00	1.55	> 100	10.30	19.10		-4.16
58	100			1.36	1.23	8.40	14.44						...	β -st	10.82	19.80		-4.45
59	101		3/2 ⁻	1.33	1.21	5.84	14.24	1.00	0.00	0.00	0.00	0.00	2.57	> 100	11.18	20.43		-5.04
60	102			1.32	1.19	8.15	13.98	1.00	0.00	0.00	0.00	0.00	0.83	> 100	11.67	21.12		-5.48
61	103		5/2 ⁻	1.30	1.14	5.52	13.67	1.00	0.00	0.00	0.00	0.00	3.40	> 100	11.69	21.92		-5.80
62	104			1.30	1.12	7.53	13.05	1.00	0.00	0.00	0.00	0.00	1.93	> 100	12.39	22.73		-5.87
63	105		3/2 ⁺	1.30	1.12	4.73	12.26	1.00	0.00	0.00	0.00	0.00	4.86	12.6832	12.27	23.35		-5.88
64	106			1.30	1.11	6.95	11.68	1.00	0.00	0.00	0.00	0.00	3.56	14.1501	13.03	24.15		-6.11
65	107		5/2 ⁺	1.30	1.10	4.50	11.45	1.00	0.00	0.00	0.00	0.00	6.21	0.3140	13.30	24.96		-6.50
66	108			1.30	1.09	6.53	11.04	1.00	0.00	0.00	0.00	0.00	4.90	1.0887	14.04	25.80		-6.88
67	109		1/2 ⁺	1.30	1.06	4.07	10.60	1.00	0.00	0.00	0.00	0.00	7.49	0.3848	14.02	26.49		-7.26
68	110			1.30	1.03	6.30	10.36	1.00	0.00	0.00	0.00	0.00	5.83	0.3867	14.84	27.46		-7.86
69	111		7/2 ⁻	1.29	1.01	3.67	9.97	0.99	0.01	0.00	0.34	0.01	8.25	0.4237	14.83	28.10		-8.16
70	112			1.29	1.01	5.54	9.21	0.99	0.01	0.00	0.32	0.01	7.17	0.2962	15.50	28.95		-8.37
71	113		5/2 ⁺	1.29	1.00	3.08	8.62	0.97	0.03	0.00	0.42	0.03	9.82	0.1510	15.70	29.89		-8.42
72	114			1.46	1.09	5.10	8.18	0.95	0.05	0.00	0.46	0.05	8.70	0.0777	16.56	30.94		-8.83
73	115		1/2 ⁺	1.46	1.07	3.14	8.23	0.92	0.08	0.00	0.42	0.08	10.94	0.0453	17.13	32.34		-9.82
74	116			1.48	1.05	4.94	8.08	0.91	0.09	0.00	0.56	0.09	9.67	0.0422	17.58	33.02		-10.72
75	117		5/2 ⁻	1.49	1.00	3.03	7.98	0.80	0.20	0.00	0.40	0.20	11.71	0.0406	17.72	33.63		-12.01
76	118			1.51	0.94	4.78	7.81	0.82	0.18	0.00	0.47	0.18	10.32	0.0319	18.29	34.60		-12.53
77	119		3/2 ⁻	1.50	0.89	2.41	7.19	0.71	0.28	0.01	0.45	0.30	12.90	0.0216	18.40	34.95		-12.52
78	120			1.51	0.83	4.36	6.77	0.70	0.30	0.00	0.53	0.30	11.95	0.0160	19.01	35.70		-13.07
79	121		1/2 ⁻	1.55	0.81	2.53	6.89	0.36	0.61	0.03	0.51	0.67	13.56	0.0161	19.17	36.35		-13.53
80	122			1.65	0.77	4.31	6.84	0.66	0.32	0.02	0.54	0.36	12.26	0.0112	19.89	37.14		-14.24
81	123		11/2 ⁻	1.65	0.65	2.78	7.10	0.50	0.47	0.03	0.54	0.53	13.93	0.0118	19.93	37.85		-15.14
82	124			1.65	1.09	4.40	7.19	0.64	0.35	0.01	0.60	0.37	12.93	0.0099	20.58	38.56		-16.03
83	125		7/2 ⁻	1.64	0.96	-0.12	4.28	0.16	0.74	0.10	0.69	0.94	17.51	0.0032	20.64	39.15		-13.83
84	126			1.64	0.88	1.83	1.70	0.01	0.57	0.38	1.15	1.45	16.17	0.0078	21.17	39.77		-11.96
85	127		3/2 ⁻	1.64	0.90	-0.45	1.38	0.02	0.02	0.74	1.27	2.18	18.48	0.0069	21.22	40.41		-12.23
86	128			1.63	0.94	1.35	0.90	0.00	0.08	0.11	1.16	2.79	17.24	0.0063	21.78	41.00		-12.37
87	129		7/2 ⁻	1.63	0.96	-0.70	0.64	0.01	0.01	0.13	1.17	3.54	19.36	0.0057	21.75	41.54		-12.75
88	130			1.63	0.99	1.17	0.47	0.00	0.06	0.02	1.11	3.71	18.02	0.0050	22.26	42.01		-13.17
89	131		7/2	1.58	0.94	-0.70	0.47	0.01	0.01	0.08	1.14	4.39	19.93	0.0052	22.26	42.55		-13.71
90	132			1.58	0.95	0.99	0.29	0.00	0.05	0.01	1.06	4.51	18.65	0.0039	22.70	43.07		-14.00
91	133		3/2 ⁺	1.35	0.90	-1.06	-0.07	0.01	0.00	0.06	1.04	4.80	20.65	0.0019	22.80	43.65		-14.18
92	134			1.33	0.88	1.14	0.08	0.00	0.03	0.01	0.96	4.67	19.39	0.0018	23.22	44.45		-14.85
93	135		3/2 ⁻	1.33	0.89	-0.68	0.46	0.00	0.00	0.08	0.97	5.09	21.36	0.0015	23.21	44.93		-15.81
94	136			1.30	0.84	1.01	0.33	0.00	0.03	0.01	0.92	4.88	20.16	0.0014	23.66	45.51		-16.48
95	137		5/2 ⁺	1.29	0.86	-0.98	0.03	0.00	0.00	0.05	0.95	5.63	22.16	0.0012	23.56	45.99		-16.66
96	138			1.28	0.86	0.68	-0.30	0.00	0.02	0.00	0.92	5.40	20.97	0.0011	24.13	46.43		-16.91
97	139		5/2 ⁻	1.27	0.83	-0.98	-0.30	0.00	0.00	0.03	0.95	5.99	22.75	0.0010	24.16	47.02		-17.39
98	140			1.26	0.81	0.66	-0.32	0.00	0.01	0.00	0.93	5.97	21.57	0.0009	24.74			-17.81
99	141		1/2 ⁻	1.25	0.82	-1.11	-0.45	0.00	0.00	0.03	0.97	6.68	23.34	0.0008	24.82			-18.27
100	142			1.25	0.80	0.42	-0.69	0.00	0.01	0.00	0.94	6.60	22.32	0.0008				
101	143		7/2 ⁺	1.25	0.82	-1.39	-0.97	0.00	0.00	0.01	0.99	7.53	24.18	0.0007				
102	144			1.24	0.81	0.22	-1.17	0.00	0.01	0.00	0.97	7.47	23.05	0.0007				

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 43 (Tc)																		
36	79	5/2 ⁺		1.32	1.57								18.75	0.0046	-3.70	-4.61	-1.78	
37	80	5/2 ⁺	3/2 ⁻	1.32	1.56	16.17							20.76	0.0041	-3.36	-3.97	-1.73	
38	81	3/2 ⁻		1.33	1.48	18.31	34.47						16.95	0.0108	-3.23	-3.12	-1.56	
39	82	3/2 ⁻	5/2 ⁺	1.33	1.45	15.36	33.66						18.32	0.0103	-2.38	-2.15	-1.39	
40	83	5/2 ⁺		1.29	1.57	17.27	32.63						14.32	0.0247	-1.83	-0.73	-1.20	
41	84	5/2 ⁺	7/2 ⁺	1.28	1.55	14.39	31.66						16.20	0.0222	-0.72	1.02	-1.21	
42	85	5/2 ⁺		1.27	1.52	16.40	30.79						11.84	0.0917	-0.58	2.97	-1.75	
43	86	5/2 ⁺	5/2 ⁺	1.26	1.48	13.24	29.65						13.14	0.1441	0.62	4.40	-2.36	
44	87	5/2 ⁺		1.26	1.44	15.08	28.33						9.26	0.5739	1.16	5.80	-2.99	
45	88	5/2 ⁺	3/2 ⁺	1.26	1.39	11.83	26.91						11.40	0.4748	1.79	6.60	-3.00	
46	89	3/2 ⁺		1.46	1.57	14.25	26.07						7.91	1.7467	2.07	7.70	-3.58	
47	90	3/2 ⁺	7/2 ⁺	1.46	1.46	11.52	25.77						9.88	4.5419	2.83	8.64	-4.07	
48	91	3/2 ⁺		1.46	1.36	13.67	25.20						6.23	11.0621	3.02	9.65	-4.60	
49	92	3/2 ⁺	9/2 ⁺	1.47	1.35	10.83	24.50						7.92	55.8539	3.82	10.63	-4.84	
50	93	1/2 ⁺		1.47	1.43	12.69	23.52						3.06	> 100	3.99	11.65	-4.88	
51	94	3/2 ⁺	1/2 ⁺	1.48	1.28	8.50	21.19						4.36	> 100	4.65	12.57	-3.52	
52	95	3/2 ⁺		1.49	1.19	9.96	18.45						1.21	> 100	4.82	13.48	-1.80	
53	96	1/2 ⁻	1/2 ⁺	1.44	1.19	7.06	17.01						±	±	5.06	13.91	-1.28	
54	97	1/2 ⁻		1.42	1.19	9.58	16.64						...	β -st	5.89	15.38	-1.81	
55	98	5/2 ⁺	3/2 ⁺	1.41	1.20	7.41	16.99	1.00	0.00	0.00	0.00	0.00	±	±	6.67	16.38	-2.60	
56	99	5/2 ⁺		1.39	1.21	8.93	16.35	1.00	0.00	0.00	0.00	0.00	...	β -st	6.81	17.17	-3.43	
57	100	5/2 ⁺	3/2 ⁺	1.38	1.22	6.71	15.65	1.00	0.00	0.00	0.00	0.00	±	±	7.48	17.79	-3.73	
58	101	5/2 ⁺		1.36	1.22	8.54	15.26	1.00	0.00	0.00	0.00	0.00	1.38	> 100	7.62	18.44	-4.13	
59	102	3/2 ⁻	3/2 ⁻	1.33	1.21	6.40	14.95	1.00	0.00	0.00	0.00	0.00	4.08	> 100	8.19	19.37	-4.43	
60	103	3/2 ⁻		1.33	1.19	8.10	14.50	1.00	0.00	0.00	0.00	0.00	2.49	> 100	8.14	19.81	-4.65	
61	104	3/2 ⁻	3/2 ⁺	1.32	1.17	6.06	14.16	1.00	0.00	0.00	0.00	0.00	5.21	37.0220	8.68	20.38	-5.23	
62	105	3/2 ⁻		1.32	1.15	7.66	13.71	1.00	0.00	0.00	0.00	0.00	3.73	> 100	8.81	21.20	-5.23	
63	106	3/2 ⁻	5/2 ⁻	1.31	1.14	5.65	13.31	1.00	0.00	0.00	0.00	0.00	6.35	23.2004	9.73	22.00	-5.38	
64	107	3/2 ⁻		1.31	1.13	7.15	12.80	1.00	0.00	0.00	0.00	0.00	4.95	25.8108	9.93	22.96	-5.69	
65	108	3/2 ⁻	5/2 ⁺	1.31	1.12	5.23	12.38	1.00	0.00	0.00	0.00	0.00	7.57	0.6741	10.66	23.96	-6.08	
66	109	3/2 ⁻		1.30	1.10	6.65	11.88	1.00	0.00	0.00	0.00	0.00	6.18	3.2831	10.77	24.81	-6.54	
67	110	3/2 ⁻	1/2 ⁺	1.30	1.07	4.64	11.29	0.99	0.01	0.00	0.18	0.01	8.92	0.9391	11.35	25.37	-6.95	
68	111	3/2 ⁻		1.29	1.05	6.09	10.73	0.96	0.04	0.00	0.32	0.04	7.68	1.1472	11.14	25.98	-7.24	
69	112	3/2 ⁻	7/2 ⁻	1.28	1.02	4.46	10.55	0.92	0.08	0.00	0.32	0.08	10.04	1.1409	11.93	26.75	-7.62	
70	113	5/2 ⁺		1.41	1.09	5.73	10.19	0.92	0.08	0.00	0.42	0.08	8.86	0.0742	12.12	27.62	-7.86	
71	114	5/2 ⁺	5/2 ⁻	1.41	1.08	3.98	9.71	0.91	0.09	0.00	0.41	0.09	11.37	0.0799	13.01	28.72	-8.16	
72	115	5/2 ⁺		1.42	1.10	5.38	9.35	0.82	0.18	0.00	0.53	0.18	10.08	0.0598	13.29	29.85	-8.67	
73	116	5/2 ⁺	1/2 ⁺	1.42	1.07	3.68	9.06	0.82	0.18	0.00	0.57	0.18	12.41	0.0424	13.84	30.96	-9.47	
74	117	5/2 ⁺		1.44	1.05	5.07	8.75	0.72	0.28	0.00	0.66	0.28	11.10	0.0357	13.96	31.54	-10.30	
75	118	5/2 ⁺	5/2 ⁻	1.45	1.00	3.39	8.46	0.71	0.29	0.00	0.67	0.29	13.41	0.0304	14.32	32.03	-11.12	
76	119	5/2 ⁺		1.48	0.94	4.99	8.37	0.66	0.34	0.00	0.76	0.34	12.02	0.0247	14.53	32.82	-11.61	
77	120	5/2 ⁺	3/2 ⁻	1.48	0.89	3.41	8.40	0.65	0.34	0.01	0.73	0.36	14.07	0.0227	15.52	33.93	-12.13	
78	121	5/2 ⁺		1.47	0.82	4.14	7.55	0.48	0.51	0.01	0.80	0.53	13.18	0.0170	15.30	34.31	-12.06	
79	122	5/2 ⁺	1/2 ⁻	1.48	0.82	3.02	7.16	0.53	0.43	0.04	0.82	0.51	15.36	0.0135	15.79	34.96	-12.78	
80	123	3/2 ⁺		1.66	0.77	4.45	7.47	0.56	0.43	0.01	1.09	0.45	14.13	0.0107	15.93	35.82	-13.48	
81	124	3/2 ⁺	11/2 ⁻	1.66	0.65	3.40	7.85	0.53	0.41	0.06	0.99	0.53	15.92	0.0108	16.55	36.47	-14.52	
82	125	3/2 ⁺		1.66	1.11	4.47	7.87	0.52	0.46	0.02	1.12	0.50	14.93	0.0097	16.61	37.19	-15.39	
83	126	7/2 ⁺	7/2 ⁻	1.65	0.97	0.48	4.94	0.29	0.55	0.16	1.04	0.87	19.57	0.0033	17.21	37.85	-13.12	
84	127	3/2 ⁺		1.65	0.89	1.87	2.35	0.00	0.56	0.39	1.31	1.49	18.17	0.0073	17.25	38.42	-11.24	
85	128	9/2	5/2	1.64	0.92	0.11	1.98	0.01	0.03	0.67	1.32	2.26	20.53	0.0065	17.81	39.03	-11.53	
86	129	3/2 ⁺		1.64	0.95	1.41	1.52	0.00	0.07	0.16	1.25	2.77	19.19	0.0062	17.87	39.66	-11.64	
87	130	5/2	1/2	1.64	0.98	-0.17	1.24	0.01	0.01	0.17	1.24	3.43	21.35	0.0058	18.41	40.16	-11.97	
88	131	5/2 ⁺		1.64	1.00	1.21	1.04	0.00	0.04	0.04	1.20	3.69	20.01	0.0050	18.44	40.70	-12.39	
89	132	3/2	7/2	1.60	0.96	-0.29	0.92	0.00	0.01	0.07	1.20	4.35	22.02	0.0048	18.86	41.13	-12.78	
90	133	5/2 ⁺		1.41	0.95	0.93	0.65	0.00	0.02	0.01	1.12	4.40	20.59	0.0024	18.80	41.51	-13.05	
91	134	5/2 ⁺	3/2 ⁻	1.37	0.92	-0.11	0.82	0.00	0.00	0.05	1.10	4.78	22.33	0.0018	19.75	42.55	-13.64	
92	135	5/2 ⁺		1.35	0.88	1.29	1.18	0.00	0.01	0.01	1.06	4.84	20.70	0.0020	19.90	43.13	-14.39	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 43 (Tc)																		
93	136	5/2 ⁺	3/2 ⁻	1.33	0.89	-0.20	1.10	0.00	0.00	0.05	1.05	5.11	22.68	0.0016	20.38	43.59	-15.34	
94	137	5/2 ⁺		1.31	0.86	1.02	0.83	0.00	0.02	0.01	1.02	5.00	21.49	0.0015	20.40	44.06	-15.65	
95	138	3/2 ⁻	5/2 ⁺	1.29	0.86	-0.52	0.51	0.00	0.00	0.03	1.04	5.63	23.56	0.0014	20.86	44.42	-15.80	
96	139	3/2 ⁻		1.28	0.86	0.80	0.28	0.00	0.01	0.00	1.01	5.57	22.18	0.0014	20.99	45.11	-16.04	
97	140	3/2 ⁻	5/2 ⁻	1.27	0.85	-0.52	0.28	0.00	0.00	0.02	1.01	5.92	24.21	0.0011	21.44	45.60	-16.40	
98	141	3/2 ⁻		1.26	0.82	0.67	0.15	0.00	0.01	0.00	1.00	5.97	22.99	0.0010	21.45	46.19	-16.96	
99	142	3/2 ⁻	1/2 ⁻	1.25	0.81	-0.61	0.06	0.00	0.00	0.02	1.02	6.49	24.68	0.0009	21.95	46.77	-17.36	
100	143	3/2 ⁻		1.25	0.80	0.48	-0.13	0.00	0.01	0.00	1.00	6.53	23.59	0.0009	22.01		-17.76	
101	144	1/2 ⁺	7/2 ⁺	1.25	0.82	-0.90	-0.43	0.00	0.00	0.01	1.03	7.22	25.45	0.0008	22.49		-18.04	
102	145	3/2 ⁻		1.25	0.81	0.18	-0.73	0.00	0.01	0.00	1.02	7.27	24.56	0.0007	22.45			
103	146	1/2 ⁺	5/2 ⁻	1.24	0.81	-1.14	-0.96	0.00	0.00	0.01	1.05	7.91	26.26	0.0007				
104	147	3/2 ⁻		1.24	0.81	-0.03	-1.16	0.00	0.00	0.00	1.07	8.20	25.15	0.0006				
Z = 44 (Ru)																		
37	81		1/2 ⁻	1.27	1.56								18.91	0.0051	-1.39	-4.75	-1.66	
38	82			1.25	1.57	19.06							15.21	0.0112	-0.64	-3.87	-1.83	
39	83		9/2 ⁺	1.24	1.57	15.54	34.59						16.95	0.0093	-0.46	-2.83	-1.54	
40	84			1.23	1.57	18.16	33.70						13.17	0.0317	0.43	-1.39	-1.53	
41	85		7/2 ⁺	1.23	1.55	14.65	32.81						14.93	0.0212	0.70	-0.02	-1.68	
42	86			1.21	1.52	17.16	31.80						11.01	0.1060	1.45	0.87	-2.11	
43	87		5/2 ⁺	1.21	1.48	13.69	30.85						12.40	0.0970	1.89	2.52	-2.52	
44	88			1.21	1.44	16.05	29.74						8.18	0.9998	2.86	4.02	-2.31	
45	89		3/2 ⁺	1.20	1.39	12.14	28.19						10.29	0.4275	3.18	4.97	-2.41	
46	90			1.47	1.60	15.50	27.64						6.31	7.2455	4.43	6.50	-3.37	
47	91		3/2 ⁺	1.47	1.49	11.74	27.25						8.24	1.4504	4.65	7.48	-3.91	
48	92			1.47	1.39	14.51	26.25						4.57	72.9678	5.48	8.50	-4.45	
49	93		9/2 ⁺	1.47	1.37	10.99	25.49						6.27	6.6934	5.64	9.46	-4.67	
50	94			1.48	1.45	13.47	24.46						1.30	> 100	6.42	10.40	-4.66	
51	95		5/2 ⁺	1.48	1.29	8.71	22.18						2.55	> 100	6.63	11.28	-3.34	
52	96			1.49	1.20	10.74	19.45						...	β -st	7.41	12.23	-1.56	
53	97		1/2 ⁺	1.38	1.18	7.18	17.93						1.26	> 100	7.54	12.60	-0.90	
54	98			1.38	1.19	10.03	17.21						...	β -st	7.99	13.88	-1.14	
55	99		3/2 ⁺	1.37	1.20	7.41	17.44						0.16		7.99	14.66	-1.75	
56	100			1.36	1.21	10.07	17.48						...	β -st	9.13	15.94	-3.06	
57	101		3/2 ⁺	1.35	1.21	6.72	16.79						...	β -st	9.14	16.62	-3.15	
58	102			1.34	1.22	9.11	15.83						...	β -st	9.70	17.32	-3.47	
59	103		1/2 ⁻	1.33	1.23	6.51	15.61	1.00	0.00	0.00	0.00	0.00	0.95	> 100	9.80	17.99	-3.93	
60	104			1.33	1.20	8.78	15.29						...	β -st	10.48	18.63	-4.31	
61	105		3/2 ⁺	1.32	1.18	6.18	14.96	1.00	0.00	0.00	0.00	0.00	1.70	> 100	10.60	19.28	-4.65	
62	106			1.32	1.17	8.27	14.45	1.00	0.00	0.00	0.00	0.00	0.19	> 100	11.22	20.03	-4.78	
63	107		5/2 ⁻	1.31	1.16	5.75	14.02	1.00	0.00	0.00	0.00	0.00	2.93	> 100	11.32	21.05	-5.00	
64	108			1.31	1.15	7.85	13.60	1.00	0.00	0.00	0.00	0.00	1.41	> 100	12.02	21.95	-5.32	
65	109		5/2 ⁻	1.30	1.14	5.26	13.11	1.00	0.00	0.00	0.00	0.00	4.18	47.3427	12.04	22.70	-5.86	
66	110			1.37	1.17	7.39	12.65	1.00	0.00	0.00	0.00	0.00	2.78	16.0155	12.78	23.55	-6.29	
67	111		9/2 ⁻	1.36	1.15	4.85	12.24	1.00	0.00	0.00	0.00	0.00	5.36	4.2896	12.99	24.34	-6.64	
68	112			1.36	1.12	6.82	11.67	1.00	0.00	0.00	0.00	0.00	4.13	2.1783	13.72	24.86	-6.92	
69	113		7/2 ⁻	1.36	1.10	4.55	11.37	1.00	0.00	0.00	0.00	0.00	6.57	1.8423	13.81	25.73	-7.40	
70	114			1.36	1.09	6.48	11.03	1.00	0.00	0.00	0.00	0.00	5.23	0.8807	14.56	26.68	-7.59	
71	115		5/2 ⁻	1.36	1.07	4.08	10.57	1.00	0.00	0.00	0.00	0.00	7.78	0.6469	14.67	27.68	-8.00	
72	116			1.37	1.10	6.01	10.10	1.00	0.00	0.00	0.00	0.00	6.48	0.4174	15.31	28.60	-8.48	
73	117		1/2 ⁺	1.37	1.07	3.76	9.78	0.99	0.01	0.00	0.31	0.01	8.87	0.1510	15.39	29.22	-9.16	
74	118			1.40	1.06	5.69	9.46	0.98	0.02	0.00	0.33	0.02	7.52	0.1739	16.01	29.98	-9.76	
75	119		5/2 ⁻	1.41	1.00	3.60	9.29	0.96	0.04	0.00	0.37	0.04	9.73	0.1436	16.22	30.54	-10.21	
76	120			1.43	0.95	5.46	9.05	0.96	0.04	0.00	0.54	0.04	8.39	0.1054	16.69	31.22	-10.73	
77	121		3/2 ⁻	1.43	0.89	3.25	8.71	0.91	0.09	0.00	0.46	0.09	10.72	0.0768	16.54	32.06	-10.95	
78	122			1.50	0.85	5.20	8.45	0.90	0.10	0.00	0.54	0.10	9.41	0.0649	17.60	32.90	-11.37	
79	123		1/2 ⁻	1.50	0.80	3.22	8.42	0.85	0.15	0.00	0.54	0.15	11.56	0.0521	17.80	33.59	-12.18	
80	124			1.64	0.78	5.18	8.40	0.84	0.16	0.00	0.65	0.16	10.18	0.0381	18.53	34.46	-13.00	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 44 (Ru)																		
81	125		11/2 ⁻	1.64	0.65	3.48	8.66	0.82	0.18	0.00	0.58	0.18	12.16	0.0330	18.61	35.16	-13.95	
82	126			1.64	1.12	5.12	8.60	0.79	0.21	0.00	0.72	0.21	10.94	0.0329	19.27	35.88	-14.76	
83	127		7/2 ⁻	1.63	0.98	0.47	5.59	0.48	0.47	0.05	0.76	0.57	15.71	0.0076	19.26	36.47	-12.45	
84	128			1.63	0.90	2.47	2.94	0.04	0.82	0.14	1.33	1.10	14.26	0.0215	19.86	37.11	-10.52	
85	129		3/2 ⁻	1.63	0.93	0.07	2.54	0.04	0.08	0.83	1.32	1.89	16.73	0.0176	19.82	37.63	-10.71	
86	130			1.62	0.96	1.98	2.06	0.02	0.17	0.36	1.13	2.24	15.37	0.0166	20.40	38.27	-10.87	
87	131		1/2 ⁻	1.62	0.99	-0.13	1.86	0.03	0.05	0.32	1.17	2.72	17.53	0.0147	20.44	38.85	-11.19	
88	132			1.62	1.01	1.72	1.59	0.01	0.12	0.13	1.12	2.75	16.23	0.0118	20.95	39.40	-11.56	
89	133		5/2	1.48	0.97	-0.50	1.22	0.01	0.02	0.28	1.10	3.09	18.52	0.0057	20.74	39.60	-11.76	
90	134			1.42	0.96	1.63	1.13	0.00	0.07	0.15	1.02	2.94	16.95	0.0043	21.43	40.24	-12.22	
91	135		1/2 ⁺	1.40	0.97	-0.33	1.29	0.02	0.00	0.19	1.03	3.46	19.16	0.0036	21.21	40.96	-12.59	
92	136			1.35	0.92	1.78	1.45	0.00	0.08	0.03	0.95	3.18	17.34	0.0032	21.70	41.61	-13.39	
93	137		3/2 ⁻	1.33	0.89	-0.17	1.61	0.01	0.01	0.31	0.93	3.44	19.22	0.0024	21.73	42.11	-14.28	
94	138			1.33	0.89	1.56	1.39	0.01	0.09	0.02	0.89	3.29	18.11	0.0024	22.26	42.66	-14.69	
95	139		5/2 ⁻	1.30	0.88	-0.58	0.98	0.01	0.02	0.25	0.91	3.65	20.36	0.0017	22.20	43.06	-14.79	
96	140			1.29	0.87	1.50	0.92	0.00	0.07	0.11	0.89	3.43	18.91	0.0018	22.90	43.89	-15.28	
97	141		5/2 ⁻	1.28	0.85	-0.55	0.96	0.00	0.00	0.16	0.92	3.92	20.79	0.0015	22.88	44.32	-15.72	
98	142			1.27	0.85	1.08	0.53	0.00	0.04	0.01	0.90	3.85	19.67	0.0014	23.29	44.74	-16.12	
99	143		1/2 ⁻	1.26	0.83	-0.61	0.47	0.00	0.00	0.10	0.93	4.49	21.44	0.0013	23.28	45.23	-16.48	
100	144			1.25	0.81	0.95	0.34	0.00	0.03	0.01	0.89	4.48	20.39	0.0012	23.76	45.77	-16.78	
101	145		7/2 ⁺	1.25	0.82	-0.71	0.25	0.00	0.00	0.05	0.93	5.25	22.07	0.0011	23.96	46.45	-17.18	
102	146			1.24	0.81	0.56	-0.15	0.00	0.02	0.01	0.91	5.12	21.14	0.0010	24.34	46.79	-17.32	
103	147		5/2 ⁻	1.24	0.81	-1.14	-0.58	0.00	0.00	0.03	0.95	5.94	23.03	0.0009	24.33		-17.57	
104	148			1.23	0.81	0.39	-0.75	0.00	0.02	0.00	0.94	5.99	21.98	0.0008	24.75		-17.73	
105	149		7/2 ⁻	1.23	0.83	-1.51	-1.13	0.00	0.00	0.01	0.99	6.93	23.97	0.0007				
106	150			1.23	0.83	0.16	-1.35	0.00	0.01	0.00	0.99	7.11	22.80	0.0007				
Z = 45 (Rh)																		
38	83	3/2 ⁺		1.24	1.57								18.71	0.0051	-3.95	-4.59	-1.58	
39	84	3/2 ⁺	9/2 ⁺	1.22	1.57	16.30							20.58	0.0045	-3.19	-3.65	-1.71	
40	85	3/2 ⁺		1.22	1.57	18.52	34.81						16.71	0.0100	-2.84	-2.41	-1.92	
41	86	3/2 ⁺	7/2 ⁺	1.21	1.55	15.50	34.02						18.36	0.0104	-1.99	-1.29	-2.06	
42	87	3/2 ⁺		1.19	1.52	17.28	32.79						14.77	0.0222	-1.86	-0.41	-2.07	
43	88	3/2 ⁺	5/2 ⁺	1.19	1.48	14.44	31.72						16.38	0.0232	-1.11	0.78	-2.13	
44	89	3/2 ⁺		1.18	1.44	16.30	30.74						12.22	0.0900	-0.86	2.00	-2.02	
45	90	5/2 ⁺	5/2 ⁺	1.29	1.58	13.51	29.81						14.21	0.0710	0.51	3.69	-2.30	
46	91	5/2 ⁺		1.34	1.56	15.85	29.36						10.10	0.3613	0.86	5.29	-3.06	
47	92	5/2 ⁺	7/2 ⁺	1.32	1.46	12.51	28.36						12.10	0.5387	1.62	6.27	-3.75	
48	93	9/2 ⁺		1.42	1.39	14.82	27.33						8.27	1.7217	1.94	7.42	-4.32	
49	94	5/2 ⁺	9/2 ⁺	1.40	1.38	11.77	26.59						9.97	4.2257	2.72	8.35	-4.56	
50	95	3/2 ⁺		1.42	1.46	13.64	25.40						5.04	24.7616	2.88	9.30	-4.52	
51	96	5/2 ⁺	1/2 ⁺	1.37	1.29	9.30	22.93						6.49	> 100	3.47	10.10	-2.99	
52	97	5/2 ⁺		1.38	1.19	10.93	20.23						2.74	> 100	3.66	11.07	-1.23	
53	98	5/2 ⁺	1/2 ⁺	1.30	1.18	8.17	19.10						4.60	> 100	4.65	12.19	-0.90	
54	99	5/2 ⁺		1.28	1.19	10.12	18.30						1.89	> 100	4.74	12.73	-1.07	
55	100	1/2 ⁻	3/2 ⁺	1.29	1.20	8.16	18.29						3.79	> 100	5.49	13.49	-2.18	
56	101	1/2 ⁻		1.30	1.21	10.24	18.41						0.27	> 100	5.67	14.80	-2.84	
57	102	1/2 ⁻	3/2 ⁺	1.31	1.21	7.60	17.84						±	±	6.55	15.68	-3.03	
58	103	1/2 ⁻		1.30	1.22	9.24	16.84						...	β-st	6.68	16.38	-3.33	
59	104	1/2 ⁻	1/2 ⁻	1.30	1.23	6.82	16.05	1.00	0.00	0.00	0.00	0.00	±	±	6.99	16.79	-3.43	
60	105	1/2 ⁻		1.31	1.24	8.89	15.71	1.00	0.00	0.00	0.00	0.00	0.59	> 100	7.10	17.58	-3.78	
61	106	1/2 ⁻	3/2 ⁺	1.31	1.20	6.76	15.65	1.00	0.00	0.00	0.00	0.00	3.33	> 100	7.68	18.28	-4.13	
62	107	1/2 ⁻		1.30	1.20	8.49	15.25	1.00	0.00	0.00	0.00	0.00	1.35	> 100	7.90	19.11	-4.53	
63	108	1/2 ⁻	5/2 ⁺	1.29	1.20	6.33	14.82	1.00	0.00	0.00	0.00	0.00	4.16	30.6111	8.47	19.79	-4.80	
64	109	7/2 ⁺		1.29	1.17	8.03	14.36	1.00	0.00	0.00	0.00	0.00	2.58	14.7358	8.66	20.68	-5.17	
65	110	3/2 ⁺	1/2 ⁺	1.32	1.19	5.99	14.02	1.00	0.00	0.00	0.00	0.00	5.29	1.8560	9.39	21.43	-5.51	
66	111	3/2 ⁺		1.32	1.17	7.43	13.41	1.00	0.00	0.00	0.00	0.00	3.83	4.0886	9.42	22.21	-5.79	
67	112	3/2 ⁺	9/2 ⁻	1.31	1.15	5.59	13.02	1.00	0.00	0.00	0.00	0.00	6.43	1.7366	10.16	23.16	-6.15	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 45 (Rh)																		
68	113	3/2 ⁺		1.31	1.13	6.99	12.58	1.00	0.00	0.00	0.00	0.00	5.11	1.0950	10.34	24.06	-6.49	
69	114	3/2 ⁺	7/2 ⁻	1.31	1.11	5.14	12.13	1.00	0.00	0.00	0.00	0.00	7.86	0.6014	10.93	24.74	-6.99	
70	115	3/2 ⁺		1.31	1.11	6.63	11.77	1.00	0.00	0.00	0.00	0.00	6.43	0.5414	11.08	25.64	-7.53	
71	116	3/2 ⁺	5/2 ⁻	1.31	1.09	4.72	11.35	1.00	0.00	0.00	0.00	0.00	8.98	0.2616	11.71	26.38	-7.79	
72	117	3/2 ⁺		1.32	1.10	6.15	10.86	0.99	0.01	0.00	0.34	0.01	7.63	0.2272	11.85	27.15	-8.21	
73	118	3/2 ⁺	1/2 ⁺	1.32	1.09	4.35	10.50	0.98	0.02	0.00	0.40	0.02	10.12	0.0902	12.44	27.83	-8.58	
74	119	3/2 ⁺		1.35	1.07	5.80	10.15	0.94	0.06	0.00	0.56	0.06	8.69	0.1060	12.54	28.56	-9.01	
75	120	3/2 ⁺	5/2 ⁻	1.36	1.03	4.12	9.92	0.95	0.05	0.00	0.52	0.05	11.10	0.0850	13.07	29.29	-9.44	
76	121	3/2 ⁺		1.38	0.98	5.58	9.70	0.90	0.10	0.00	0.59	0.10	9.80	0.0630	13.19	29.88	-9.95	
77	122	3/2 ⁺	3/2 ⁻	1.38	0.91	3.89	9.47	0.90	0.10	0.00	0.60	0.10	12.33	0.0449	13.83	30.37	-10.46	
78	123	1/2 ⁻		1.45	0.87	5.37	9.26	0.30	0.70	0.00	0.81	0.70	11.05	0.1623	14.00	31.60	-10.84	
79	124	5/2 ⁺	3/2 ⁻	1.59	0.93	3.80	9.17	0.81	0.19	0.00	0.85	0.19	13.21	0.0329	14.58	32.38	-11.23	
80	125	5/2 ⁺		1.59	0.81	5.46	9.26	0.78	0.22	0.00	0.96	0.22	11.82	0.0275	14.85	33.39	-12.56	
81	126	5/2 ⁺	11/2 ⁻	1.59	0.67	3.91	9.37	0.76	0.24	0.00	0.84	0.24	14.20	0.0211	15.29	33.90	-13.45	
82	127	5/2 ⁺		1.59	1.13	5.24	9.15	0.74	0.26	0.00	1.20	0.26	12.77	0.0221	15.40	34.67	-14.23	
83	128	5/2 ⁺	7/2 ⁻	1.58	0.99	1.02	6.26	0.47	0.47	0.06	0.98	0.59	17.43	0.0084	15.95	35.21	-11.85	
84	129	5/2 ⁺		1.58	0.91	2.53	3.55	0.02	0.80	0.18	1.42	1.16	16.17	0.0153	16.02	35.88	-9.92	
85	130	5/2 ⁺	3/2 ⁻	1.58	0.94	0.62	3.16	0.02	0.10	0.82	1.36	1.92	18.65	0.0130	16.57	36.39	-10.07	
86	131	5/2 ⁺		1.57	0.97	2.03	2.66	0.01	0.20	0.47	1.24	2.10	17.29	0.0124	16.62	37.01	-10.23	
87	132	3/2 ⁺	1/2 ⁻	1.57	1.00	0.43	2.46	0.01	0.04	0.52	1.29	2.54	19.43	0.0113	17.17	37.61	-10.55	
88	133	3/2 ⁺		1.56	1.02	1.79	2.21	0.01	0.09	0.22	1.20	2.73	18.10	0.0096	17.24	38.19	-10.93	
89	134	5/2	5/2	1.45	0.98	0.06	1.85	0.01	0.02	0.26	1.19	3.12	20.34	0.0051	17.80	38.54	-11.16	
90	135	5/2 ⁺		1.40	0.96	1.87	1.93	0.00	0.04	0.10	1.16	3.12	18.50	0.0044	18.04	39.48	-11.82	
91	136	1/2 ⁻	5/2 ⁻	1.37	0.98	-0.04	1.84	0.01	0.01	0.13	1.14	3.60	20.90	0.0039	18.34	39.55	-12.07	
92	137	1/2 ⁻		1.38	0.99	1.71	1.67	0.00	0.04	0.02	1.11	3.57	19.18	0.0040	18.27	39.97	-12.85	
93	138	1/2 ⁻	3/2 ⁻	1.33	0.89	0.45	2.16	0.00	0.01	0.21	1.05	3.67	20.93	0.0027	18.89	40.61	-13.41	
94	139	1/2 ⁻		1.33	0.89	1.67	2.12	0.00	0.03	0.02	1.02	3.80	19.31	0.0033	19.00	41.26	-13.79	
95	140	1/2 ⁻	5/2 ⁻	1.32	0.90	0.05	1.72	0.00	0.00	0.11	1.00	4.08	21.60	0.0024	19.62	41.83	-14.03	
96	141	1/2 ⁻		1.30	0.87	1.34	1.39	0.00	0.03	0.02	0.97	3.93	20.41	0.0022	19.46	42.36	-14.35	
97	142	1/2 ⁺	5/2 ⁻	1.28	0.85	-0.04	1.30	0.00	0.01	0.11	0.96	4.23	22.24	0.0017	19.97	42.84	-14.82	
98	143	1/2 ⁺		1.27	0.83	1.16	1.12	0.00	0.03	0.02	0.95	4.23	21.05	0.0016	20.05	43.34	-15.18	
99	144	1/2 ⁺	1/2 ⁻	1.26	0.83	-0.10	1.06	0.00	0.01	0.07	0.97	4.63	22.83	0.0015	20.56	43.84	-15.61	
100	145	1/2 ⁺		1.25	0.81	0.97	0.88	0.00	0.03	0.01	0.95	4.61	21.90	0.0012	20.58	44.34	-15.91	
101	146	1/2 ⁺	7/2 ⁺	1.25	0.83	-0.37	0.61	0.00	0.00	0.04	0.98	5.22	23.71	0.0012	20.92	44.88	-16.15	
102	147	1/2 ⁺		1.24	0.82	0.74	0.38	0.00	0.02	0.01	0.97	5.25	22.44	0.0011	21.11	45.44	-16.42	
103	148	1/2 ⁺	5/2 ⁻	1.24	0.81	-0.66	0.08	0.00	0.00	0.03	0.99	5.83	24.35	0.0010	21.58	45.92	-16.66	
104	149	1/2 ⁺		1.24	0.81	0.48	-0.19	0.00	0.01	0.01	0.99	6.04	23.26	0.0009	21.67	46.42	-16.95	
105	150	7/2 ⁺	7/2 ⁻	1.23	0.83	-1.00	-0.52	0.00	0.00	0.01	1.02	6.71	25.14	0.0008	22.18		-17.09	
106	151	7/2 ⁺		1.22	0.82	0.26	-0.74	0.00	0.00	0.00	1.02	6.98	23.99	0.0007	22.28		-17.38	
107	152	7/2 ⁺	1/2 ⁻	1.21	0.83	-1.01	-0.75	0.00	0.00	0.01	1.05	7.69	25.73	0.0007				
108	153	7/2 ⁺		1.20	0.82	0.17	-0.84	0.00	0.00	0.00	1.05	7.93	24.52	0.0007				
Z = 46 (Pd)																		
40	86			1.17	1.57								15.60	0.0121	-0.88	-3.72	-1.68	
41	87		7/2 ⁺	1.16	1.55	15.64							17.24	0.0100	-0.74	-2.73	-1.78	
42	88			1.15	1.53	18.11	33.75						13.58	0.0271	0.08	-1.78	-1.72	
43	89		5/2 ⁺	1.14	1.49	14.60	32.70						15.28	0.0239	0.24	-0.87	-1.67	
44	90			1.30	1.73	17.89	32.49						10.90	0.0726	1.83	0.97	-2.41	
45	91		5/2 ⁺	1.30	1.69	13.99	31.88						12.77	0.0667	2.30	2.81	-2.70	
46	92			1.30	1.62	16.86	30.85						8.41	0.5312	3.31	4.17	-3.52	
47	93		3/2 ⁺	1.29	1.50	12.69	29.55						10.55	0.1855	3.49	5.11	-4.06	
48	94			1.30	1.40	15.49	28.18						6.82	4.1749	4.16	6.10	-4.05	
49	95		9/2 ⁺	1.29	1.38	11.93	27.42						8.53	1.0605	4.33	7.04	-4.23	
50	96			1.30	1.46	14.45	26.38						3.38	> 100	5.14	8.02	-4.18	
51	97		5/2 ⁺	1.30	1.29	9.58	24.03						4.73	> 100	5.42	8.89	-2.77	
52	98			1.30	1.19	11.63	21.21						1.27	> 100	6.12	9.78	-0.93	
53	99		1/2 ⁺	1.21	1.19	8.16	19.79						3.23	> 100	6.11	10.76	-0.39	
54	100			1.20	1.19	10.89	19.05						0.50	> 100	6.88	11.62	-0.54	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 46 (Pd)																		
55	101		3/2 ⁺	1.21	1.20	8.27	19.17						2.47	> 100	6.99	12.48	-1.63	
56	102			1.23	1.20	10.51	18.78						...	β -st	7.26	12.92	-2.10	
57	103		3/2 ⁺	1.24	1.21	7.69	18.20						1.11	> 100	7.35	13.89	-2.38	
58	104			1.26	1.22	10.29	17.98						...	β -st	8.40	15.07	-2.60	
59	105		5/2 ⁺	1.29	1.22	7.12	17.41						...	β -st	8.70	15.69	-3.00	
60	106			1.28	1.24	9.49	16.61						...	β -st	9.30	16.40	-3.38	
61	107		1/2 ⁻	1.28	1.25	6.52	16.01	1.00	0.00	0.00	0.00	0.00	...	β -st	9.06	16.74	-3.39	
62	108			1.27	1.24	9.14	15.65						...	β -st	9.71	17.60	-3.75	
63	109		5/2 ⁺	1.27	1.21	6.45	15.59	1.00	0.00	0.00	0.00	0.00	1.06	> 100	9.83	18.31	-4.03	
64	110			1.26	1.21	8.70	15.15						...	β -st	10.49	19.15	-4.45	
65	111		1/2 ⁺	1.27	1.20	5.97	14.67	1.00	0.00	0.00	0.00	0.00	2.10	41.7480	10.48	19.86	-4.67	
66	112			1.27	1.17	8.18	14.15	1.00	0.00	0.00	0.00	0.00	0.47	> 100	11.24	20.66	-5.01	
67	113		9/2 ⁻	1.27	1.16	5.67	13.85	1.00	0.00	0.00	0.00	0.00	3.17	> 100	11.32	21.48	-5.42	
68	114			1.27	1.13	7.90	13.57	1.00	0.00	0.00	0.00	0.00	1.58	> 100	12.22	22.56	-5.93	
69	115		7/2 ⁻	1.27	1.12	5.21	13.10	1.00	0.00	0.00	0.00	0.00	4.36	28.6180	12.29	23.22	-6.28	
70	116			1.27	1.10	7.26	12.47	1.00	0.00	0.00	0.00	0.00	3.00	62.7914	12.91	23.99	-6.73	
71	117		5/2 ⁻	1.27	1.09	4.79	12.05	1.00	0.00	0.00	0.00	0.00	5.61	7.6762	12.99	24.70	-6.97	
72	118			1.28	1.11	6.84	11.64	1.00	0.00	0.00	0.00	0.00	4.11	7.1005	13.69	25.53	-7.33	
73	119		5/2 ⁻	1.29	1.12	4.38	11.22	1.00	0.00	0.00	0.00	0.00	6.68	1.7932	13.71	26.15	-7.63	
74	120			1.33	1.11	6.52	10.90	1.00	0.00	0.00	0.00	0.00	5.24	1.0886	14.43	26.98	-8.13	
75	121		5/2 ⁻	1.33	1.06	4.28	10.80	1.00	0.00	0.00	0.00	0.00	7.89	0.7841	14.60	27.66	-8.65	
76	122			1.38	1.02	6.42	10.70	1.00	0.00	0.00	0.00	0.00	6.34	0.6338	15.44	28.63	-9.38	
77	123		3/2 ⁻	1.38	0.95	4.08	10.51	0.99	0.01	0.00	0.27	0.01	8.81	0.3928	15.63	29.46	-9.87	
78	124			1.52	1.04	5.97	10.05	0.98	0.02	0.00	0.28	0.02	7.57	0.2786	16.23	30.23	-10.38	
79	125		9/2 ⁻	1.52	0.96	4.07	10.04	0.95	0.05	0.00	0.39	0.05	9.81	0.2710	16.50	31.08	-11.20	
80	126			1.51	0.88	6.28	10.36	0.96	0.04	0.00	0.36	0.04	8.16	0.2161	17.32	32.18	-12.28	
81	127		11/2 ⁻	1.51	0.81	3.81	10.09	0.90	0.10	0.00	0.48	0.10	10.53	0.1631	17.22	32.51	-12.87	
82	128			1.51	1.09	5.68	9.49	0.91	0.09	0.00	0.63	0.09	9.19	0.0895	17.66	33.07	-13.36	
83	129		7/2 ⁻	1.50	1.00	1.28	6.96	0.31	0.68	0.01	0.69	0.70	13.74	0.0550	17.93	33.88	-11.17	
84	130			1.50	0.92	3.10	4.38	0.13	0.84	0.03	1.38	0.90	12.50	0.0685	18.49	34.51	-9.15	
85	131		3/2 ⁻	1.50	0.94	0.67	3.77	0.11	0.23	0.66	1.25	1.55	14.97	0.0547	18.54	35.10	-9.35	
86	132			1.50	0.98	2.57	3.24	0.08	0.36	0.48	1.19	1.56	13.63	0.0457	19.08	35.69	-9.45	
87	133		1/2 ⁻	1.49	1.01	0.46	3.03	0.07	0.14	0.57	1.24	1.96	15.81	0.0402	19.11	36.28	-9.83	
88	134			1.48	1.03	2.30	2.76	0.05	0.23	0.41	1.12	1.99	14.47	0.0288	19.62	36.86	-10.15	
89	135		5/2 ⁻	1.40	0.99	0.02	2.33	0.02	0.08	0.68	1.16	2.16	16.82	0.0102	19.59	37.38	-10.30	
90	136			1.40	1.00	2.36	2.39	0.01	0.26	0.44	1.02	2.03	15.07	0.0094	20.08	38.12	-10.95	
91	137		5/2	1.36	0.98	-0.00	2.36	0.01	0.05	0.64	1.08	2.34	17.45	0.0058	20.11	38.45	-11.44	
92	138			1.35	0.99	2.20	2.20	0.01	0.26	0.36	0.95	2.14	15.91	0.0051	20.60	38.87	-12.02	
93	139		3/2 ⁻	1.35	0.89	0.05	2.25	0.02	0.11	0.58	0.96	2.28	17.87	0.0032	20.20	39.09	-12.40	
94	140			1.33	0.90	2.33	2.38	0.01	0.22	0.31	0.90	2.29	16.16	0.0041	20.86	39.86	-12.95	
95	141		5/2 ⁻	1.33	0.89	0.15	2.48	0.01	0.05	0.47	0.94	2.67	17.92	0.0037	20.97	40.59	-13.27	
96	142			1.30	0.87	1.79	1.94	0.01	0.20	0.26	0.84	2.44	17.02	0.0030	21.41	40.87	-13.50	
97	143		5/2 ⁺	1.29	0.86	-0.03	1.76	0.01	0.04	0.41	0.89	2.84	18.97	0.0026	21.43	41.39	-14.05	
98	144			1.27	0.83	1.68	1.65	0.01	0.14	0.29	0.86	2.58	17.80	0.0022	21.95	41.99	-14.23	
99	145		1/2 ⁻	1.27	0.84	0.04	1.73	0.02	0.04	0.27	0.89	3.05	19.46	0.0021	22.09	42.65	-14.82	
100	146			1.26	0.82	1.45	1.49	0.00	0.11	0.16	0.87	2.91	18.53	0.0018	22.56	43.14	-15.18	
101	147		5/2 ⁻	1.25	0.84	-0.52	0.92	0.00	0.02	0.21	0.90	3.50	20.42	0.0016	22.41	43.33	-15.27	
102	148			1.25	0.83	1.24	0.71	0.00	0.05	0.10	0.90	3.43	19.28	0.0015	22.90	44.00	-15.56	
103	149		7/2 ⁺	1.24	0.82	-0.61	0.62	0.00	0.00	0.09	0.94	4.17	21.15	0.0014	22.95	44.53	-15.65	
104	150			1.23	0.82	0.88	0.27	0.00	0.03	0.01	0.90	4.19	20.07	0.0012	23.35	45.03	-15.97	
105	151		7/2 ⁻	1.22	0.83	-0.89	-0.01	0.00	0.00	0.06	0.94	4.80	22.00	0.0010	23.47	45.65	-16.22	
106	152			1.21	0.83	0.73	-0.16	0.00	0.02	0.00	0.94	4.97	20.81	0.0010	23.93	46.22	-16.57	
107	153		1/2 ⁻	1.20	0.84	-1.04	-0.31	0.01	0.00	0.03	0.97	5.75	22.70	0.0009	23.91		-17.04	
108	154			1.20	0.83	0.64	-0.39	0.00	0.01	0.00	0.95	5.88	21.39	0.0009	24.38		-17.52	
109	155		9/2 ⁺	1.19	0.81	-1.14	-0.49	0.00	0.00	0.01	0.99	6.70	23.29	0.0008				
110	156			1.19	0.79	0.47	-0.67	0.00	0.01	0.00	0.96	6.73	22.24	0.0007				

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 47 (Ag)																		
41	88	7/2	1/2	1.16	1.64								20.26	0.0054	-2.94	-3.68	-2.03	
42	89	7/2 ⁺		1.18	1.70	18.64							16.22	0.0096	-2.41	-2.33	-2.16	
43	90	7/2 ⁺	3/2 ⁺	1.12	1.69	15.41	34.05						18.70	0.0089	-1.59	-1.35	-2.07	
44	91	7/2 ⁺		1.15	1.71	17.91	33.32						14.78	0.0195	-1.57	0.26	-2.69	
45	92	7/2 ⁺	5/2 ⁺	1.10	1.62	14.66	32.58						16.97	0.0179	-0.89	1.41	-2.92	
46	93	7/2 ⁺		1.12	1.57	17.06	31.72						12.60	0.0738	-0.70	2.61	-3.68	
47	94	7/2 ⁺	7/2 ⁺	1.12	1.48	13.83	30.89						14.26	0.0677	0.45	3.94	-4.00	
48	95	7/2 ⁺		1.13	1.39	15.91	29.74						10.28	0.4692	0.87	5.03	-4.05	
49	96	7/2 ⁺	9/2 ⁺	1.13	1.38	12.80	28.71						11.93	0.6452	1.74	6.06	-4.35	
50	97	3/2 ⁺		1.16	1.45	14.63	27.43						6.88	4.8042	1.91	7.06	-4.16	
51	98	7/2 ⁺	1/2 ⁺	1.14	1.29	10.27	24.90						8.24	16.8659	2.61	8.03	-2.66	
52	99	7/2 ⁺		1.12	1.19	11.67	21.93						4.74	20.8492	2.64	8.76	-0.69	
53	100	7/2 ⁺	1/2 ⁺	1.11	1.18	9.19	20.86						6.44	17.2167	3.67	9.78	-0.58	
54	101	7/2 ⁺		1.11	1.19	11.03	20.22						3.69	> 100	3.80	10.69	-0.68	
55	102	7/2 ⁺	3/2 ⁺	1.10	1.19	8.97	20.00						5.22	> 100	4.50	11.49	-1.48	
56	103	7/2 ⁺		1.11	1.20	10.53	19.50						2.39	> 100	4.52	11.78	-1.89	
57	104	7/2 ⁺	3/2 ⁺	1.18	1.20	8.40	18.93						4.28	> 100	5.23	12.58	-2.12	
58	105	7/2 ⁺		1.20	1.21	10.02	18.42						1.37	> 100	4.96	13.36	-1.90	
59	106	7/2 ⁺	5/2 ⁺	1.19	1.22	7.86	17.88						±	±	5.70	14.40	-2.16	
60	107	7/2 ⁺		1.24	1.23	9.49	17.35						0.03		5.71	15.01	-2.41	
61	108	7/2 ⁺	1/2 ⁻	1.24	1.24	7.59	17.09	1.00	0.00	0.00	0.00	0.00	±	±	6.78	15.84	-3.19	
62	109	7/2 ⁺		1.24	1.25	9.08	16.68						...	β-st	6.73	16.44	-3.38	
63	110	7/2 ⁺	3/2 ⁻	1.24	1.24	6.93	16.02	1.00	0.00	0.00	0.00	0.00	±	±	7.21	17.04	-3.56	
64	111	7/2 ⁺		1.26	1.23	8.77	15.70	1.00	0.00	0.00	0.00	0.00	0.74	> 100	7.28	17.78	-3.84	
65	112	1/2 ⁺	1/2 ⁺	1.24	1.20	6.56	15.33	1.00	0.00	0.00	0.00	0.00	3.55	7.8713	7.87	18.35	-4.07	
66	113	1/2 ⁺		1.25	1.18	8.37	14.93	1.00	0.00	0.00	0.00	0.00	1.80	45.2554	8.06	19.29	-4.41	
67	114	1/2 ⁺	9/2 ⁻	1.25	1.17	6.31	14.68	1.00	0.00	0.00	0.00	0.00	4.48	9.0799	8.70	20.01	-4.73	
68	115	1/2 ⁺		1.24	1.15	7.99	14.30	1.00	0.00	0.00	0.00	0.00	2.78	6.4861	8.79	21.01	-5.29	
69	116	1/2 ⁺	7/2 ⁻	1.24	1.13	5.90	13.89	1.00	0.00	0.00	0.00	0.00	5.47	2.3653	9.48	21.77	-5.60	
70	117	1/2 ⁺		1.24	1.12	7.40	13.30	1.00	0.00	0.00	0.00	0.00	4.03	2.5261	9.62	22.53	-6.01	
71	118	1/2 ⁺	5/2 ⁻	1.25	1.11	5.34	12.74	1.00	0.00	0.00	0.00	0.00	6.72	1.0513	10.17	23.16	-6.21	
72	119	1/2 ⁺		1.25	1.12	6.95	12.29	1.00	0.00	0.00	0.00	0.00	5.29	0.9203	10.28	23.96	-6.52	
73	120	7/2 ⁺	7/2 ⁺	1.28	1.10	5.08	12.03	1.00	0.00	0.00	0.00	0.00	8.05	0.1980	10.98	24.69	-6.89	
74	121	3/2 ⁺		1.31	1.16	6.93	12.02	1.00	0.00	0.00	0.00	0.00	6.33	0.3939	11.39	25.83	-7.68	
75	122	3/2 ⁺	5/2 ⁻	1.31	1.12	4.86	11.80	1.00	0.00	0.00	0.00	0.00	9.46	0.1795	11.97	26.57	-8.19	
76	123	1/2 ⁻		1.31	1.05	6.56	11.43	0.93	0.07	0.00	0.45	0.07	7.91	1.9873	12.12	27.56	-8.95	
77	124	1/2 ⁻	3/2 ⁻	1.30	1.00	4.72	11.29	0.90	0.10	0.00	0.40	0.10	10.43	0.9755	12.76	28.39	-9.56	
78	125	3/2 ⁺		1.41	1.10	6.31	11.03	0.96	0.04	0.00	0.58	0.04	8.95	0.1074	13.10	29.33	-10.29	
79	126	7/2 ⁺	11/2 ⁻	1.41	0.99	4.64	10.94	0.96	0.04	0.00	0.66	0.04	11.44	0.0918	13.66	30.16	-11.03	
80	127	9/2 ⁺		1.41	0.89	6.18	10.81	0.93	0.07	0.00	0.93	0.07	9.88	0.0744	13.55	30.88	-11.84	
81	128	7/2 ⁺	11/2 ⁻	1.40	0.81	4.34	10.52	0.91	0.09	0.00	0.83	0.09	12.44	0.0550	14.09	31.32	-12.38	
82	129	9/2 ⁺		1.41	1.10	5.82	10.17	0.90	0.10	0.00	0.75	0.10	11.06	0.0339	14.24	31.90	-12.74	
83	130	3/2 ⁺	7/2 ⁻	1.40	1.00	1.87	7.69	0.58	0.41	0.01	0.84	0.43	15.61	0.0259	14.82	32.75	-10.71	
84	131	9/2 ⁺		1.40	0.93	3.13	5.00	0.03	0.92	0.05	1.59	1.02	14.35	0.0327	14.85	33.34	-8.60	
85	132	9/2 ⁺	3/2 ⁻	1.40	0.95	1.23	4.36	0.05	0.27	0.68	1.27	1.63	16.85	0.0277	15.42	33.95	-8.81	
86	133	9/2 ⁺		1.40	0.99	2.64	3.87	0.02	0.52	0.37	1.30	1.53	15.43	0.0255	15.48	34.56	-8.91	
87	134	9/2 ⁺	1/2 ⁻	1.39	1.02	0.96	3.60	0.04	0.09	0.74	1.36	1.98	17.68	0.0226	15.99	35.09	-9.25	
88	135	7/2 ⁺		1.39	1.04	2.37	3.34	0.02	0.25	0.48	1.23	1.97	16.32	0.0177	16.06	35.68	-9.59	
89	136	7/2 ⁺	5/2 ⁻	1.36	1.01	0.62	2.99	0.02	0.05	0.70	1.30	2.20	18.63	0.0090	16.65	36.24	-9.78	
90	137	7/2 ⁺		1.34	1.01	2.38	3.00	0.01	0.15	0.47	1.13	2.22	16.96	0.0070	16.67	36.75	-10.38	
91	138	7/2 ⁺	5/2 ⁻	1.33	1.00	0.66	3.04	0.01	0.02	0.59	1.20	2.44	18.93	0.0058	17.33	37.44	-10.98	
92	139	7/2 ⁺		1.31	1.00	2.01	2.67	0.00	0.08	0.32	1.07	2.58	17.55	0.0047	17.14	37.74	-11.11	
93	140	7/2 ⁺	5/2 ⁻	1.32	1.00	0.61	2.62	0.01	0.02	0.46	1.10	2.68	19.67	0.0040	17.71	37.91	-11.76	
94	141	7/2 ⁺		1.33	0.89	1.91	2.53	0.00	0.08	0.25	1.02	2.73	18.02	0.0036	17.29	38.15	-11.97	
95	142	7/2 ⁺	5/2 ⁻	1.31	0.90	0.88	2.80	0.00	0.01	0.41	1.01	2.91	19.67	0.0032	18.02	38.99	-12.40	
96	143	7/2 ⁺		1.31	0.89	1.93	2.81	0.00	0.07	0.12	0.95	2.92	18.46	0.0032	18.16	39.57	-12.66	
97	144	1/2 ⁺	5/2 ⁺	1.29	0.86	0.51	2.44	0.01	0.02	0.26	0.94	3.27	20.35	0.0031	18.70	40.12	-13.12	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 47 (Ag)																		
98	145	1/2 ⁻		1.28	0.83	1.70	2.21	0.00	0.05	0.14	0.93	3.08	19.19	0.0027	18.72	40.67	-13.49	
99	146	1/2 ⁻	1/2 ⁻	1.28	0.84	0.51	2.22	0.01	0.02	0.19	0.93	3.41	20.87	0.0025	19.19	41.28	-14.04	
100	147	1/2 ⁻		1.26	0.83	1.37	1.89	0.00	0.04	0.08	0.93	3.33	19.99	0.0021	19.11	41.68	-14.25	
101	148	1/2 ⁻	5/2 ⁻	1.25	0.85	0.09	1.47	0.00	0.01	0.13	0.95	3.74	21.77	0.0019	19.73	42.14	-14.44	
102	149	7/2 ⁺		1.25	0.83	1.26	1.36	0.00	0.02	0.05	0.93	3.77	20.64	0.0016	19.76	42.66	-14.73	
103	150	1/2 ⁺	7/2 ⁺	1.23	0.83	-0.20	1.06	0.00	0.01	0.05	0.97	4.33	22.59	0.0015	20.17	43.12	-14.90	
104	151	1/2 ⁺		1.23	0.82	1.05	0.84	0.00	0.02	0.01	0.95	4.38	21.43	0.0014	20.33	43.69	-15.20	
105	152	1/2 ⁻	7/2 ⁻	1.21	0.84	-0.46	0.59	0.00	0.00	0.03	0.97	4.91	23.30	0.0011	20.76	44.23	-15.40	
106	153	1/2 ⁻		1.21	0.83	0.84	0.39	0.00	0.02	0.00	0.97	5.06	22.09	0.0011	20.88	44.81	-15.77	
107	154	1/2 ⁻	1/2 ⁻	1.20	0.84	-0.66	0.19	0.01	0.00	0.03	1.00	5.65	23.96	0.0010	21.25	45.16	-16.11	
108	155	1/2 ⁻		1.19	0.83	0.76	0.10	0.00	0.02	0.00	0.98	5.82	22.75	0.0010	21.37	45.75	-16.61	
109	156	1/2 ⁻	1/2 ⁻	1.18	0.81	-0.58	0.18	0.00	0.01	0.02	1.00	6.48	24.38	0.0009	21.92		-17.04	
110	157	1/2 ⁻		1.18	0.78	0.43	-0.15	0.00	0.02	0.00	0.99	6.58	23.35	0.0008	21.88		-17.30	
111	158	1/2 ⁻	3/2 ⁻	1.17	0.79	-0.60	-0.17	0.00	0.01	0.02	1.01	7.14	25.05	0.0008				
112	159	1/2 ⁻		1.17	0.77	0.30	-0.30	0.00	0.02	0.00	1.00	7.24	23.91	0.0007				
113	160	1/2 ⁺	1/2 ⁻	1.20	0.78	-0.60	-0.30	0.00	0.00	0.01	1.01	7.76	25.49	0.0006				
Z = 48 (Cd)																		
42	90			1.06	1.70								15.22	0.0089	-0.60	-3.00	-2.44	
43	91	3/2 ⁺		1.01	1.73	15.61							17.53	0.0081	-0.40	-1.99	-2.41	
44	92			1.01	1.72	18.65	34.26						13.54	0.0201	0.34	-1.23	-2.95	
45	93	5/2 ⁺		1.01	1.68	14.95	33.60						15.65	0.0186	0.62	-0.27	-3.31	
46	94			1.00	1.61	17.86	32.81						11.62	0.0707	1.43	0.73	-3.27	
47	95	7/2 ⁺		1.00	1.50	14.27	32.12						13.27	0.0540	1.86	2.31	-3.55	
48	96			1.01	1.40	17.19	31.46						8.88	0.6779	3.14	4.01	-3.88	
49	97	9/2 ⁺		1.00	1.38	12.85	30.04						10.65	0.2742	3.20	4.93	-4.05	
50	98			1.01	1.46	15.42	28.27						5.50	20.5320	3.98	5.90	-3.98	
51	99	5/2 ⁺		1.01	1.30	10.49	25.91						6.68	63.0224	4.21	6.81	-2.54	
52	100			1.00	1.19	12.50	22.99						3.36	> 100	5.04	7.68	-0.59	
53	101	3/2 ⁺		0.98	1.19	9.12	21.62						5.28	69.3102	4.97	8.64	-0.14	
54	102			1.00	1.19	11.60	20.72						2.64	> 100	5.54	9.35	-0.10	
55	103	3/2 ⁺		1.00	1.19	9.03	20.64						4.14	> 100	5.61	10.11	-0.98	
56	104			1.03	1.20	11.23	20.26						1.31	> 100	6.30	10.83	-1.31	
57	105	3/2 ⁺		1.06	1.20	8.55	19.77						2.78	> 100	6.46	11.68	-1.58	
58	106			1.12	1.21	10.73	19.28						...	β -st	7.16	12.13	-1.80	
59	107	5/2 ⁺		1.14	1.21	8.05	18.78						1.36	> 100	7.35	13.06	-2.16	
60	108			1.18	1.23	10.20	18.25						...	β -st	8.06	13.77	-2.08	
61	109	5/2 ⁺		1.20	1.23	7.52	17.72						0.32	> 100	7.98	14.77	-2.47	
62	110			1.22	1.25	9.75	17.27						...	β -st	8.65	15.38	-2.74	
63	111	1/2 ⁺		1.24	1.25	7.01	16.76						...	β -st	8.73	15.93	-3.23	
64	112			1.24	1.25	9.37	16.38						...	β -st	9.33	16.61	-3.46	
65	113	1/2 ⁺		1.24	1.24	6.61	15.99						0.69	> 100	9.38	17.26	-3.62	
66	114			1.24	1.22	8.99	15.61						...	β -st	10.01	18.06	-3.92	
67	115	9/2 ⁻		1.22	1.18	6.29	15.28	1.00	0.00	0.00	0.00	0.00	1.65	> 100	9.99	18.68	-4.24	
68	116			1.22	1.16	8.59	14.88						...	β -st	10.59	19.38	-4.65	
69	117	7/2 ⁻		1.22	1.14	5.96	14.55	1.00	0.00	0.00	0.00	0.00	2.75	> 100	10.65	20.13	-4.94	
70	118			1.22	1.14	8.02	13.98	1.00	0.00	0.00	0.00	0.00	1.28	> 100	11.28	20.90	-5.06	
71	119	7/2 ⁻		1.26	1.16	5.52	13.55	1.00	0.00	0.00	0.00	0.00	4.12	96.5934	11.46	21.62	-5.38	
72	120			1.27	1.20	7.84	13.37	1.00	0.00	0.00	0.00	0.00	2.55	> 100	12.35	22.63	-5.96	
73	121	7/2 ⁻		1.26	1.17	5.22	13.06	1.00	0.00	0.00	0.00	0.00	5.37	18.6741	12.48	23.46	-6.38	
74	122			1.25	1.21	8.00	13.21	1.00	0.00	0.00	0.00	0.00	3.27	70.3477	13.54	24.94	-7.54	
75	123	5/2 ⁻		1.26	1.16	5.01	13.01	1.00	0.00	0.00	0.00	0.00	5.98	8.1142	13.69	25.67	-8.17	
76	124			1.30	1.26	7.25	12.26	1.00	0.00	0.00	0.00	0.00	4.37	15.2975	14.38	26.49	-8.90	
77	125	3/2		1.30	1.20	4.82	12.07	1.00	0.00	0.00	0.00	0.00	6.94	4.3811	14.47	27.23	-9.44	
78	126			1.31	1.12	7.12	11.94	1.00	0.00	0.00	0.00	0.00	5.16	3.2931	15.29	28.38	-10.14	
79	127	3/2 ⁻		1.31	1.00	4.62	11.74	1.00	0.00	0.00	0.00	0.00	7.88	1.2687	15.28	28.93	-10.67	
80	128			1.31	0.89	6.90	11.52	0.99	0.01	0.00	0.24	0.01	6.05	0.6935	16.00	29.55	-11.61	
81	129	11/2 ⁻		1.31	0.83	4.45	11.35	0.99	0.01	0.00	0.28	0.01	8.76	1.0118	16.10	30.20	-11.99	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 48 (Cd)																		
82	130			1.31	1.10	6.42	10.87	0.94	0.06	0.00	0.41	0.06	7.24	0.2285	16.70	30.93	-12.12	
83	131		7/2 ⁻	1.31	1.01	1.87	8.28	0.60	0.40	0.00	0.62	0.40	11.70	0.2631	16.70	31.52	-10.18	
84	132			1.31	0.94	3.73	5.60	0.32	0.68	0.00	1.33	0.68	10.48	0.2727	17.30	32.15	-8.23	
85	133		3/2 ⁻	1.31	0.96	1.22	4.95	0.29	0.40	0.31	1.14	1.02	13.05	0.1929	17.29	32.70	-8.17	
86	134			1.30	0.99	3.21	4.43	0.21	0.62	0.17	1.21	0.96	11.65	0.1500	17.86	33.34	-8.28	
87	135		1/2 ⁻	1.30	1.02	1.01	4.22	0.20	0.26	0.52	1.20	1.36	13.87	0.1248	17.91	33.89	-8.62	
88	136			1.30	1.05	2.93	3.94	0.12	0.54	0.30	1.18	1.26	12.53	0.0776	18.47	34.53	-8.98	
89	137		7/2 ⁻	1.30	1.07	0.71	3.64	0.11	0.21	0.60	1.20	1.65	14.79	0.0667	18.55	35.21	-9.23	
90	138			1.30	1.03	2.63	3.33	0.03	0.72	0.21	1.16	1.26	13.41	0.0183	18.80	35.47	-9.56	
91	139		5/2 ⁻	1.29	1.03	0.64	3.26	0.03	0.25	0.66	1.03	1.76	15.59	0.0133	18.78	36.11	-10.17	
92	140			1.29	1.04	2.74	3.37	0.02	0.67	0.24	1.06	1.36	13.94	0.0111	19.51	36.65	-10.54	
93	141		1/2 ⁺	1.29	1.02	0.26	3.00	0.03	0.15	0.73	1.01	1.90	16.39	0.0075	19.15	36.86	-10.81	
94	142			1.28	1.02	2.53	2.79	0.01	0.59	0.29	0.96	1.51	14.84	0.0061	19.77	37.06	-11.14	
95	143		5/2 ⁻	1.32	0.90	0.72	3.25	0.03	0.23	0.64	0.89	1.84	16.74	0.0044	19.61	37.63	-11.81	
96	144			1.31	0.89	2.39	3.11	0.01	0.43	0.37	0.87	1.75	14.91	0.0058	20.07	38.23	-11.87	
97	145		5/2 ⁺	1.30	0.87	0.55	2.94	0.02	0.09	0.67	0.90	2.16	16.83	0.0051	20.11	38.81	-12.27	
98	146			1.29	0.84	2.19	2.74	0.02	0.44	0.25	0.79	1.85	15.81	0.0040	20.60	39.32	-12.67	
99	147		1/2 ⁻	1.28	0.84	0.49	2.69	0.06	0.12	0.60	0.86	2.09	17.55	0.0034	20.58	39.77	-13.20	
100	148			1.27	0.83	1.87	2.36	0.01	0.29	0.42	0.80	2.03	16.56	0.0030	21.08	40.20	-13.39	
101	149		5/2 ⁻	1.26	0.85	0.13	2.00	0.01	0.09	0.50	0.86	2.44	18.41	0.0026	21.11	40.85	-13.47	
102	150			1.25	0.84	1.75	1.88	0.01	0.19	0.32	0.83	2.39	17.34	0.0024	21.60	41.36	-13.78	
103	151		7/2 ⁺	1.25	0.83	-0.11	1.64	0.01	0.04	0.34	0.88	2.90	19.26	0.0022	21.70	41.86	-14.19	
104	152			1.23	0.83	1.41	1.30	0.00	0.11	0.18	0.86	2.86	18.18	0.0019	22.06	42.39	-14.36	
105	153		7/2 ⁻	1.22	0.84	-0.36	1.05	0.00	0.01	0.23	0.88	3.37	20.08	0.0015	22.16	42.92	-14.61	
106	154			1.21	0.84	1.21	0.84	0.00	0.05	0.06	0.88	3.39	19.03	0.0015	22.52	43.39	-14.94	
107	155		9/2 ⁺	1.20	0.85	-0.45	0.76	0.00	0.00	0.08	0.92	4.10	20.74	0.0014	22.72	43.98	-15.37	
108	156			1.19	0.83	1.05	0.60	0.00	0.03	0.02	0.87	3.99	19.63	0.0012	23.02	44.38	-15.69	
109	157		1/2 ⁻	1.19	0.82	-0.60	0.45	0.00	0.00	0.06	0.91	4.60	21.41	0.0011	22.99	44.92	-16.13	
110	158			1.18	0.80	1.10	0.50	0.00	0.02	0.00	0.88	4.60	20.15	0.0010	23.67	45.55	-16.58	
111	159		3/2 ⁻	1.18	0.80	-0.84	0.26	0.00	0.00	0.04	0.92	5.29	21.94	0.0009	23.43		-16.88	
112	160			1.18	0.79	0.98	0.13	0.00	0.02	0.00	0.89	5.16	20.66	0.0009	24.10		-17.38	
113	161		7/2 ⁻	1.17	0.78	-1.03	-0.05	0.00	0.00	0.02	0.93	6.00	22.39	0.0009	23.68			
114	162			1.19	0.78	0.53	-0.50	0.00	0.01	0.00	0.91	5.97	21.53	0.0008				
115	163		11/2 ⁺	1.19	0.76	-0.92	-0.39	0.00	0.00	0.01	0.94	6.72	23.23	0.0007				
Z = 49 (In)																		
43	92	9/2 ⁺	3/2 ⁺	0.88	1.73								20.25	0.0047	-2.38	-2.78	-2.97	
44	93	9/2 ⁺		0.87	1.74	18.86							16.33	0.0087	-2.17	-1.83	-3.20	
45	94	9/2 ⁺	5/2 ⁺	0.88	1.69	15.73	34.59						18.47	0.0094	-1.39	-0.76	-3.51	
46	95	9/2 ⁺		0.87	1.62	18.07	33.79						14.67	0.0220	-1.18	0.24	-3.67	
47	96	9/2 ⁺	7/2 ⁺	0.87	1.51	15.05	33.11						16.81	0.0208	-0.40	1.46	-4.05	
48	97	9/2 ⁺		0.86	1.41	17.29	32.34						12.37	0.1047	-0.30	2.84	-4.28	
49	98	9/2 ⁺	9/2 ⁺	0.86	1.39	14.01	31.30						13.78	0.0989	0.85	4.05	-4.45	
50	99	9/2 ⁺		0.85	1.46	15.81	29.82						8.46	1.1644	1.25	5.23	-4.36	
51	100	9/2 ⁺	1/2 ⁺	0.85	1.30	11.21	27.02						9.76	3.4489	1.96	6.17	-2.77	
52	101	9/2 ⁺		0.85	1.20	12.66	23.86						6.22	11.3129	2.12	7.16	-0.80	
53	102	9/2 ⁺	3/2 ⁺	0.86	1.20	10.06	22.71						7.76	5.2098	3.05	8.03	-0.58	
54	103	9/2 ⁺		0.86	1.21	11.73	21.79						5.07	12.2352	3.18	8.73	-0.65	
55	104	9/2 ⁺	1/2 ⁺	0.90	1.20	9.53	21.26						6.77	6.0630	3.67	9.28	-0.98	
56	105	9/2 ⁺		0.90	1.21	11.29	20.82						4.03	59.1221	3.74	10.04	-1.24	
57	106	9/2 ⁺	3/2 ⁺	0.97	1.20	9.14	20.43						5.62	46.0764	4.33	10.78	-1.41	
58	107	9/2 ⁺		1.02	1.20	10.75	19.89						2.92	> 100	4.35	11.51	-1.63	
59	108	9/2 ⁺	5/2 ⁺	1.02	1.21	8.74	19.49						4.38	> 100	5.04	12.39	-1.98	
60	109	9/2 ⁺		1.11	1.22	10.21	18.95						1.69	> 100	5.05	13.11	-2.16	
61	110	9/2 ⁺	5/2 ⁺	1.18	1.23	8.12	18.33						3.32	> 100	5.65	13.63	-2.42	
62	111	9/2 ⁺		1.21	1.24	9.81	17.93						0.52	> 100	5.70	14.36	-2.73	
63	112	9/2 ⁺	1/2 ⁺	1.23	1.25	7.65	17.46						±	±	6.35	15.07	-2.79	
64	113	9/2 ⁺		1.23	1.26	9.54	17.19						...	β-st	6.52	15.85	-3.25	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 49 (In)																		
65	114	9/2 ⁺	1/2 ⁺	1.25	1.28	7.29	16.84	1.00	0.00	0.00	0.00	0.00	±	±	7.20	16.58	−3.61	
66	115	1/2 ⁺		1.25	1.26	8.96	16.25	1.00	0.00	0.00	0.00	0.00	0.17	> 100	7.16	17.17	−3.80	
67	116	1/2 ⁺	9/2 [−]	1.23	1.24	6.85	15.80	1.00	0.00	0.00	0.00	0.00	±	±	7.72	17.70	−4.08	
68	117	1/2		1.24	1.26	8.80	15.65	1.00	0.00	0.00	0.00	0.00	1.20	> 100	7.93	18.52	−4.52	
69	118	1/2 ⁺	1/2 ⁺	1.24	1.27	6.55	15.36	1.00	0.00	0.00	0.00	0.00	4.02	20.2676	8.52	19.17	−4.76	
70	119	1/2 ⁺		1.24	1.27	8.37	14.92	1.00	0.00	0.00	0.00	0.00	2.29	27.5446	8.87	20.14	−5.14	
71	120	1/2 ⁺	3/2 ⁺	1.25	1.29	6.26	14.63	1.00	0.00	0.00	0.00	0.00	5.09	7.0705	9.61	21.07	−5.50	
72	121	1/2 ⁺		1.25	1.28	8.04	14.31	1.00	0.00	0.00	0.00	0.00	3.30	5.7860	9.81	22.15	−6.15	
73	122	1/2 ⁺	7/2 [−]	1.26	1.28	5.90	13.94	1.00	0.00	0.00	0.00	0.00	6.23	2.5933	10.49	22.97	−6.71	
74	123	1/2 ⁺		1.25	1.25	7.72	13.62	1.00	0.00	0.00	0.00	0.00	4.47	2.2706	10.21	23.76	−7.48	
75	124	1/2 ⁺	5/2 [−]	1.25	1.20	5.63	13.35	1.00	0.00	0.00	0.00	0.00	7.35	1.0296	10.83	24.53	−8.03	
76	125	9/2 ⁺		1.28	1.27	7.39	13.02	1.00	0.00	0.00	0.00	0.00	5.65	0.9313	10.98	25.35	−8.48	
77	126	9/2 ⁺	3/2 ⁺	1.28	1.21	5.35	12.74	1.00	0.00	0.00	0.00	0.00	8.53	0.5812	11.50	25.98	−8.96	
78	127	9/2 ⁺		1.28	1.16	7.34	12.69	1.00	0.00	0.00	0.00	0.00	6.64	0.5902	11.73	27.01	−9.74	
79	128	9/2 ⁺	9/2 [−]	1.29	1.05	5.07	12.41	1.00	0.00	0.00	0.00	0.00	9.53	0.4309	12.17	27.44	−10.08	
80	129	9/2 ⁺		1.30	0.99	7.16	12.23	1.00	0.00	0.00	0.00	0.00	7.60	0.2865	12.43	28.43	−10.94	
81	130	9/2 ⁺	11/2 [−]	1.29	0.97	4.90	12.06	0.99	0.01	0.00	0.48	0.01	10.35	0.2156	12.87	28.98	−11.20	
82	131	9/2 ⁺		1.30	1.15	6.33	11.23	0.98	0.02	0.00	0.76	0.02	8.86	0.1314	12.79	29.48	−11.35	
83	132	9/2 ⁺	1/2 [−]	1.30	1.02	2.51	8.84	0.86	0.14	0.00	0.80	0.14	13.44	0.0557	13.43	30.12	−9.51	
84	133	9/2 ⁺		1.30	0.94	3.80	6.30	0.07	0.93	0.00	2.61	0.93	12.14	0.0981	13.49	30.79	−7.49	
85	134	9/2 ⁺	3/2 [−]	1.29	0.96	1.80	5.60	0.07	0.78	0.15	1.61	1.08	14.70	0.0623	14.07	31.36	−7.42	
86	135	9/2 ⁺		1.29	1.00	3.23	5.04	0.04	0.86	0.10	1.56	1.06	13.28	0.0636	14.10	31.95	−7.52	
87	136	9/2 ⁺	5/2 [−]	1.29	1.03	1.60	4.83	0.07	0.25	0.67	1.30	1.62	15.49	0.0564	14.69	32.59	−7.89	
88	137	9/2 ⁺		1.29	1.05	2.97	4.57	0.03	0.63	0.31	1.30	1.34	14.11	0.0401	14.72	33.18	−8.22	
89	138	9/2 ⁺	7/2 [−]	1.29	1.07	1.24	4.21	0.05	0.14	0.77	1.34	1.80	16.40	0.0341	15.26	33.81	−8.50	
90	139	9/2 ⁺		1.28	1.08	2.81	4.06	0.02	0.40	0.51	1.20	1.63	14.87	0.0233	15.44	34.24	−8.94	
91	140	9/2 ⁺	3/2 [−]	1.27	1.05	1.09	3.90	0.01	0.31	0.64	1.18	1.72	17.09	0.0068	15.90	34.68	−9.41	
92	141	9/2 ⁺		1.27	1.06	2.71	3.80	0.01	0.38	0.53	1.11	1.68	15.34	0.0097	15.87	35.38	−9.75	
93	142	9/2 ⁺	5/2 [−]	1.26	1.06	0.98	3.69	0.01	0.13	0.79	1.14	1.94	17.59	0.0054	16.59	35.75	−10.07	
94	143	9/2 ⁺		1.26	1.07	2.61	3.59	0.01	0.31	0.53	1.00	1.83	15.98	0.0066	16.67	36.44	−10.67	
95	144	1/2 ⁺	5/2 [−]	1.31	0.91	0.57	3.18	0.02	0.08	0.73	1.07	2.10	18.49	0.0047	16.52	36.13	−10.62	
96	145	1/2 ⁺		1.30	0.92	2.46	3.03	0.01	0.18	0.40	0.97	2.25	16.53	0.0064	16.59	36.67	−11.18	
97	146	7/2 ⁺	5/2 ⁺	1.31	0.86	1.17	3.64	0.01	0.02	0.65	1.02	2.37	18.38	0.0052	17.22	37.33	−11.47	
98	147	7/2 ⁺		1.29	0.86	2.24	3.41	0.01	0.23	0.28	0.88	2.28	17.37	0.0040	17.26	37.86	−11.77	
99	148	7/2 ⁺	1/2 [−]	1.29	0.85	0.88	3.12	0.01	0.07	0.58	0.94	2.42	19.15	0.0036	17.65	38.23	−12.15	
100	149	7/2 ⁺		1.28	0.83	1.97	2.85	0.00	0.11	0.36	0.90	2.49	18.06	0.0033	17.75	38.83	−12.42	
101	150	1/2 [−]	5/2 [−]	1.27	0.84	0.69	2.66	0.01	0.03	0.37	0.91	2.78	19.89	0.0032	18.31	39.43	−12.59	
102	151	1/2 [−]		1.26	0.83	1.80	2.49	0.01	0.07	0.18	0.90	2.82	18.78	0.0030	18.36	39.97	−13.02	
103	152	1/2 [−]	7/2 ⁺	1.24	0.83	0.34	2.14	0.01	0.01	0.20	0.90	3.30	20.69	0.0026	18.81	40.51	−13.27	
104	153	1/2 [−]		1.24	0.83	1.53	1.87	0.01	0.04	0.10	0.91	3.17	19.60	0.0023	18.93	40.99	−13.53	
105	154	1/2 ⁺	7/2 [−]	1.22	0.85	0.16	1.69	0.00	0.01	0.13	0.91	3.63	21.41	0.0018	19.46	41.62	−13.90	
106	155	1/2 ⁺		1.21	0.84	1.25	1.41	0.00	0.03	0.03	0.91	3.69	20.25	0.0018	19.50	42.02	−14.11	
107	156	1/2 ⁺	9/2 ⁺	1.20	0.84	−0.06	1.19	0.00	0.00	0.05	0.94	4.25	22.06	0.0016	19.89	42.62	−14.50	
108	157	1/2 ⁺		1.19	0.83	1.18	1.12	0.00	0.02	0.01	0.91	4.29	20.79	0.0014	20.02	43.04	−14.84	
109	158	1/2 ⁺	1/2 [−]	1.18	0.81	−0.15	1.03	0.00	0.00	0.04	0.94	4.79	22.57	0.0013	20.47	43.47	−15.35	
110	159	1/2 ⁺		1.18	0.80	0.94	0.79	0.00	0.01	0.00	0.91	4.93	21.46	0.0012	20.32	43.98	−15.53	
111	160	9/2 ⁺	3/2 [−]	1.17	0.82	−0.30	0.64	0.00	0.00	0.02	0.93	5.46	23.13	0.0010	20.86	44.28	−15.81	
112	161	9/2 ⁺		1.19	0.85	0.70	0.40	0.00	0.01	0.00	0.92	5.41	22.01	0.0009	20.58	44.68	−16.08	
113	162	9/2 ⁺	3/2 [−]	1.18	0.82	−0.33	0.37	0.00	0.00	0.01	0.94	6.03	23.72	0.0009	21.28	44.96	−16.36	
114	163	9/2 ⁺		1.18	0.79	0.78	0.45	0.00	0.01	0.00	0.92	5.95	22.55	0.0008	21.53		−16.83	
115	164	9/2 ⁺	11/2 ⁺	1.17	0.76	−0.38	0.40	0.00	0.00	0.01	0.94	6.44	24.37	0.0008	22.07		−17.06	
116	165	9/2 ⁺		1.19	0.78	0.67	0.29	0.00	0.01	0.00	0.93	6.29	23.26	0.0007				
117	166	9/2 ⁺	11/2 ⁺	1.19	0.75	−0.59	0.08	0.00	0.00	0.01	0.96	6.82	25.12	0.0006				
Z = 50 (Sn)																		
44	94			1.36	1.75								15.64	0.0356	−0.70	−2.86	−3.10	
45	95		3/2 ⁺	1.37	1.71	15.88							17.83	0.0076	−0.54	−1.93	−3.36	
46	96			1.37	1.64	18.84	34.72						14.03	0.0166	0.23	−0.95	−3.56	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 50 (Sn)																		
47	97		3/2 ⁺	1.37	1.53	15.22	34.06						16.10	0.0215	0.41	0.01	−3.83	
48	98			1.39	1.42	18.10	33.32						12.01	0.2740	1.22	0.92	−4.07	
49	99		9/2 ⁺	1.37	1.39	14.35	32.45						13.47	0.0636	1.56	2.41	−4.16	
50	100			1.40	1.47	17.04	31.39						7.64	58.2353	2.79	4.03	−4.01	
51	101		5/2 ⁺	1.39	1.30	11.28	28.32						9.02	4.8450	2.85	4.82	−2.43	
52	102			1.41	1.20	13.43	24.71						5.64	> 100	3.63	5.75	−0.44	
53	103		3/2 ⁺	1.41	1.20	10.16	23.60						7.21	6.5850	3.74	6.79	−0.12	
54	104			1.42	1.22	12.45	22.61						4.29	17.7133	4.46	7.64	−0.06	
55	105		5/2 ⁺	1.42	1.24	9.67	22.12						5.90	31.4807	4.60	8.28	−0.61	
56	106			1.42	1.25	11.90	21.57						3.14	73.5619	5.21	8.95	−0.91	
57	107		1/2 ⁺	1.43	1.26	9.13	21.03						4.76	15.9651	5.21	9.53	−1.01	
58	108			1.26	1.23	11.24	20.37						2.26	> 100	5.70	10.05	−1.02	
59	109		5/2 ⁺	1.21	1.21	8.76	20.00						3.71	> 100	5.71	10.75	−1.23	
60	110			1.32	1.26	11.06	19.81						0.78	> 100	6.56	11.61	−1.56	
61	111		5/2 ⁺	1.32	1.25	8.29	19.35						2.29	> 100	6.73	12.38	−1.80	
62	112			1.32	1.24	10.60	18.89						...	β -st	7.53	13.23	−2.20	
63	113		7/2 ⁺	1.36	1.24	7.76	18.36						1.13	> 100	7.64	13.98	−2.44	
64	114			1.38	1.25	10.22	17.98						...	β -st	8.31	14.83	−2.91	
65	115		1/2 ⁺	1.40	1.26	7.32	17.54						...	β -st	8.34	15.54	−3.22	
66	116			1.40	1.28	9.82	17.14						...	β -st	9.20	16.36	−3.67	
67	117		1/2 ⁺	1.35	1.29	6.87	16.68						...	β -st	9.22	16.94	−3.92	
68	118			1.33	1.29	9.37	16.24						...	β -st	9.79	17.72	−4.30	
69	119		1/2 ⁺	1.31	1.30	6.64	16.01						...	β -st	9.88	18.40	−4.65	
70	120			1.34	1.32	9.06	15.70						...	β -st	10.57	19.43	−5.12	
71	121		3/2 ⁺	1.33	1.31	6.25	15.31	1.00	0.00	0.00	0.00	0.00	0.46	> 100	10.56	20.16	−5.41	
72	122			1.39	1.41	8.83	15.09						...	β -st	11.35	21.16	−6.22	
73	123		3/2 [−]	1.39	1.41	5.96	14.79	1.00	0.00	0.00	0.00	0.00	1.39	> 100	11.41	21.90	−6.66	
74	124			1.38	1.40	8.51	14.47						...	β -st	12.20	22.41	−7.32	
75	125		5/2 [−]	1.38	1.37	5.69	14.20	1.00	0.00	0.00	0.00	0.00	2.27	> 100	12.25	23.09	−7.80	
76	126			1.38	1.32	8.23	13.92	1.00	0.00	0.00	0.00	0.00	0.36	> 100	13.09	24.07	−8.03	
77	127		5/2 [−]	1.37	1.26	5.46	13.68	1.00	0.00	0.00	0.00	0.00	3.20	> 100	13.20	24.70	−8.47	
78	128			1.37	1.19	7.95	13.41	1.00	0.00	0.00	0.00	0.00	1.33	> 100	13.81	25.53	−9.18	
79	129		3/2 [−]	1.37	1.10	5.23	13.18	1.00	0.00	0.00	0.00	0.00	4.09	71.2907	13.97	26.14	−9.58	
80	130			1.37	1.02	7.65	12.88	1.00	0.00	0.00	0.00	0.00	2.27	> 100	14.46	26.89	−10.11	
81	131		11/2 [−]	1.37	1.02	4.84	12.49	1.00	0.00	0.00	0.00	0.00	5.18	35.6252	14.41	27.28	−10.33	
82	132			1.37	1.17	7.09	11.93	1.00	0.00	0.00	0.00	0.00	3.41	27.9702	15.17	27.95	−10.52	
83	133		7/2 [−]	1.38	1.02	2.49	9.58	1.00	0.00	0.00	0.00	0.00	8.04	2.6534	15.15	28.58	−8.56	
84	134			1.38	0.95	4.36	6.85	0.46	0.54	0.00	0.79	0.54	6.90	1.1584	15.72	29.21	−6.51	
85	135		3/2 [−]	1.37	0.97	1.82	6.18	0.49	0.51	0.00	0.92	0.51	9.42	1.1230	15.73	29.80	−6.46	
86	136			1.37	1.01	3.80	5.62	0.33	0.67	0.00	0.80	0.67	8.03	0.6854	16.30	30.40	−6.53	
87	137		1/2 [−]	1.36	1.04	1.59	5.40	0.29	0.65	0.06	0.89	0.77	10.36	0.4882	16.30	30.98	−6.90	
88	138			1.36	1.07	3.54	5.13	0.21	0.78	0.01	0.69	0.80	8.98	0.2263	16.86	31.58	−7.23	
89	139		5/2 [−]	1.36	1.08	1.28	4.81	0.14	0.74	0.12	0.84	0.98	11.44	0.1621	16.90	32.15	−7.49	
90	140			1.35	1.10	3.32	4.59	0.11	0.87	0.02	0.73	0.91	10.07	0.0682	17.40	32.84	−7.88	
91	141		7/2 [−]	1.35	1.11	0.96	4.28	0.81	0.16	0.03	0.85	0.22	12.57	0.0117	17.27	33.17	−8.13	
92	142			1.35	1.12	3.23	4.19	0.06	0.90	0.04	0.66	0.98	11.12	0.0239	17.79	33.66	−8.73	
93	143		7/2 [−]	1.30	1.10	1.00	4.23	0.04	0.82	0.14	0.76	1.10	13.45	0.0211	17.81	34.40	−9.10	
94	144			1.27	1.09	3.08	4.08	0.02	0.93	0.04	0.85	1.04	11.85	0.0146	18.28	34.95	−9.44	
95	145		5/2 [−]	1.30	0.91	0.51	3.58	0.13	0.56	0.30	0.75	1.19	14.49	0.0091	18.22	34.74	−9.69	
96	146			1.31	0.89	3.02	3.52	0.07	0.81	0.10	0.83	1.07	13.03	0.0105	18.77	35.36	−10.17	
97	147		5/2 ⁺	1.30	0.89	1.23	4.25	0.05	0.50	0.43	0.76	1.42	14.88	0.0098	18.82	36.04	−10.68	
98	148			1.30	0.85	2.67	3.89	0.09	0.77	0.11	0.78	1.08	13.98	0.0065	19.25	36.51	−10.96	
99	149		1/2 [−]	1.29	0.85	0.88	3.55	0.11	0.39	0.45	0.77	1.45	15.91	0.0051	19.25	36.90	−11.29	
100	150			1.28	0.84	2.52	3.40	0.05	0.65	0.24	0.79	1.31	14.63	0.0049	19.80	37.55	−11.61	
101	151		5/2 [−]	1.28	0.85	0.69	3.21	0.07	0.25	0.60	0.78	1.71	16.55	0.0040	19.80	38.11	−11.81	
102	152			1.27	0.84	2.25	2.94	0.03	0.51	0.34	0.78	1.56	15.39	0.0039	20.24	38.61	−12.19	
103	153		7/2 ⁺	1.26	0.83	0.44	2.69	0.02	0.15	0.67	0.83	2.02	17.27	0.0034	20.35	39.16	−12.50	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 50 (Sn)																		
104	154			1.25	0.83	1.98	2.42	0.01	0.35	0.41	0.78	1.91	16.22	0.0029	20.79	39.73	-12.73	
105	155		7/2 ⁻	1.24	0.84	0.09	2.07	0.01	0.11	0.57	0.83	2.28	18.11	0.0023	20.72	40.18	-12.93	
106	156			1.23	0.84	1.74	1.83	0.01	0.18	0.34	0.80	2.38	17.06	0.0023	21.21	40.72	-13.26	
107	157		9/2 ⁺	1.21	0.84	-0.09	1.66	0.00	0.02	0.34	0.85	2.93	18.90	0.0022	21.19	41.08	-13.54	
108	158			1.20	0.83	1.63	1.54	0.00	0.08	0.20	0.81	2.86	17.67	0.0019	21.64	41.66	-13.95	
109	159		1/2 ⁻	1.19	0.82	-0.17	1.45	0.01	0.02	0.20	0.85	3.30	19.51	0.0017	21.62	42.09	-14.24	
110	160			1.18	0.85	1.38	1.20	0.00	0.06	0.10	0.83	3.20	18.37	0.0016	22.05	42.36	-14.56	
111	161		7/2 ⁻	1.17	0.83	-0.42	0.96	0.00	0.01	0.14	0.86	3.76	20.25	0.0014	21.93	42.79	-14.75	
112	162			1.17	0.86	1.38	0.96	0.00	0.03	0.05	0.83	3.49	19.10	0.0012	22.61	43.19	-15.02	
113	163		3/2 ⁻	1.16	0.82	-0.39	0.99	0.00	0.00	0.07	0.88	4.28	20.56	0.0013	22.55	43.83	-15.47	
114	164			1.19	0.87	1.44	1.05	0.00	0.02	0.02	0.82	3.79	19.18	0.0010	23.21	44.74	-15.94	
115	165		9/2 ⁻	1.18	0.83	-0.45	1.00	0.00	0.00	0.07	0.85	4.32	21.13	0.0009	23.14	45.21	-16.52	
116	166			1.19	0.80	1.27	0.82	0.00	0.02	0.02	0.81	4.15	19.75	0.0009	23.74		-17.26	
117	167		11/2 ⁺	1.19	0.77	-0.55	0.71	0.00	0.00	0.05	0.85	4.73	21.58	0.0008	23.78		-17.63	
118	168			1.19	0.73	1.06	0.50	0.00	0.02	0.00	0.86	4.36	20.49	0.0008				
119	169		3/2 ⁻	1.21	0.76	-0.78	0.28	0.00	0.00	0.04	0.89	4.96	22.37	0.0006				
Z = 51 (Sb)																		
46	97	5/2 ⁺		1.27	1.64								19.79	0.0038	-5.36	-5.12	-0.37	
47	98	1/2 ⁺	7/2 ⁺	1.26	1.52	15.95							21.94	0.0036	-4.62	-4.22	-0.59	
48	99	1/2 ⁺		1.25	1.42	18.17	34.12						18.12	0.0068	-4.56	-3.34	-0.70	
49	100	1/2 ⁺	9/2 ⁺	1.25	1.40	15.11	33.28						20.05	0.0064	-3.79	-2.23	-0.76	
50	101	1/2 ⁺		1.24	1.46	17.10	32.21						14.23	0.0137	-3.74	-0.95	-0.57	
51	102	1/2 ⁺	1/2 ⁺	1.24	1.31	12.34	29.44						15.32	0.0184	-2.67	0.18	1.10	> 10 ²⁰
52	103	1/2 ⁺		1.23	1.20	13.89	26.23						11.60	0.0564	-2.21	1.42	3.02	10 ^{0.42}
53	104	1/2 ⁺	1/2 ⁺	1.22	1.19	10.76	24.65						13.29	0.2331	-1.62	2.12	3.47	10 ^{-2.18}
54	105	1/2 ⁺		1.20	1.19	12.67	23.42						10.29	0.5480	-1.40	3.05	3.46	10 ^{-2.47}
55	106	1/2 ⁺	3/2 ⁺	1.16	1.19	10.50	23.17						11.69	1.0239	-0.58	4.03	3.02	10 ^{0.83}
56	107	1/2 ⁺		1.14	1.20	12.14	22.64						8.68	2.4444	-0.33	4.88	2.60	10 ^{3.83}
57	108	1/2 ⁺	3/2 ⁺	1.14	1.20	10.02	22.16						9.90	1.6300	0.56	5.77	2.11	10 ^{9.37}
58	109	1/2 ⁺		1.14	1.21	11.63	21.65						7.03	11.9515	0.95	6.64	1.77	10 ^{13.85}
59	110	1/2 ⁺	5/2 ⁺	1.15	1.21	9.56	21.19						8.52	9.7936	1.75	7.46	1.35	> 10 ²⁰
60	111	1/2 ⁺		1.15	1.22	11.11	20.67						5.70	43.2158	1.81	8.37	0.99	> 10 ²⁰
61	112	1/2 ⁺	5/2 ⁺	1.15	1.23	8.99	20.10						7.31	74.2074	2.51	9.24	0.73	> 10 ²⁰
62	113	1/2 ⁺		1.15	1.24	10.72	19.71						4.35	> 100	2.63	10.15	0.22	> 10 ²⁰
63	114	7/2 ⁺	1/2 ⁺	1.19	1.24	8.27	18.99						6.30	> 100	3.13	10.77	0.07	> 10 ²⁰
64	115	7/2 ⁺		1.19	1.24	10.37	18.64						3.25	> 100	3.29	11.60	-0.49	
65	116	7/2 ⁺	11/2 ⁻	1.19	1.24	8.16	18.53						4.91	> 100	4.12	12.46	-1.00	
66	117	7/2 ⁺		1.18	1.23	9.91	18.07						1.86	> 100	4.22	13.42	-1.37	
67	118	7/2 ⁺	9/2 ⁻	1.18	1.23	7.74	17.66						3.50	> 100	5.09	14.31	-1.81	
68	119	7/2 ⁺		1.18	1.24	9.47	17.21						0.67	> 100	5.19	14.98	-2.33	
69	120	7/2 ⁺	7/2 ⁻	1.18	1.24	7.24	16.71						±	±	5.79	15.67	-2.72	
70	121	7/2		1.18	1.28	9.20	16.44						...	β-st	5.93	16.50	-3.12	
71	122	7/2 ⁺	7/2 ⁻	1.18	1.28	6.94	16.14	1.00	0.00	0.00	0.00	0.00	±	±	6.62	17.17	-3.51	
72	123	7/2 ⁺		1.19	1.28	8.79	15.72						...	β-st	6.57	17.92	-3.93	
73	124	7/2 ⁺	7/2 ⁻	1.20	1.28	6.61	15.39	1.00	0.00	0.00	0.00	0.00	±	±	7.22	18.63	-4.27	
74	125	7/2 ⁺		1.20	1.26	8.47	15.08	1.00	0.00	0.00	0.00	0.00	0.71	> 100	7.18	19.37	-4.70	
75	126	7/2 ⁺	5/2 ⁻	1.19	1.22	6.32	14.79	1.00	0.00	0.00	0.00	0.00	3.50	> 100	7.81	20.06	-5.12	
76	127	7/2 ⁺		1.21	1.31	8.29	14.61	1.00	0.00	0.00	0.00	0.00	1.60	> 100	7.87	20.96	-5.68	
77	128	7/2 ⁺	3/2 ⁻	1.21	1.26	6.08	14.37	1.00	0.00	0.00	0.00	0.00	4.27	> 100	8.49	21.70	-6.13	
78	129	7/2 ⁺		1.21	1.20	8.00	14.08	1.00	0.00	0.00	0.00	0.00	2.40	> 100	8.54	22.35	-6.74	
79	130	7/2 ⁺	3/2 ⁻	1.21	1.12	5.83	13.82	1.00	0.00	0.00	0.00	0.00	5.39	92.7205	9.14	23.11	-7.22	
80	131	7/2 ⁺		1.21	1.04	7.76	13.59	1.00	0.00	0.00	0.00	0.00	3.44	> 100	9.24	23.71	-7.63	
81	132	1/2 ⁺	11/2 ⁻	1.22	1.03	5.31	13.07	1.00	0.00	0.00	0.00	0.00	6.60	57.6358	9.71	24.12	-7.88	
82	133	7/2 ⁺		1.22	1.18	7.13	12.44	1.00	0.00	0.00	0.00	0.00	4.82	84.5478	9.75	24.92	-7.84	
83	134	7/2 ⁺	7/2 ⁻	1.22	1.02	3.23	10.35	1.00	0.00	0.00	0.00	0.00	9.34	7.1347	10.49	25.64	-6.17	
84	135	7/2 ⁺		1.24	0.95	4.34	7.56	0.66	0.34	0.00	0.93	0.34	8.23	3.2841	10.46	26.18	-4.18	
85	136	1/2 ⁺	3/2 ⁻	1.24	0.97	2.41	6.74	0.70	0.30	0.00	0.82	0.30	10.85	1.5191	11.05	26.78	-4.08	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 51 (Sb)																		
86	137	7/2 ⁺		1.23	1.01	3.92	6.33	0.36	0.64	0.00	1.03	0.64	9.36	1.1396	11.17	27.47	−4.21	
87	138	7/2 ⁺	3/2 [−]	1.23	1.04	2.16	6.08	0.31	0.56	0.13	1.02	0.82	11.67	0.7133	11.73	28.03	−4.56	
88	139	1/2 ⁺		1.23	1.04	3.74	5.89	0.06	0.93	0.01	1.22	0.95	10.14	0.2412	11.93	28.80	−5.06	
89	140	1/2 ⁺	5/2 [−]	1.23	1.05	1.95	5.69	0.10	0.79	0.11	0.94	1.01	12.49	0.1562	12.61	29.51	−5.41	
90	141	1/2 ⁺		1.23	1.04	3.45	5.40	0.03	0.95	0.02	1.15	0.99	11.17	0.0630	12.74	30.14	−5.90	
91	142	1/2 ⁺	5/2 [−]	1.23	1.04	1.79	5.24	0.06	0.80	0.14	1.00	1.08	13.62	0.0428	13.57	30.84	−6.45	
92	143	1/2 ⁺		1.23	1.04	3.33	5.12	0.02	0.95	0.03	1.16	1.01	12.19	0.0317	13.67	31.46	−6.96	
93	144	1/2 ⁺	5/2 [−]	1.23	1.02	1.48	4.81	0.04	0.61	0.35	0.92	1.31	14.71	0.0210	14.15	31.96	−7.35	
94	145	1/2 ⁺		1.25	0.99	3.15	4.63	0.02	0.89	0.08	1.08	1.08	13.47	0.0189	14.22	32.49	−7.79	
95	146	9/2 ⁺	5/2 [−]	1.29	0.91	1.56	4.70	0.03	0.53	0.43	0.88	1.42	15.68	0.0102	15.27	33.48	−8.36	
96	147	9/2 ⁺		1.29	0.91	3.07	4.63	0.01	0.82	0.15	0.97	1.18	14.62	0.0099	15.32	34.09	−8.82	
97	148	9/2 ⁺	5/2 ⁺	1.29	0.89	1.77	4.84	0.02	0.36	0.60	0.87	1.62	16.43	0.0093	15.86	34.69	−10.03	
98	149	9/2 ⁺		1.29	0.89	2.82	4.58	0.01	0.65	0.30	0.88	1.37	15.22	0.0078	16.01	35.26	−10.37	
99	150	9/2 ⁺	1/2 [−]	1.29	0.87	1.24	4.05	0.05	0.18	0.71	0.88	1.79	17.27	0.0059	16.37	35.62	−10.44	
100	151	9/2 ⁺		1.27	0.88	2.61	3.84	0.01	0.42	0.47	0.84	1.66	16.02	0.0057	16.46	36.25	−10.81	
101	152	9/2 ⁺	5/2 [−]	1.28	0.86	1.09	3.70	0.01	0.12	0.74	0.87	2.02	17.98	0.0045	16.86	36.66	−11.02	
102	153	9/2 ⁺		1.27	0.85	2.32	3.41	0.01	0.25	0.47	0.82	2.02	16.75	0.0044	16.93	37.17	−11.36	
103	154	9/2 ⁺	7/2 ⁺	1.26	0.84	0.93	3.24	0.01	0.04	0.67	0.87	2.28	18.76	0.0038	17.41	37.76	−11.60	
104	155	9/2 ⁺		1.25	0.85	1.98	2.91	0.00	0.15	0.39	0.81	2.36	17.66	0.0033	17.42	38.21	−11.78	
105	156	3/2 ⁺	7/2 [−]	1.24	0.84	0.69	2.67	0.01	0.03	0.49	0.87	2.57	19.53	0.0027	18.02	38.74	−12.13	
106	157	9/2 ⁺		1.23	0.84	1.76	2.45	0.00	0.06	0.22	0.85	2.77	18.39	0.0026	18.03	39.25	−12.36	
107	158	3/2 ⁺	9/2 ⁺	1.22	0.84	0.40	2.16	0.00	0.01	0.21	0.86	3.26	20.30	0.0025	18.52	39.71	−12.59	
108	159	9/2 ⁺		1.20	0.83	1.67	2.06	0.00	0.03	0.09	0.86	3.14	19.00	0.0021	18.56	40.20	−13.01	
109	160	9/2 ⁺	1/2 [−]	1.20	0.83	0.23	1.90	0.00	0.01	0.12	0.87	3.64	20.87	0.0018	18.96	40.58	−13.31	
110	161	1/2 ⁺		1.18	0.85	1.46	1.70	0.00	0.02	0.03	0.86	3.52	19.67	0.0018	19.05	41.10	−13.59	
111	162	1/2 ⁺	7/2 [−]	1.17	0.83	0.22	1.69	0.00	0.01	0.07	0.88	4.01	21.30	0.0017	19.69	41.62	−13.97	
112	163	1/2 ⁺		1.16	0.87	1.07	1.29	0.00	0.02	0.02	0.85	3.92	20.33	0.0013	19.39	41.99	−14.09	
113	164	1/2 ⁺	3/2 [−]	1.16	0.83	0.07	1.14	0.00	0.00	0.04	0.89	4.52	21.84	0.0014	19.84	42.39	−14.46	
114	165	7/2 ⁺		1.13	0.89	1.51	1.57	0.00	0.01	0.01	0.83	4.32	20.34	0.0012	19.90	43.11	−15.27	
115	166	1/2 ⁺	3/2 [−]	1.16	0.84	−0.11	1.39	0.00	0.00	0.02	0.86	4.72	22.37	0.0010	20.24	43.38	−15.48	
116	167	1/2 ⁺		1.15	0.79	1.27	1.16	0.00	0.01	0.00	0.83	4.68	21.08	0.0010	20.24	43.99	−15.98	
117	168	1/2 ⁺	11/2 ⁺	1.15	0.77	−0.03	1.24	0.00	0.00	0.02	0.85	4.96	22.77	0.0009	20.77	44.55	−16.32	
118	169	1/2 ⁺		1.15	0.73	1.09	1.06	0.00	0.01	0.00	0.85	4.83	21.65	0.0008	20.80		−16.75	
119	170	1/2 ⁺	3/2 [−]	1.14	0.73	0.14	1.23	0.00	0.00	0.02	0.89	5.22	23.01	0.0009	21.72		−17.48	
120	171	1/2 ⁺		1.15	0.73	0.46	0.59	0.00	0.01	0.00	0.89	5.12	22.32	0.0007				
121	172	7/2 ⁺	1/2 [−]	1.15	0.71	−0.07	0.39	0.00	0.00	0.01	0.92	5.52	23.60	0.0007				
Z = 52 (Te)																		
47	99		3/2 ⁺	1.21	1.53								20.29	0.0061	−2.91	−7.53	1.77	10 ^{15.19}
48	100			1.20	1.42	18.90							16.50	0.0187	−2.17	−6.73	1.71	10 ^{15.14}
49	101		9/2 ⁺	1.19	1.40	15.22	34.12						18.38	0.0115	−2.07	−5.86	1.71	10 ^{16.03}
50	102			1.19	1.47	17.82	33.04						12.90	0.0469	−1.35	−5.08	1.99	10 ^{10.65}
51	103		5/2 ⁺	1.18	1.31	12.77	30.59						14.03	0.0880	−0.92	−3.59	3.58	10 ^{−2.13}
52	104			1.18	1.20	14.89	27.66						9.89	0.3782	0.08	−2.13	5.72	10 ^{−11.86}
53	105		1/2 ⁺	1.15	1.20	10.94	25.84						11.62	0.4563	0.27	−1.35	6.06	10 ^{−11.72}
54	106			1.09	1.20	13.37	24.32						8.75	1.7013	0.97	−0.43	6.12	10 ^{−12.94}
55	107		3/2 ⁺	1.10	1.21	10.78	24.15						10.11	0.7573	1.25	0.67	5.50	10 ^{−10.15}
56	108			1.10	1.21	12.92	23.70						7.21	8.4856	2.03	1.70	5.03	10 ^{−9.69}
57	109		3/2 ⁺	1.10	1.21	10.15	23.08						8.68	3.3218	2.16	2.72	4.55	10 ^{−6.84}
58	110			1.11	1.22	12.42	22.57						5.83	37.6979	2.95	3.90	4.03	10 ^{−5.62}
59	111		1/2 [−]	1.06	1.23	9.57	21.99						7.37	27.0066	2.96	4.71	3.59	10 ^{−2.25}
60	112			1.09	1.22	11.88	21.45						4.48	> 100	3.72	5.53	2.96	10 ^{0.85}
61	113		3/2 [−]	1.08	1.21	9.27	21.14						5.94	70.5661	4.00	6.51	2.45	10 ^{6.51}
62	114			1.08	1.21	11.48	20.74						2.73	> 100	4.76	7.38	2.03	10 ^{10.25}
63	115		5/2 ⁺	1.09	1.20	8.68	20.16						4.42	39.2185	5.17	8.30	1.63	10 ^{17.47}
64	116			1.10	1.18	10.87	19.55						1.71	> 100	5.67	8.96	1.37	> 10 ²⁰
65	117		5/2 [−]	1.15	1.18	8.26	19.12						3.36	> 100	5.77	9.89	0.87	> 10 ²⁰
66	118			1.10	1.23	10.37	18.62						0.74	> 100	6.22	10.44	0.72	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 52 (Te)																		
67	119		9/2 ⁻	1.10	1.22	8.03	18.40						2.18	> 100	6.51	11.60	0.01	> 10 ²⁰
68	120			1.12	1.22	9.98	18.01						...	β -st	7.01	12.21	-0.15	
69	121		7/2 ⁻	1.12	1.21	7.55	17.53						1.09	> 100	7.33	13.12	-0.83	
70	122			1.12	1.23	9.51	17.06						...	β -st	7.64	13.57	-0.97	
71	123		1/2 ⁺	1.12	1.25	7.00	16.52						0.30	> 100	7.70	14.32	-1.33	
72	124			1.12	1.28	9.40	16.40						...	β -st	8.31	14.88	-1.67	
73	125		3/2 ⁺	1.13	1.26	6.69	16.09						...	β -st	8.40	15.62	-2.11	
74	126			1.13	1.28	9.10	15.80						...	β -st	9.04	16.21	-2.38	
75	127		5/2 ⁻	1.13	1.24	6.39	15.49	1.00	0.00	0.00	0.00	0.00	0.04	> 100	9.10	16.91	-2.81	
76	128			1.13	1.23	8.75	15.14						...	β -st	9.57	17.44	-3.05	
77	129		3/2 ⁻	1.13	1.17	6.13	14.88	1.00	0.00	0.00	0.00	0.00	1.16	> 100	9.61	18.11	-3.49	
78	130			1.15	1.24	8.82	14.95						...	β -st	10.43	18.98	-4.08	
79	131		9/2 ⁻	1.15	1.15	5.80	14.62	1.00	0.00	0.00	0.00	0.00	1.90	> 100	10.41	19.55	-4.43	
80	132			1.15	1.07	8.47	14.28	1.00	0.00	0.00	0.00	0.00	...	β -st	11.13	20.37	-4.95	
81	133		11/2 ⁻	1.14	1.06	5.35	13.82	1.00	0.00	0.00	0.00	0.00	2.99	> 100	11.17	20.88	-5.07	
82	134			1.14	1.20	7.74	13.09	1.00	0.00	0.00	0.00	0.00	1.23	> 100	11.79	21.54	-5.17	
83	135		7/2 ⁻	1.14	1.03	3.23	10.97	1.00	0.00	0.00	0.00	0.00	5.78	16.8841	11.79	22.28	-3.55	
84	136			1.14	0.95	5.02	8.25	0.98	0.02	0.00	0.35	0.02	4.52	10.5856	12.47	22.93	-1.49	
85	137		3/2 ⁻	1.15	0.98	2.44	7.46	0.93	0.07	0.00	0.38	0.07	7.21	7.9873	12.50	23.55	-1.43	
86	138			1.15	1.02	4.46	6.90	0.90	0.10	0.00	0.41	0.10	5.84	1.8759	13.04	24.21	-1.53	
87	139		1/2 ⁻	1.18	0.98	2.20	6.67	0.99	0.01	0.00	0.45	0.01	8.07	0.1178	13.09	24.82	-1.92	
88	140			1.18	0.99	4.31	6.51	0.96	0.04	0.00	0.54	0.04	6.86	0.3388	13.66	25.59	-2.42	
89	141		3/2 ⁻	1.20	1.00	2.13	6.44	0.96	0.04	0.00	0.39	0.04	9.24	0.0610	13.84	26.45	-2.96	
90	142			1.20	1.01	4.24	6.37	0.91	0.09	0.00	0.55	0.09	7.83	0.1208	14.63	27.37	-3.67	
91	143		3/2 ⁻	1.23	0.98	1.90	6.14	0.86	0.14	0.00	0.40	0.14	10.30	0.0391	14.74	28.31	-4.29	
92	144			1.25	0.97	4.00	5.90	0.76	0.24	0.00	0.53	0.24	8.98	0.0548	15.41	29.08	-4.97	
93	145		3/2 ⁻	1.28	0.91	1.90	5.90	0.78	0.21	0.01	0.53	0.23	11.34	0.0244	15.83	29.98	-5.92	
94	146			1.28	0.92	3.77	5.67	0.57	0.43	0.00	0.62	0.43	9.90	0.0328	16.45	30.67	-6.45	
95	147		5/2 ⁻	1.28	0.92	2.02	5.79	0.66	0.32	0.02	0.55	0.36	12.06	0.0207	16.92	32.18	-7.47	
96	148			1.29	0.91	3.58	5.59	0.41	0.58	0.01	0.63	0.60	10.84	0.0225	17.42	32.74	-7.96	
97	149		5/2 ⁺	1.29	0.88	1.60	5.18	0.27	0.66	0.07	0.61	0.80	12.93	0.0195	17.25	33.11	-9.06	
98	150			1.29	0.89	3.29	4.89	0.21	0.76	0.03	0.65	0.82	11.74	0.0149	17.73	33.74	-9.33	
99	151		1/2 ⁻	1.28	0.88	1.35	4.65	0.21	0.65	0.14	0.68	0.93	13.87	0.0110	17.84	34.21	-9.46	
100	152			1.28	0.88	3.05	4.40	0.13	0.81	0.05	0.72	0.94	12.74	0.0097	18.29	34.74	-9.84	
101	153		5/2 ⁻	1.28	0.86	1.09	4.14	0.16	0.53	0.30	0.69	1.16	14.67	0.0075	18.29	35.15	-10.05	
102	154			1.28	0.83	2.93	4.02	0.10	0.76	0.12	0.74	1.06	13.46	0.0076	18.90	35.83	-10.47	
103	155		7/2 ⁺	1.27	0.83	0.89	3.82	0.07	0.42	0.48	0.74	1.47	15.48	0.0062	18.86	36.27	-10.67	
104	156			1.26	0.81	2.56	3.45	0.06	0.68	0.22	0.75	1.24	14.42	0.0052	19.44	36.86	-10.98	
105	157		7/2 ⁻	1.24	0.84	0.61	3.17	0.04	0.33	0.57	0.75	1.66	16.32	0.0038	19.36	37.38	-11.15	
106	158			1.24	0.83	2.31	2.92	0.02	0.47	0.42	0.74	1.59	15.21	0.0039	19.91	37.95	-11.48	
107	159		9/2 ⁺	1.22	0.83	0.37	2.67	0.01	0.13	0.69	0.80	2.06	17.13	0.0035	19.88	38.40	-11.75	
108	160			1.22	0.83	2.11	2.48	0.01	0.29	0.47	0.74	1.97	15.87	0.0031	20.32	38.88	-12.12	
109	161		1/2 ⁻	1.21	0.82	0.26	2.36	0.02	0.05	0.59	0.81	2.34	17.77	0.0027	20.34	39.31	-12.46	
110	162			1.20	0.82	1.86	2.12	0.01	0.19	0.41	0.75	2.26	16.64	0.0025	20.74	39.79	-12.70	
111	163		7/2 ⁻	1.18	0.83	0.09	1.95	0.01	0.04	0.45	0.80	2.66	18.43	0.0022	20.61	40.31	-12.96	
112	164			1.17	0.82	1.58	1.67	0.01	0.11	0.30	0.74	2.59	17.47	0.0018	21.12	40.51	-13.16	
113	165		3/2 ⁻	1.16	0.84	0.01	1.58	0.01	0.02	0.28	0.79	3.07	19.18	0.0016	21.06	40.90	-13.59	
114	166			1.15	0.80	1.92	1.93	0.00	0.07	0.19	0.75	2.89	17.70	0.0016	21.48	41.38	-14.13	
115	167		5/2 ⁺	1.10	0.86	-0.02	1.90	0.00	0.01	0.17	0.79	3.41	19.18	0.0015	21.57	41.80	-14.50	
116	168			1.12	0.79	1.67	1.64	0.00	0.05	0.15	0.76	3.04	18.06	0.0012	21.96	42.20	-14.72	
117	169		11/2 ⁺	1.12	0.75	-0.03	1.64	0.00	0.01	0.19	0.79	3.48	19.67	0.0012	21.96	42.73	-15.14	
118	170			1.12	0.71	1.50	1.47	0.00	0.04	0.14	0.80	3.16	18.54	0.0012	22.37	43.17	-15.37	
119	171		3/2 ⁻	1.12	0.74	-0.24	1.26	0.00	0.01	0.15	0.83	3.64	20.29	0.0010	21.99	43.72	-15.69	
120	172			1.10	0.70	1.21	0.97	0.00	0.03	0.08	0.85	3.40	19.25	0.0010	22.75		-15.85	
121	173		1/2 ⁻	1.10	0.69	-0.13	1.08	0.00	0.00	0.11	0.85	3.92	20.64	0.0009	22.69		-16.50	
122	174			1.09	0.64	1.42	1.30	0.00	0.02	0.05	0.87	3.49	19.42	0.0008				
123	175		3/2 ⁻	1.09	0.60	-0.24	1.18	0.00	0.00	0.10	0.87	4.11	21.09	0.0008				

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 52 (Te)																		
124	176			1.09	0.54	1.05	0.81	0.00	0.02	0.04	0.87	3.78	20.24	0.0007				
Z = 53 (I)																		
48	101	3/2 ⁺		1.25	1.42								19.99	0.0058	-5.56	-7.73	1.91	10 ^{13.71}
49	102	3/2 ⁺	9/2 ⁺	1.24	1.39	15.93							21.88	0.0045	-4.84	-6.91	1.93	10 ^{13.75}
50	103	3/2 ⁺		1.23	1.47	17.88	33.81						16.76	0.0087	-4.78	-6.13	2.22	10 ^{9.54}
51	104	1/2 ⁺	1/2 ⁺	1.20	1.31	13.57	31.46						18.09	0.0138	-3.97	-4.89	3.76	10 ^{-2.49}
52	105	1/2 ⁺		1.17	1.23	14.96	28.53						14.07	0.0323	-3.91	-3.82	5.89	10 ^{-11.10}
53	106	1/2 ⁺	1/2 ⁺	1.16	1.23	12.22	27.18						15.22	0.0337	-2.63	-2.36	6.01	10 ^{-11.09}
54	107	1/2		1.15	1.20	14.16	26.38						11.84	0.0906	-1.84	-0.87	5.75	10 ^{-10.68}
55	108	1/2	3/2	1.12	1.21	11.55	25.71						13.21	0.1355	-1.07	0.18	4.95	10 ^{-7.76}
56	109	1/2		1.11	1.21	13.17	24.73						10.19	0.3006	-0.82	1.21	4.44	10 ^{-6.14}
57	110	1/2	3/2	1.09	1.21	10.87	24.04						11.74	0.4434	-0.10	2.06	4.08	10 ^{-4.13}
58	111	1/2		1.09	1.21	12.63	23.50						8.68	0.8535	0.11	3.07	3.59	10 ^{-1.87}
59	112	1/2	1/2	1.11	1.22	10.67	23.30						9.88	1.1306	1.21	4.17	2.94	10 ^{2.88}
60	113	1/2		1.14	1.21	12.02	22.69						7.13	3.7416	1.35	5.08	2.55	10 ^{6.06}
61	114	1/2	3/2	1.15	1.19	9.86	21.87						8.75	4.5116	1.94	5.94	2.25	10 ^{9.52}
62	115	1/2 ⁺		1.15	1.20	11.51	21.37						5.92	14.8974	1.98	6.74	1.85	10 ^{14.48}
63	116	1/2 ⁺	5/2 ⁺	1.16	1.19	9.43	20.95						7.35	9.7171	2.73	7.90	1.41	> 10 ²⁰
64	117	1/2 ⁺		1.16	1.18	11.03	20.46						4.58	47.8829	2.89	8.56	1.11	> 10 ²⁰
65	118	1/2 ⁺	5/2 ⁻	1.16	1.16	8.94	19.96						6.01	74.0992	3.57	9.34	0.44	> 10 ²⁰
66	119	3/2 ⁺		1.16	1.15	10.52	19.46						3.52	> 100	3.72	9.94	0.28	> 10 ²⁰
67	120	3/2 ⁺	1/2 ⁺	1.16	1.13	8.42	18.94						5.08	> 100	4.12	10.62	0.02	> 10 ²⁰
68	121	5/2 ⁺		1.11	1.21	10.13	18.55						2.50	> 100	4.27	11.28	-0.19	
69	122	5/2 ⁺	7/2 ⁻	1.11	1.20	8.14	18.27						3.88	> 100	4.86	12.18	-0.59	
70	123	5/2 ⁺		1.13	1.21	9.64	17.78						1.24	> 100	4.98	12.62	-0.76	
71	124	3/2 ⁺	7/2 ⁺	1.14	1.14	7.61	17.25						3.03	> 100	5.59	13.29	-1.13	
72	125	5/2 ⁺		1.13	1.23	9.29	16.90						0.43	> 100	5.48	13.80	-1.22	
73	126	3/2 ⁺	7/2 ⁻	1.16	1.14	6.97	16.26						±	±	5.76	14.16	-1.25	
74	127	5/2 ⁺		1.14	1.25	8.99	15.96						...	β-st	5.64	14.68	-1.46	
75	128	5/2 ⁺	5/2 ⁻	1.14	1.21	7.05	16.04	1.00	0.00	0.00	0.00	0.00	±	±	6.31	15.41	-1.90	
76	129	5/2 ⁺		1.14	1.19	8.95	16.00	1.00	0.00	0.00	0.00	0.00	0.02	> 100	6.50	16.07	-2.38	
77	130	5/2 ⁺	3/2 ⁻	1.13	1.11	6.72	15.66	1.00	0.00	0.00	0.00	0.00	±	±	7.09	16.70	-2.77	
78	131	3/2 ⁺		1.18	1.23	8.65	15.37	1.00	0.00	0.00	0.00	0.00	0.60	> 100	6.92	17.36	-3.13	
79	132	3/2 ⁺	9/2 ⁻	1.17	1.14	6.54	15.19	1.00	0.00	0.00	0.00	0.00	±	±	7.66	18.07	-3.59	
80	133	3/2 ⁺		1.17	1.07	8.38	14.92	1.00	0.00	0.00	0.00	0.00	1.39	> 100	7.56	18.69	-3.97	
81	134	3/2 ⁺	11/2 ⁻	1.17	1.08	5.98	14.35	1.00	0.00	0.00	0.00	0.00	4.43	> 100	8.19	19.36	-4.13	
82	135	3/2 ⁺		1.17	1.20	7.78	13.76	1.00	0.00	0.00	0.00	0.00	2.68	> 100	8.22	20.01	-4.14	
83	136	3/2 ⁺	1/2 ⁻	1.16	1.03	3.77	11.54	1.00	0.00	0.00	0.00	0.00	7.33	20.8801	8.76	20.55	-2.60	
84	137	3/2 ⁺		1.16	0.96	5.13	8.90	0.97	0.03	0.00	0.62	0.03	6.10	18.0996	8.87	21.34	-0.60	
85	138	3/2 ⁺	3/2 ⁻	1.15	0.98	3.09	8.22	0.95	0.05	0.00	0.41	0.05	8.61	11.0375	9.52	22.02	-0.47	
86	139	3/2 ⁺		1.16	0.95	4.44	7.53	0.87	0.13	0.00	0.40	0.13	7.17	2.1328	9.49	22.54	-0.57	
87	140	3/2 ⁺	3/2 ⁻	1.17	0.96	3.10	7.53	0.87	0.13	0.00	0.46	0.13	9.51	0.4331	10.39	23.48	-1.26	
88	141	3/2 ⁺		1.18	0.97	4.51	7.60	0.49	0.51	0.00	0.50	0.51	8.25	0.4277	10.59	24.25	-1.84	
89	142	1/2	5/2	1.18	0.94	2.83	7.34	0.81	0.19	0.00	0.50	0.19	10.65	0.0737	11.29	25.13	-2.52	
90	143	1/2		1.20	0.94	4.36	7.19	0.30	0.70	0.00	0.69	0.70	9.37	0.1284	11.41	26.04	-3.14	
91	144	1/2	5/2	1.19	0.95	2.69	7.05	0.64	0.36	0.00	0.59	0.36	11.64	0.0493	12.20	26.94	-3.88	
92	145	3/2 ⁺		1.23	0.95	4.27	6.95	0.18	0.82	0.00	0.81	0.82	10.39	0.0762	12.46	27.88	-4.69	
93	146	3/2 ⁺	3/2 ⁻	1.25	0.92	2.33	6.60	0.44	0.54	0.02	0.74	0.58	12.73	0.0366	12.89	28.72	-5.23	
94	147	3/2 ⁺		1.25	0.92	4.17	6.50	0.09	0.90	0.01	0.89	0.92	11.36	0.0481	13.30	29.75	-6.08	
95	148	3/2 ⁺	5/2 ⁻	1.27	0.91	2.35	6.53	0.21	0.74	0.05	0.76	0.84	13.50	0.0265	13.63	30.55	-6.95	
96	149	3/2 ⁺		1.27	0.91	3.69	6.04	0.04	0.94	0.02	0.92	0.98	12.33	0.0306	13.74	31.16	-7.49	
97	150	3/2 ⁺	5/2 ⁺	1.27	0.89	2.10	5.79	0.05	0.72	0.23	0.83	1.18	14.38	0.0260	14.25	31.49	-8.04	
98	151	3/2 ⁺		1.28	0.88	3.48	5.59	0.03	0.91	0.06	0.92	1.03	13.13	0.0204	14.44	32.16	-8.45	
99	152	3/2 ⁺	1/2 ⁻	1.27	0.88	1.92	5.40	0.11	0.50	0.39	0.82	1.28	15.17	0.0153	15.01	32.85	-8.60	
100	153	3/2 ⁺		1.26	0.88	3.03	4.95	0.02	0.84	0.13	0.89	1.13	14.09	0.0125	14.98	33.27	-8.81	
101	154	3/2 ⁺	5/2 ⁻	1.28	0.86	1.72	4.75	0.06	0.37	0.55	0.81	1.53	16.00	0.0103	15.61	33.90	-9.30	
102	155	3/2 ⁺		1.28	0.83	2.90	4.62	0.02	0.62	0.32	0.82	1.38	14.95	0.0099	15.58	34.48	-9.59	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 53 (I)																		
103	156	3/2 ⁺	5/2 ⁻	1.27	0.82	1.51	4.41	0.03	0.26	0.67	0.84	1.72	16.74	0.0081	16.20	35.06	-10.01	
104	157	9/2 ⁺		1.26	0.81	2.51	4.02	0.01	0.47	0.45	0.80	1.58	15.79	0.0057	16.15	35.59	-10.20	
105	158	3/2 ⁺	7/2 ⁻	1.25	0.84	1.20	3.71	0.02	0.15	0.73	0.83	1.93	17.70	0.0047	16.74	36.10	-10.47	
106	159	9/2 ⁺		1.24	0.83	2.28	3.48	0.00	0.22	0.56	0.79	2.01	16.55	0.0044	16.71	36.62	-10.77	
107	160	9/2 ⁺	9/2 ⁺	1.23	0.83	0.86	3.14	0.01	0.03	0.67	0.85	2.29	18.53	0.0038	17.20	37.08	-10.94	
108	161	3/2 ⁺		1.22	0.83	2.15	3.01	0.01	0.12	0.35	0.79	2.43	17.26	0.0037	17.24	37.57	-11.33	
109	162	3/2 ⁺	1/2 ⁻	1.21	0.82	0.73	2.88	0.01	0.03	0.40	0.82	2.66	19.10	0.0033	17.72	38.06	-11.66	
110	163	3/2 ⁺		1.21	0.82	1.89	2.61	0.00	0.06	0.20	0.81	2.79	17.93	0.0030	17.74	38.49	-11.88	
111	164	3/2 ⁺	7/2 ⁻	1.20	0.81	0.61	2.50	0.00	0.02	0.25	0.80	3.11	19.70	0.0027	18.26	38.88	-12.26	
112	165	3/2 ⁺		1.18	0.81	1.72	2.33	0.00	0.04	0.11	0.82	3.01	18.55	0.0024	18.41	39.53	-12.52	
113	166	3/2 ⁺	3/2 ⁻	1.17	0.82	0.44	2.16	0.00	0.01	0.13	0.81	3.52	20.20	0.0022	18.84	39.90	-12.73	
114	167	3/2 ⁺		1.15	0.80	1.46	1.90	0.00	0.02	0.06	0.83	3.22	19.22	0.0017	18.38	39.85	-13.12	
115	168	3/2 ⁺	9/2 ⁻	1.15	0.80	0.54	2.00	0.00	0.01	0.12	0.81	3.66	20.68	0.0016	18.94	40.51	-13.60	
116	169	3/2 ⁺		1.13	0.78	1.58	2.12	0.00	0.02	0.04	0.83	3.49	19.29	0.0015	18.85	40.81	-13.67	
117	170	3/2 ⁺	11/2 ⁺	1.12	0.76	0.37	1.95	0.00	0.00	0.05	0.83	3.96	20.87	0.0014	19.25	41.21	-14.16	
118	171	3/2 ⁺		1.12	0.72	1.51	1.88	0.00	0.02	0.02	0.83	3.72	19.68	0.0014	19.27	41.64	-14.40	
119	172	3/2 ⁺	3/2 ⁻	1.11	0.73	0.18	1.69	0.00	0.01	0.06	0.84	4.09	21.64	0.0011	19.68	41.68	-14.61	
120	173	5/2 ⁺		1.10	0.69	1.26	1.43	0.00	0.02	0.03	0.86	3.81	20.53	0.0010	19.73	42.48	-14.77	
121	174	5/2 ⁺	1/2 ⁻	1.09	0.67	0.20	1.46	0.00	0.00	0.05	0.89	4.27	21.93	0.0010	20.06	42.74	-14.83	
122	175	5/2 ⁺		1.09	0.64	1.43	1.63	0.00	0.01	0.01	0.88	3.96	20.66	0.0009	20.06		-15.81	
123	176	5/2 ⁺	3/2 ⁻	1.09	0.60	0.20	1.63	0.00	0.00	0.04	0.91	4.30	22.30	0.0009	20.51		-16.08	
124	177	5/2 ⁺		1.09	0.55	1.15	1.35	0.00	0.01	0.02	0.90	4.31	21.37	0.0008	20.60			
125	178	3/2 ⁺	1/2 ⁻	1.09	0.50	0.04	1.19	0.00	0.00	0.04	0.92	4.50	22.88	0.0007				
126	179	3/2 ⁺		1.09	0.83	0.89	0.93	0.00	0.01	0.02	0.92	4.27	22.06	0.0006				
Z = 54 (Xe)																		
49	103		9/2	1.27	1.39								20.39	0.0053	-3.29	-8.13	2.31	10 ^{9.56}
50	104			1.29	1.47	18.61							15.35	0.0111	-2.56	-7.34	2.61	10 ^{5.44}
51	105		1/2 ⁺	1.22	1.32	13.61	32.21						16.71	0.0129	-2.53	-6.50	4.22	10 ^{-4.23}
52	106			1.17	1.27	15.81	29.41						13.12	0.0446	-1.68	-5.59	6.23	10 ^{-12.29}
53	107		1/2	1.16	1.23	12.93	28.74						14.35	0.0422	-0.97	-3.60	6.06	10 ^{-10.80}
54	108			1.11	1.23	15.18	28.11						10.73	0.1844	0.05	-1.80	5.78	10 ^{-11.08}
55	109		3/2	1.08	1.21	11.88	27.05						12.02	0.2343	0.37	-0.70	4.85	10 ^{-6.89}
56	110			1.07	1.21	13.98	25.85						8.91	0.9731	1.17	0.36	4.24	10 ^{-5.39}
57	111		3/2	1.07	1.21	11.48	25.46						10.07	0.8477	1.79	1.68	3.54	10 ^{-0.60}
58	112			1.09	1.21	13.25	24.73						7.49	3.9208	2.40	2.52	3.21	10 ^{0.50}
59	113		3/2	1.10	1.21	10.50	23.75						9.00	1.9122	2.23	3.44	2.87	10 ^{4.18}
60	114			1.14	1.19	12.72	23.22						6.14	9.4572	2.93	4.29	2.57	10 ^{5.83}
61	115		3/2 ⁺	1.14	1.17	10.11	22.83						7.54	5.9699	3.19	5.13	2.03	10 ^{13.24}
62	116			1.15	1.18	12.24	22.35						4.74	74.3697	3.92	5.90	1.66	10 ^{18.21}
63	117		5/2 ⁺	1.14	1.17	9.50	21.75						6.25	13.9650	3.99	6.72	1.42	> 10 ²⁰
64	118			1.15	1.17	11.70	21.20						3.49	> 100	4.66	7.55	1.20	> 10 ²⁰
65	119		5/2 ⁻	1.16	1.15	9.11	20.81						4.90	> 100	4.84	8.40	0.77	> 10 ²⁰
66	120			1.17	1.13	11.22	20.33						2.11	> 100	5.53	9.25	0.42	> 10 ²⁰
67	121		1/2 ⁺	1.17	1.12	8.51	19.73						3.73	> 100	5.62	9.74	0.17	> 10 ²⁰
68	122			1.17	1.10	10.68	19.19						1.19	> 100	6.17	10.44	-0.14	
69	123		7/2 ⁻	1.18	1.08	8.11	18.79						2.72	> 100	6.14	11.00	-0.22	
70	124			1.18	1.09	10.17	18.28						0.16		6.67	11.65	-0.41	
71	125		7/2 ⁻	1.17	1.08	7.81	17.98						1.64	> 100	6.87	12.46	-0.67	
72	126			1.15	1.10	9.96	17.77						...	β -st	7.54	13.02	-1.12	
73	127		7/2 ⁻	1.16	1.11	7.18	17.14						0.46	> 100	7.74	13.50	-1.30	
74	128			1.17	1.09	9.44	16.62						...	β -st	8.20	13.84	-1.34	
75	129		9/2 ⁻	1.16	1.08	7.03	16.48						...	β -st	8.18	14.49	-1.68	
76	130			1.16	1.17	8.97	16.00						...	β -st	8.20	14.71	-1.55	
77	131		3/2 ⁻	1.16	1.11	6.98	15.95						...	β -st	8.46	15.55	-2.13	
78	132			1.16	1.06	8.93	15.91						...	β -st	8.75	15.67	-2.31	
79	133		9/2 ⁻	1.20	1.13	6.78	15.72	1.00	0.00	0.00	0.00	0.00	0.13	> 100	8.99	16.65	-2.97	
80	134			1.22	1.08	9.01	15.79						...	β -st	9.62	17.18	-3.16	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 54 (Xe)																		
81	135		11/2 ⁻	1.21	1.08	6.03	15.04	1.00	0.00	0.00	0.00	0.00	1.28	> 100	9.67	17.86	-3.38	
82	136			1.21	1.21	8.42	14.45						...	β -st	10.32	18.54	-3.33	
83	137		7/2 ⁻	1.20	1.03	3.89	12.32	1.00	0.00	0.00	0.00	0.00	4.09	85.9838	10.44	19.20	-1.87	
84	138			1.19	0.96	5.61	9.50	1.00	0.00	0.00	0.00	0.00	2.96	> 100	10.92	19.79	0.26	> 10 ²⁰
85	139		3/2 ⁻	1.16	0.94	3.00	8.60	1.00	0.00	0.00	0.00	0.00	5.67	5.3335	10.83	20.35	0.50	> 10 ²⁰
86	140			1.16	0.95	5.44	8.43	1.00	0.00	0.00	0.00	0.00	3.94	4.3271	11.83	21.32	0.08	> 10 ²⁰
87	141		3/2	1.16	0.92	3.25	8.68	1.00	0.00	0.00	0.00	0.00	6.25	0.7540	11.98	22.36	-0.73	
88	142			1.16	0.91	5.23	8.48	1.00	0.00	0.00	0.00	0.00	5.12	0.7936	12.70	23.29	-1.50	
89	143		5/2	1.16	0.92	3.09	8.32	0.99	0.01	0.00	0.36	0.01	7.46	0.4125	12.96	24.24	-2.38	
90	144			1.18	0.93	4.96	8.04	0.99	0.01	0.00	0.59	0.01	6.26	0.2219	13.55	24.96	-3.03	
91	145		5/2	1.19	0.92	3.02	7.97	0.98	0.02	0.00	0.34	0.02	8.28	0.0825	13.88	26.08	-3.91	
92	146			1.23	0.90	4.67	7.68	0.96	0.04	0.00	0.50	0.04	7.28	0.1092	14.28	26.74	-4.34	
93	147		3/2 ⁻	1.25	0.86	2.81	7.47	0.94	0.06	0.00	0.41	0.06	9.15	0.0794	14.76	27.65	-5.25	
94	148			1.25	0.86	4.49	7.29	0.90	0.10	0.00	0.49	0.10	8.07	0.1052	15.07	28.36	-5.73	
95	149		5/2	1.25	0.90	2.52	7.00	0.87	0.13	0.00	0.44	0.13	10.09	0.0468	15.23	28.86	-6.35	
96	150			1.26	0.89	4.15	6.67	0.78	0.22	0.00	0.46	0.22	9.06	0.0535	15.70	29.44	-6.73	
97	151		5/2 ⁺	1.26	0.88	2.23	6.39	0.58	0.41	0.01	0.46	0.43	11.01	0.0466	15.83	30.08	-6.95	
98	152			1.26	0.88	3.96	6.20	0.65	0.35	0.00	0.54	0.35	9.95	0.0306	16.31	30.75	-7.34	
99	153		1/2 ⁻	1.28	0.86	1.94	5.91	0.42	0.56	0.02	0.54	0.60	11.95	0.0243	16.33	31.34	-7.68	
100	154			1.28	0.85	3.64	5.58	0.39	0.60	0.01	0.58	0.62	10.81	0.0211	16.94	31.93	-8.03	
101	155		7/2 ⁺	1.29	0.84	1.85	5.48	0.30	0.65	0.05	0.63	0.75	12.66	0.0188	17.07	32.68	-8.52	
102	156			1.28	0.83	3.30	5.15	0.31	0.67	0.02	0.68	0.71	11.78	0.0138	17.47	33.05	-8.77	
103	157		5/2 ⁻	1.28	0.82	1.56	4.86	0.26	0.65	0.09	0.67	0.83	13.68	0.0106	17.52	33.72	-9.24	
104	158			1.27	0.81	3.11	4.67	0.15	0.80	0.05	0.73	0.90	12.49	0.0103	18.12	34.27	-9.42	
105	159		7/2 ⁻	1.26	0.84	1.13	4.24	0.17	0.58	0.24	0.65	1.09	14.55	0.0062	18.05	34.78	-9.66	
106	160			1.25	0.83	2.84	3.97	0.08	0.80	0.10	0.74	1.06	13.32	0.0073	18.60	35.32	-9.94	
107	161		9/2 ⁺	1.24	0.82	0.88	3.72	0.05	0.36	0.56	0.69	1.57	15.31	0.0061	18.63	35.83	-10.20	
108	162			1.23	0.83	2.57	3.45	0.03	0.74	0.19	0.72	1.24	14.11	0.0051	19.05	36.29	-10.46	
109	163		1/2 ⁻	1.23	0.82	0.72	3.29	0.04	0.22	0.68	0.73	1.78	16.02	0.0043	19.03	36.75	-10.82	
110	164			1.22	0.80	2.38	3.10	0.02	0.50	0.40	0.69	1.55	14.83	0.0042	19.53	37.27	-11.09	
111	165		7/2 ⁻	1.21	0.81	0.58	2.96	0.02	0.15	0.72	0.76	1.96	16.62	0.0036	19.49	37.75	-11.41	
112	166			1.20	0.81	2.08	2.66	0.02	0.36	0.49	0.69	1.75	15.58	0.0030	19.85	38.26	-11.63	
113	167		3/2 ⁻	1.19	0.79	0.49	2.57	0.03	0.07	0.68	0.77	2.17	17.26	0.0028	19.90	38.74	-12.02	
114	168			1.16	0.82	2.00	2.48	0.01	0.24	0.53	0.69	2.01	16.07	0.0023	20.44	38.81	-12.44	
115	169		9/2 ⁻	1.16	0.80	0.19	2.19	0.01	0.07	0.62	0.76	2.31	17.94	0.0018	20.09	39.03	-12.62	
116	170			1.16	0.77	1.95	2.15	0.01	0.14	0.38	0.70	2.41	16.59	0.0021	20.46	39.31	-12.66	
117	171		11/2 ⁺	1.14	0.74	0.32	2.28	0.00	0.02	0.52	0.78	2.62	18.25	0.0017	20.41	39.66	-13.00	
118	172			1.13	0.71	2.13	2.46	0.00	0.14	0.38	0.69	2.45	16.82	0.0017	21.03	40.30	-13.47	
119	173		3/2 ⁻	1.13	0.72	0.15	2.29	0.01	0.02	0.54	0.80	2.62	18.69	0.0014	21.01	40.69	-13.65	
120	174			1.11	0.69	1.60	1.76	0.00	0.12	0.39	0.75	2.53	17.69	0.0013	21.35	41.08	-13.76	
121	175		1/2 ⁻	1.10	0.67	0.16	1.76	0.00	0.02	0.35	0.81	2.95	19.00	0.0014	21.31	41.36	-14.15	
122	176			1.11	0.64	1.84	2.00	0.00	0.07	0.33	0.77	2.72	17.82	0.0012	21.72	41.78	-14.78	
123	177		3/2 ⁻	1.10	0.60	0.22	2.06	0.00	0.02	0.37	0.82	2.96	19.43	0.0011	21.74	42.24	-15.13	
124	178			1.10	0.57	1.55	1.77	0.00	0.07	0.34	0.79	2.82	18.52	0.0011	22.14	42.74	-15.25	
125	179		1/2 ⁻	1.10	0.50	0.07	1.62	0.00	0.01	0.47	0.86	2.92	20.02	0.0008	22.17		-15.57	
126	180			1.10	0.84	1.30	1.37	0.00	0.06	0.31	0.80	2.87	19.22	0.0007	22.58		-15.81	
127	181		9/2 ⁺	1.10	0.73	-2.21	-0.92	0.03	0.01	0.07	0.90	3.86	22.71	0.0005				
128	182			1.10	0.68	-0.63	-2.84	0.00	0.02	0.02	0.96	5.00	21.61	0.0007				
Z = 55 (Cs)																		
51	106	3/2 ⁺	1/2 ⁺	1.24	1.31								19.81	0.0066	-4.79	-7.32	4.16	10 ^{-3.28}
52	107	3/2		1.18	1.26	16.20							16.54	0.0139	-4.39	-6.08	5.84	10 ^{-9.96}
53	108	3/2	1/2	1.11	1.25	13.75	29.95						17.96	0.0136	-3.57	-4.54	5.66	10 ^{-9.08}
54	109	3/2		1.08	1.23	15.56	29.31						14.28	0.0391	-3.19	-3.14	5.06	10 ^{-7.42}
55	110	3/2	3/2	1.06	1.21	13.43	29.00						14.82	0.0642	-1.63	-1.26	3.85	10 ^{-1.68}
56	111	3/2		1.06	1.21	14.42	27.86						11.88	0.1421	-1.18	-0.01	3.58	10 ^{-0.46}
57	112	3/2	3/2	1.07	1.21	11.76	26.19						13.37	0.1878	-0.90	0.89	3.37	10 ^{1.23}
58	113	3/2		1.07	1.21	13.48	25.24						10.39	0.3940	-0.67	1.73	3.07	10 ^{3.04}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 55 (Cs)																		
59	114	3/2		1.09	1.21	11.19	24.67						11.91	0.4201	0.02	2.26	2.74	10 ^{6.15}
60	115	1/2 ⁺		1.14	1.18	12.90	24.10						9.12	0.8878	0.21	3.14	2.47	10 ^{8.48}
61	116	1/2 ⁺	3/2 ⁺	1.14	1.16	10.82	23.72						10.54	1.2236	0.92	4.11	2.32	10 ^{10.49}
62	117	1/2 ⁺		1.15	1.15	12.35	23.17						7.69	3.2064	1.03	4.95	1.99	10 ^{14.49}
63	118	3/2	5/2	1.15	1.15	10.19	22.54						9.20	5.0341	1.71	5.70	1.65	> 10 ²⁰
64	119	3/2 ⁺		1.16	1.15	11.70	21.89						6.61	15.2994	1.72	6.38	1.46	> 10 ²⁰
65	120	1/2 ⁺	5/2 ⁻	1.15	1.15	9.79	21.49						8.04	14.9562	2.39	7.23	1.11	> 10 ²⁰
66	121	1/2 ⁺		1.16	1.14	11.40	21.19						5.15	31.0419	2.58	8.11	0.73	> 10 ²⁰
67	122	1/2 ⁺	1/2 ⁺	1.16	1.11	9.21	20.61						6.62	10.2971	3.28	8.90	0.46	> 10 ²⁰
68	123	1/2 ⁺		1.15	1.10	10.71	19.92						4.02	> 100	3.31	9.48	0.27	> 10 ²⁰
69	124	1/2 ⁺	7/2 ⁻	1.17	1.08	8.79	19.51						5.39	> 100	4.00	10.14	-0.10	
70	125	1/2 ⁺		1.18	1.07	10.18	18.97						3.02	> 100	4.01	10.68	-0.16	
71	126	1/2 ⁺	5/2 ⁺	1.19	1.05	8.33	18.52						4.64	> 100	4.53	11.41	-0.35	
72	127	1/2 ⁺		1.16	1.07	9.92	18.26						1.90	> 100	4.50	12.03	-0.64	
73	128	1/2 ⁺	7/2 ⁺	1.16	1.05	7.97	17.89						3.37	> 100	5.29	13.03	-1.00	
74	129	1/2 ⁺		1.17	1.07	9.33	17.30						1.08	> 100	5.18	13.38	-1.03	
75	130	1/2 ⁺	9/2 ⁻	1.17	1.06	7.55	16.88						±	±	5.69	13.88	-1.62	
76	131	1/2 ⁺		1.17	1.08	8.91	16.46						0.56	> 100	5.64	13.84	-1.54	
77	132	1/2 ⁺	1/2 ⁺	1.17	1.07	7.30	16.21						±	±	5.96	14.43	-1.79	
78	133	5/2 ⁺		1.19	1.06	9.10	16.40						...	β-st	6.13	14.88	-1.94	
79	134	5/2 ⁺	1/2 ⁻	1.19	1.01	7.14	16.23	1.00	0.00	0.00	0.00	0.00	±	±	6.48	15.47	-2.36	
80	135	7/2 ⁺		1.25	1.08	9.06	16.19	1.00	0.00	0.00	0.00	0.00	...	β-st	6.53	16.15	-2.77	
81	136	1/2 ⁺	11/2 ⁻	1.22	1.07	6.62	15.67	1.00	0.00	0.00	0.00	0.00	±	±	7.12	16.79	-2.84	
82	137	7/2 ⁺		1.24	1.21	8.51	15.12	1.00	0.00	0.00	0.00	0.00	0.93	> 100	7.20	17.52	-2.98	
83	138	3/2 ⁺	7/2 ⁻	1.24	1.04	4.47	12.98	1.00	0.00	0.00	0.00	0.00	5.52	82.1607	7.78	18.23	-1.47	
84	139	3/2 ⁺		1.22	0.96	5.71	10.18	1.00	0.00	0.00	0.00	0.00	4.39	86.3519	7.89	18.80	0.60	> 10 ²⁰
85	140	1/2	3/2	1.16	0.94	3.70	9.41	1.00	0.00	0.00	0.00	0.00	7.00	7.5861	8.59	19.42	0.67	> 10 ²⁰
86	141	1/2		1.15	0.93	5.57	9.27	1.00	0.00	0.00	0.00	0.00	5.23	7.6874	8.72	20.55	0.23	> 10 ²⁰
87	142	3/2	1/2	1.14	0.90	4.09	9.66	1.00	0.00	0.00	0.00	0.00	7.34	1.2217	9.57	21.55	-0.78	
88	143	3/2		1.14	0.91	5.43	9.52	0.97	0.03	0.00	0.28	0.03	6.21	1.7071	9.77	22.46	-1.77	
89	144	3/2	5/2	1.15	0.91	3.75	9.18	0.95	0.05	0.00	0.29	0.05	8.52	1.0302	10.43	23.39	-2.42	
90	145	3/2		1.16	0.92	5.04	8.79	0.81	0.19	0.00	0.31	0.19	7.37	0.5201	10.52	24.06	-2.96	
91	146	3/2	3/2	1.17	0.91	3.67	8.71	0.89	0.11	0.00	0.36	0.11	9.64	0.1893	11.17	25.04	-3.79	
92	147	3/2		1.21	0.87	4.68	8.34	0.52	0.48	0.00	0.57	0.48	8.49	0.3935	11.18	25.45	-4.11	
93	148	3/2 ⁺	3/2 ⁻	1.23	0.86	3.40	8.08	0.81	0.19	0.00	0.49	0.19	10.49	0.1131	11.77	26.53	-4.82	
94	149	3/2 ⁺		1.24	0.85	4.54	7.94	0.43	0.57	0.00	0.76	0.57	9.57	0.1729	11.82	26.89	-5.10	
95	150	3/2	5/2	1.25	0.85	3.12	7.66	0.32	0.68	0.00	0.63	0.68	11.52	0.1400	12.43	27.66	-5.89	
96	151	1/2 ⁻		1.24	0.89	4.19	7.31	0.50	0.50	0.00	0.70	0.50	10.49	0.0426	12.47	28.17	-5.91	
97	152	1/2 ⁻	5/2 ⁻	1.27	0.85	2.90	7.09	0.55	0.44	0.01	0.64	0.46	12.38	0.0295	13.13	28.96	-6.45	
98	153	1/2 ⁺		1.27	0.85	3.94	6.84	0.13	0.86	0.01	0.81	0.88	11.39	0.0463	13.11	29.42	-6.70	
99	154	1/2 ⁺	1/2 ⁻	1.28	0.84	2.50	6.44	0.19	0.74	0.07	0.78	0.88	13.41	0.0346	13.66	30.00	-7.10	
100	155	1/2 ⁺		1.28	0.82	3.70	6.20	0.05	0.93	0.02	0.85	0.97	12.30	0.0296	13.72	30.67	-7.31	
101	156	1/2 ⁺	7/2 ⁺	1.28	0.84	2.42	6.12	0.07	0.74	0.19	0.77	1.12	14.15	0.0265	14.30	31.37	-7.82	
102	157	1/2 ⁺		1.28	0.83	3.46	5.89	0.04	0.90	0.06	0.86	1.02	13.09	0.0215	14.46	31.93	-8.25	
103	158	1/2 ⁺	5/2 ⁻	1.27	0.82	1.92	5.38	0.09	0.54	0.37	0.76	1.28	15.11	0.0149	14.82	32.34	-8.45	
104	159	1/2 ⁺		1.27	0.81	3.18	5.10	0.02	0.80	0.17	0.81	1.17	14.05	0.0137	14.90	33.02	-8.73	
105	160	1/2 ⁺	7/2 ⁻	1.27	0.83	1.61	4.80	0.03	0.43	0.53	0.76	1.52	15.95	0.0083	15.38	33.43	-8.84	
106	161	1/2 ⁺		1.26	0.82	2.86	4.47	0.01	0.53	0.42	0.77	1.49	14.85	0.0092	15.40	34.01	-9.19	
107	162	1/2 ⁺	9/2 ⁺	1.25	0.82	1.38	4.24	0.01	0.14	0.79	0.82	1.91	16.69	0.0081	15.90	34.53	-9.37	
108	163	1/2 ⁺		1.24	0.82	2.63	4.00	0.01	0.32	0.59	0.76	1.74	15.52	0.0063	15.96	35.00	-9.71	
109	164	1/2 ⁺	1/2 ⁻	1.24	0.82	1.19	3.82	0.02	0.07	0.77	0.81	2.05	17.28	0.0058	16.43	35.46	-10.04	
110	165	1/2 ⁺		1.23	0.80	2.37	3.56	0.01	0.19	0.52	0.74	2.08	16.19	0.0053	16.42	35.95	-10.26	
111	166	1/2 ⁺	7/2 ⁻	1.22	0.80	1.03	3.40	0.01	0.05	0.62	0.78	2.30	17.93	0.0045	16.87	36.36	-10.56	
112	167	1/2 ⁺		1.21	0.80	2.17	3.20	0.00	0.12	0.39	0.73	2.42	16.81	0.0041	16.96	36.81	-10.85	
113	168	1/2 ⁺	3/2 ⁻	1.20	0.80	0.81	2.98	0.01	0.03	0.42	0.76	2.61	18.53	0.0035	17.29	37.19	-11.04	
114	169	1/2 ⁺		1.20	0.78	2.06	2.87	0.00	0.07	0.24	0.75	2.70	17.39	0.0033	17.35	37.79	-11.38	
115	170	1/2 ⁺	11/2 ⁺	1.17	0.79	0.60	2.66	0.00	0.01	0.31	0.76	2.91	19.21	0.0025	17.76	37.85	-11.55	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 55 (Cs)																		
116	171	1/2 ⁺		1.17	0.76	1.99	2.59	0.00	0.04	0.14	0.79	2.92	17.72	0.0027	17.79	38.25	−12.08	
117	172	5/2 ⁺	11/2 ⁺	1.15	0.74	0.70	2.69	0.00	0.01	0.22	0.77	3.13	19.51	0.0021	18.17	38.58	−12.23	
118	173	5/2 ⁺		1.14	0.71	2.03	2.73	0.00	0.04	0.14	0.78	2.95	18.23	0.0018	18.07	39.10	−12.68	
119	174	5/2 ⁺	3/2 [−]	1.14	0.73	0.60	2.63	0.00	0.01	0.25	0.78	3.18	19.91	0.0017	18.51	39.52	−12.91	
120	175	5/2 ⁺		1.13	0.71	1.47	2.07	0.00	0.03	0.10	0.83	3.06	19.04	0.0016	18.37	39.73	−12.86	
121	176	3/2 ⁺	1/2 [−]	1.12	0.67	0.66	2.12	0.00	0.01	0.13	0.82	3.48	20.30	0.0016	18.88	40.18	−13.34	
122	177	3/2 ⁺		1.12	0.63	1.84	2.49	0.00	0.02	0.08	0.86	3.17	19.11	0.0014	18.87	40.59	−13.92	
123	178	3/2 ⁺	3/2 [−]	1.12	0.59	0.63	2.47	0.00	0.01	0.12	0.83	3.55	20.52	0.0013	19.28	41.02	−14.35	
124	179	3/2 ⁺		1.12	0.56	1.58	2.21	0.00	0.02	0.10	0.86	3.22	19.80	0.0012	19.32	41.46	−14.50	
125	180	3/2 ⁺	1/2 [−]	1.12	0.54	0.50	2.08	0.00	0.01	0.19	0.85	3.38	21.30	0.0010	19.74	41.91	−14.80	
126	181	5/2 ⁺		1.11	0.84	1.27	1.77	0.00	0.02	0.11	0.89	3.25	20.46	0.0009	19.71	42.29	−14.92	
127	182	3/2 ⁺	9/2 ⁺	1.11	0.73	−1.73	−0.46	0.00	0.04	0.03	0.92	4.13	23.87	0.0006	20.19		−13.15	
128	183	3/2 ⁺		1.11	0.68	−0.61	−2.34	0.00	0.01	0.02	0.96	5.19	22.83	0.0009	20.22		−11.65	
129	184	5/2 ⁺	3/2 ⁺	1.11	0.71	−2.11	−2.72	0.00	0.01	0.02	1.00	6.23	24.70	0.0008				
130	185	3/2 ⁺		1.11	0.75	−0.86	−2.97	0.00	0.00	0.01	1.02	7.15	23.49	0.0008				
Z = 56 (Ba)																		
52	108			1.19	1.27								15.43	0.0130	−2.46	−6.85	5.74	10 ^{−9.95}
53	109	1/2		1.11	1.25	14.03							16.95	0.0101	−2.18	−5.75	5.31	10 ^{−7.45}
54	110			1.07	1.24	16.84	30.87						13.55	0.0272	−0.90	−4.09	4.28	10 ^{−4.37}
55	111	3/2		1.06	1.22	13.38	30.22						14.60	0.0343	−0.96	−2.58	3.83	10 ^{−0.97}
56	112			1.06	1.22	15.46	28.84						10.90	0.1359	0.08	−1.10	3.55	10 ^{−0.30}
57	113	3/2		1.06	1.22	12.01	27.47						12.37	0.1403	0.33	−0.57	3.41	10 ^{1.61}
58	114			1.07	1.21	14.20	26.21						9.36	0.6330	1.05	0.38	3.19	10 ^{2.10}
59	115	3/2 [−]		1.11	1.20	11.44	25.64						10.83	0.2777	1.29	1.32	3.23	10 ^{2.80}
60	116			1.13	1.19	13.79	25.23						7.86	1.2011	2.18	2.39	2.69	10 ^{6.22}
61	117	3/2 ⁺		1.14	1.17	10.97	24.76						9.24	1.9655	2.33	3.24	2.23	10 ^{12.57}
62	118			1.16	1.15	13.09	24.05						6.35	5.8680	3.06	4.09	1.86	10 ^{16.75}
63	119	5/2 [−]		1.16	1.14	10.23	23.32						7.82	5.3458	3.10	4.82	1.74	10 ^{19.92}
64	120			1.16	1.13	12.30	22.53						5.30	22.7309	3.70	5.42	1.68	10 ^{19.99}
65	121	5/2 ⁺		1.16	1.13	9.85	22.16						6.85	9.2309	3.77	6.16	1.33	> 10 ²⁰
66	122			1.16	1.12	12.05	21.90						4.01	> 100	4.41	6.99	0.98	> 10 ²⁰
67	123	1/2 ⁺		1.16	1.10	9.34	21.39						5.38	22.5699	4.55	7.83	0.75	> 10 ²⁰
68	124			1.16	1.09	11.33	20.68						2.84	> 100	5.17	8.48	0.63	> 10 ²⁰
69	125	7/2 [−]		1.16	1.07	8.90	20.24						4.12	> 100	5.28	9.27	0.24	> 10 ²⁰
70	126			1.17	1.05	10.77	19.67						1.68	> 100	5.87	9.88	0.15	> 10 ²⁰
71	127	5/2 ⁺		1.18	1.04	8.38	19.15						3.23	> 100	5.91	10.44	−0.12	
72	128			1.17	1.04	10.36	18.74						0.84	> 100	6.35	10.85	−0.32	
73	129	7/2 ⁺		1.17	1.04	8.02	18.39						2.15	> 100	6.40	11.69	−0.53	
74	130			1.16	1.05	10.05	18.07						...	β -st	7.12	12.29	−0.61	
75	131	9/2 [−]		1.18	1.04	7.46	17.50						1.11	> 100	7.02	12.72	−0.90	
76	132			1.18	1.05	9.40	16.86						...	β -st	7.52	13.15	−0.85	
77	133	1/2 ⁺		1.19	1.04	7.29	16.69						0.81	> 100	7.50	13.46	−1.11	
78	134			1.22	1.07	9.49	16.78						...	β -st	7.89	14.02	−1.63	
79	135	1/2 [−]		1.21	1.02	7.14	16.62						0.38		7.89	14.37	−1.79	
80	136			1.26	1.08	9.67	16.80						...	β -st	8.50	15.03	−2.52	
81	137	11/2 [−]		1.24	1.07	6.77	16.43						...	β -st	8.65	15.77	−2.51	
82	138			1.26	1.21	9.06	15.83						...	β -st	9.21	16.41	−2.56	
83	139	7/2 [−]		1.25	1.04	4.58	13.65	1.00	0.00	0.00	0.00	0.00	2.36	> 100	9.32	17.10	−1.11	
84	140			1.26	0.97	6.31	10.89	1.00	0.00	0.00	0.00	0.00	1.16	> 100	9.92	17.81	1.00	> 10 ²⁰
85	141	3/2		1.16	0.93	3.79	10.10	1.00	0.00	0.00	0.00	0.00	3.74	25.7182	10.01	18.60	1.09	> 10 ²⁰
86	142			1.15	0.91	6.21	10.00	1.00	0.00	0.00	0.00	0.00	2.06	45.8942	10.66	19.38	0.49	> 10 ²⁰
87	143	1/2		1.14	0.91	4.30	10.51	1.00	0.00	0.00	0.00	0.00	4.18	2.7562	10.86	20.43	−0.81	
88	144			1.14	0.91	6.06	10.36	1.00	0.00	0.00	0.00	0.00	3.06	6.2526	11.49	21.25	−1.43	
89	145	5/2		1.14	0.90	3.90	9.95	1.00	0.00	0.00	0.00	0.00	5.36	2.5550	11.63	22.06	−2.08	
90	146			1.15	0.90	5.93	9.83	1.00	0.00	0.00	0.00	0.00	4.19	1.8334	12.52	23.04	−2.78	
91	147	5/2		1.16	0.89	3.53	9.46	1.00	0.00	0.00	0.00	0.00	6.38	0.2930	12.39	23.55	−3.22	
92	148			1.20	0.85	5.41	8.93	1.00	0.00	0.00	0.00	0.00	5.20	1.0596	13.11	24.29	−3.67	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 56 (Ba)																		
93	149		3/2 ⁻	1.21	0.85	3.61	9.02	1.00	0.00	0.00	0.00	0.00	7.35	0.2723	13.32	25.10	-4.27	
94	150			1.22	0.83	5.08	8.69	0.99	0.01	0.00	0.33	0.01	6.43	0.3741	13.86	25.69	-4.68	
95	151		5/2 ⁺	1.24	0.86	3.16	8.24	0.96	0.04	0.00	0.38	0.04	8.43	0.2687	13.90	26.33	-5.03	
96	152			1.24	0.86	4.79	7.95	0.95	0.05	0.00	0.41	0.05	7.36	0.1692	14.50	26.96	-5.33	
97	153		5/2 ⁻	1.25	0.84	2.95	7.74	0.94	0.06	0.00	0.36	0.06	9.32	0.0669	14.55	27.68	-5.77	
98	154			1.26	0.83	4.52	7.47	0.89	0.11	0.00	0.44	0.11	8.28	0.0850	15.13	28.23	-6.13	
99	155		1/2 ⁻	1.27	0.83	2.59	7.10	0.77	0.23	0.00	0.42	0.23	10.25	0.0572	15.21	28.88	-6.48	
100	156			1.27	0.83	4.27	6.86	0.74	0.26	0.00	0.49	0.26	9.08	0.0511	15.79	29.51	-6.79	
101	157		7/2 ⁺	1.27	0.82	2.40	6.67	0.61	0.38	0.01	0.45	0.40	11.04	0.0409	15.77	30.06	-7.25	
102	158			1.28	0.81	3.95	6.34	0.56	0.44	0.00	0.55	0.44	9.97	0.0333	16.25	30.71	-7.56	
103	159		5/2 ⁻	1.28	0.82	2.12	6.07	0.49	0.49	0.02	0.51	0.53	11.83	0.0233	16.45	31.27	-7.83	
104	160			1.27	0.81	3.51	5.63	0.41	0.58	0.01	0.61	0.60	10.91	0.0199	16.78	31.67	-8.04	
105	161		7/2 ⁻	1.27	0.83	1.77	5.28	0.38	0.58	0.04	0.55	0.66	12.66	0.0124	16.93	32.31	-8.25	
106	162			1.26	0.82	3.21	4.98	0.24	0.73	0.03	0.64	0.79	11.68	0.0135	17.29	32.69	-8.35	
107	163		9/2 ⁺	1.26	0.82	1.46	4.67	0.14	0.72	0.14	0.64	1.00	13.47	0.0115	17.37	33.27	-8.69	
108	164			1.26	0.81	2.94	4.40	0.14	0.80	0.05	0.69	0.93	12.40	0.0096	17.69	33.64	-8.79	
109	165		1/2 ⁻	1.24	0.81	1.28	4.23	0.09	0.55	0.35	0.62	1.28	14.08	0.0081	17.78	34.21	-9.19	
110	166			1.24	0.80	2.77	4.05	0.06	0.83	0.09	0.68	1.07	12.97	0.0075	18.18	34.60	-9.39	
111	167		3/2 ⁻	1.24	0.80	1.05	3.82	0.07	0.37	0.53	0.64	1.52	14.78	0.0065	18.19	35.07	-9.72	
112	168			1.23	0.79	2.54	3.59	0.04	0.74	0.18	0.67	1.22	13.72	0.0059	18.56	35.53	-9.88	
113	169		7/2 ⁻	1.23	0.78	0.91	3.45	0.05	0.23	0.67	0.67	1.73	15.43	0.0053	18.67	35.95	-10.22	
114	170			1.21	0.78	2.42	3.34	0.04	0.61	0.29	0.66	1.38	14.44	0.0043	19.03	36.38	-10.56	
115	171		11/2 ⁺	1.20	0.78	0.50	2.92	0.02	0.14	0.76	0.71	1.93	16.29	0.0037	18.92	36.68	-10.57	
116	172			1.18	0.76	2.49	2.99	0.02	0.38	0.52	0.66	1.67	14.86	0.0034	19.43	37.22	-11.07	
117	173		9/2 ⁻	1.18	0.73	0.75	3.24	0.03	0.15	0.70	0.71	1.95	16.50	0.0028	19.48	37.65	-11.63	
118	174			1.16	0.70	2.28	3.03	0.01	0.44	0.46	0.65	1.65	15.44	0.0025	19.73	37.79	-11.95	
119	175		3/2 ⁻	1.15	0.73	0.59	2.87	0.01	0.08	0.80	0.75	2.08	17.10	0.0022	19.72	38.24	-12.22	
120	176			1.14	0.71	1.92	2.51	0.01	0.24	0.59	0.70	1.95	16.16	0.0022	20.17	38.55	-12.00	
121	177		1/2 ⁻	1.14	0.68	0.65	2.56	0.01	0.06	0.74	0.79	2.19	17.56	0.0019	20.17	39.04	-12.50	
122	178			1.13	0.63	2.04	2.69	0.01	0.30	0.53	0.72	1.92	16.49	0.0016	20.37	39.24	-12.94	
123	179		3/2 ⁻	1.13	0.59	0.86	2.90	0.01	0.04	0.75	0.81	2.24	17.60	0.0017	20.60	39.88	-13.64	
124	180			1.13	0.57	2.00	2.85	0.01	0.27	0.55	0.73	1.98	16.92	0.0016	21.01	40.33	-13.80	
125	181		1/2 ⁻	1.13	0.53	0.43	2.43	0.00	0.09	0.75	0.82	2.22	18.50	0.0012	20.95	40.69	-14.01	
126	182			1.12	0.83	1.68	2.11	0.01	0.21	0.63	0.77	2.02	17.64	0.0011	21.36	41.07	-14.14	
127	183		9/2 ⁺	1.12	0.74	-1.66	0.03	0.02	0.01	0.26	0.85	2.99	20.97	0.0008	21.44	41.63	-12.41	
128	184			1.12	0.68	-0.23	-1.89	0.00	0.03	0.02	0.90	3.94	20.02	0.0011	21.81	42.03	-10.88	
129	185		3/2 ⁺	1.12	0.71	-2.07	-2.30	0.00	0.02	0.04	0.95	5.05	21.85	0.0010	21.85		-11.02	
130	186			1.12	0.75	-0.45	-2.52	0.00	0.01	0.01	0.96	5.85	20.67	0.0010	22.26		-11.21	
131	187		1/2	1.12	0.67	-1.67	-2.11	0.00	0.00	0.00	0.98	7.07	21.88	0.0008				
132	188			1.11	0.68	-0.13	-1.80	0.00	0.00	0.00	0.97	7.83	20.82	0.0009				
133	189		5/2	1.10	0.69	-1.49	-1.62	0.00	0.00	0.00	0.98	8.82	22.25	0.0008				
Z = 57 (La)																		
53	110	1/2	1/2	1.17	1.28								20.22	0.0048	-4.16	-6.34	4.69	10 ^{-4.52}
54	111	3/2		1.15	1.25	16.58							17.02	0.0087	-4.42	-5.32	4.31	10 ^{-3.14}
55	112	3/2	3/2	1.14	1.23	14.18	30.76						18.30	0.0105	-3.62	-4.58	3.89	10 ^{-0.56}
56	113	3/2		1.13	1.25	15.77	29.95						14.54	0.0233	-3.31	-3.23	3.67	10 ^{0.33}
57	114	1/2	1/2	1.10	1.23	12.96	28.73						15.78	0.0276	-2.36	-2.03	4.15	10 ^{-1.96}
58	115	1/2		1.08	1.23	14.80	27.76						12.42	0.1280	-1.76	-0.71	3.77	10 ^{-0.27}
59	116	3/2 ⁺	3/2 ⁻	1.08	1.21	12.40	27.20						13.81	0.1239	-0.80	0.50	3.13	10 ^{4.40}
60	117	3/2 ⁺		1.08	1.19	14.01	26.41						10.76	0.3334	-0.58	1.60	2.60	10 ^{8.80}
61	118	3/2 ⁺	3/2 ⁺	1.10	1.17	11.66	25.67						12.19	0.3746	0.12	2.45	2.13	10 ^{14.74}
62	119	3/2 ⁺		1.10	1.14	13.15	24.81						9.27	1.0954	0.18	3.24	1.89	10 ^{18.20}
63	120	3/2 ⁺	5/2 ⁻	1.11	1.13	10.93	24.08						10.64	1.7319	0.88	3.98	1.78	> 10 ²⁰
64	121	3/2 ⁺		1.12	1.13	12.40	23.33						8.10	4.0670	0.98	4.68	1.73	> 10 ²⁰
65	122	1/2 ⁻	5/2 ⁺	1.14	1.12	10.50	22.90						9.64	2.1823	1.62	5.39	1.42	> 10 ²⁰
66	123	1/2 ⁻		1.15	1.11	12.08	22.58						6.91	7.8481	1.65	6.07	1.04	> 10 ²⁰
67	124	1/2 ⁻	1/2 ⁺	1.15	1.09	9.89	21.96						8.36	4.7398	2.20	6.75	0.94	> 10 ²⁰

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 57 (La)																		
68	125	1/2 ⁻		1.17	1.07	11.42	21.31						5.84	21.9571	2.28	7.45	0.93	> 10 ²⁰
69	126	1/2 ⁻	7/2 ⁻	1.18	1.05	9.45	20.87						7.16	22.4419	2.83	8.11	0.69	> 10 ²⁰
70	127	1/2 ⁻		1.19	1.05	10.81	20.26						4.72	58.9242	2.87	8.74	0.59	> 10 ²⁰
71	128	1/2 ⁻	5/2 ⁺	1.19	1.03	8.93	19.74						6.15	57.9802	3.43	9.33	0.45	> 10 ²⁰
72	129	1/2 ⁻		1.17	1.03	10.33	19.26						3.85	> 100	3.39	9.74	0.30	> 10 ²⁰
73	130	1/2 ⁻	7/2 ⁺	1.17	1.03	8.54	18.87						5.36	> 100	3.91	10.31	0.10	> 10 ²⁰
74	131	1/2 ⁻		1.16	1.04	9.96	18.49						2.86	> 100	3.82	10.94	0.06	> 10 ²⁰
75	132	5/2 ⁺	9/2 ⁻	1.19	1.04	8.02	17.98						4.24	> 100	4.38	11.41	0.01	> 10 ²⁰
76	133	5/2 ⁺		1.20	1.03	9.70	17.72						1.82	> 100	4.68	12.20	-0.36	
77	134	5/2 ⁺	1/2 ⁺	1.20	1.04	7.69	17.40						3.62	> 100	5.09	12.59	-0.50	
78	135	5/2 ⁺		1.21	1.04	9.47	17.16						1.29	> 100	5.07	12.96	-1.06	
79	136	5/2 ⁺	3/2 ⁺	1.22	1.05	7.62	17.09						±	±	5.56	13.45	-1.38	
80	137	1/2 ⁺		1.26	1.06	9.54	17.17						0.55	> 100	5.43	13.93	-1.82	
81	138	1/2 ⁺	11/2 ⁻	1.26	1.07	7.47	17.01						±	±	6.14	14.79	-2.16	
82	139	5/2 ⁺		1.28	1.21	9.09	16.56						...	β-st	6.16	15.37	-2.19	
83	140	5/2 ⁺	1/2 ⁻	1.25	1.03	5.11	14.20	1.00	0.00	0.00	0.00	0.00	3.91	> 100	6.69	16.01	-0.69	
84	141	1/2 ⁺		1.25	0.96	6.37	11.49	1.00	0.00	0.00	0.00	0.00	2.76	> 100	6.75	16.67	1.45	> 10 ²⁰
85	142	5/2	3/2	1.16	0.92	4.53	10.90	1.00	0.00	0.00	0.00	0.00	5.18	62.8747	7.49	17.50	1.39	> 10 ²⁰
86	143	3/2		1.14	0.91	6.41	10.95	1.00	0.00	0.00	0.00	0.00	3.35	5.9107	7.69	18.35	0.68	> 10 ²⁰
87	144	3/2	1/2	1.13	0.91	4.94	11.35	1.00	0.00	0.00	0.00	0.00	5.42	1.8472	8.33	19.19	-0.55	
88	145	3/2		1.14	0.92	6.20	11.13	1.00	0.00	0.00	0.00	0.00	4.23	1.9490	8.47	19.96	-1.18	
89	146	3/2	5/2	1.14	0.91	4.76	10.96	1.00	0.00	0.00	0.00	0.00	6.54	1.1364	9.34	20.97	-1.85	
90	147	3/2		1.14	0.90	5.72	10.48	1.00	0.00	0.00	0.00	0.00	5.33	0.8509	9.12	21.65	-2.14	
91	148	1/2	3/2	1.17	0.88	4.23	9.95	0.99	0.01	0.00	0.26	0.01	7.45	4.3996	9.83	22.21	-2.62	
92	149	1/2 ⁺		1.17	0.87	5.76	9.99	0.97	0.03	0.00	0.25	0.03	6.40	1.7439	10.18	23.29	-3.34	
93	150	1/2 ⁺	3/2 ⁻	1.18	0.85	4.16	9.91	0.99	0.01	0.00	0.28	0.01	8.59	0.4967	10.72	24.05	-3.83	
94	151	1/2 ⁺		1.20	0.85	5.16	9.32	0.82	0.18	0.00	0.36	0.18	7.67	0.7310	10.80	24.67	-4.31	
95	152	1/2 ⁺	5/2 ⁺	1.21	0.84	3.72	8.88	0.75	0.25	0.00	0.44	0.25	9.79	0.4936	11.36	25.26	-4.62	
96	153	1/2 ⁺		1.22	0.83	4.91	8.63	0.56	0.44	0.00	0.60	0.44	8.72	0.3121	11.49	25.98	-5.00	
97	154	1/2 ⁺	5/2 ⁻	1.22	0.83	3.48	8.39	0.80	0.20	0.00	0.52	0.20	10.71	0.0921	12.01	26.56	-5.36	
98	155	1/2 ⁺		1.23	0.82	4.56	8.04	0.43	0.57	0.00	0.74	0.57	9.73	0.1304	12.06	27.18	-5.72	
99	156	1/2 ⁺	1/2 ⁻	1.24	0.83	3.10	7.66	0.39	0.61	0.00	0.66	0.61	11.72	0.0919	12.57	27.79	-5.93	
100	157	1/2 ⁻		1.25	0.81	4.36	7.46	0.44	0.56	0.00	0.73	0.56	10.59	0.0439	12.66	28.45	-6.34	
101	158	1/2 ⁻	7/2 ⁺	1.25	0.82	2.87	7.23	0.41	0.58	0.01	0.63	0.60	12.49	0.0354	13.13	28.89	-6.71	
102	159	1/2 ⁻		1.26	0.80	3.98	6.85	0.24	0.75	0.01	0.71	0.77	11.43	0.0295	13.17	29.42	-7.00	
103	160	1/2 ⁻	5/2 ⁻	1.26	0.82	2.60	6.58	0.31	0.64	0.05	0.64	0.74	13.27	0.0225	13.64	30.09	-7.17	
104	161	1/2 ⁻		1.26	0.81	3.52	6.11	0.16	0.82	0.02	0.78	0.86	12.40	0.0194	13.65	30.43	-7.23	
105	162	1/2 ⁻	7/2 ⁻	1.26	0.82	2.23	5.75	0.16	0.69	0.15	0.72	0.99	14.12	0.0134	14.11	31.05	-7.54	
106	163	1/2 ⁻		1.26	0.82	3.24	5.47	0.10	0.81	0.09	0.78	0.99	13.14	0.0140	14.14	31.43	-7.60	
107	164	1/2 ⁻	9/2 ⁺	1.26	0.81	1.88	5.12	0.09	0.50	0.40	0.74	1.33	14.96	0.0124	14.56	31.93	-7.87	
108	165	1/2 ⁻		1.26	0.81	2.96	4.84	0.06	0.72	0.21	0.75	1.17	13.91	0.0101	14.58	32.27	-7.97	
109	166	1/2 ⁻	1/2 ⁻	1.26	0.81	1.66	4.62	0.07	0.32	0.59	0.73	1.56	15.74	0.0085	14.96	32.74	-8.25	
110	167	5/2 ⁺		1.25	0.80	2.86	4.52	0.01	0.49	0.46	0.71	1.53	14.55	0.0100	15.05	33.23	-8.49	
111	168	5/2 ⁺	3/2 ⁻	1.25	0.79	1.48	4.34	0.04	0.11	0.80	0.76	1.87	16.26	0.0086	15.48	33.67	-8.77	
112	169	5/2 ⁺		1.24	0.78	2.62	4.10	0.01	0.32	0.58	0.69	1.75	15.25	0.0076	15.56	34.13	-9.03	
113	170	5/2 ⁺	7/2 ⁻	1.24	0.77	1.43	4.06	0.01	0.10	0.77	0.74	2.02	16.79	0.0073	16.08	34.75	-9.43	
114	171	5/2 ⁺		1.22	0.77	2.34	3.77	0.01	0.21	0.59	0.70	1.97	15.88	0.0056	16.00	35.03	-9.60	
115	172	5/2 ⁺	11/2 ⁺	1.21	0.77	1.06	3.40	0.01	0.05	0.70	0.74	2.21	17.64	0.0047	16.57	35.49	-9.85	
116	173	5/2 ⁺		1.19	0.75	2.39	3.46	0.01	0.13	0.57	0.70	2.16	16.47	0.0038	16.47	35.90	-10.19	
117	174	5/2 ⁺	9/2 ⁻	1.19	0.73	1.22	3.61	0.01	0.05	0.59	0.73	2.33	17.88	0.0035	16.94	36.42	-10.81	
118	175	1/2 ⁺		1.18	0.70	2.25	3.47	0.00	0.09	0.43	0.71	2.44	16.87	0.0032	16.91	36.64	-11.07	
119	176	1/2 ⁺	3/2 ⁻	1.16	0.73	0.98	3.23	0.01	0.02	0.57	0.76	2.44	18.50	0.0026	17.30	37.02	-11.35	
120	177	1/2 ⁺		1.16	0.70	2.04	3.02	0.00	0.05	0.31	0.76	2.67	17.30	0.0029	17.42	37.60	-11.36	
121	178	1/2 ⁺	13/2 ⁺	1.15	0.68	0.98	3.02	0.00	0.01	0.36	0.79	2.77	18.84	0.0026	17.75	37.92	-11.74	
122	179	1/2 ⁺		1.15	0.62	1.96	2.94	0.00	0.05	0.32	0.77	2.68	17.77	0.0020	17.67	38.05	-12.24	
123	180	1/2 ⁺	3/2 ⁻	1.14	0.59	1.31	3.28	0.00	0.01	0.48	0.81	2.67	18.90	0.0021	18.13	38.73	-12.89	
124	181	1/2 ⁺		1.14	0.57	2.02	3.33	0.00	0.05	0.36	0.79	2.66	18.22	0.0019	18.15	39.16	-13.07	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 57 (La)																		
125	182	7/2 ⁺	1/2 ⁻	1.13	0.56	0.82	2.84	0.00	0.01	0.63	0.85	2.50	19.84	0.0014	18.54	39.48	-13.26	
126	183	7/2 ⁺		1.13	0.84	1.68	2.50	0.00	0.04	0.44	0.83	2.62	19.03	0.0013	18.53	39.89	-13.36	
127	184	1/2 ⁺	9/2 ⁺	1.13	0.74	-1.18	0.49	0.00	0.03	0.09	0.87	3.41	22.34	0.0010	19.00	40.44	-11.67	
128	185	7/2 ⁺		1.13	0.69	-0.23	-1.42	0.00	0.03	0.03	0.92	4.23	21.32	0.0013	19.00	40.81	-10.17	
129	186	7/2 ⁺	3/2 ⁺	1.13	0.71	-1.63	-1.86	0.00	0.01	0.04	0.96	5.24	23.21	0.0012	19.44	41.29	-10.27	
130	187	7/2 ⁺		1.13	0.76	-0.46	-2.09	0.00	0.01	0.01	0.97	5.99	22.02	0.0012	19.43	41.69	-10.42	
131	188	5/2	1/2	1.12	0.68	-1.18	-1.65	0.00	0.00	0.00	0.98	7.13	23.19	0.0010	19.91		-11.34	
132	189	5/2		1.11	0.69	-0.07	-1.25	0.00	0.00	0.00	0.97	7.85	22.15	0.0010	19.98		-12.14	
133	190	5/2	5/2	1.10	0.70	-1.14	-1.21	0.00	0.00	0.00	0.97	8.74	23.56	0.0009	20.32			
134	191	3/2		1.10	0.69	-0.20	-1.35	0.00	0.00	0.00	0.95	9.35	22.70	0.0008				
135	192	3/2	3/2	1.10	0.70	-1.17	-1.37	0.00	0.00	0.00	0.97	9.87	24.12	0.0008				
Z = 58 (Ce)																		
55	113		3/2	1.13	1.26								17.25	0.0088	-2.26	-5.89	3.97	10 ^{-0.53}
56	114			1.11	1.26	16.50							13.72	0.0226	-1.54	-4.85	4.31	10 ^{-3.32}
57	115		1/2	1.06	1.25	13.58	30.08						14.94	0.0212	-0.92	-3.28	4.11	10 ^{-1.23}
58	116			1.04	1.24	15.92	29.50						11.42	0.0859	0.20	-1.56	3.65	10 ^{0.29}
59	117		3/2 ⁻	1.04	1.22	12.65	28.57						12.78	0.0733	0.45	-0.35	3.01	10 ^{5.99}
60	118			1.06	1.22	14.80	27.45						9.64	0.3241	1.24	0.66	2.41	10 ^{10.96}
61	119		5/2 ⁻	1.06	1.18	11.80	26.61						10.99	0.3347	1.38	1.50	2.04	10 ^{16.94}
62	120			1.06	1.15	13.83	25.64						8.08	0.8735	2.07	2.25	2.00	10 ^{16.49}
63	121		3/2 ⁺	1.07	1.14	11.08	24.92						9.40	0.9171	2.22	3.10	1.88	10 ^{19.51}
64	122			1.08	1.13	13.14	24.22						6.76	2.5958	2.96	3.93	1.83	10 ^{19.31}
65	123		5/2 ⁺	1.08	1.12	10.55	23.68						8.29	1.5353	3.00	4.62	1.52	> 10 ²⁰
66	124			1.09	1.11	12.57	23.11						5.61	8.7882	3.49	5.15	1.25	> 10 ²⁰
67	125		1/2 ⁺	1.11	1.09	10.00	22.56						7.04	4.8196	3.60	5.80	1.11	> 10 ²⁰
68	126			1.13	1.07	11.99	21.98						4.50	68.3668	4.17	6.45	1.17	> 10 ²⁰
69	127		7/2 ⁻	1.13	1.06	9.48	21.47						5.83	44.3303	4.20	7.03	1.04	> 10 ²⁰
70	128			1.16	1.04	11.36	20.84						3.40	> 100	4.74	7.62	1.01	> 10 ²⁰
71	129		5/2 ⁺	1.18	1.03	8.95	20.31						4.79	> 100	4.76	8.19	0.96	> 10 ²⁰
72	130			1.17	1.02	10.86	19.81						2.46	> 100	5.29	8.69	0.88	> 10 ²⁰
73	131		7/2 ⁺	1.17	1.03	8.58	19.44						3.84	95.9515	5.34	9.24	0.67	> 10 ²⁰
74	132			1.18	1.03	10.57	19.15						1.29	> 100	5.95	9.77	0.46	> 10 ²⁰
75	133		9/2 ⁻	1.19	1.03	8.07	18.64						2.92	> 100	6.00	10.39	0.41	> 10 ²⁰
76	134			1.19	1.02	10.16	18.23						0.45	> 100	6.46	11.14	0.30	> 10 ²⁰
77	135		1/2 ⁺	1.21	1.02	7.88	18.04						2.04	> 100	6.64	11.73	-0.12	
78	136			1.22	1.05	9.80	17.68						...	β -st	6.98	12.05	-0.52	
79	137		3/2 ⁺	1.22	1.00	7.71	17.51						1.70	> 100	7.06	12.62	-0.94	
80	138			1.27	1.05	10.02	17.73						...	β -st	7.54	12.98	-1.48	
81	139		11/2 ⁻	1.27	1.07	7.59	17.61						0.64	> 100	7.67	13.80	-1.93	
82	140			1.29	1.22	9.66	17.25						...	β -st	8.23	14.40	-1.93	
83	141		7/2 ⁻	1.28	1.04	5.23	14.89	1.00	0.00	0.00	0.00	0.00	0.71	> 100	8.35	15.04	-0.39	
84	142			1.28	0.97	6.95	12.18						...	β -st	8.93	15.68	1.72	> 10 ²⁰
85	143		3/2	1.17	0.92	4.59	11.54	1.00	0.00	0.00	0.00	0.00	1.99	76.9470	8.99	16.48	1.72	> 10 ²⁰
86	144			1.15	0.92	7.00	11.59	1.00	0.00	0.00	0.00	0.00	0.30	> 100	9.57	17.27	1.03	> 10 ²⁰
87	145		1/2	1.14	0.92	5.01	12.01	1.00	0.00	0.00	0.00	0.00	2.36	22.0975	9.65	17.98	-0.19	
88	146			1.13	0.93	7.07	12.08	1.00	0.00	0.00	0.00	0.00	1.06	> 100	10.52	18.99	-1.05	
89	147		3/2	1.14	0.93	4.51	11.58	1.00	0.00	0.00	0.00	0.00	3.48	> 100	10.27	19.60	-1.25	
90	148			1.15	0.92	6.35	10.85	1.00	0.00	0.00	0.00	0.00	2.35	52.4825	10.90	20.02	-1.55	
91	149		3/2 ⁺	1.14	0.91	4.71	11.06	1.00	0.00	0.00	0.00	0.00	4.35	23.2875	11.38	21.20	-2.36	
92	150			1.14	0.90	6.34	11.06	1.00	0.00	0.00	0.00	0.00	3.34	6.9476	11.96	22.14	-2.77	
93	151		3/2 ⁻	1.16	0.87	4.24	10.59	1.00	0.00	0.00	0.00	0.00	5.55	1.6130	12.05	22.77	-3.49	
94	152			1.17	0.85	5.83	10.08	1.00	0.00	0.00	0.00	0.00	4.52	2.7750	12.72	23.53	-3.92	
95	153		5/2 ⁺	1.18	0.84	3.85	9.68	1.00	0.00	0.00	0.00	0.00	6.64	1.4264	12.85	24.22	-4.15	
96	154			1.20	0.83	5.47	9.31	1.00	0.00	0.00	0.00	0.00	5.64	0.7530	13.41	24.90	-4.54	
97	155		5/2 ⁻	1.20	0.82	3.58	9.05	1.00	0.00	0.00	0.00	0.00	7.53	0.1755	13.51	25.52	-4.96	
98	156			1.20	0.82	5.09	8.67	0.99	0.01	0.00	0.37	0.01	6.52	0.2862	14.04	26.10	-5.27	
99	157		1/2 ⁻	1.22	0.82	3.23	8.32	0.97	0.03	0.00	0.35	0.03	8.47	0.1952	14.17	26.74	-5.54	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 58 (Ce)																		
100	158			1.22	0.80	4.77	8.00	0.96	0.04	0.00	0.46	0.04	7.47	0.1447	14.58	27.24	−5.80	
101	159		7/2 ⁺	1.23	0.80	2.92	7.70	0.88	0.12	0.00	0.37	0.12	9.34	0.1127	14.64	27.77	−6.14	
102	160			1.24	0.79	4.43	7.35	0.85	0.15	0.00	0.42	0.15	8.41	0.0841	15.08	28.25	−6.29	
103	161		5/2 [−]	1.25	0.82	2.65	7.08	0.76	0.24	0.00	0.42	0.24	10.23	0.0556	15.13	28.78	−6.54	
104	162			1.24	0.81	3.95	6.60	0.65	0.35	0.00	0.50	0.35	9.35	0.0466	15.57	29.22	−6.55	
105	163		7/2 [−]	1.25	0.82	2.27	6.22	0.68	0.31	0.01	0.50	0.33	11.10	0.0244	15.60	29.72	−6.70	
106	164			1.25	0.81	3.70	5.97	0.45	0.55	0.00	0.57	0.55	10.05	0.0318	16.06	30.20	−6.88	
107	165		9/2 ⁺	1.26	0.81	1.91	5.61	0.30	0.67	0.03	0.54	0.73	11.85	0.0251	16.09	30.66	−7.03	
108	166			1.26	0.80	3.48	5.40	0.30	0.69	0.01	0.61	0.71	10.76	0.0210	16.61	31.20	−7.30	
109	167		1/2 [−]	1.26	0.81	1.67	5.16	0.23	0.71	0.06	0.60	0.83	12.57	0.0159	16.63	31.59	−7.51	
110	168			1.25	0.80	3.19	4.86	0.20	0.78	0.02	0.64	0.82	11.50	0.0131	16.96	32.01	−7.76	
111	169		3/2 [−]	1.26	0.79	1.61	4.80	0.15	0.67	0.18	0.60	1.03	13.07	0.0123	17.09	32.57	−8.09	
112	170			1.26	0.78	2.97	4.59	0.12	0.83	0.04	0.64	0.94	12.09	0.0114	17.44	33.01	−8.29	
113	171		7/2 [−]	1.25	0.77	1.43	4.40	0.11	0.56	0.32	0.60	1.23	13.69	0.0100	17.44	33.52	−8.68	
114	172			1.25	0.75	2.82	4.25	0.08	0.82	0.08	0.66	1.04	12.73	0.0087	17.92	33.92	−8.96	
115	173		11/2 ⁺	1.23	0.76	1.22	4.04	0.05	0.40	0.53	0.61	1.52	14.32	0.0079	18.08	34.65	−9.26	
116	174			1.21	0.73	2.63	3.85	0.06	0.84	0.07	0.68	1.07	13.49	0.0049	18.32	34.79	−9.48	
117	175		9/2 [−]	1.21	0.73	1.24	3.88	0.06	0.39	0.52	0.60	1.52	14.77	0.0046	18.34	35.28	−10.22	
118	176			1.19	0.70	2.61	3.85	0.05	0.79	0.13	0.67	1.14	13.95	0.0040	18.69	35.61	−10.34	
119	177		3/2 [−]	1.18	0.74	0.85	3.45	0.02	0.29	0.64	0.63	1.73	15.70	0.0035	18.56	35.86	−10.43	
120	178			1.17	0.70	2.52	3.36	0.02	0.55	0.37	0.67	1.48	14.39	0.0038	19.04	36.46	−10.67	
121	179		13/2 ⁺	1.17	0.68	0.89	3.41	0.01	0.13	0.79	0.72	1.94	15.98	0.0033	18.95	36.71	−10.97	
122	180			1.16	0.62	2.44	3.34	0.01	0.72	0.21	0.72	1.33	14.78	0.0026	19.43	37.11	−11.50	
123	181		3/2 [−]	1.15	0.58	1.33	3.78	0.01	0.19	0.74	0.68	1.88	15.97	0.0027	19.45	37.58	−12.18	
124	182			1.15	0.57	2.44	3.78	0.02	0.79	0.12	0.76	1.25	15.32	0.0024	19.88	38.03	−12.58	
125	183		1/2 [−]	1.14	0.58	0.87	3.31	0.01	0.50	0.41	0.72	1.59	16.91	0.0017	19.93	38.46	−12.59	
126	184			1.14	0.84	2.13	2.99	0.01	0.71	0.19	0.78	1.38	16.05	0.0016	20.38	38.91	−12.72	
127	185		9/2 ⁺	1.14	0.74	−1.26	0.87	0.02	0.03	0.74	0.84	2.23	19.40	0.0012	20.30	39.31	−11.03	
128	186			1.14	0.69	0.26	−0.99	0.00	0.04	0.07	0.87	3.14	18.36	0.0017	20.80	39.80	−9.61	
129	187		3/2 ⁺	1.14	0.72	−1.65	−1.39	0.01	0.02	0.04	0.91	4.17	20.25	0.0015	20.78	40.22	−9.62	
130	188			1.13	0.76	−0.02	−1.67	0.00	0.01	0.01	0.91	4.92	19.10	0.0014	21.22	40.65	−9.83	
131	189		1/2	1.11	0.67	−1.10	−1.12	0.00	0.00	0.00	0.91	5.90	20.38	0.0012	21.30	41.21	−10.80	
132	190			1.11	0.68	0.27	−0.83	0.00	0.01	0.01	0.88	6.50	19.37	0.0012	21.64	41.61	−11.52	
133	191		5/2	1.10	0.69	−1.07	−0.80	0.00	0.00	0.00	0.89	7.56	20.78	0.0011	21.71	42.03	−12.11	
134	192			1.10	0.69	0.26	−0.81	0.00	0.01	0.00	0.85	8.09	19.81	0.0010	22.18		−12.51	
135	193		3/2	1.10	0.71	−1.24	−0.98	0.00	0.00	0.00	0.87	9.21	21.30	0.0010	22.10		−12.76	
136	194			1.10	0.71	0.19	−1.05	0.00	0.00	0.00	0.84	9.50	20.33	0.0009				
137	195		3/2 ⁺	1.12	0.69	−0.99	−0.80	0.01	0.00	0.00	0.84	9.77	21.78	0.0008				
Z = 59 (Pr)																		
56	115		3/2 [−]	1.04	1.29								16.87	0.0093	−4.07	−5.61	3.96	10 ^{−0.08}
57	116		3/2 [−]	1.02	1.27	14.44							18.35	0.0111	−3.21	−4.13	3.70	10 ^{1.82}
58	117		3/2 [−]	1.03	1.26	16.26	30.70						14.74	0.0277	−2.87	−2.67	3.21	10 ^{4.90}
59	118		3/2 [−]	1.02	1.23	13.63	29.89						15.91	0.0315	−1.89	−1.44	2.54	10 ^{11.45}
60	119		3/2 [−]	1.02	1.22	15.17	28.80						12.55	0.0913	−1.52	−0.28	2.17	10 ^{15.57}
61	120		3/2 [−]	1.03	1.20	12.49	27.66						13.89	0.1091	−0.84	0.54	2.08	10 ^{17.20}
62	121		3/2 [−]	1.04	1.17	14.00	26.49						10.97	0.2279	−0.67	1.40	2.09	10 ^{16.86}
63	122		3/2 [−]	1.03	1.14	11.78	25.78						12.33	0.3147	0.02	2.24	1.98	10 ^{18.90}
64	123		3/2 [−]	1.04	1.13	13.12	24.90						9.75	0.5220	0.01	2.97	2.01	10 ^{18.08}
65	124		3/2 [−]	1.05	1.12	11.24	24.36						11.09	0.5382	0.70	3.70	1.70	> 10 ²⁰
66	125		3/2 [−]	1.06	1.11	12.54	23.78						8.54	1.2423	0.68	4.17	1.55	> 10 ²⁰
67	126		3/2 [−]	1.08	1.09	10.57	23.12						9.95	1.4992	1.25	4.86	1.48	> 10 ²⁰
68	127		3/2 [−]	1.08	1.07	12.01	22.59						7.42	3.3143	1.28	5.45	1.54	> 10 ²⁰
69	128		3/2 [−]	1.12	1.06	10.06	22.08						8.71	3.9468	1.86	6.06	1.37	> 10 ²⁰
70	129		3/2 [−]	1.13	1.05	11.41	21.48						6.25	7.2306	1.92	6.66	1.37	> 10 ²⁰
71	130		3/2 [−]	1.15	1.03	9.46	20.88						7.64	8.5724	2.43	7.20	1.36	> 10 ²⁰
72	131		3/2 [−]	1.16	1.02	10.83	20.29						5.40	27.6739	2.40	7.69	1.35	> 10 ²⁰
73	132		3/2 [−]	1.16	1.02	9.10	19.93						6.87	15.5047	2.92	8.26	1.17	> 10 ²⁰

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 59 (Pr)																		
74	133	3/2 ⁻		1.16	1.02	10.55	19.66						4.39	> 100	2.90	8.85	0.95	> 10 ²⁰
75	134	5/2 ⁺	9/2 ⁻	1.19	1.02	8.59	19.15						5.96	> 100	3.42	9.43	0.90	> 10 ²⁰
76	135	3/2 ⁺		1.21	1.02	10.22	18.81						3.61	> 100	3.49	9.94	0.63	> 10 ²⁰
77	136	3/2 ⁺	1/2 ⁺	1.22	1.02	8.46	18.68						4.95	> 100	4.07	10.71	0.19	> 10 ²⁰
78	137	3/2 ⁺		1.23	1.02	9.81	18.27						2.85	> 100	4.07	11.05	0.09	> 10 ²⁰
79	138	3/2 ⁺	3/2 ⁺	1.23	1.00	8.23	18.04						4.65	> 100	4.59	11.65	-0.45	
80	139	3/2 ⁺		1.27	1.04	9.97	18.20						2.27	> 100	4.54	12.08	-0.95	
81	140	3/2 ⁺	11/2 ⁻	1.28	1.07	8.13	18.10						3.80	> 100	5.07	12.74	-1.45	
82	141	5/2 ⁺		1.30	1.22	9.74	17.87						...	β -st	5.16	13.39	-1.65	
83	142	5/2 ⁺	7/2 ⁻	1.29	1.04	5.80	15.54	1.00	0.00	0.00	0.00	0.00	\pm	\pm	5.73	14.08	0.02	> 10 ²⁰
84	143	1/2 ⁺		1.29	0.97	7.02	12.82	1.00	0.00	0.00	0.00	0.00	1.05	> 100	5.79	14.72	2.09	10 ^{16.86}
85	144	5/2	3/2	1.17	0.92	5.31	12.32	1.00	0.00	0.00	0.00	0.00	3.40	7.5510	6.51	15.50	1.90	> 10 ²⁰
86	145	5/2		1.16	0.92	7.08	12.38	1.00	0.00	0.00	0.00	0.00	1.60	> 100	6.59	16.16	1.19	> 10 ²⁰
87	146	5/2	1/2	1.15	0.92	5.77	12.85	1.00	0.00	0.00	0.00	0.00	3.44	4.0636	7.35	17.00	-0.05	
88	147	1/2		1.14	0.94	6.92	12.70	1.00	0.00	0.00	0.00	0.00	2.33	12.1230	7.21	17.72	-0.56	
89	148	3/2	1/2	1.14	0.94	5.21	12.14	1.00	0.00	0.00	0.00	0.00	4.66	8.1409	7.91	18.18	-0.83	
90	149	3/2 ⁻		1.13	0.94	6.71	11.93	1.00	0.00	0.00	0.00	0.00	3.38	5.6136	8.28	19.17	-1.35	
91	150	3/2 ⁻	3/2 ⁺	1.13	0.92	5.34	12.05	1.00	0.00	0.00	0.00	0.00	5.50	4.4824	8.91	20.28	-1.93	
92	151	3/2 ⁻		1.14	0.91	6.44	11.78	1.00	0.00	0.00	0.00	0.00	4.45	2.4333	9.01	20.97	-2.66	
93	152	3/2 ⁻	3/2 ⁻	1.14	0.88	4.82	11.26	1.00	0.00	0.00	0.00	0.00	6.76	1.2970	9.58	21.63	-3.24	
94	153	3/2 ⁻		1.14	0.87	5.96	10.78	1.00	0.00	0.00	0.00	0.00	5.77	0.7905	9.71	22.43	-3.45	
95	154	3/2 ⁻	5/2 ⁺	1.16	0.85	4.47	10.43	1.00	0.00	0.00	0.00	0.00	7.81	0.7408	10.32	23.18	-3.76	
96	155	3/2 ⁻		1.17	0.84	5.47	9.94	0.99	0.01	0.00	0.33	0.01	6.86	0.3374	10.33	23.74	-4.07	
97	156	3/2 ⁻	5/2 ⁻	1.18	0.83	4.08	9.55	0.98	0.02	0.00	0.33	0.02	8.90	0.1427	10.83	24.34	-4.43	
98	157	3/2 ⁻		1.19	0.83	5.18	9.25	0.91	0.09	0.00	0.39	0.09	7.91	0.1596	10.91	24.96	-4.69	
99	158	3/2 ⁻	1/2 ⁻	1.19	0.83	3.78	8.96	0.88	0.12	0.00	0.40	0.12	9.88	0.1264	11.47	25.63	-4.99	
100	159	3/2 ⁻		1.19	0.80	4.78	8.56	0.78	0.22	0.00	0.56	0.22	8.90	0.0949	11.48	26.06	-5.22	
101	160	3/2 ⁻	7/2 ⁺	1.20	0.79	3.51	8.29	0.75	0.25	0.00	0.53	0.25	10.72	0.0822	12.06	26.69	-5.62	
102	161	3/2 ⁻		1.21	0.78	4.46	7.97	0.58	0.42	0.00	0.63	0.42	9.78	0.0654	12.09	27.17	-5.73	
103	162	3/2 ⁻	5/2 ⁻	1.22	0.81	3.08	7.54	0.59	0.41	0.00	0.56	0.41	11.66	0.0475	12.52	27.65	-5.93	
104	163	3/2 ⁻		1.22	0.81	4.01	7.09	0.37	0.63	0.00	0.65	0.63	10.76	0.0416	12.58	28.15	-5.96	
105	164	3/2 ⁻	7/2 ⁻	1.23	0.82	2.65	6.67	0.35	0.63	0.02	0.61	0.67	12.54	0.0243	12.97	28.57	-6.02	
106	165	3/2 ⁻		1.23	0.82	3.71	6.36	0.23	0.76	0.01	0.73	0.78	11.51	0.0292	12.98	29.04	-6.21	
107	166	3/2 ⁻	9/2 ⁺	1.25	0.80	2.39	6.10	0.20	0.67	0.13	0.65	0.93	13.25	0.0260	13.46	29.55	-6.37	
108	167	3/2 ⁻		1.25	0.80	3.48	5.88	0.13	0.83	0.04	0.73	0.91	12.22	0.0206	13.46	30.07	-6.61	
109	168	3/2 ⁻	1/2 ⁻	1.26	0.80	2.12	5.61	0.13	0.61	0.26	0.66	1.13	14.05	0.0172	13.91	30.53	-6.86	
110	169	3/2 ⁻		1.26	0.80	3.18	5.30	0.07	0.81	0.12	0.71	1.05	13.02	0.0152	13.90	30.85	-7.07	
111	170	1/2 ⁻	3/2 ⁻	1.27	0.79	2.00	5.18	0.10	0.44	0.45	0.68	1.37	14.68	0.0125	14.28	31.37	-7.41	
112	171	1/2 ⁻		1.26	0.78	3.03	5.03	0.05	0.69	0.25	0.68	1.22	13.58	0.0123	14.34	31.79	-7.59	
113	172	1/2 ⁻	7/2 ⁻	1.27	0.76	1.86	4.89	0.07	0.35	0.57	0.68	1.52	15.28	0.0110	14.77	32.21	-7.97	
114	173	3/2 ⁺		1.26	0.75	2.81	4.66	0.01	0.47	0.48	0.64	1.55	14.33	0.0115	14.75	32.68	-8.15	
115	174	3/2 ⁺	11/2 ⁺	1.25	0.74	1.81	4.62	0.02	0.13	0.81	0.71	1.87	15.82	0.0106	15.35	33.43	-8.53	
116	175	3/2 ⁺		1.22	0.73	2.51	4.33	0.01	0.36	0.58	0.63	1.67	15.03	0.0063	15.23	33.55	-8.70	
117	176	3/2 ⁺	9/2 ⁻	1.22	0.72	1.79	4.31	0.01	0.16	0.78	0.70	1.88	16.23	0.0059	15.78	34.12	-9.43	
118	177	3/2 ⁺		1.21	0.69	2.60	4.39	0.01	0.26	0.64	0.64	1.82	15.39	0.0053	15.77	34.46	-9.64	
119	178	3/2 ⁺	3/2 ⁻	1.20	0.74	1.20	3.80	0.01	0.06	0.83	0.73	2.04	17.16	0.0045	16.12	34.69	-9.62	
120	179	3/2 ⁺		1.19	0.70	2.49	3.69	0.00	0.12	0.69	0.70	2.08	15.83	0.0048	16.09	35.13	-9.85	
121	180	1/2 ⁺	1/2 ⁻	1.18	0.69	1.24	3.73	0.01	0.04	0.76	0.75	2.17	17.49	0.0037	16.44	35.40	-10.11	
122	181	5/2 ⁺		1.17	0.62	2.52	3.76	0.00	0.14	0.64	0.69	2.10	16.29	0.0032	16.52	35.95	-10.59	
123	182	5/2 ⁺	3/2 ⁻	1.17	0.58	1.80	4.31	0.01	0.03	0.84	0.80	2.11	17.33	0.0034	16.98	36.43	-11.41	
124	183	5/2 ⁺		1.17	0.57	2.46	4.26	0.01	0.17	0.67	0.71	1.98	16.66	0.0031	17.00	36.88	-11.91	
125	184	5/2 ⁺	1/2 ⁻	1.15	0.58	1.26	3.73	0.01	0.05	0.84	0.82	2.08	18.32	0.0022	17.40	37.32	-11.86	
126	185	5/2 ⁺		1.15	0.84	2.09	3.35	0.00	0.11	0.76	0.77	2.06	17.49	0.0020	17.36	37.73	-11.93	
127	186	5/2 ⁺	9/2 ⁺	1.15	0.75	-0.78	1.31	0.01	0.02	0.39	0.82	2.66	20.82	0.0014	17.84	38.14	-10.33	
128	187	5/2 ⁺		1.15	0.69	0.24	-0.54	0.00	0.02	0.04	0.87	3.52	19.76	0.0021	17.82	38.62	-8.90	
129	188	1/2 ⁺	3/2 ⁺	1.15	0.72	-1.17	-0.93	0.00	0.01	0.04	0.91	4.42	21.63	0.0019	18.30	39.08	-8.91	
130	189	7/2		1.12	0.68	0.18	-0.99	0.00	0.01	0.01	0.92	5.08	20.23	0.0020	18.50	39.72	-9.33	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 59 (Pr)																		
131	190	3/2	5/2	1.11	0.68	-0.74	-0.56	0.00	0.00	0.00	0.91	6.03	21.67	0.0016	18.86	40.16	-10.21	
132	191	3/2		1.11	0.68	0.33	-0.41	0.00	0.01	0.01	0.89	6.61	20.61	0.0017	18.92	40.56	-11.01	
133	192	3/2	5/2	1.10	0.69	-0.70	-0.37	0.00	0.00	0.00	0.88	7.55	21.99	0.0013	19.29	41.00	-11.49	
134	193	5/2		1.10	0.69	0.25	-0.45	0.00	0.01	0.00	0.86	8.06	21.04	0.0013	19.28	41.45	-11.80	
135	194	5/2	3/2	1.10	0.71	-0.78	-0.53	0.00	0.00	0.01	0.86	8.95	22.45	0.0013	19.74	41.84	-12.17	
136	195	3/2 ⁻		1.11	0.68	0.45	-0.32	0.00	0.00	0.00	0.82	9.23	21.20	0.0010	20.01		-12.83	
137	196	3/2 ⁻	3/2 ⁺	1.10	0.69	-0.75	-0.29	0.00	0.00	0.00	0.82	9.67	22.84	0.0009	20.25		-13.25	
138	197	3/2 ⁻		1.10	0.68	0.31	-0.44	0.00	0.00	0.00	0.79	9.57	21.80	0.0009				
139	198	3/2 ⁻	5/2 ⁻	1.10	0.69	-1.04	-0.73	0.00	0.00	0.00	0.80	9.75	23.55	0.0008				
Z = 60 (Nd)																		
58	118			1.01	1.26								14.07	0.0213	-1.22	-4.09	2.90	10 ^{7.50}
59	119		3/2 ⁻	1.01	1.24	14.05							15.19	0.0221	-0.80	-2.69	2.42	10 ^{13.64}
60	120			0.99	1.24	16.25	30.31						11.42	0.0753	0.28	-1.24	2.09	10 ^{17.18}
61	121		5/2 ⁻	0.99	1.20	12.68	28.93						12.75	0.0920	0.47	-0.37	2.06	10 ^{18.71}
62	122			1.00	1.17	14.60	27.28						9.92	0.2652	1.07	0.40	2.26	10 ^{14.48}
63	123		3/2 ⁺	1.00	1.15	11.83	26.43						11.22	0.2658	1.12	1.14	2.24	10 ^{15.95}
64	124			1.00	1.14	13.82	25.65						8.63	0.5474	1.82	1.83	2.25	10 ^{14.75}
65	125		5/2 ⁺	1.01	1.13	11.24	25.06						9.94	0.4083	1.82	2.52	2.10	10 ^{17.95}
66	126			1.02	1.11	13.21	24.45						7.30	1.6044	2.49	3.17	2.02	10 ^{18.12}
67	127		1/2 ⁺	1.04	1.10	10.63	23.85						8.68	1.2504	2.55	3.80	1.93	> 10 ²⁰
68	128			1.05	1.08	12.60	23.24						6.14	4.4988	3.14	4.42	1.90	> 10 ²⁰
69	129		7/2 ⁻	1.05	1.06	10.09	22.69						7.47	6.1391	3.16	5.03	1.81	> 10 ²⁰
70	130			1.07	1.05	11.96	22.05						4.97	18.1235	3.71	5.63	1.83	> 10 ²⁰
71	131		1/2 ⁻	1.05	1.05	9.44	21.41						6.35	3.8665	3.69	6.12	1.87	> 10 ²⁰
72	132			1.11	1.03	11.33	20.77						4.13	44.0470	4.19	6.59	1.90	> 10 ²⁰
73	133		7/2 ⁺	1.14	1.02	9.19	20.51						5.50	15.2277	4.27	7.19	1.66	> 10 ²⁰
74	134			1.18	1.02	11.15	20.34						2.94	> 100	4.87	7.78	1.37	> 10 ²⁰
75	135		9/2 ⁻	1.19	1.01	8.66	19.81						4.50	> 100	4.94	8.36	1.30	> 10 ²⁰
76	136			1.21	1.02	10.72	19.38						2.24	> 100	5.43	8.92	1.15	> 10 ²⁰
77	137		1/2 ⁺	1.22	1.01	8.52	19.24						3.54	> 100	5.49	9.56	0.70	> 10 ²⁰
78	138			1.24	1.02	10.36	18.88						1.40	> 100	6.05	10.12	0.50	> 10 ²⁰
79	139		3/2 ⁺	1.24	1.00	8.16	18.52						3.21	> 100	5.98	10.57	0.22	> 10 ²⁰
80	140			1.31	1.07	10.65	18.81						0.68	> 100	6.66	11.20	-0.63	
81	141		11/2 ⁻	1.30	1.08	8.16	18.82						2.26	> 100	6.69	11.77	-1.08	
82	142			1.31	1.22	10.32	18.48						...	β -st	7.28	12.43	-1.38	
83	143		1/2 ⁻	1.30	1.04	5.81	16.13						...	β -st	7.29	13.01	0.40	> 10 ²⁰
84	144			1.30	0.98	7.65	13.46						...	β -st	7.92	13.72	2.40	10 ^{12.70}
85	145		3/2	1.19	0.93	5.28	12.93						0.32		7.89	14.40	2.36	10 ^{14.38}
86	146			1.18	0.93	7.62	12.90						...	β -st	8.44	15.03	1.69	> 10 ²⁰
87	147		3/2	1.16	0.94	5.81	13.43	1.00	0.00	0.00	0.00	0.00	0.56	> 100	8.47	15.82	0.46	> 10 ²⁰
88	148			1.14	0.95	7.54	13.35						...	β -st	9.09	16.30	-0.08	
89	149		1/2	1.12	0.95	5.43	12.97	1.00	0.00	0.00	0.00	0.00	1.65	> 100	9.31	17.22	-0.49	
90	150			1.11	0.95	7.46	12.89						0.23		10.05	18.33	-0.88	
91	151		3/2 ⁺	1.12	0.94	5.40	12.86	1.00	0.00	0.00	0.00	0.00	2.40	> 100	10.12	19.02	-1.78	
92	152			1.12	0.92	7.12	12.52	1.00	0.00	0.00	0.00	0.00	1.24	> 100	10.79	19.80	-2.55	
93	153		3/2 ⁻	1.12	0.90	4.98	12.09	1.00	0.00	0.00	0.00	0.00	3.56	11.7401	10.95	20.53	-2.82	
94	154			1.13	0.88	6.51	11.49	1.00	0.00	0.00	0.00	0.00	2.52	27.6512	11.50	21.21	-2.98	
95	155		5/2 ⁺	1.13	0.86	4.52	11.03	1.00	0.00	0.00	0.00	0.00	4.69	15.2577	11.55	21.87	-3.26	
96	156			1.14	0.85	6.12	10.64	1.00	0.00	0.00	0.00	0.00	3.62	5.7520	12.20	22.53	-3.54	
97	157		5/2 ⁻	1.14	0.84	4.18	10.30	1.00	0.00	0.00	0.00	0.00	5.67	0.5186	12.30	23.13	-3.88	
98	158			1.16	0.82	5.75	9.93	1.00	0.00	0.00	0.00	0.00	4.68	1.3207	12.88	23.79	-4.16	
99	159		1/2 ⁻	1.17	0.82	3.80	9.56	1.00	0.00	0.00	0.00	0.00	6.69	0.7584	12.90	24.37	-4.39	
100	160			1.17	0.80	5.32	9.13	1.00	0.00	0.00	0.00	0.00	5.68	0.5427	13.44	24.92	-4.62	
101	161		7/2 ⁺	1.17	0.79	3.52	8.85	0.99	0.01	0.00	0.29	0.01	7.57	0.3862	13.46	25.52	-4.91	
102	162			1.18	0.78	4.96	8.48	0.98	0.02	0.00	0.31	0.02	6.73	0.2765	13.95	26.04	-5.10	
103	163		5/2 ⁻	1.19	0.81	3.11	8.07	0.94	0.06	0.00	0.30	0.06	8.58	0.1511	13.99	26.51	-5.29	
104	164			1.19	0.81	4.44	7.55	0.90	0.10	0.00	0.38	0.10	7.74	0.1387	14.41	26.99	-5.29	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 60 (Nd)																		
105	165		7/2 ⁻	1.21	0.82	2.68	7.11	0.90	0.10	0.00	0.39	0.10	9.62	0.0452	14.43	27.40	-5.32	
106	166			1.21	0.82	4.14	6.81	0.73	0.27	0.00	0.46	0.27	8.53	0.0757	14.86	27.84	-5.51	
107	167		9/2 ⁺	1.24	0.80	2.45	6.59	0.57	0.43	0.00	0.41	0.43	10.23	0.0630	14.92	28.38	-5.69	
108	168			1.24	0.80	3.95	6.40	0.59	0.41	0.00	0.47	0.41	9.18	0.0486	15.39	28.84	-5.94	
109	169		1/2 ⁻	1.25	0.80	2.15	6.10	0.41	0.58	0.01	0.43	0.60	11.02	0.0359	15.42	29.32	-6.18	
110	170			1.25	0.80	3.66	5.81	0.38	0.62	0.00	0.54	0.62	9.95	0.0317	15.90	29.79	-6.36	
111	171		3/2 ⁻	1.27	0.79	1.93	5.59	0.26	0.70	0.04	0.52	0.78	11.63	0.0269	15.83	30.11	-6.61	
112	172			1.27	0.77	3.56	5.49	0.28	0.71	0.01	0.57	0.73	10.50	0.0232	16.35	30.70	-6.98	
113	173		7/2 ⁻	1.27	0.76	1.86	5.42	0.24	0.69	0.07	0.54	0.83	12.18	0.0206	16.36	31.13	-7.23	
114	174			1.27	0.75	3.31	5.17	0.20	0.78	0.02	0.60	0.82	11.18	0.0180	16.86	31.61	-7.56	
115	175		11/2 ⁺	1.25	0.74	1.72	5.03	0.13	0.76	0.11	0.58	0.98	12.83	0.0143	16.76	32.11	-7.85	
116	176			1.25	0.73	2.99	4.71	0.12	0.84	0.04	0.62	0.92	11.93	0.0111	17.24	32.47	-8.02	
117	177		9/2 ⁻	1.23	0.72	1.75	4.75	0.21	0.69	0.10	0.57	0.89	13.41	0.0070	17.20	32.98	-8.56	
118	178			1.23	0.71	2.98	4.73	0.09	0.86	0.04	0.65	0.97	12.26	0.0084	17.58	33.35	-8.90	
119	179		3/2 ⁻	1.22	0.74	1.16	4.13	0.06	0.57	0.36	0.58	1.32	14.25	0.0063	17.53	33.66	-8.81	
120	180			1.20	0.70	2.90	4.05	0.03	0.87	0.08	0.67	1.09	12.83	0.0067	17.95	34.04	-9.10	
121	181		1/2 ⁻	1.20	0.69	1.32	4.22	0.05	0.38	0.55	0.59	1.54	14.27	0.0054	18.02	34.47	-9.58	
122	182			1.18	0.61	2.84	4.16	0.03	0.91	0.03	0.69	1.06	13.42	0.0043	18.34	34.86	-9.90	
123	183		3/2 ⁻	1.18	0.58	1.79	4.63	0.02	0.76	0.20	0.64	1.22	14.46	0.0044	18.34	35.32	-10.80	
124	184			1.18	0.58	2.92	4.71	0.02	0.92	0.04	0.72	1.06	13.73	0.0041	18.80	35.80	-11.28	
125	185		1/2 ⁻	1.16	0.58	1.26	4.18	0.01	0.87	0.09	0.70	1.14	15.38	0.0029	18.80	36.19	-11.20	
126	186			1.16	0.85	2.55	3.81	0.01	0.91	0.05	0.79	1.10	14.50	0.0026	19.26	36.62	-11.31	
127	187		9/2 ⁺	1.16	0.75	-0.82	1.73	0.02	0.10	0.79	0.76	1.98	17.90	0.0018	19.22	37.05	-9.62	
128	188			1.15	0.70	0.71	-0.11	0.00	0.05	0.26	0.79	2.72	16.78	0.0028	19.68	37.50	-8.20	
129	189		3/2 ⁺	1.15	0.73	-1.22	-0.51	0.02	0.00	0.06	0.85	3.62	18.73	0.0025	19.63	37.92	-8.24	
130	190			1.12	0.69	0.69	-0.53	0.00	0.02	0.01	0.83	4.11	17.31	0.0026	20.14	38.64	-8.67	
131	191		5/2	1.11	0.69	-0.72	-0.03	0.00	0.00	0.01	0.84	4.91	18.86	0.0019	20.16	39.02	-9.60	
132	192			1.11	0.69	0.67	-0.05	0.00	0.02	0.00	0.81	5.42	17.89	0.0020	20.50	39.42	-10.29	
133	193		5/2	1.11	0.69	-0.70	-0.03	0.00	0.00	0.02	0.81	6.28	19.25	0.0017	20.50	39.80	-10.69	
134	194			1.10	0.69	0.63	-0.07	0.00	0.02	0.00	0.76	6.71	18.25	0.0016	20.89	40.16	-11.06	
135	195		3/2	1.10	0.71	-0.79	-0.16	0.00	0.00	0.01	0.77	7.70	19.73	0.0016	20.87	40.61	-11.34	
136	196			1.10	0.69	0.89	0.09	0.00	0.01	0.00	0.70	7.62	18.38	0.0014	21.31	41.31	-11.96	
137	197		3/2 ⁺	1.09	0.70	-0.72	0.17	0.01	0.00	0.01	0.70	8.01	20.16	0.0011	21.33	41.58	-12.48	
138	198			1.09	0.69	0.70	-0.02	0.00	0.02	0.00	0.67	7.62	19.16	0.0011	21.72		-12.99	
139	199		5/2 ⁻	1.09	0.70	-0.77	-0.07	0.00	0.00	0.02	0.69	8.21	20.71	0.0010	22.00		-13.21	
140	200			1.09	0.69	0.59	-0.17	0.00	0.01	0.00	0.66	8.00	19.59	0.0010				
141	201		5/2 ⁺	1.09	0.68	-0.98	-0.39	0.00	0.00	0.01	0.68	8.65	21.24	0.0009				
Z = 61 (Pm)																		
59	120	5/2 ⁻	3/2 ⁻	1.03	1.25								18.88	0.0079	-3.41	-4.21	2.62	10 ^{12.23}
60	121	5/2 ⁻		1.03	1.24	16.40							15.16	0.0182	-3.26	-2.98	2.48	10 ^{13.49}
61	122	5/2 ⁻	5/2 ⁻	1.03	1.20	13.59	29.98						16.17	0.0237	-2.36	-1.89	2.53	10 ^{13.24}
62	123	5/2 ⁻		1.03	1.18	15.01	28.60						12.99	0.0617	-1.95	-0.88	2.69	10 ^{11.24}
63	124	5/2 ⁻	3/2 ⁺	1.03	1.16	12.46	27.47						14.35	0.0851	-1.31	-0.19	2.71	10 ^{11.27}
64	125	5/2 ⁻		1.04	1.15	13.92	26.39						11.67	0.1290	-1.21	0.61	2.79	10 ^{10.11}
65	126	5/2 ⁻	5/2 ⁺	1.01	1.14	11.86	25.78						13.02	0.1497	-0.59	1.23	2.71	10 ^{11.27}
66	127	5/2 ⁻		1.03	1.12	13.32	25.18						10.34	0.3173	-0.49	2.00	2.51	10 ^{13.02}
67	128	5/2 ⁻	1/2 ⁺	1.03	1.10	11.21	24.53						11.73	0.4084	0.09	2.64	2.54	10 ^{13.13}
68	129	5/2 ⁻		1.05	1.08	12.70	23.91						9.12	0.7972	0.18	3.32	2.39	10 ^{14.59}
69	130	5/2 ⁻	7/2 ⁻	1.05	1.06	10.69	23.38						10.40	0.9841	0.78	3.95	2.28	10 ^{16.36}
70	131	5/2 ⁻		1.07	1.05	12.07	22.76						7.77	2.1602	0.89	4.60	2.22	10 ^{16.84}
71	132	5/2 ⁻	1/2 ⁻	1.04	1.06	10.08	22.15						9.02	1.9689	1.53	5.22	2.21	10 ^{17.47}
72	133	5/2 ⁻		1.04	1.05	11.45	21.52						6.76	3.5330	1.64	5.84	2.18	10 ^{17.41}
73	134	5/2 ⁻	5/2 ⁺	1.06	1.05	9.47	20.91						8.44	3.2948	1.93	6.20	2.17	10 ^{17.90}
74	135	5/2 ⁺		1.17	1.01	11.03	20.50						6.07	51.3954	1.80	6.68	1.97	> 10 ²⁰
75	136	5/2 ⁺	9/2 ⁻	1.17	1.01	9.34	20.37						7.45	55.1612	2.48	7.42	1.73	> 10 ²⁰
76	137	3/2 ⁺		1.20	1.01	10.80	20.14						5.17	43.8351	2.57	8.00	1.48	> 10 ²⁰
77	138	1/2 ⁻	1/2 ⁺	1.22	1.00	9.00	19.80						6.53	36.0176	3.05	8.55	1.07	> 10 ²⁰

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	<i>S</i> _{1n} (MeV)	<i>S</i> _{2n} (MeV)	<i>P</i> _{0n}	<i>P</i> _{1n}	<i>P</i> _{2n}	\bar{E}_n (MeV)	\bar{n}	<i>Q</i> _β (MeV)	<i>T</i> _β (s)	<i>S</i> _{1p} (MeV)	<i>S</i> _{2p} (MeV)	<i>Q</i> _α (MeV)	<i>T</i> _α (s)
Z = 61 (Pm)																		
78	139	1/2 ⁻		1.24	1.01	10.44	19.44						4.25	> 100	3.13	9.18	0.86	> 10 ²⁰
79	140	3/2 ⁺	1/2 ⁻	1.30	1.03	8.68	19.12						6.22	> 100	3.65	9.63	0.64	> 10 ²⁰
80	141	1/2 ⁺		1.32	1.09	10.71	19.39						3.68	> 100	3.70	10.37	-0.26	
81	142	7/2 ⁺	11/2 ⁻	1.31	1.08	8.55	19.26						5.45	> 100	4.09	10.79	-0.59	
82	143	1/2 ⁺		1.31	1.22	10.40	18.95						0.86	> 100	4.17	11.45	-1.02	
83	144	3/2 ⁺	7/2 ⁻	1.31	1.04	6.40	16.79						±	±	4.76	12.04	0.72	> 10 ²⁰
84	145	1/2 ⁺		1.31	0.98	7.72	14.11						...	β-st	4.82	12.74	2.74	10 ^{10.52}
85	146	7/2 ⁻	3/2 ⁻	1.21	0.93	5.88	13.60	1.00	0.00	0.00	0.00	0.00	±	±	5.43	13.32	2.66	10 ^{11.80}
86	147	5/2 ⁻		1.17	0.95	7.78	13.67	1.00	0.00	0.00	0.00	0.00	...	β-st	5.59	14.03	1.89	> 10 ²⁰
87	148	5/2 ⁻	3/2 ⁻	1.15	0.95	6.39	14.17	1.00	0.00	0.00	0.00	0.00	±	±	6.16	14.64	0.81	> 10 ²⁰
88	149	5/2 ⁻		1.13	0.96	7.68	14.06	1.00	0.00	0.00	0.00	0.00	0.60	> 100	6.30	15.39	0.21	> 10 ²⁰
89	150	5/2 ⁻	1/2 ⁻	1.10	0.97	6.04	13.72	1.00	0.00	0.00	0.00	0.00	2.79	> 100	6.91	16.22	-0.05	
90	151	5/2 ⁻		1.09	0.98	7.57	13.61	1.00	0.00	0.00	0.00	0.00	1.34	> 100	7.02	17.08	-0.70	
91	152	5/2 ⁻	3/2 ⁺	1.09	0.95	5.95	13.53	1.00	0.00	0.00	0.00	0.00	3.47	> 100	7.57	17.69	-1.44	
92	153	5/2 ⁻		1.09	0.93	7.30	13.25	1.00	0.00	0.00	0.00	0.00	2.21	78.8796	7.75	18.54	-2.02	
93	154	5/2 ⁻	3/2 ⁻	1.10	0.90	5.47	12.77	1.00	0.00	0.00	0.00	0.00	4.55	9.2729	8.25	19.20	-2.16	
94	155	5/2 ⁻		1.11	0.88	6.69	12.16	1.00	0.00	0.00	0.00	0.00	3.44	12.0919	8.42	19.92	-2.40	
95	156	5/2 ⁻	5/2 ⁺	1.11	0.87	5.05	11.74	1.00	0.00	0.00	0.00	0.00	5.59	7.8200	8.96	20.51	-2.64	
96	157	5/2 ⁻		1.11	0.86	6.23	11.28	1.00	0.00	0.00	0.00	0.00	4.56	2.4355	9.07	21.27	-2.90	
97	158	5/2 ⁻	5/2 ⁻	1.12	0.85	4.76	10.99	1.00	0.00	0.00	0.00	0.00	6.58	0.7444	9.65	21.95	-3.20	
98	159	5/2 ⁻		1.13	0.85	5.81	10.58	1.00	0.00	0.00	0.00	0.00	5.62	0.7536	9.71	22.59	-3.54	
99	160	5/2 ⁻	1/2 ⁻	1.13	0.83	4.32	10.13	1.00	0.00	0.00	0.00	0.00	7.71	0.4389	10.22	23.12	-3.78	
100	161	5/2 ⁻		1.14	0.81	5.41	9.73	0.99	0.01	0.00	0.38	0.01	6.70	0.3014	10.31	23.75	-4.01	
101	162	5/2 ⁻	7/2 ⁺	1.14	0.79	4.12	9.53	0.99	0.01	0.00	0.39	0.01	8.57	0.2424	10.90	24.36	-4.35	
102	163	5/2 ⁻		1.15	0.79	4.96	9.08	0.94	0.06	0.00	0.37	0.06	7.72	0.1766	10.91	24.86	-4.53	
103	164	5/2 ⁻	5/2 ⁻	1.16	0.81	3.60	8.56	0.91	0.09	0.00	0.35	0.09	9.71	0.1163	11.39	25.38	-4.62	
104	165	5/2 ⁻		1.16	0.80	4.55	8.15	0.73	0.27	0.00	0.56	0.27	8.82	0.1064	11.51	25.92	-4.71	
105	166	5/2 ⁻	7/2 ⁻	1.18	0.82	3.05	7.61	0.75	0.25	0.00	0.50	0.25	10.76	0.0478	11.89	26.32	-4.69	
106	167	5/2 ⁻		1.18	0.81	4.15	7.21	0.54	0.46	0.00	0.68	0.46	9.79	0.0631	11.90	26.77	-4.83	
107	168	5/2 ⁺	9/2 ⁺	1.22	0.80	2.89	7.05	0.25	0.73	0.02	0.65	0.77	11.68	0.1007	12.34	27.27	-5.07	
108	169	5/2 ⁺		1.22	0.80	3.99	6.89	0.15	0.85	0.00	0.72	0.85	10.58	0.0756	12.39	27.78	-5.35	
109	170	5/2 ⁺	1/2 ⁻	1.24	0.81	2.59	6.58	0.13	0.81	0.06	0.65	0.93	12.46	0.0596	12.82	28.24	-5.55	
110	171	5/2 ⁺		1.24	0.80	3.62	6.20	0.05	0.93	0.02	0.71	0.97	11.52	0.0480	12.78	28.68	-5.68	
111	172	3/2 ⁻	3/2 ⁻	1.26	0.79	2.43	6.04	0.15	0.70	0.15	0.63	1.00	13.21	0.0253	13.28	29.11	-5.98	
112	173	3/2 ⁻		1.26	0.78	3.54	5.96	0.09	0.86	0.05	0.69	0.96	12.10	0.0228	13.25	29.61	-6.34	
113	174	3/2 ⁻	7/2 ⁻	1.27	0.76	2.30	5.84	0.13	0.59	0.28	0.63	1.15	13.74	0.0209	13.70	30.06	-6.65	
114	175	3/2 ⁺		1.27	0.75	3.38	5.68	0.03	0.79	0.18	0.66	1.15	12.67	0.0282	13.77	30.62	-6.99	
115	176	1/2 ⁻	11/2 ⁺	1.26	0.74	2.10	5.47	0.09	0.50	0.41	0.64	1.32	14.37	0.0160	14.15	30.91	-7.23	
116	177	1/2 ⁻		1.26	0.73	3.23	5.33	0.06	0.72	0.21	0.64	1.17	13.28	0.0141	14.38	31.62	-7.65	
117	178	1/2 ⁻	9/2 ⁻	1.24	0.72	1.82	5.05	0.06	0.49	0.44	0.62	1.40	15.06	0.0072	14.45	31.66	-7.66	
118	179	1/2 ⁻		1.24	0.71	3.14	4.96	0.03	0.64	0.31	0.63	1.32	13.77	0.0091	14.62	32.20	-8.29	
119	180	1/2 ⁻	3/2 ⁻	1.23	0.74	1.49	4.63	0.03	0.28	0.67	0.67	1.68	15.82	0.0066	14.95	32.49	-7.99	
120	181	5/2 ⁺		1.21	0.69	2.76	4.24	0.01	0.41	0.53	0.64	1.62	14.63	0.0076	14.81	32.76	-8.14	
121	182	11/2 ⁻	1/2 ⁻	1.21	0.69	1.99	4.74	0.01	0.21	0.74	0.70	1.82	15.87	0.0056	15.48	33.50	-8.93	
122	183	3/2 ⁺		1.20	0.61	2.83	4.82	0.01	0.40	0.54	0.64	1.63	14.79	0.0058	15.47	33.81	-9.27	
123	184	3/2 ⁺	3/2 ⁻	1.19	0.57	2.19	5.02	0.01	0.11	0.84	0.71	1.92	15.98	0.0056	15.87	34.21	-10.22	
124	185	3/2 ⁺		1.19	0.57	2.91	5.10	0.01	0.60	0.35	0.70	1.42	15.20	0.0054	15.85	34.65	-10.61	
125	186	3/2 ⁺	1/2 ⁻	1.17	0.57	1.68	4.58	0.01	0.17	0.77	0.72	1.87	16.86	0.0037	16.27	35.07	-10.49	
126	187	5/2 ⁺		1.17	0.85	2.57	4.25	0.01	0.43	0.51	0.70	1.60	15.96	0.0034	16.30	35.55	-10.60	
127	188	3/2 ⁺	9/2 ⁺	1.17	0.75	-0.41	2.16	0.01	0.02	0.81	0.83	2.16	19.35	0.0022	16.70	35.92	-8.93	
128	189	1/2 ⁺		1.17	0.70	0.73	0.32	0.00	0.04	0.07	0.87	2.98	18.19	0.0037	16.73	36.41	-7.57	
129	190	3/2 ⁻	3/2 ⁻	1.15	0.70	-0.73	0.00	0.00	0.01	0.05	0.88	3.87	20.07	0.0032	17.22	36.85	-7.62	
130	191	3/2 ⁻		1.12	0.68	0.83	0.10	0.00	0.01	0.01	0.86	4.46	18.60	0.0035	17.36	37.50	-8.21	
131	192	3/2 ⁻	5/2 ⁻	1.11	0.69	-0.29	0.54	0.00	0.00	0.01	0.84	5.08	20.08	0.0024	17.79	37.95	-9.08	
132	193	7/2 ⁻		1.11	0.69	0.66	0.37	0.00	0.01	0.01	0.82	5.51	19.17	0.0023	17.77	38.28	-9.57	
133	194	7/2 ⁻	1/2 ⁻	1.10	0.70	-0.37	0.29	0.00	0.00	0.01	0.82	6.32	20.62	0.0021	18.10	38.60	-9.94	
134	195	7/2 ⁻		1.10	0.70	0.68	0.31	0.00	0.01	0.00	0.79	6.82	19.53	0.0021	18.15	39.04	-10.29	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 61 (Pm)																		
135	196	7/2	3/2	1.10	0.71	-0.47	0.22	0.00	0.00	0.01	0.78	7.62	20.99	0.0019	18.48	39.35	-10.52	
136	197	5/2 ⁺		1.09	0.69	1.06	0.60	0.00	0.01	0.00	0.72	7.52	19.58	0.0016	18.65	39.96	-11.34	
137	198	5/2 ⁺	3/2 ⁺	1.08	0.70	-0.30	0.76	0.00	0.00	0.01	0.71	7.87	21.33	0.0013	19.07	40.41	-11.81	
138	199	5/2 ⁺		1.08	0.69	0.78	0.48	0.00	0.01	0.00	0.69	7.57	20.27	0.0013	19.16	40.88	-12.14	
139	200	5/2 ⁺	5/2 ⁻	1.08	0.70	-0.52	0.26	0.00	0.00	0.01	0.70	8.17	21.89	0.0012	19.40	41.39	-12.36	
140	201	5/2 ⁺		1.08	0.69	0.67	0.14	0.00	0.01	0.00	0.68	7.82	20.86	0.0012	19.47		-12.72	
141	202	5/2 ⁺	5/2 ⁺	1.08	0.68	-0.48	0.18	0.00	0.00	0.01	0.69	8.37	22.43	0.0010	19.97		-13.28	
142	203	5/2 ⁻		1.08	0.66	0.48	-0.01	0.00	0.01	0.00	0.68	7.98	21.41	0.0009				
143	204	5/2 ⁻	1/2 ⁺	1.08	0.68	-0.48	-0.01	0.00	0.00	0.01	0.69	8.45	22.91	0.0008				
144	205	5/2 ⁻		1.08	0.67	0.16	-0.33	0.00	0.00	0.00	0.69	8.56	22.04	0.0008				
Z = 62 (Sm)																		
61	123		5/2 ⁻	1.01	1.22								15.66	0.0208	-1.43	-3.79	3.16	10 ^{7.78}
62	124			1.00	1.19	15.91							12.21	0.0581	-0.53	-2.48	3.50	10 ^{4.07}
63	125		3/2 ⁺	1.00	1.16	12.61	28.52						13.52	0.0741	-0.38	-1.69	3.57	10 ^{4.64}
64	126			1.01	1.15	14.54	27.15						10.84	0.1366	0.23	-0.98	3.63	10 ^{3.16}
65	127		5/2 ⁺	0.99	1.14	11.97	26.50						12.19	0.1197	0.34	-0.25	3.49	10 ^{5.21}
66	128			0.99	1.12	13.94	25.91						9.46	0.2794	0.97	0.48	3.37	10 ^{5.04}
67	129		1/2 ⁺	1.01	1.10	11.34	25.28						10.82	0.2482	1.09	1.18	3.27	10 ^{6.88}
68	130			1.01	1.08	13.34	24.67						8.17	0.8221	1.73	1.92	3.15	10 ^{6.80}
69	131		7/2 ⁻	1.03	1.06	10.83	24.16						9.41	0.8985	1.87	2.66	2.95	10 ^{9.65}
70	132			1.05	1.06	12.67	23.50						6.82	2.0553	2.48	3.36	2.88	10 ^{9.24}
71	133		1/2 ⁻	1.00	1.05	10.17	22.84						8.09	1.3857	2.57	4.10	2.80	10 ^{11.10}
72	134			1.01	1.05	12.02	22.19						5.55	6.7584	3.14	4.79	2.75	10 ^{10.65}
73	135		5/2 ⁺	1.01	1.05	9.55	21.57						7.02	8.3682	3.22	5.15	2.64	10 ^{12.90}
74	136			1.16	1.00	11.66	21.21						4.70	46.8423	3.86	5.66	2.30	10 ^{15.74}
75	137		9/2 ⁻	1.19	1.01	9.42	21.08						6.08	44.5285	3.94	6.42	2.07	> 10 ²⁰
76	138			1.19	1.00	11.37	20.79						3.71	> 100	4.51	7.08	1.85	> 10 ²⁰
77	139		1/2 ⁺	1.21	1.00	9.02	20.39						5.13	84.8057	4.53	7.58	1.48	> 10 ²⁰
78	140			1.30	1.03	11.02	20.05						2.78	> 100	5.11	8.24	1.18	> 10 ²⁰
79	141		1/2 ⁻	1.31	1.03	8.66	19.69						4.83	> 100	5.10	8.74	1.03	> 10 ²⁰
80	142			1.32	1.09	11.26	19.93						2.12	> 100	5.65	9.35	0.13	> 10 ²⁰
81	143		11/2 ⁻	1.32	1.09	8.60	19.86						3.92	> 100	5.70	9.79	-0.31	
82	144			1.32	1.22	10.98	19.58						...	β -st	6.28	10.45	-0.64	
83	145		7/2 ⁻	1.32	1.05	6.46	17.45						0.58	> 100	6.35	11.11	1.06	> 10 ²⁰
84	146			1.31	0.98	8.27	14.73						...	β -st	6.91	11.73	3.11	10 ^{7.14}
85	147		1/2 ⁻	1.23	0.94	5.85	14.13						0.12		6.88	12.31	3.07	10 ^{8.65}
86	148			1.16	0.96	8.47	14.33						...	β -st	7.57	13.16	2.25	10 ^{16.70}
87	149		3/2	1.15	0.96	6.31	14.79						...	β -st	7.50	13.66	1.21	> 10 ²⁰
88	150			1.12	0.96	8.23	14.54						...	β -st	8.05	14.35	0.60	> 10 ²⁰
89	151		1/2	1.09	0.98	6.12	14.35	1.00	0.00	0.00	0.00	0.00	...	β -st	8.13	15.04	0.29	> 10 ²⁰
90	152			1.08	0.97	8.09	14.21						...	β -st	8.64	15.67	-0.26	
91	153		3/2 ⁺	1.07	0.96	6.03	14.12	1.00	0.00	0.00	0.00	0.00	0.62	> 100	8.72	16.30	-0.86	
92	154			1.07	0.94	7.81	13.85						...	β -st	9.24	16.99	-1.21	
93	155		3/2 ⁻	1.08	0.91	5.58	13.39	1.00	0.00	0.00	0.00	0.00	1.62	> 100	9.35	17.60	-1.39	
94	156			1.08	0.90	7.20	12.78	1.00	0.00	0.00	0.00	0.00	0.50	> 100	9.86	18.28	-1.47	
95	157		5/2 ⁺	1.08	0.88	5.20	12.40	1.00	0.00	0.00	0.00	0.00	2.60	> 100	10.01	18.97	-1.70	
96	158			1.09	0.88	6.78	11.99	1.00	0.00	0.00	0.00	0.00	1.52	> 100	10.56	19.63	-1.97	
97	159		5/2 ⁻	1.09	0.87	4.85	11.64	1.00	0.00	0.00	0.00	0.00	3.53	2.7163	10.65	20.30	-2.30	
98	160			1.09	0.86	6.40	11.26	1.00	0.00	0.00	0.00	0.00	2.61	21.1525	11.24	20.95	-2.58	
99	161		1/2 ⁻	1.10	0.84	4.40	10.80	1.00	0.00	0.00	0.00	0.00	4.72	4.6571	11.32	21.55	-2.80	
100	162			1.11	0.81	5.99	10.39	1.00	0.00	0.00	0.00	0.00	3.67	4.6388	11.91	22.21	-3.04	
101	163		7/2 ⁺	1.12	0.81	4.11	10.11	1.00	0.00	0.00	0.00	0.00	5.66	2.5988	11.90	22.81	-3.35	
102	164			1.13	0.80	5.58	9.70	1.00	0.00	0.00	0.00	0.00	4.70	1.8429	12.52	23.43	-3.61	
103	165		5/2 ⁻	1.13	0.82	3.67	9.25	1.00	0.00	0.00	0.00	0.00	6.71	0.6261	12.59	23.98	-3.75	
104	166			1.14	0.79	4.99	8.66	0.99	0.01	0.00	0.24	0.01	5.92	0.6053	13.03	24.54	-3.79	
105	167		7/2 ⁻	1.16	0.81	3.19	8.18	0.99	0.01	0.00	0.25	0.01	7.82	0.1187	13.16	25.05	-3.86	
106	168			1.17	0.81	4.78	7.97	0.97	0.03	0.00	0.35	0.03	6.74	0.2567	13.79	25.70	-4.21	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 62 (Sm)																		
107	169		9/2 ⁺	1.20	0.80	2.89	7.68	0.92	0.08	0.00	0.34	0.08	8.70	0.1652	13.79	26.14	−4.43	
108	170			1.22	0.79	4.46	7.36	0.90	0.10	0.00	0.36	0.10	7.61	0.1165	14.26	26.65	−4.75	
109	171		1/2 [−]	1.23	0.80	2.68	7.14	0.77	0.23	0.00	0.30	0.23	9.45	0.0907	14.36	27.18	−4.98	
110	172			1.24	0.79	4.12	6.80	0.71	0.29	0.00	0.38	0.29	8.45	0.0761	14.86	27.64	−5.15	
111	173		3/2 [−]	1.26	0.78	2.42	6.54	0.52	0.48	0.00	0.37	0.48	10.18	0.0598	14.86	28.13	−5.42	
112	174			1.26	0.78	3.94	6.37	0.50	0.50	0.00	0.44	0.50	9.10	0.0571	15.26	28.52	−5.71	
113	175		7/2 [−]	1.26	0.76	2.30	6.24	0.41	0.58	0.01	0.44	0.60	10.75	0.0440	15.26	28.96	−6.08	
114	176			1.26	0.75	3.80	6.10	0.36	0.64	0.00	0.53	0.64	9.63	0.0452	15.69	29.45	−6.32	
115	177		11/2 ⁺	1.26	0.74	2.14	5.94	0.28	0.70	0.02	0.50	0.74	11.32	0.0367	15.73	29.88	−6.60	
116	178			1.25	0.73	3.59	5.74	0.24	0.75	0.01	0.53	0.77	10.30	0.0272	16.10	30.48	−6.89	
117	179		9/2 [−]	1.25	0.71	1.86	5.45	0.37	0.61	0.02	0.48	0.65	12.03	0.0118	16.13	30.58	−7.03	
118	180			1.24	0.72	3.54	5.40	0.17	0.82	0.01	0.57	0.84	10.71	0.0164	16.53	31.15	−7.58	
119	181		3/2 [−]	1.24	0.74	1.56	5.11	0.13	0.76	0.11	0.56	0.98	12.66	0.0143	16.61	31.56	−7.39	
120	182			1.21	0.69	3.23	4.79	0.17	0.80	0.03	0.61	0.86	11.58	0.0106	17.08	31.89	−7.64	
121	183		1/2 [−]	1.21	0.70	1.75	4.97	0.12	0.77	0.11	0.59	0.99	13.11	0.0091	16.84	32.31	−8.23	
122	184			1.21	0.65	3.39	5.14	0.10	0.87	0.03	0.66	0.93	11.87	0.0104	17.40	32.86	−8.72	
123	185		3/2 [−]	1.20	0.57	2.12	5.51	0.04	0.91	0.05	0.57	1.01	13.11	0.0073	17.32	33.19	−9.52	
124	186			1.20	0.57	3.34	5.45	0.05	0.92	0.03	0.64	0.98	12.23	0.0074	17.75	33.60	−10.02	
125	187		1/2 [−]	1.19	0.54	1.67	5.01	0.02	0.92	0.06	0.59	1.04	13.88	0.0051	17.75	34.02	−9.90	
126	188			1.18	0.85	2.99	4.66	0.02	0.93	0.04	0.71	1.04	13.01	0.0047	18.16	34.46	−9.96	
127	189		9/2 ⁺	1.18	0.76	−0.44	2.55	0.02	0.43	0.51	0.68	1.57	16.44	0.0029	18.14	34.84	−8.27	
128	190			1.18	0.70	1.16	0.72	0.00	0.09	0.69	0.79	2.14	15.27	0.0050	18.56	35.29	−6.87	
129	191		3/2	1.14	0.69	−0.64	0.52	0.02	0.01	0.14	0.81	2.95	17.09	0.0043	18.65	35.87	−7.05	
130	192			1.12	0.69	1.19	0.55	0.00	0.04	0.01	0.80	3.36	15.84	0.0044	19.01	36.37	−7.54	
131	193		5/2	1.11	0.69	−0.25	0.94	0.00	0.00	0.04	0.79	4.12	17.26	0.0033	19.05	36.83	−8.51	
132	194			1.11	0.69	1.08	0.83	0.00	0.04	0.01	0.72	4.59	16.39	0.0033	19.47	37.24	−8.90	
133	195		5/2	1.11	0.69	−0.41	0.67	0.02	0.01	0.03	0.71	5.26	17.88	0.0030	19.43	37.53	−9.20	
134	196			1.11	0.70	1.00	0.58	0.00	0.03	0.01	0.66	5.17	16.83	0.0025	19.74	37.89	−9.53	
135	197		3/2 [−]	1.09	0.71	−0.35	0.65	0.00	0.00	0.03	0.66	5.58	18.22	0.0020	19.86	38.34	−9.87	
136	198			1.08	0.69	1.46	1.10	0.00	0.02	0.00	0.63	5.10	16.79	0.0021	20.25	38.90	−10.70	
137	199		3/2 ⁺	1.07	0.70	−0.28	1.18	0.01	0.00	0.05	0.63	5.36	18.53	0.0017	20.27	39.35	−11.21	
138	200			1.07	0.70	1.09	0.81	0.00	0.03	0.00	0.61	5.13	17.48	0.0017	20.58	39.74	−11.41	
139	201		5/2 [−]	1.07	0.70	−0.36	0.73	0.00	0.00	0.04	0.63	5.69	19.09	0.0016	20.74	40.14	−11.77	
140	202			1.07	0.69	1.09	0.73	0.00	0.02	0.00	0.61	5.33	17.94	0.0016	21.17	40.64	−12.17	
141	203		5/2 ⁺	1.07	0.69	−0.54	0.55	0.00	0.00	0.03	0.63	5.85	19.56	0.0013	21.11	41.08	−12.39	
142	204			1.06	0.66	1.01	0.47	0.00	0.02	0.00	0.62	5.56	18.52	0.0013	21.65		−12.81	
143	205		1/2 ⁺	1.07	0.68	−0.71	0.30	0.00	0.00	0.03	0.64	6.26	20.25	0.0011	21.41		−13.08	
144	206			1.06	0.67	0.82	0.10	0.00	0.02	0.00	0.63	6.16	19.22	0.0011	22.07			
145	207		7/2 [−]	1.07	0.67	−0.87	−0.05	0.00	0.00	0.02	0.65	6.99	20.88	0.0010				
146	208			1.06	0.66	0.72	−0.15	0.00	0.02	0.00	0.64	6.92	19.76	0.0010				
Z = 63 (Eu)																		
62	125	3/2 ⁺		1.03	1.19								15.74	0.0106	−3.91	−4.44	4.15	10 ^{1.33}
63	126	3/2 ⁺	3/2 ⁺	1.03	1.16	13.46							16.82	0.0134	−3.06	−3.44	4.27	10 ^{1.00}
64	127	3/2 ⁺		1.03	1.15	14.97	28.44						13.81	0.0222	−2.62	−2.39	4.31	10 ^{0.45}
65	128	3/2 ⁺	5/2 ⁺	1.02	1.14	12.47	27.45						15.28	0.0312	−2.12	−1.77	4.29	10 ^{0.84}
66	129	3/2 ⁺		1.03	1.12	14.12	26.59						12.50	0.0483	−1.94	−0.98	4.10	10 ^{1.62}
67	130	3/2 ⁺	1/2 ⁺	1.04	1.11	12.17	26.29						13.66	0.0465	−1.11	−0.02	3.79	10 ^{3.87}
68	131	3/2 ⁺		1.03	1.08	13.48	25.65						11.01	0.1372	−0.97	0.77	3.63	10 ^{4.67}
69	132	3/2 ⁺	7/2 [−]	1.04	1.07	11.46	24.94						12.22	0.3092	−0.33	1.54	3.38	10 ^{6.78}
70	133	5/2 ⁺		1.05	1.06	12.82	24.28						9.58	0.8444	−0.19	2.29	3.26	10 ^{7.39}
71	134	5/2 ⁺	1/2 [−]	1.04	1.05	10.70	23.51						10.90	0.7335	0.34	2.91	3.25	10 ^{7.81}
72	135	5/2 ⁺		1.04	1.04	12.09	22.78						8.37	2.1903	0.40	3.55	3.23	10 ^{7.63}
73	136	5/2 ⁺	5/2 ⁺	1.03	1.04	10.24	22.33						9.78	2.9144	1.09	4.32	3.07	10 ^{9.35}
74	137	5/2 [−]		1.10	1.01	11.80	22.04						7.41	4.0044	1.23	5.09	2.72	10 ^{12.54}
75	138	3/2 ⁺	9/2 [−]	1.15	1.00	9.79	21.59						8.99	4.8107	1.60	5.54	2.40	10 ^{16.54}
76	139	3/2 ⁺		1.16	1.00	11.36	21.15						6.65	10.3295	1.59	6.10	2.06	> 10 ²⁰
77	140	3/2 [−]	1/2 ⁺	1.19	1.00	9.59	20.96						8.08	7.6842	2.16	6.69	1.81	> 10 ²⁰

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p}	Δ_{LN_n}	S_{1n}	S_{2n}	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^-	\bar{n}	Q_β	T_β	S_{1p}	S_{2p}	Q_α	T_α
				(MeV)	(MeV)	(MeV)	(MeV)				(MeV)		(MeV)	(s)	(MeV)	(MeV)	(MeV)	(s)
Z = 63 (Eu)																		
78	141	3/2 ⁺		1.29	1.02	10.99	20.59						5.75	26.4388	2.13	7.24	1.62	> 10 ²⁰
79	142	3/2 ⁺	1/2 ⁻	1.29	1.02	9.26	20.25						7.75	91.3024	2.73	7.82	1.36	> 10 ²⁰
80	143	3/2 ⁺		1.31	1.02	10.84	20.10						5.52	98.3296	2.30	7.95	0.96	> 10 ²⁰
81	144	1/2 ⁺	1/2 ⁺	1.33	1.07	9.54	20.37						6.96	39.8627	3.24	8.94	0.10	> 10 ²⁰
82	145	5/2 ⁺		1.33	1.22	10.88	20.42						2.54	> 100	3.14	9.42	-0.07	
83	146	1/2 ⁺	7/2 ⁻	1.33	1.05	7.04	17.92						3.77	> 100	3.71	10.07	1.44	> 10 ²⁰
84	147	5/2		1.28	0.96	8.36	15.40						1.27	> 100	3.80	10.71	3.48	10 ^{5.60}
85	148	3/2 ⁺	1/2 ⁻	1.21	0.95	6.51	14.87						±	±	4.45	11.33	3.37	10 ^{6.85}
86	149	3/2 ⁺		1.14	0.96	8.62	15.13						0.93	> 100	4.60	12.17	2.46	10 ^{15.44}
87	150	3/2 ⁺	3/2 ⁻	1.13	0.97	6.85	15.47						±	±	5.14	12.63	1.50	> 10 ²⁰
88	151	5/2		1.09	0.99	8.36	15.21						0.07		5.27	13.32	0.92	> 10 ²⁰
89	152	5/2 ⁺	1/2 ⁺	1.08	0.99	6.65	15.01	1.00	0.00	0.00	0.00	0.00	±	±	5.80	13.93	0.66	> 10 ²⁰
90	153	5/2 ⁺		1.05	0.98	8.17	14.81						...	β-st	5.88	14.52	0.17	> 10 ²⁰
91	154	5/2 ⁺	3/2 ⁺	1.06	0.96	6.52	14.68	1.00	0.00	0.00	0.00	0.00	±	±	6.36	15.08	-0.31	
92	155	5/2 ⁺		1.06	0.96	7.87	14.39	1.00	0.00	0.00	0.00	0.00	0.43	> 100	6.42	15.66	-0.61	
93	156	5/2 ⁺	3/2 ⁻	1.06	0.94	6.08	13.95	1.00	0.00	0.00	0.00	0.00	2.72	> 100	6.91	16.26	-0.73	
94	157	5/2 ⁺		1.06	0.92	7.30	13.38	1.00	0.00	0.00	0.00	0.00	1.58	> 100	7.02	16.88	-0.74	
95	158	5/2 ⁺	5/2 ⁺	1.06	0.90	5.71	13.01	1.00	0.00	0.00	0.00	0.00	3.73	> 100	7.52	17.53	-0.97	
96	159	5/2 ⁺		1.07	0.89	6.87	12.57	1.00	0.00	0.00	0.00	0.00	2.64	> 100	7.61	18.17	-1.15	
97	160	5/2 ⁺	5/2 ⁻	1.07	0.88	5.47	12.34	1.00	0.00	0.00	0.00	0.00	4.61	10.4545	8.22	18.88	-1.57	
98	161	5/2 ⁺		1.07	0.87	6.52	11.99	1.00	0.00	0.00	0.00	0.00	3.61	64.4768	8.34	19.58	-1.86	
99	162	5/2 ⁺	1/2 ⁻	1.08	0.86	4.94	11.45	1.00	0.00	0.00	0.00	0.00	5.73	29.2966	8.88	20.20	-2.03	
100	163	5/2 ⁺		1.09	0.83	6.11	11.05	1.00	0.00	0.00	0.00	0.00	4.72	14.7852	8.99	20.90	-2.33	
101	164	5/2 ⁺	7/2 ⁺	1.10	0.82	4.62	10.73	1.00	0.00	0.00	0.00	0.00	6.73	7.3622	9.50	21.41	-2.63	
102	165	5/2 ⁺		1.10	0.82	5.68	10.30	0.99	0.01	0.00	0.25	0.01	5.77	4.5521	9.60	22.12	-2.90	
103	166	5/2 ⁺	5/2 ⁻	1.11	0.81	4.20	9.87	0.99	0.01	0.00	0.29	0.01	7.81	1.4613	10.13	22.72	-2.98	
104	167	5/2 ⁺		1.11	0.81	5.09	9.29	0.83	0.17	0.00	0.32	0.17	6.94	1.4681	10.23	23.26	-3.11	
105	168	5/2 ⁺	7/2 ⁻	1.13	0.81	3.70	8.80	0.95	0.05	0.00	0.32	0.05	8.97	0.1911	10.74	23.91	-3.21	
106	169	5/2 ⁺		1.13	0.80	4.85	8.55	0.56	0.44	0.00	0.47	0.44	7.95	0.4701	10.81	24.61	-3.51	
107	170	5/2 ⁺	9/2 ⁺	1.16	0.81	3.37	8.22	0.53	0.47	0.00	0.50	0.47	9.93	0.3226	11.29	25.08	-3.83	
108	171	5/2 ⁻		1.18	0.79	4.52	7.89	0.64	0.36	0.00	0.56	0.36	8.97	0.0915	11.35	25.61	-4.20	
109	172	5/2 ⁻	1/2 ⁻	1.20	0.80	3.11	7.64	0.57	0.43	0.00	0.55	0.43	10.83	0.0763	11.78	26.14	-4.42	
110	173	5/2 ⁻		1.22	0.79	4.16	7.27	0.42	0.58	0.00	0.64	0.58	9.90	0.0630	11.82	26.68	-4.58	
111	174	5/2 ⁻	3/2 ⁻	1.24	0.78	2.87	7.03	0.38	0.61	0.01	0.55	0.63	11.68	0.0511	12.27	27.12	-4.86	
112	175	3/2 ⁺		1.24	0.78	3.95	6.82	0.08	0.91	0.01	0.70	0.93	10.61	0.0913	12.27	27.54	-5.20	
113	176	3/2 ⁺	7/2 ⁻	1.25	0.76	2.68	6.63	0.17	0.74	0.09	0.63	0.92	12.39	0.0640	12.65	27.91	-5.45	
114	177	3/2 ⁺		1.25	0.75	3.83	6.51	0.07	0.91	0.02	0.70	0.95	11.17	0.0705	12.68	28.37	-5.75	
115	178	3/2 ⁻	11/2 ⁺	1.25	0.74	2.57	6.41	0.15	0.71	0.14	0.60	0.99	12.87	0.0340	13.11	28.84	-6.01	
116	179	3/2 ⁻		1.25	0.72	3.59	6.16	0.11	0.86	0.03	0.67	0.92	11.93	0.0252	13.10	29.20	-6.23	
117	180	3/2 ⁻	9/2 ⁻	1.25	0.73	2.23	5.81	0.11	0.71	0.18	0.59	1.07	13.62	0.0146	13.47	29.60	-6.36	
118	181	3/2 ⁻		1.24	0.72	3.52	5.74	0.05	0.89	0.06	0.66	1.01	12.54	0.0142	13.45	29.98	-6.64	
119	182	3/2 ⁻	3/2 ⁻	1.23	0.74	2.14	5.66	0.05	0.54	0.41	0.63	1.36	14.10	0.0155	14.02	30.63	-6.96	
120	183	3/2 ⁺		1.22	0.69	3.27	5.41	0.01	0.76	0.22	0.65	1.23	12.88	0.0161	14.07	31.15	-7.09	
121	184	3/2 ⁺	1/2 ⁻	1.22	0.69	2.16	5.43	0.05	0.32	0.62	0.64	1.59	14.61	0.0127	14.48	31.31	-7.76	
122	185	3/2 ⁺		1.22	0.65	3.36	5.51	0.02	0.75	0.22	0.69	1.22	13.36	0.0150	14.45	31.84	-8.36	
123	186	11/2 ⁻	3/2 ⁻	1.22	0.61	2.46	5.81	0.03	0.49	0.47	0.65	1.46	14.68	0.0087	14.79	32.11	-8.83	
124	187	1/2 ⁺		1.22	0.58	3.33	5.78	0.02	0.88	0.09	0.76	1.09	13.80	0.0102	14.78	32.53	-9.33	
125	188	1/2 ⁺	1/2 ⁻	1.21	0.54	2.11	5.44	0.01	0.52	0.46	0.67	1.47	15.41	0.0072	15.21	32.96	-9.24	
126	189	1/2 ⁺		1.20	0.85	3.00	5.11	0.01	0.82	0.15	0.77	1.18	14.46	0.0068	15.22	33.38	-9.34	
127	190	1/2 ⁺	9/2 ⁺	1.20	0.76	-0.02	2.98	0.02	0.05	0.87	0.82	1.98	17.89	0.0040	15.64	33.78	-7.64	
128	191	5/2 ⁺		1.20	0.71	1.18	1.16	0.00	0.07	0.20	0.82	2.69	16.74	0.0070	15.67	34.23	-6.24	
129	192	5/2	3/2	1.14	0.69	-0.06	1.12	0.00	0.01	0.09	0.84	3.38	18.37	0.0065	16.25	34.89	-6.60	
130	193	5/2		1.12	0.69	1.17	1.11	0.00	0.02	0.02	0.82	3.60	17.12	0.0055	16.23	35.24	-7.04	
131	194	5/2	5/2	1.11	0.69	0.21	1.38	0.00	0.01	0.03	0.81	4.22	18.47	0.0043	16.69	35.74	-7.98	
132	195	5/2		1.11	0.70	1.07	1.28	0.00	0.03	0.01	0.78	4.78	17.59	0.0051	16.68	36.15	-8.22	
133	196	5/2	1/2	1.11	0.69	-0.05	1.02	0.00	0.00	0.03	0.74	5.33	19.15	0.0031	17.04	36.47	-8.46	
134	197	5/2		1.11	0.70	1.04	0.99	0.00	0.01	0.01	0.70	5.45	18.08	0.0031	17.09	36.83	-8.84	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 63 (Eu)																		
135	198	7/2 ⁺	3/2 ⁻	1.08	0.72	0.02	1.07	0.00	0.00	0.02	0.69	5.71	19.48	0.0023	17.46	37.32	-9.24	
136	199	7/2 ⁺		1.08	0.69	1.46	1.49	0.00	0.01	0.00	0.66	5.51	18.02	0.0026	17.47	37.72	-10.02	
137	200	5/2 ⁻	3/2 ⁺	1.07	0.72	0.04	1.50	0.00	0.00	0.03	0.65	5.50	19.83	0.0018	17.79	38.06	-10.52	
138	201	5/2 ⁻		1.06	0.71	1.25	1.28	0.00	0.02	0.01	0.63	5.21	18.78	0.0018	17.95	38.53	-10.70	
139	202	5/2 ⁻	5/2 ⁻	1.06	0.72	-0.06	1.18	0.00	0.00	0.03	0.65	5.69	20.40	0.0016	18.24	38.99	-10.94	
140	203	5/2 ⁻		1.06	0.71	1.08	1.02	0.00	0.01	0.01	0.64	5.46	19.26	0.0015	18.24	39.41	-11.25	
141	204	5/2 ⁻	5/2 ⁻	1.06	0.70	-0.03	1.06	0.00	0.00	0.02	0.65	5.79	20.79	0.0014	18.76	39.86	-11.75	
142	205	5/2 ⁻		1.05	0.68	1.01	0.99	0.00	0.01	0.00	0.65	5.61	19.77	0.0013	18.76	40.40	-12.09	
143	206	5/2 ⁻	1/2 ⁺	1.05	0.69	-0.21	0.80	0.00	0.00	0.02	0.67	6.12	21.31	0.0012	19.26	40.67	-12.36	
144	207	5/2 ⁺		1.05	0.67	0.79	0.58	0.00	0.02	0.00	0.67	6.13	20.35	0.0012	19.23	41.31	-12.68	
145	208	5/2 ⁺	7/2 ⁻	1.05	0.67	-0.40	0.39	0.00	0.01	0.02	0.68	6.72	22.00	0.0011	19.70		-12.76	
146	209	5/2 ⁺		1.05	0.66	0.74	0.34	0.00	0.02	0.00	0.68	6.82	20.88	0.0011	19.72		-13.34	
147	210	5/2 ⁺	5/2 ⁺	1.05	0.67	-0.64	0.09	0.01	0.01	0.02	0.69	7.34	22.42	0.0010				
148	211	5/2 ⁺		1.05	0.66	0.19	-0.45	0.00	0.01	0.00	0.70	7.75	21.55	0.0009				
Z = 64 (Gd)																		
64	128			1.00	1.16								12.92	0.0357	-1.23	-3.86	5.01	10 ^{-3.14}
65	129		5/2 ⁺	1.00	1.14	12.69							14.35	0.0332	-1.01	-3.13	4.93	10 ^{-1.72}
66	130			1.01	1.13	14.81	27.50						11.70	0.0652	-0.32	-2.26	4.65	10 ^{-1.48}
67	131		1/2 ⁺	1.00	1.10	12.46	27.27						12.72	0.0616	-0.03	-1.14	4.16	10 ^{2.18}
68	132			1.01	1.09	14.16	26.62						10.02	0.2612	0.66	-0.31	3.94	10 ^{2.44}
69	133		7/2 ⁻	1.01	1.08	11.54	25.70						11.30	0.2066	0.73	0.40	3.74	10 ^{4.80}
70	134			1.03	1.07	13.48	25.02						8.52	0.4607	1.39	1.21	3.60	10 ^{4.78}
71	135		5/2 ⁺	1.04	1.04	10.82	24.30						9.78	1.0209	1.52	1.86	3.60	10 ^{5.78}
72	136			1.04	1.03	12.71	23.53						7.32	1.1592	2.14	2.55	3.57	10 ^{4.93}
73	137		7/2 ⁺	1.08	1.01	10.38	23.08						8.74	1.0145	2.28	3.37	3.36	10 ^{7.59}
74	138			1.08	1.00	12.33	22.71						6.19	4.8848	2.81	4.05	3.04	10 ^{9.17}
75	139		9/2 ⁻	1.13	1.00	9.88	22.21						7.68	5.4957	2.91	4.50	2.72	10 ^{13.53}
76	140			1.13	1.01	11.96	21.84						5.31	11.5451	3.50	5.09	2.42	10 ^{16.17}
77	141		1/2 ⁺	1.15	1.00	9.64	21.60						6.67	11.1399	3.54	5.71	2.20	> 10 ²⁰
78	142			1.28	1.02	11.54	21.18						4.38	58.5806	4.09	6.22	2.03	> 10 ²⁰
79	143		1/2 ⁻	1.29	1.03	9.38	20.92						5.84	41.4557	4.21	6.94	1.68	> 10 ²⁰
80	144			1.30	1.02	11.41	20.79						3.97	59.7385	4.78	7.09	1.29	> 10 ²⁰
81	145		1/2 ⁺	1.34	1.08	9.55	20.96						5.31	16.8013	4.79	8.03	0.41	> 10 ²⁰
82	146			1.35	1.23	11.47	21.01						0.88	> 100	5.38	8.51	0.20	> 10 ²⁰
83	147		7/2 ⁻	1.34	1.05	7.08	18.55						2.16	> 100	5.42	9.13	1.72	> 10 ²⁰
84	148			1.34	0.98	8.93	16.01						...	β -st	5.99	9.79	3.78	10 ^{3.47}
85	149		1/2 ⁻	1.23	0.95	6.44	15.36						1.93	> 100	5.91	10.37	3.81	10 ^{4.34}
86	150			1.15	0.96	9.01	15.44						...	β -st	6.30	10.90	3.07	10 ^{8.98}
87	151		3/2 ⁻	1.12	0.97	7.06	16.07						1.07	> 100	6.52	11.65	1.86	> 10 ²⁰
88	152			1.10	0.98	8.82	15.88						...	β -st	6.97	12.24	1.52	> 10 ²⁰
89	153		1/2 ⁺	1.06	0.99	6.70	15.52						0.36	> 100	7.03	12.82	1.13	> 10 ²⁰
90	154			1.06	0.99	8.65	15.36						...	β -st	7.51	13.39	0.71	> 10 ²⁰
91	155		3/2 ⁺	1.05	0.98	6.53	15.18						...	β -st	7.52	13.88	0.30	> 10 ²⁰
92	156			1.05	0.96	8.37	14.90						...	β -st	8.02	14.44	0.02	> 10 ²⁰
93	157		3/2 ⁻	1.05	0.94	6.15	14.52						0.01		8.10	15.01	-0.10	
94	158			1.05	0.92	7.86	14.02						...	β -st	8.66	15.68	-0.15	
95	159		5/2 ⁺	1.05	0.91	5.77	13.64	1.00	0.00	0.00	0.00	0.00	0.97	> 100	8.72	16.25	-0.35	
96	160			1.05	0.90	7.45	13.22						...	β -st	9.30	16.91	-0.60	
97	161		5/2 ⁻	1.06	0.89	5.51	12.96	1.00	0.00	0.00	0.00	0.00	1.85	44.1050	9.34	17.57	-0.91	
98	162			1.06	0.88	7.06	12.57	1.00	0.00	0.00	0.00	0.00	0.81	> 100	9.89	18.23	-1.18	
99	163		1/2 ⁻	1.06	0.86	5.09	12.15	1.00	0.00	0.00	0.00	0.00	2.94	> 100	10.04	18.92	-1.42	
100	164			1.07	0.85	6.64	11.73	1.00	0.00	0.00	0.00	0.00	1.89	> 100	10.57	19.57	-1.66	
101	165		7/2 ⁺	1.07	0.83	4.71	11.35	1.00	0.00	0.00	0.00	0.00	3.87	43.5060	10.66	20.16	-1.97	
102	166			1.08	0.82	6.24	10.95	1.00	0.00	0.00	0.00	0.00	2.86	26.6824	11.22	20.82	-2.22	
103	167		5/2 ⁻	1.09	0.81	4.22	10.46	1.00	0.00	0.00	0.00	0.00	4.95	3.2759	11.25	21.38	-2.32	
104	168			1.09	0.81	5.73	9.96	1.00	0.00	0.00	0.00	0.00	4.05	4.6514	11.89	22.12	-2.48	
105	169		7/2 ⁻	1.11	0.80	3.83	9.56	1.00	0.00	0.00	0.00	0.00	6.06	0.3640	12.02	22.76	-2.64	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 64 (Gd)																		
106	170			1.12	0.80	5.35	9.18	1.00	0.00	0.00	0.00	0.00	5.09	0.9419	12.52	23.33	-3.00	
107	171		9/2 ⁺	1.14	0.79	3.56	8.91	1.00	0.00	0.00	0.00	0.00	6.88	0.7265	12.70	23.99	-3.37	
108	172			1.15	0.79	4.98	8.54	0.99	0.01	0.00	0.28	0.01	6.03	0.3534	13.16	24.51	-3.57	
109	173		1/2 ⁻	1.17	0.80	3.23	8.21	0.97	0.03	0.00	0.24	0.03	7.87	0.2654	13.28	25.06	-3.90	
110	174			1.19	0.78	4.65	7.88	0.95	0.05	0.00	0.31	0.05	6.89	0.2287	13.77	25.59	-4.09	
111	175		3/2 ⁻	1.21	0.78	2.87	7.52	0.86	0.14	0.00	0.27	0.14	8.68	0.1570	13.77	26.04	-4.28	
112	176			1.23	0.77	4.46	7.34	0.83	0.17	0.00	0.36	0.17	7.59	0.1524	14.29	26.56	-4.62	
113	177		7/2 ⁻	1.22	0.76	2.62	7.08	0.73	0.27	0.00	0.37	0.27	9.37	0.1011	14.22	26.87	-4.82	
114	178			1.23	0.75	4.27	6.89	0.64	0.36	0.00	0.40	0.36	8.26	0.1069	14.66	27.34	-5.14	
115	179		11/2 ⁺	1.24	0.73	2.65	6.92	0.50	0.50	0.00	0.38	0.50	9.82	0.0957	14.73	27.85	-5.49	
116	180			1.23	0.73	3.92	6.56	0.49	0.51	0.00	0.42	0.51	8.96	0.0640	15.06	28.17	-5.60	
117	181		9/2 ⁻	1.24	0.73	2.44	6.35	0.61	0.39	0.00	0.40	0.39	10.50	0.0293	15.27	28.75	-5.90	
118	182			1.24	0.72	3.70	6.13	0.43	0.57	0.00	0.42	0.57	9.61	0.0280	15.46	28.90	-6.00	
119	183		1/2 ⁺	1.21	0.70	2.06	5.76	0.26	0.72	0.02	0.45	0.76	11.23	0.0225	15.38	29.40	-6.20	
120	184			1.22	0.69	3.88	5.94	0.29	0.70	0.01	0.48	0.72	9.91	0.0233	15.98	30.05	-6.55	
121	185		1/2 ⁻	1.22	0.70	2.10	5.98	0.24	0.74	0.02	0.46	0.78	11.72	0.0180	15.93	30.41	-7.08	
122	186			1.22	0.65	3.78	5.88	0.16	0.83	0.01	0.56	0.85	10.48	0.0205	16.35	30.80	-7.64	
123	187		3/2 ⁻	1.23	0.61	2.44	6.22	0.14	0.84	0.02	0.44	0.88	11.75	0.0153	16.34	31.13	-8.33	
124	188			1.23	0.59	3.72	6.16	0.20	0.79	0.01	0.47	0.81	10.89	0.0138	16.73	31.51	-8.66	
125	189		1/2 ⁻	1.22	0.55	2.05	5.77	0.12	0.85	0.03	0.41	0.91	12.56	0.0090	16.67	31.89	-8.59	
126	190			1.22	0.85	3.41	5.46	0.04	0.94	0.02	0.63	0.98	11.49	0.0093	17.08	32.31	-8.67	
127	191		9/2 ⁺	1.22	0.76	0.03	3.44	0.03	0.79	0.17	0.72	1.16	14.88	0.0055	17.13	32.78	-7.03	
128	192			1.21	0.71	1.57	1.60	0.01	0.20	0.73	0.74	1.84	13.79	0.0095	17.53	33.19	-5.61	
129	193		3/2	1.15	0.69	-0.07	1.50	0.02	0.02	0.47	0.79	2.46	15.44	0.0088	17.51	33.76	-5.98	
130	194			1.14	0.70	1.56	1.49	0.01	0.06	0.04	0.78	2.87	14.18	0.0094	17.90	34.13	-6.38	
131	195		5/2	1.12	0.69	0.19	1.75	0.03	0.02	0.07	0.74	3.59	15.63	0.0088	17.88	34.57	-7.21	
132	196			1.12	0.70	1.50	1.69	0.01	0.06	0.03	0.67	3.39	14.73	0.0067	18.31	34.99	-7.52	
133	197		5/2	1.13	0.69	-0.02	1.48	0.01	0.02	0.15	0.66	3.66	16.28	0.0044	18.34	35.38	-7.75	
134	198			1.12	0.71	1.42	1.40	0.01	0.03	0.05	0.64	3.40	15.29	0.0041	18.72	35.81	-8.09	
135	199		3/2 ⁻	1.08	0.72	0.01	1.43	0.01	0.01	0.08	0.64	3.84	16.73	0.0033	18.71	36.17	-8.51	
136	200			1.07	0.70	1.85	1.86	0.01	0.04	0.07	0.60	3.32	15.54	0.0031	19.09	36.56	-9.36	
137	201		3/2 ⁺	1.07	0.71	0.19	2.04	0.01	0.03	0.17	0.60	3.59	17.10	0.0026	19.24	37.03	-9.91	
138	202			1.06	0.70	1.56	1.76	0.01	0.05	0.12	0.60	3.28	16.01	0.0026	19.56	37.51	-10.01	
139	203		5/2 ⁻	1.05	0.72	-0.06	1.51	0.00	0.01	0.11	0.62	3.79	17.62	0.0023	19.57	37.81	-10.24	
140	204			1.05	0.71	1.51	1.45	0.00	0.04	0.07	0.61	3.42	16.53	0.0021	19.99	38.22	-10.65	
141	205		5/2 ⁺	1.05	0.70	-0.01	1.49	0.01	0.01	0.11	0.63	3.86	18.09	0.0018	20.00	38.76	-11.00	
142	206			1.05	0.68	1.32	1.31	0.00	0.03	0.04	0.61	3.76	17.14	0.0018	20.31	39.07	-11.24	
143	207		1/2 ⁺	1.05	0.70	-0.17	1.16	0.01	0.01	0.09	0.64	4.16	18.60	0.0016	20.36	39.61	-11.61	
144	208			1.04	0.67	1.25	1.08	0.00	0.03	0.04	0.62	4.10	17.64	0.0015	20.81	40.05	-11.85	
145	209		7/2 ⁻	1.04	0.68	-0.38	0.87	0.00	0.00	0.04	0.66	4.78	19.12	0.0014	20.84	40.54	-12.19	
146	210			1.04	0.66	0.90	0.52	0.00	0.02	0.02	0.64	4.69	18.40	0.0012	21.00	40.71	-12.27	
147	211		5/2 ⁺	1.05	0.67	-0.68	0.21	0.01	0.00	0.03	0.67	5.35	19.93	0.0011	20.96		-12.45	
148	212			1.05	0.67	0.66	-0.03	0.00	0.02	0.01	0.67	5.47	19.11	0.0010	21.43		-12.39	
149	213		7/2 ⁺	1.05	0.67	-0.89	-0.23	0.01	0.00	0.02	0.70	6.17	20.66	0.0009				
150	214			1.05	0.65	0.37	-0.52	0.00	0.01	0.00	0.70	6.54	19.81	0.0009				
Z = 65 (Tb)																		
65	130	5/2 ⁺	5/2 ⁺	0.98	1.15								17.25	0.0163	-3.22	-4.23	5.09	10 ^{-1.84}
66	131	5/2 ⁺		0.98	1.13	15.43							14.29	0.0368	-2.61	-2.92	4.63	10 ^{-0.04}
67	132	5/2 ⁺	1/2 ⁺	0.98	1.11	12.86	28.29						15.58	0.0372	-2.20	-2.23	4.24	10 ^{2.38}
68	133	3/2 ⁺		0.98	1.09	14.48	27.34						12.64	0.0683	-1.89	-1.23	3.89	10 ^{4.23}
69	134	3/2 ⁺	7/2 ⁻	1.00	1.08	12.25	26.72						13.87	0.1181	-1.18	-0.44	3.81	10 ^{5.03}
70	135	3/2 ⁺		1.00	1.07	13.53	25.78						11.17	0.1926	-1.12	0.27	3.75	10 ^{5.03}
71	136	3/2 ⁺	5/2 ⁺	1.01	1.05	11.39	24.92						12.48	0.4354	-0.56	0.96	3.82	10 ^{4.97}
72	137	3/2 ⁺		1.01	1.03	12.80	24.19						10.06	0.4863	-0.47	1.68	3.84	10 ^{4.49}
73	138	3/2 ⁺	9/2 ⁻	1.02	1.01	10.86	23.66						11.53	0.8275	0.02	2.30	3.68	10 ^{6.00}
74	139	5/2 ⁻		1.05	1.00	12.42	23.28						8.99	1.1749	0.11	2.92	3.34	10 ^{8.16}
75	140	5/2 ⁻	9/2 ⁻	1.07	1.00	10.45	22.87						10.50	0.7649	0.68	3.58	3.13	10 ^{10.30}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n^-}$ (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 65 (Tb)																		
76	141	5/2 ⁻		1.09	1.00	11.93	22.38						8.20	1.1891	0.65	4.15	2.99	10 ^{11.16}
77	142	5/2 ⁻	1/2 ⁺	1.14	0.99	10.14	22.08						9.60	1.3129	1.16	4.70	2.64	10 ^{15.30}
78	143	9/2 ⁻		1.27	1.03	11.47	21.61						7.51	3.7327	1.08	5.18	2.54	10 ^{16.15}
79	144	9/2 ⁻	1/2 ⁻	1.29	1.03	9.97	21.44						8.95	4.3156	1.68	5.89	2.16	> 10 ²⁰
80	145	9/2 ⁻		1.30	1.04	11.44	21.41						7.06	6.5748	1.71	6.49	1.71	> 10 ²⁰
81	146	11/2 ⁻	1/2 ⁺	1.36	1.08	9.99	21.44						8.53	6.7219	2.16	6.95	0.98	> 10 ²⁰
82	147	11/2 ⁻		1.37	1.22	11.42	21.41						4.19	20.7543	2.11	7.48	0.40	> 10 ²⁰
83	148	11/2 ⁻	7/2 ⁻	1.36	1.05	7.73	19.15						5.39	57.1976	2.76	8.18	2.20	> 10 ²⁰
84	149	11/2 ⁻		1.35	0.97	8.92	16.65						2.90	56.2341	2.76	8.74	4.16	10 ^{2.50}
85	150	5/2 ⁻	1/2 ⁻	1.20	0.96	7.15	16.07						4.76	> 100	3.46	9.38	4.06	10 ^{3.44}
86	151	5/2 ⁻		1.15	0.96	9.14	16.29						2.68	> 100	3.60	9.90	3.27	10 ^{8.74}
87	152	5/2 ⁻	3/2 ⁻	1.10	0.98	7.59	16.73						3.91	> 100	4.13	10.64	2.19	> 10 ²⁰
88	153	3/2 ⁺		1.07	1.00	8.95	16.54						1.66	> 100	4.26	11.23	1.86	> 10 ²⁰
89	154	3/2 ⁺	1/2 ⁺	1.05	1.00	7.23	16.18						3.08	> 100	4.79	11.81	1.48	> 10 ²⁰
90	155	3/2 ⁺		1.05	1.00	8.70	15.93						0.91	> 100	4.84	12.35	1.14	> 10 ²⁰
91	156	3/2 ⁺	3/2 ⁺	1.04	0.98	7.02	15.72						±	±	5.33	12.85	0.77	> 10 ²⁰
92	157	3/2 ⁺		1.04	0.96	8.43	15.44						...	β-st	5.38	13.41	0.51	> 10 ²⁰
93	158	3/2 ⁺	3/2 ⁻	1.04	0.95	6.67	15.09						±	±	5.90	13.99	0.36	> 10 ²⁰
94	159	3/2 ⁺		1.04	0.94	7.93	14.59						...	β-st	5.96	14.62	0.30	> 10 ²⁰
95	160	3/2 ⁺	5/2 ⁺	1.05	0.93	6.28	14.20	1.00	0.00	0.00	0.00	0.00	±	±	6.46	15.19	0.10	> 10 ²⁰
96	161	3/2 ⁺		1.05	0.91	7.56	13.84	1.00	0.00	0.00	0.00	0.00	0.84	> 100	6.58	15.88	-0.16	
97	162	3/2 ⁺	5/2 ⁻	1.04	0.90	6.03	13.59	1.00	0.00	0.00	0.00	0.00	2.92	> 100	7.09	16.44	-0.48	
98	163	3/2 ⁺		1.05	0.89	7.21	13.24	1.00	0.00	0.00	0.00	0.00	1.76	> 100	7.24	17.13	-0.82	
99	164	3/2 ⁺	1/2 ⁻	1.05	0.87	5.59	12.80	1.00	0.00	0.00	0.00	0.00	3.93	> 100	7.74	17.79	-0.94	
100	165	3/2 ⁺		1.05	0.85	6.69	12.29	1.00	0.00	0.00	0.00	0.00	2.95	> 100	7.80	18.37	-1.12	
101	166	3/2 ⁺	7/2 ⁺	1.06	0.84	5.23	11.92	1.00	0.00	0.00	0.00	0.00	5.01	> 100	8.32	18.98	-1.41	
102	167	3/2 ⁺		1.06	0.83	6.32	11.54	1.00	0.00	0.00	0.00	0.00	4.01	60.8546	8.39	19.62	-1.61	
103	168	3/2 ⁺	5/2 ⁻	1.07	0.83	4.83	11.15	1.00	0.00	0.00	0.00	0.00	6.03	9.4723	9.00	20.25	-1.82	
104	169	3/2 ⁺		1.07	0.82	5.83	10.67	1.00	0.00	0.00	0.00	0.00	5.11	12.1301	9.10	20.99	-1.98	
105	170	3/2 ⁺	7/2 ⁻	1.08	0.81	4.39	10.22	1.00	0.00	0.00	0.00	0.00	7.09	0.6753	9.66	21.68	-2.18	
106	171	3/2 ⁺		1.09	0.81	5.35	9.74	0.97	0.03	0.00	0.23	0.03	6.15	2.1490	9.66	22.18	-2.43	
107	172	3/2 ⁺	9/2 ⁺	1.10	0.81	4.13	9.48	0.96	0.04	0.00	0.25	0.04	8.08	1.4604	10.23	22.93	-2.86	
108	173	3/2 ⁺		1.13	0.80	5.07	9.19	0.87	0.13	0.00	0.36	0.13	7.21	0.6719	10.32	23.48	-3.07	
109	174	3/2 ⁺	1/2 ⁻	1.13	0.80	3.67	8.73	0.79	0.21	0.00	0.33	0.21	9.17	0.4608	10.75	24.03	-3.37	
110	175	3/2 ⁺		1.15	0.79	4.67	8.33	0.47	0.53	0.00	0.48	0.53	8.27	0.3582	10.77	24.54	-3.51	
111	176	3/2 ⁺	3/2 ⁻	1.16	0.78	3.37	8.04	0.37	0.63	0.00	0.46	0.63	10.05	0.2725	11.27	25.04	-3.77	
112	177	5/2 ⁻		1.19	0.77	4.40	7.77	0.44	0.56	0.00	0.60	0.56	9.10	0.1123	11.21	25.49	-4.01	
113	178	5/2 ⁻	11/2 ⁺	1.20	0.77	3.16	7.55	0.41	0.59	0.00	0.50	0.59	10.75	0.1039	11.74	25.97	-4.30	
114	179	5/2 ⁻		1.20	0.75	4.21	7.36	0.34	0.66	0.00	0.59	0.66	9.81	0.0769	11.68	26.34	-4.56	
115	180	5/2 ⁻	11/2 ⁺	1.22	0.73	3.05	7.26	0.35	0.64	0.01	0.56	0.66	11.41	0.0692	12.09	26.83	-4.93	
116	181	5/2 ⁻		1.23	0.72	3.98	7.03	0.25	0.75	0.00	0.63	0.75	10.37	0.0596	12.15	27.22	-5.08	
117	182	5/2 ⁻	9/2 ⁻	1.22	0.75	2.81	6.79	0.32	0.65	0.03	0.52	0.71	12.12	0.0283	12.53	27.80	-5.31	
118	183	5/2 ⁻		1.23	0.72	3.68	6.49	0.14	0.85	0.01	0.62	0.87	11.16	0.0265	12.51	27.96	-5.41	
119	184	3/2 ⁺	1/2 ⁺	1.21	0.70	2.57	6.25	0.06	0.78	0.16	0.62	1.10	12.67	0.0342	13.01	28.39	-5.75	
120	185	9/2 ⁻		1.22	0.69	3.91	6.47	0.11	0.87	0.02	0.65	0.91	11.42	0.0242	13.04	29.03	-6.14	
121	186	9/2 ⁻	1/2 ⁻	1.22	0.71	2.54	6.44	0.17	0.71	0.12	0.59	0.95	13.22	0.0189	13.47	29.41	-6.53	
122	187	9/2 ⁻		1.23	0.65	3.72	6.25	0.04	0.94	0.02	0.68	0.98	12.04	0.0201	13.41	29.77	-6.98	
123	188	1/2 ⁺	3/2 ⁻	1.24	0.61	2.85	6.57	0.05	0.72	0.23	0.67	1.18	13.30	0.0235	13.82	30.17	-7.68	
124	189	11/2 ⁻		1.24	0.59	3.72	6.58	0.06	0.92	0.02	0.73	0.96	12.43	0.0153	13.83	30.56	-8.05	
125	190	5/2	1/2	1.23	0.55	2.34	6.06	0.22	0.68	0.10	0.70	0.88	14.19	0.0103	14.12	30.79	-7.93	
126	191	5/2		1.23	0.85	3.42	5.76	0.08	0.89	0.03	0.75	0.95	13.16	0.0102	14.13	31.22	-8.02	
127	192	11/2 ⁻	9/2 ⁺	1.23	0.76	0.48	3.91	0.02	0.36	0.61	0.78	1.61	16.50	0.0060	14.58	31.72	-6.40	
128	193	5/2		1.23	0.71	1.58	2.06	0.00	0.21	0.52	0.79	2.06	15.40	0.0108	14.59	32.12	-4.98	
129	194	5/2	3/2	1.20	0.71	0.30	1.88	0.01	0.02	0.37	0.83	2.64	17.11	0.0099	14.96	32.48	-5.30	
130	195	1/2		1.15	0.68	1.64	1.94	0.00	0.04	0.05	0.82	3.04	15.72	0.0093	15.04	32.94	-5.75	
131	196	1/2	5/2	1.14	0.69	0.60	2.24	0.00	0.01	0.07	0.78	3.71	17.10	0.0070	15.45	33.33	-6.41	
132	197	1/2		1.13	0.70	1.53	2.13	0.01	0.04	0.03	0.72	3.84	16.12	0.0078	15.48	33.79	-6.77	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 65 (Tb)																		
133	198	5/2	5/2	1.14	0.70	0.43	1.96	0.01	0.01	0.06	0.71	4.08	17.61	0.0055	15.93	34.27	-6.99	
134	199	5/2		1.12	0.70	1.45	1.87	0.00	0.03	0.02	0.67	4.02	16.64	0.0048	15.95	34.67	-7.36	
135	200	5/2 ⁻	3/2 ⁻	1.08	0.72	0.67	2.11	0.00	0.01	0.07	0.67	4.02	17.81	0.0038	16.61	35.31	-8.08	
136	201	5/2 ⁻		1.07	0.70	1.75	2.41	0.00	0.03	0.04	0.64	3.73	16.58	0.0036	16.51	35.60	-8.79	
137	202	7/2 ⁺	3/2 ⁺	1.06	0.72	0.47	2.22	0.01	0.01	0.10	0.65	3.91	18.39	0.0030	16.79	36.03	-9.23	
138	203	3/2 ⁺		1.06	0.71	1.56	2.03	0.00	0.03	0.03	0.63	3.75	17.32	0.0030	16.79	36.35	-9.33	
139	204	3/2 ⁺	5/2 ⁻	1.05	0.72	0.41	1.97	0.00	0.01	0.06	0.65	4.11	18.86	0.0027	17.25	36.82	-9.70	
140	205	3/2 ⁺		1.05	0.72	1.55	1.96	0.00	0.02	0.03	0.64	3.80	17.74	0.0024	17.29	37.28	-10.00	
141	206	3/2 ⁺	5/2 ⁺	1.04	0.70	0.38	1.93	0.00	0.01	0.05	0.66	4.17	19.18	0.0022	17.69	37.69	-10.44	
142	207	3/2 ⁺		1.04	0.70	1.29	1.67	0.00	0.02	0.02	0.65	4.16	18.33	0.0020	17.65	37.97	-10.65	
143	208	3/2 ⁺	1/2 ⁺	1.04	0.70	0.28	1.57	0.00	0.01	0.06	0.67	4.46	19.77	0.0018	18.10	38.46	-10.96	
144	209	3/2 ⁺		1.04	0.68	1.11	1.39	0.00	0.02	0.02	0.66	4.46	18.93	0.0017	17.96	38.78	-11.05	
145	210	3/2 ⁺	7/2 ⁻	1.04	0.68	0.18	1.28	0.00	0.00	0.02	0.69	4.97	20.20	0.0017	18.52	39.35	-11.45	
146	211	3/2 ⁺		1.04	0.67	0.84	1.02	0.00	0.01	0.01	0.69	4.98	19.34	0.0015	18.46	39.46	-11.49	
147	212	3/2 ⁺	5/2 ⁺	1.04	0.67	-0.16	0.68	0.00	0.00	0.02	0.70	5.47	21.01	0.0013	18.98	39.94	-11.73	
148	213	3/2 ⁺		1.04	0.66	0.66	0.50	0.00	0.01	0.00	0.70	5.61	20.20	0.0012	18.99	40.41	-11.66	
149	214	3/2 ⁺	7/2 ⁺	1.04	0.67	-0.47	0.19	0.00	0.00	0.02	0.73	6.20	21.74	0.0010	19.40		-11.83	
150	215	3/2 ⁺		1.04	0.66	0.42	-0.05	0.00	0.01	0.00	0.73	6.47	20.91	0.0010	19.45		-12.06	
151	216	3/2 ⁺	9/2 ⁻	1.04	0.67	-0.67	-0.25	0.00	0.00	0.01	0.76	7.34	22.23	0.0010				
152	217	3/2 ⁺		1.04	0.66	-0.02	-0.69	0.00	0.01	0.00	0.76	7.55	21.64	0.0008				
153	218	3/2 ⁺	1/2 ⁺	1.05	0.67	-0.93	-0.95	0.00	0.00	0.01	0.78	8.26	23.19	0.0008				
Z = 66 (Dy)																		
67	133		1/2 ⁺	0.95	1.11								14.63	0.0210	-0.94	-3.14	4.17	10 ^{3.35}
68	134			0.96	1.10	15.03							11.85	0.0601	-0.39	-2.28	3.96	10 ^{3.64}
69	135		7/2 ⁻	0.97	1.09	12.43	27.46						12.95	0.0670	-0.21	-1.38	3.99	10 ^{4.51}
70	136			0.97	1.08	14.27	26.70						10.07	0.1750	0.53	-0.59	3.88	10 ^{4.16}
71	137		5/2 ⁺	0.98	1.05	11.50	25.77						11.38	0.2365	0.64	0.08	3.92	10 ^{4.90}
72	138			0.97	1.03	13.40	24.90						8.84	0.3565	1.24	0.78	3.99	10 ^{3.32}
73	139		9/2 ⁻	0.98	1.01	10.97	24.38						10.28	0.4593	1.36	1.37	3.84	10 ^{5.43}
74	140			1.00	1.00	12.90	23.87						7.84	0.8732	1.83	1.94	3.65	10 ^{5.69}
75	141		9/2 ⁻	1.02	1.00	10.58	23.47						9.19	1.0963	1.96	2.64	3.45	10 ^{8.27}
76	142			1.05	1.00	12.44	23.02						6.90	1.7733	2.46	3.11	3.35	10 ^{8.01}
77	143		1/2 ⁺	1.10	0.99	10.17	22.60						8.20	2.1589	2.49	3.64	3.06	10 ^{11.64}
78	144			1.25	1.03	12.00	22.16						6.17	9.2519	3.02	4.10	3.02	10 ^{10.86}
79	145		1/2 ⁻	1.25	1.03	10.26	22.25						7.36	4.4791	3.30	4.98	2.40	10 ^{19.11}
80	146			1.27	1.04	11.96	22.22						5.39	9.0169	3.82	5.53	1.99	> 10 ²⁰
81	147		1/2 ⁺	1.36	1.08	10.09	22.05						6.72	4.1819	3.92	6.07	1.27	> 10 ²⁰
82	148			1.39	1.24	11.99	22.08						2.46	99.9118	4.49	6.60	0.69	> 10 ²⁰
83	149		7/2 ⁻	1.38	1.06	7.75	19.74						3.63	> 100	4.51	7.27	2.49	10 ^{18.05}
84	150			1.39	1.01	9.57	17.32						1.21	> 100	5.15	7.91	4.39	10 ^{1.02}
85	151		1/2 ⁻	1.28	0.95	7.00	16.57						3.35	> 100	5.01	8.47	4.47	10 ^{1.65}
86	152			1.15	0.97	9.56	16.56						1.38	> 100	5.43	9.02	3.83	10 ^{4.43}
87	153		3/2 ⁻	1.12	0.98	7.66	17.22						2.68	> 100	5.49	9.62	2.61	10 ^{16.42}
88	154			1.07	1.00	9.38	17.03						0.53		5.92	10.18	2.24	> 10 ²⁰
89	155		1/2 ⁺	1.05	1.01	7.28	16.65						1.95	> 100	5.96	10.75	2.03	> 10 ²⁰
90	156			1.03	1.01	9.20	16.47						...	β -st	6.46	11.30	1.65	> 10 ²⁰
91	157		3/2 ⁺	1.04	0.99	7.02	16.22						1.18	> 100	6.46	11.79	1.33	> 10 ²⁰
92	158			1.03	0.98	8.92	15.94						...	β -st	6.96	12.34	1.06	> 10 ²⁰
93	159		3/2 ⁻	1.04	0.96	6.68	15.61						0.17	> 100	6.98	12.87	0.91	> 10 ²⁰
94	160			1.04	0.95	8.46	15.15						...	β -st	7.51	13.47	0.81	> 10 ²⁰
95	161		5/2 ⁺	1.04	0.94	6.39	14.85						...	β -st	7.62	14.08	0.58	> 10 ²⁰
96	162			1.04	0.93	8.11	14.49						...	β -st	8.16	14.74	0.34	> 10 ²⁰
97	163		5/2 ⁻	1.04	0.91	6.06	14.16						0.24		8.19	15.29	0.05	> 10 ²⁰
98	164			1.04	0.91	7.75	13.81						...	β -st	8.73	15.98	-0.25	
99	165		1/2 ⁻	1.03	0.88	5.72	13.47	1.00	0.00	0.00	0.00	0.00	1.23	> 100	8.87	16.61	-0.46	
100	166			1.04	0.87	7.28	13.01	1.00	0.00	0.00	0.00	0.00	0.14	> 100	9.46	17.25	-0.68	
101	167		7/2 ⁺	1.04	0.85	5.31	12.60	1.00	0.00	0.00	0.00	0.00	2.24	> 100	9.54	17.86	-0.91	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 66 (Dy)																		
102	168			1.04	0.84	6.86	12.17	1.00	0.00	0.00	0.00	0.00	1.20	> 100	10.08	18.48	-1.13	
103	169		5/2 ⁻	1.04	0.83	4.91	11.77	1.00	0.00	0.00	0.00	0.00	3.27	32.0553	10.16	19.17	-1.33	
104	170			1.05	0.82	6.36	11.28	1.00	0.00	0.00	0.00	0.00	2.30	84.1285	10.69	19.80	-1.45	
105	171		7/2 ⁻	1.07	0.81	4.42	10.78	1.00	0.00	0.00	0.00	0.00	4.38	1.3841	10.72	20.38	-1.65	
106	172			1.07	0.81	6.05	10.47	1.00	0.00	0.00	0.00	0.00	3.36	6.7664	11.42	21.08	-1.96	
107	173		9/2 ⁺	1.08	0.81	4.20	10.25	1.00	0.00	0.00	0.00	0.00	5.25	3.8012	11.49	21.72	-2.33	
108	174			1.09	0.80	5.63	9.82	1.00	0.00	0.00	0.00	0.00	4.31	1.7264	12.05	22.37	-2.61	
109	175		1/2 ⁻	1.11	0.79	3.77	9.40	1.00	0.00	0.00	0.00	0.00	6.28	1.0261	12.16	22.91	-2.82	
110	176			1.11	0.79	5.15	8.92	1.00	0.00	0.00	0.00	0.00	5.32	0.8672	12.64	23.41	-2.99	
111	177		3/2 ⁻	1.14	0.77	3.44	8.59	0.99	0.01	0.00	0.25	0.01	7.14	0.5428	12.71	23.98	-3.20	
112	178			1.15	0.77	4.81	8.26	0.98	0.02	0.00	0.27	0.02	6.21	0.4775	13.13	24.33	-3.37	
113	179		11/2 ⁺	1.17	0.76	3.26	8.07	0.93	0.07	0.00	0.26	0.07	7.85	0.4360	13.23	24.98	-3.76	
114	180			1.19	0.75	4.66	7.92	0.91	0.09	0.00	0.39	0.09	6.86	0.3494	13.68	25.36	-3.95	
115	181		11/2 ⁺	1.19	0.73	2.95	7.60	0.82	0.18	0.00	0.30	0.18	8.63	0.2264	13.57	25.66	-4.28	
116	182			1.19	0.72	4.56	7.50	0.80	0.20	0.00	0.40	0.20	7.47	0.2051	14.15	26.30	-4.56	
117	183		9/2 ⁻	1.20	0.75	2.72	7.28	0.86	0.14	0.00	0.31	0.14	9.22	0.0571	14.06	26.59	-4.64	
118	184			1.22	0.72	4.08	6.80	0.76	0.24	0.00	0.37	0.24	8.27	0.0595	14.46	26.97	-4.80	
119	185		1/2 ⁺	1.21	0.70	2.66	6.73	0.50	0.50	0.00	0.32	0.50	9.67	0.0542	14.55	27.56	-5.02	
120	186			1.21	0.69	4.33	6.99	0.65	0.35	0.00	0.33	0.35	8.46	0.0521	14.97	28.01	-5.66	
121	187		1/2 ⁻	1.22	0.71	2.54	6.88	0.52	0.48	0.00	0.32	0.48	10.30	0.0394	14.98	28.45	-6.14	
122	188			1.23	0.65	4.11	6.65	0.36	0.64	0.00	0.47	0.64	9.10	0.0454	15.37	28.78	-6.36	
123	189		3/2 ⁻	1.24	0.61	2.86	6.96	0.41	0.59	0.00	0.33	0.59	10.33	0.0355	15.37	29.19	-7.12	
124	190			1.24	0.59	4.10	6.96	0.57	0.43	0.00	0.34	0.43	9.53	0.0303	15.75	29.57	-7.44	
125	191		1/2 ⁻	1.24	0.55	2.39	6.49	0.44	0.55	0.01	0.30	0.57	11.24	0.0186	15.80	29.92	-7.39	
126	192			1.24	0.85	3.82	6.21	0.23	0.77	0.00	0.42	0.77	10.15	0.0192	16.20	30.33	-7.49	
127	193		9/2 ⁺	1.24	0.77	0.48	4.30	0.04	0.91	0.05	0.71	1.01	13.49	0.0111	16.19	30.77	-5.92	
128	194			1.24	0.71	2.02	2.49	0.03	0.54	0.42	0.75	1.41	12.40	0.0197	16.63	31.22	-4.52	
129	195		3/2	1.20	0.71	0.25	2.26	0.04	0.05	0.80	0.83	1.98	14.20	0.0181	16.58	31.54	-4.74	
130	196			1.17	0.70	1.98	2.22	0.02	0.10	0.20	0.72	2.55	12.81	0.0192	16.91	31.95	-5.14	
131	197		5/2	1.16	0.70	0.55	2.53	0.01	0.03	0.46	0.70	2.62	14.21	0.0112	16.87	32.32	-5.77	
132	198			1.15	0.71	1.92	2.47	0.03	0.08	0.15	0.65	2.67	13.22	0.0135	17.25	32.73	-6.12	
133	199		5/2	1.14	0.70	0.48	2.39	0.01	0.04	0.48	0.64	2.60	14.80	0.0072	17.30	33.23	-6.41	
134	200			1.14	0.71	1.84	2.31	0.02	0.07	0.34	0.61	2.53	13.84	0.0075	17.69	33.65	-6.74	
135	201		3/2 ⁻	1.08	0.72	0.52	2.35	0.01	0.03	0.40	0.63	2.70	15.19	0.0059	17.54	34.15	-7.28	
136	202			1.06	0.70	2.28	2.80	0.01	0.13	0.38	0.57	2.40	13.90	0.0054	18.08	34.59	-8.15	
137	203		3/2 ⁺	1.05	0.72	0.49	2.77	0.01	0.09	0.48	0.60	2.43	15.62	0.0040	18.10	34.89	-8.63	
138	204			1.05	0.72	1.94	2.44	0.01	0.17	0.43	0.58	2.28	14.65	0.0039	18.48	35.27	-8.72	
139	205		5/2 ⁺	1.05	0.71	0.43	2.37	0.01	0.04	0.45	0.61	2.62	16.12	0.0035	18.50	35.75	-8.96	
140	206			1.04	0.74	1.83	2.25	0.01	0.11	0.34	0.58	2.51	15.17	0.0030	18.78	36.07	-9.22	
141	207		5/2 ⁺	1.04	0.70	0.45	2.27	0.01	0.03	0.34	0.62	2.84	16.52	0.0028	18.85	36.53	-9.72	
142	208			1.04	0.70	1.72	2.17	0.01	0.07	0.24	0.60	2.74	15.58	0.0027	19.27	36.93	-9.94	
143	209		1/2 ⁺	1.03	0.70	0.26	1.98	0.01	0.05	0.22	0.62	3.08	17.09	0.0023	19.25	37.35	-10.21	
144	210			1.03	0.69	1.45	1.71	0.01	0.07	0.17	0.63	2.92	16.27	0.0022	19.60	37.56	-10.34	
145	211		7/2 ⁻	1.03	0.69	-0.02	1.43	0.00	0.01	0.15	0.66	3.53	17.78	0.0020	19.40	37.91	-10.49	
146	212			1.03	0.67	1.51	1.48	0.00	0.05	0.08	0.66	3.35	16.63	0.0020	20.06	38.52	-10.74	
147	213		5/2 ⁺	1.03	0.67	-0.15	1.36	0.01	0.01	0.10	0.69	3.86	18.13	0.0018	20.08	39.06	-10.97	
148	214			1.03	0.66	1.07	0.93	0.00	0.03	0.04	0.67	3.96	17.31	0.0017	20.49	39.48	-11.15	
149	215		7/2 ⁺	1.02	0.67	-0.41	0.66	0.01	0.00	0.06	0.70	4.49	18.86	0.0014	20.55	39.95	-11.42	
150	216			1.03	0.67	0.65	0.24	0.00	0.03	0.01	0.70	4.58	18.19	0.0013	20.78	40.23	-11.41	
151	217		9/2 ⁻	1.03	0.67	-0.60	0.05	0.00	0.00	0.03	0.73	5.37	19.72	0.0012	20.84		-11.70	
152	218			1.03	0.66	0.61	0.01	0.00	0.02	0.00	0.72	5.37	18.92	0.0011	21.47		-11.94	
153	219		1/2 ⁺	1.03	0.67	-0.92	-0.31	0.02	0.00	0.03	0.76	6.08	20.50	0.0010	21.48			
154	220			1.04	0.66	0.40	-0.52	0.00	0.02	0.00	0.75	6.40	19.63	0.0009				
155	221		3/2 ⁺	1.04	0.66	-1.12	-0.72	0.01	0.00	0.02	0.78	7.21	21.13	0.0008				
Z = 67 (Ho)																		
69	136	7/2 ⁻	7/2 ⁻	0.94	1.09								15.68	0.0310	-2.20	-2.40	3.98	10 ^{5.19}
70	137	7/2 ⁻		0.94	1.09	14.41							12.76	0.0670	-2.05	-1.52	4.04	10 ^{4.47}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 67 (Ho)																		
71	138	7/2 ⁻	5/2 ⁺	0.94	1.05	12.07	26.49						14.10	0.1010	-1.48	-0.84	4.22	10 ^{3.77}
72	139	7/2 ⁻		0.94	1.03	13.47	25.54						11.60	0.1427	-1.41	-0.17	4.28	10 ^{3.07}
73	140	7/2 ⁻	9/2 ⁻	0.96	1.01	11.51	24.98						12.99	0.1716	-0.87	0.48	4.16	10 ^{4.07}
74	141	7/2 ⁻		1.00	1.00	13.00	24.51						10.56	0.2921	-0.77	1.06	3.95	10 ^{5.05}
75	142	7/2 ⁻	9/2 ⁻	1.02	1.00	11.12	24.12						11.88	0.3971	-0.23	1.73	3.70	10 ^{7.11}
76	143	7/2 ⁻		1.04	1.00	12.42	23.54						9.63	0.5718	-0.24	2.22	3.70	10 ^{6.77}
77	144	7/2 ⁻	1/2 ⁺	1.05	0.99	10.55	22.97						11.07	0.3692	0.14	2.63	3.60	10 ^{7.85}
78	145	1/2 ⁺		1.20	1.03	12.08	22.63						9.25	1.6114	0.22	3.24	3.45	10 ^{8.67}
79	146	1/2 ⁺	1/2 ⁻	1.21	1.04	10.77	22.85						10.44	1.6543	0.74	4.04	2.82	10 ^{14.88}
80	147	1/2 ⁺		1.23	1.05	12.01	22.78						8.52	2.2648	0.78	4.61	2.29	> 10 ²⁰
81	148	9/2 ⁻	1/2 ⁺	1.33	1.07	10.42	22.43						10.09	1.7271	1.12	5.03	1.83	> 10 ²⁰
82	149	9/2 ⁻		1.36	1.24	11.94	22.36						5.91	5.0509	1.06	5.55	1.34	> 10 ²⁰
83	150	9/2 ⁻	7/2 ⁻	1.34	1.07	8.41	20.34						7.07	9.0452	1.72	6.23	2.92	10 ^{13.83}
84	151	9/2 ⁻		1.33	0.97	9.60	18.01						4.46	12.5577	1.76	6.91	4.74	10 ^{0.54}
85	152	5/2 ⁻	1/2 ⁻	1.21	0.97	7.68	17.28						6.34	18.4114	2.44	7.44	4.79	10 ^{0.68}
86	153	7/2 ⁺		1.15	0.97	9.68	17.36						4.32	> 100	2.55	7.98	4.03	10 ^{4.47}
87	154	7/2 ⁻	3/2 ⁻	1.08	1.00	8.23	17.91						5.47	33.1256	3.13	8.62	2.95	10 ^{13.52}
88	155	7/2 ⁻		1.05	1.01	9.46	17.70						3.28	> 100	3.21	9.13	2.63	10 ^{16.83}
89	156	7/2 ⁻	1/2 ⁺	1.03	1.02	7.78	17.24						4.70	> 100	3.71	9.68	2.44	10 ^{19.48}
90	157	7/2 ⁻		1.02	1.02	9.27	17.04						2.45	> 100	3.78	10.24	2.13	> 10 ²⁰
91	158	7/2 ⁻	3/2 ⁺	1.02	1.00	7.48	16.75						3.90	> 100	4.24	10.70	1.88	> 10 ²⁰
92	159	7/2 ⁻		1.02	0.99	8.92	16.40						1.66	> 100	4.24	11.20	1.66	> 10 ²⁰
93	160	7/2 ⁻	3/2 ⁻	1.03	0.97	7.24	16.17						2.88	> 100	4.80	11.78	1.43	> 10 ²⁰
94	161	7/2 ⁻		1.02	0.96	8.55	15.79						0.71	> 100	4.89	12.40	1.31	> 10 ²⁰
95	162	7/2 ⁻	5/2 ⁺	1.02	0.95	6.88	15.43						±	±	5.39	13.01	1.09	> 10 ²⁰
96	163	7/2 ⁻		1.02	0.94	8.23	15.12						...	β-st	5.51	13.68	0.79	> 10 ²⁰
97	164	7/2 ⁻	5/2 ⁺	1.02	0.94	6.53	14.77						±	±	5.99	14.19	0.53	> 10 ²⁰
98	165	7/2 ⁻		1.02	0.92	7.93	14.46						...	β-st	6.17	14.90	0.16	> 10 ²⁰
99	166	7/2 ⁻	1/2 ⁻	1.02	0.89	6.19	14.12	1.00	0.00	0.00	0.00	0.00	2.21	> 100	6.64	15.50	-0.01	
100	167	7/2 ⁻		1.02	0.87	7.42	13.61	1.00	0.00	0.00	0.00	0.00	1.07	> 100	6.77	16.23	-0.21	
101	168	7/2 ⁻	7/2 ⁺	1.03	0.86	5.82	13.23	1.00	0.00	0.00	0.00	0.00	3.17	> 100	7.28	16.82	-0.44	
102	169	7/2 ⁻		1.03	0.85	6.99	12.80	1.00	0.00	0.00	0.00	0.00	2.11	75.3219	7.40	17.48	-0.73	
103	170	7/2 ⁻	5/2 ⁻	1.03	0.84	5.40	12.38	1.00	0.00	0.00	0.00	0.00	4.21	18.8947	7.88	18.05	-0.90	
104	171	7/2 ⁻		1.04	0.82	6.50	11.89	1.00	0.00	0.00	0.00	0.00	3.27	10.5365	8.02	18.71	-1.08	
105	172	7/2 ⁻	7/2 ⁻	1.04	0.81	5.03	11.53	1.00	0.00	0.00	0.00	0.00	5.23	1.5012	8.63	19.35	-1.28	
106	173	7/2 ⁻		1.05	0.81	6.08	11.11	1.00	0.00	0.00	0.00	0.00	4.27	2.1978	8.66	20.08	-1.52	
107	174	7/2 ⁻	9/2 ⁺	1.05	0.81	4.69	10.77	1.00	0.00	0.00	0.00	0.00	6.23	1.3419	9.15	20.65	-1.82	
108	175	7/2 ⁻		1.07	0.80	5.74	10.43	1.00	0.00	0.00	0.00	0.00	5.36	0.7332	9.27	21.32	-2.21	
109	176	7/2 ⁻	1/2 ⁻	1.07	0.80	4.19	9.93	1.00	0.00	0.00	0.00	0.00	7.38	0.5194	9.69	21.84	-2.27	
110	177	7/2 ⁻		1.08	0.78	5.27	9.45	0.99	0.01	0.00	0.25	0.01	6.46	0.4234	9.80	22.44	-2.48	
111	178	7/2 ⁻	3/2 ⁻	1.10	0.77	3.88	9.15	0.97	0.03	0.00	0.31	0.03	8.29	0.3145	10.24	22.95	-2.69	
112	179	7/2 ⁻		1.12	0.76	4.90	8.78	0.89	0.11	0.00	0.39	0.11	7.39	0.2700	10.33	23.45	-2.92	
113	180	7/2 ⁻	11/2 ⁺	1.13	0.76	3.67	8.57	0.83	0.17	0.00	0.33	0.17	9.10	0.2381	10.73	23.96	-3.22	
114	181	7/2 ⁻		1.14	0.75	4.72	8.39	0.72	0.28	0.00	0.53	0.28	8.09	0.2119	10.80	24.48	-3.54	
115	182	7/2 ⁻	7/2 ⁻	1.16	0.74	3.39	8.11	0.73	0.27	0.00	0.44	0.27	9.89	0.1419	11.24	24.81	-3.77	
116	183	7/2 ⁻		1.15	0.72	4.47	7.86	0.57	0.43	0.00	0.60	0.43	8.85	0.1337	11.16	25.31	-4.04	
117	184	7/2 ⁻	9/2 ⁻	1.17	0.74	3.13	7.60	0.70	0.30	0.00	0.46	0.30	10.66	0.0519	11.57	25.63	-4.12	
118	185	7/2 ⁻		1.20	0.73	4.06	7.19	0.41	0.59	0.00	0.61	0.59	9.75	0.0524	11.55	26.01	-4.19	
119	186	1/2 ⁺	1/2 ⁺	1.20	0.71	3.12	7.18	0.22	0.77	0.01	0.60	0.79	11.21	0.0866	12.01	26.56	-4.51	
120	187	1/2 ⁺		1.20	0.71	4.38	7.50	0.19	0.81	0.00	0.66	0.81	9.91	0.0896	12.06	27.03	-5.21	
121	188	1/2 ⁺	1/2 ⁻	1.22	0.71	2.91	7.29	0.23	0.75	0.02	0.65	0.79	11.83	0.0641	12.43	27.41	-5.55	
122	189	1/2 ⁺		1.23	0.67	4.08	6.99	0.10	0.89	0.01	0.73	0.91	10.67	0.0795	12.40	27.77	-5.73	
123	190	1/2 ⁺	3/2 ⁻	1.24	0.62	3.30	7.38	0.11	0.85	0.04	0.73	0.93	11.89	0.0633	12.85	28.22	-6.49	
124	191	9/2 ⁻		1.25	0.62	4.11	7.41	0.28	0.72	0.00	0.71	0.72	11.11	0.0310	12.85	28.60	-6.88	
125	192	9/2 ⁻	1/2 ⁻	1.26	0.56	2.72	6.83	0.42	0.56	0.02	0.75	0.60	12.90	0.0190	13.18	28.98	-6.74	
126	193	9/2 ⁻		1.26	0.85	3.82	6.54	0.25	0.74	0.01	0.73	0.76	11.87	0.0195	13.19	29.38	-6.84	
127	194	9/2 ⁻	9/2 ⁺	1.25	0.77	0.92	4.75	0.03	0.61	0.36	0.73	1.33	15.12	0.0113	13.63	29.82	-5.43	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 67 (Ho)																		
128	195	9/2 ⁻		1.25	0.72	2.05	2.97	0.01	0.46	0.49	0.84	1.56	14.00	0.0212	13.66	30.29	-4.05	
129	196	3/2	3/2	1.22	0.71	0.58	2.63	0.02	0.04	0.65	0.85	2.22	15.88	0.0169	14.00	30.58	-4.16	
130	197	3/2		1.20	0.70	1.96	2.54	0.01	0.09	0.08	0.84	2.74	14.46	0.0238	13.98	30.89	-4.53	
131	198	7/2	5/2	1.18	0.71	0.93	2.88	0.01	0.02	0.22	0.75	3.08	15.83	0.0143	14.35	31.22	-5.16	
132	199	3/2		1.15	0.70	2.06	2.98	0.01	0.06	0.11	0.73	2.88	14.67	0.0104	14.49	31.74	-5.58	
133	200	3/2	5/2	1.15	0.71	0.88	2.94	0.01	0.02	0.32	0.69	3.00	16.23	0.0076	14.89	32.20	-5.86	
134	201	3/2		1.11	0.73	1.87	2.75	0.01	0.05	0.15	0.68	2.85	15.24	0.0069	14.93	32.62	-6.19	
135	202	5/2 ⁻	3/2 ⁻	1.07	0.72	0.99	2.86	0.01	0.02	0.25	0.65	3.04	16.53	0.0062	15.40	32.95	-6.76	
136	203	3/2 ⁺		1.06	0.72	2.21	3.20	0.01	0.04	0.13	0.66	2.89	15.22	0.0067	15.33	33.41	-7.52	
137	204	3/2 ⁺	3/2 ⁺	1.05	0.72	0.97	3.18	0.01	0.02	0.30	0.64	2.97	16.90	0.0050	15.81	33.91	-7.83	
138	205	3/2 ⁺		1.05	0.72	1.89	2.87	0.01	0.05	0.17	0.64	2.83	15.94	0.0048	15.76	34.25	-7.98	
139	206	7/2 ⁺	5/2 ⁺	1.04	0.72	0.88	2.77	0.01	0.01	0.28	0.64	3.02	17.35	0.0042	16.22	34.72	-8.39	
140	207	7/2 ⁺		1.04	0.72	1.80	2.68	0.00	0.04	0.11	0.65	2.96	16.36	0.0039	16.19	34.97	-8.62	
141	208	7/2 ⁺	5/2 ⁻	1.03	0.71	0.78	2.57	0.01	0.01	0.15	0.65	3.33	17.80	0.0036	16.52	35.36	-8.99	
142	209	7/2 ⁺		1.03	0.70	1.78	2.55	0.00	0.03	0.09	0.65	3.13	16.77	0.0032	16.57	35.85	-9.22	
143	210	7/2 ⁺	1/2 ⁺	1.03	0.70	0.63	2.40	0.01	0.02	0.14	0.66	3.47	18.30	0.0029	16.94	36.19	-9.46	
144	211	7/2 ⁻		1.03	0.69	1.49	2.11	0.00	0.03	0.08	0.67	3.28	17.34	0.0024	16.97	36.57	-9.66	
145	212	7/2 ⁻	7/2 ⁻	1.03	0.69	0.36	1.85	0.00	0.01	0.10	0.68	3.73	18.95	0.0021	17.36	36.76	-9.74	
146	213	7/2 ⁻		1.02	0.68	1.35	1.71	0.00	0.02	0.04	0.68	3.68	17.99	0.0020	17.20	37.26	-9.98	
147	214	7/2 ⁻	5/2 ⁺	1.02	0.67	0.25	1.60	0.00	0.01	0.07	0.72	4.08	19.44	0.0019	17.60	37.68	-10.06	
148	215	7/2 ⁻		1.02	0.66	1.13	1.39	0.00	0.02	0.02	0.70	4.21	18.53	0.0017	17.66	38.15	-10.35	
149	216	7/2 ⁻	7/2 ⁺	1.02	0.67	-0.02	1.11	0.00	0.00	0.03	0.73	4.60	20.15	0.0014	18.05	38.60	-10.49	
150	217	7/2 ⁻		1.02	0.67	0.93	0.91	0.00	0.01	0.01	0.74	4.77	19.27	0.0014	18.33	39.11	-10.75	
151	218	7/2 ⁻	9/2 ⁻	1.02	0.67	-0.18	0.74	0.00	0.00	0.02	0.76	5.29	20.82	0.0013	18.75	39.59	-11.04	
152	219	7/2 ⁻		1.02	0.66	0.66	0.48	0.00	0.01	0.00	0.75	5.41	20.00	0.0011	18.80	40.27	-11.29	
153	220	7/2 ⁻	1/2 ⁺	1.02	0.67	-0.47	0.19	0.00	0.00	0.03	0.78	5.97	21.51	0.0010	19.25	40.73	-11.48	
154	221	7/2 ⁻		1.02	0.66	0.38	-0.10	0.00	0.01	0.00	0.78	6.31	20.70	0.0010	19.22		-11.88	
155	222	7/2 ⁻	3/2 ⁺	1.03	0.67	-0.88	-0.50	0.00	0.00	0.02	0.81	7.01	22.32	0.0009	19.46		-11.93	
156	223	7/2 ⁻		1.03	0.66	0.21	-0.67	0.00	0.00	0.00	0.81	7.40	21.32	0.0009				
157	224	7/2 ⁻	7/2 ⁺	1.03	0.65	-0.78	-0.57	0.00	0.00	0.01	0.83	8.11	22.77	0.0008				
Z = 68 (Er)																		
70	138			0.90	1.10								11.89	0.0562	-0.60	-2.65	4.25	10 ^{3.02}
71	139	9/2 ⁻		0.90	1.07	12.17							13.19	0.0811	-0.50	-1.98	4.51	10 ^{2.60}
72	140			0.89	1.03	14.06	26.22						10.64	0.1131	0.08	-1.32	4.73	10 ^{0.38}
73	141	9/2 ⁻		0.94	1.00	11.58	25.64						12.07	0.1308	0.15	-0.72	4.64	10 ^{1.91}
74	142			0.95	0.99	13.50	25.08						9.68	0.2281	0.65	-0.11	4.55	10 ^{1.37}
75	143	7/2 ⁺		0.97	1.00	11.31	24.81						10.80	0.2270	0.84	0.62	4.21	10 ^{4.26}
76	144			1.00	1.00	13.10	24.41						8.24	0.5483	1.52	1.28	4.00	10 ^{4.58}
77	145	1/2 ⁺		1.03	0.99	10.56	23.67						9.76	0.6094	1.54	1.68	4.02	10 ^{5.51}
78	146			1.17	1.04	12.79	23.35						7.74	2.3783	2.24	2.47	3.67	10 ^{6.95}
79	147	1/2 ⁻		1.16	1.05	10.84	23.63						8.91	1.4476	2.32	3.06	2.99	10 ^{13.83}
80	148			1.22	1.06	12.54	23.38						6.79	2.4724	2.85	3.64	2.45	10 ^{19.23}
81	149	1/2 ⁺		1.29	1.07	10.40	22.94						8.32	1.5153	2.83	3.95	2.31	> 10 ²⁰
82	150			1.33	1.24	12.46	22.85						4.28	11.6276	3.35	4.41	1.81	> 10 ²⁰
83	151	7/2 ⁻		1.31	1.07	8.51	20.97						5.37	28.1670	3.45	5.17	3.38	10 ^{10.23}
84	152			1.29	0.97	10.14	18.66						2.90	38.2457	3.99	5.75	5.23	10 ^{-2.02}
85	153	1/2 ⁻		1.22	0.96	7.72	17.86						4.86	29.9283	4.03	6.47	5.27	10 ^{-1.08}
86	154			1.17	0.97	10.13	17.85						2.96	> 100	4.49	7.04	4.70	10 ^{0.53}
87	155	3/2 ⁻		1.11	0.98	7.98	18.11						4.45	44.6204	4.23	7.36	3.73	10 ^{7.50}
88	156			1.05	1.01	10.15	18.12						2.08	> 100	4.91	8.13	3.14	10 ^{11.30}
89	157	1/2 ⁺		1.03	1.01	7.76	17.91						3.59	> 100	4.90	8.61	3.04	10 ^{13.43}
90	158			1.02	1.01	9.67	17.43						1.40	> 100	5.30	9.08	2.74	10 ^{15.46}
91	159	3/2 ⁺		1.01	1.01	7.51	17.18						2.81	> 100	5.33	9.58	2.51	10 ^{19.35}
92	160			1.00	1.01	9.42	16.93						0.63	> 100	5.83	10.07	2.29	> 10 ²⁰
93	161	3/2 ⁻		1.01	0.99	7.28	16.70						1.90	> 100	5.87	10.67	2.02	> 10 ²⁰
94	162			1.01	0.99	9.08	16.36						...	β -st	6.40	11.29	1.87	> 10 ²⁰
95	163	5/2 ⁻		1.01	0.97	6.97	16.04						0.97	> 100	6.48	11.87	1.58	> 10 ²⁰

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 68 (Er)																		
96	164			1.01	0.96	8.75	15.71						...	β -st	6.99	12.51	1.30	$> 10^{20}$
97	165		5/2 ⁺	1.01	0.94	6.59	15.34						0.10	> 100	7.05	13.04	1.10	$> 10^{20}$
98	166			1.00	0.93	8.50	15.09						...	β -st	7.62	13.79	0.70	$> 10^{20}$
99	167		1/2 ⁻	1.01	0.91	6.27	14.77						...	β -st	7.70	14.34	0.49	$> 10^{20}$
100	168			1.01	0.88	7.91	14.19						...	β -st	8.20	14.97	0.32	$> 10^{20}$
101	169		7/2 ⁺	1.01	0.87	5.93	13.85	1.00	0.00	0.00	0.00	0.00	0.42	> 100	8.31	15.59	0.11	$> 10^{20}$
102	170			1.01	0.85	7.50	13.43						...	β -st	8.82	16.22	-0.10	
103	171		5/2 ⁻	1.02	0.84	5.56	13.05	1.00	0.00	0.00	0.00	0.00	1.43	> 100	8.98	16.87	-0.34	
104	172			1.02	0.82	6.99	12.54	1.00	0.00	0.00	0.00	0.00	0.48	> 100	9.47	17.49	-0.47	
105	173		7/2 ⁻	1.02	0.81	5.12	12.11	1.00	0.00	0.00	0.00	0.00	2.48	13.6842	9.57	18.20	-0.68	
106	174			1.03	0.81	6.65	11.77	1.00	0.00	0.00	0.00	0.00	1.47	> 100	10.14	18.80	-0.96	
107	175		9/2 ⁺	1.03	0.81	4.87	11.52	1.00	0.00	0.00	0.00	0.00	3.41	79.9466	10.32	19.47	-1.42	
108	176			1.03	0.81	6.21	11.08	1.00	0.00	0.00	0.00	0.00	2.52	20.9099	10.79	20.06	-1.58	
109	177		1/2 ⁻	1.05	0.79	4.34	10.56	1.00	0.00	0.00	0.00	0.00	4.54	8.5719	10.94	20.63	-1.73	
110	178			1.05	0.78	5.71	10.06	1.00	0.00	0.00	0.00	0.00	3.64	6.5528	11.39	21.19	-1.81	
111	179		3/2 ⁻	1.07	0.77	4.00	9.71	1.00	0.00	0.00	0.00	0.00	5.47	3.1321	11.51	21.75	-2.04	
112	180			1.07	0.77	5.38	9.38	1.00	0.00	0.00	0.00	0.00	4.46	3.2010	11.98	22.31	-2.27	
113	181		11/2 ⁺	1.08	0.76	3.71	9.09	1.00	0.00	0.00	0.00	0.00	6.29	2.0313	12.03	22.77	-2.54	
114	182			1.10	0.75	5.18	8.90	1.00	0.00	0.00	0.00	0.00	5.35	1.5306	12.49	23.29	-2.91	
115	183		7/2 ⁻	1.11	0.74	3.44	8.62	0.98	0.02	0.00	0.20	0.02	7.07	0.7401	12.54	23.78	-3.08	
116	184			1.12	0.73	4.94	8.38	0.97	0.03	0.00	0.28	0.03	5.97	0.7946	13.01	24.17	-3.37	
117	185		9/2 ⁻	1.14	0.74	3.14	8.08	0.98	0.02	0.00	0.26	0.02	7.78	0.1307	13.02	24.59	-3.57	
118	186			1.19	0.74	4.58	7.73	0.95	0.05	0.00	0.39	0.05	6.76	0.1696	13.55	25.09	-3.59	
119	187		1/2 ⁺	1.19	0.71	3.08	7.67	0.86	0.14	0.00	0.28	0.14	8.19	0.1584	13.51	25.52	-3.95	
120	188			1.19	0.72	4.83	7.91	0.93	0.07	0.00	0.34	0.07	6.94	0.1548	13.96	26.02	-4.70	
121	189		1/2 ⁻	1.21	0.72	2.93	7.75	0.85	0.15	0.00	0.24	0.15	8.94	0.1012	13.97	26.40	-4.98	
122	190			1.22	0.67	4.51	7.44	0.65	0.35	0.00	0.35	0.35	7.71	0.1301	14.40	26.80	-5.15	
123	191		3/2 ⁻	1.25	0.62	3.33	7.85	0.82	0.18	0.00	0.31	0.18	8.95	0.0920	14.44	27.28	-5.95	
124	192			1.25	0.65	4.51	7.85	0.86	0.14	0.00	0.31	0.14	8.11	0.0832	14.84	27.69	-6.35	
125	193		1/2 ⁻	1.28	0.56	2.79	7.30	0.73	0.27	0.00	0.26	0.27	9.90	0.0523	14.91	28.09	-6.29	
126	194			1.26	0.85	4.18	6.97	0.55	0.45	0.00	0.33	0.45	8.88	0.0499	15.27	28.45	-6.36	
127	195		9/2 ⁺	1.26	0.77	0.92	5.09	0.06	0.91	0.03	0.62	0.97	12.23	0.0242	15.26	28.89	-4.89	
128	196			1.26	0.72	2.47	3.39	0.07	0.82	0.11	0.87	1.04	11.05	0.0502	15.68	29.34	-3.54	
129	197		3/2	1.24	0.73	0.54	3.01	0.07	0.08	0.83	0.84	1.80	13.00	0.0397	15.63	29.63	-3.60	
130	198			1.21	0.73	2.29	2.83	0.04	0.18	0.58	0.69	1.94	11.76	0.0329	15.97	29.95	-3.87	
131	199		5/2	1.19	0.71	0.90	3.19	0.02	0.10	0.71	0.69	2.05	13.01	0.0185	15.95	30.30	-4.53	
132	200			1.14	0.70	2.44	3.35	0.03	0.25	0.57	0.62	1.84	11.93	0.0171	16.33	30.82	-4.99	
133	201		5/2	1.14	0.72	0.88	3.32	0.02	0.22	0.64	0.65	1.88	13.50	0.0115	16.33	31.22	-5.32	
134	202			1.14	0.73	2.28	3.16	0.03	0.26	0.59	0.60	1.81	12.46	0.0130	16.74	31.67	-5.68	
135	203		3/2 ⁻	1.07	0.73	0.90	3.18	0.02	0.07	0.79	0.66	2.03	13.85	0.0096	16.65	32.05	-6.10	
136	204			1.06	0.72	2.66	3.56	0.02	0.38	0.50	0.58	1.69	12.50	0.0094	17.09	32.43	-6.93	
137	205		3/2 ⁺	1.05	0.73	0.93	3.59	0.04	0.19	0.67	0.61	1.85	14.01	0.0073	17.05	32.86	-7.34	
138	206			1.04	0.72	2.30	3.23	0.02	0.46	0.44	0.58	1.59	13.20	0.0064	17.45	33.22	-7.35	
139	207		5/2 ⁺	1.04	0.73	0.80	3.09	0.01	0.15	0.74	0.62	1.95	14.71	0.0054	17.37	33.59	-7.66	
140	208			1.03	0.72	2.21	3.01	0.02	0.30	0.55	0.58	1.80	13.69	0.0051	17.79	33.97	-7.93	
141	209		5/2 ⁻	1.03	0.71	0.75	2.97	0.01	0.07	0.68	0.62	2.19	15.25	0.0048	17.77	34.28	-8.25	
142	210			1.03	0.69	2.16	2.91	0.01	0.25	0.52	0.59	1.97	14.10	0.0042	18.14	34.72	-8.58	
143	211		1/2 ⁺	1.02	0.72	0.52	2.68	0.03	0.07	0.56	0.64	2.29	15.75	0.0036	18.04	34.98	-8.66	
144	212			1.02	0.69	1.98	2.50	0.01	0.16	0.43	0.60	2.27	14.76	0.0035	18.53	35.50	-8.92	
145	213		7/2 ⁻	1.02	0.69	0.39	2.37	0.01	0.04	0.44	0.65	2.61	16.37	0.0031	18.56	35.92	-9.05	
146	214			1.02	0.68	1.70	2.09	0.01	0.11	0.30	0.64	2.55	15.41	0.0028	18.91	36.11	-9.29	
147	215		5/2 ⁺	1.02	0.68	0.23	1.93	0.01	0.04	0.30	0.67	2.91	16.91	0.0025	18.89	36.48	-9.54	
148	216			1.01	0.66	1.59	1.82	0.01	0.08	0.16	0.67	2.84	15.92	0.0023	19.34	37.01	-9.63	
149	217		7/2 ⁺	1.01	0.67	0.05	1.65	0.00	0.02	0.21	0.70	3.30	17.45	0.0019	19.42	37.47	-9.83	
150	218			1.01	0.66	1.37	1.42	0.01	0.05	0.11	0.70	3.18	16.55	0.0019	19.86	38.19	-10.12	
151	219		9/2 ⁻	1.01	0.67	-0.16	1.21	0.00	0.01	0.10	0.73	3.80	18.11	0.0017	19.88	38.63	-10.38	
152	220			1.01	0.66	1.04	0.88	0.00	0.03	0.05	0.71	3.76	17.35	0.0015	20.26	39.06	-10.77	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 68 (Er)																		
153	221		1/2 ⁺	1.01	0.67	−0.43	0.60	0.01	0.01	0.06	0.76	4.30	18.92	0.0013	20.30	39.55	−10.94	
154	222			1.01	0.66	0.73	0.30	0.00	0.03	0.02	0.75	4.43	18.08	0.0013	20.65	39.88	−11.05	
155	223		7/2 ⁺	1.01	0.66	−0.79	−0.06	0.01	0.00	0.04	0.79	5.18	19.57	0.0012	20.75	40.21	−11.19	
156	224			1.01	0.65	0.68	−0.11	0.00	0.03	0.00	0.77	5.30	18.66	0.0011	21.21		−11.46	
157	225		3/2 ⁺	1.02	0.65	−0.96	−0.29	0.00	0.00	0.03	0.81	6.21	20.12	0.0010	21.03		−11.62	
158	226			1.02	0.64	0.58	−0.39	0.00	0.02	0.01	0.78	6.35	19.20	0.0010				
159	227		11/2 [−]	1.03	0.63	−0.98	−0.40	0.00	0.00	0.02	0.81	7.24	20.72	0.0009				
Z = 69 (Tm)																		
72	141	1/2 ⁺		0.90	1.03								13.14	0.0704	−2.34	−2.26	5.02	10 ^{0.28}
73	142	1/2 ⁺	9/2 [−]	0.91	1.00	12.10							14.53	0.0809	−1.82	−1.66	4.98	10 ^{0.77}
74	143	1/2 ⁺		0.92	0.99	13.61	25.72						12.23	0.1371	−1.70	−1.05	4.84	10 ^{1.15}
75	144	1/2 ⁺	7/2 ⁺	0.93	0.99	11.80	25.41						13.53	0.1166	−1.21	−0.37	4.55	10 ^{3.07}
76	145	1/2 ⁺		0.96	1.00	13.18	24.98						10.92	0.2491	−1.13	0.39	4.37	10 ^{3.62}
77	146	1/2 ⁺	1/2 ⁺	0.98	0.99	11.05	24.23						12.66	0.3118	−0.65	0.89	4.44	10 ^{3.62}
78	147	7/2 [−]		1.13	1.04	12.79	23.83						10.71	0.3288	−0.65	1.59	4.08	10 ^{5.46}
79	148	7/2 [−]	1/2 [−]	1.14	1.05	11.26	24.05						11.99	0.3243	−0.23	2.09	3.36	10 ^{11.16}
80	149	7/2 [−]		1.17	1.06	12.65	23.92						9.74	0.4281	−0.12	2.73	2.79	10 ^{16.45}
81	150	7/2 [−]	1/2 ⁺	1.23	1.05	10.72	23.38						11.47	0.4664	0.21	3.03	2.84	10 ^{16.24}
82	151	5/2 [−]		1.31	1.24	12.57	23.29						7.41	1.3715	0.32	3.67	2.28	> 10 ²⁰
83	152	7/2 [−]	7/2 [−]	1.26	1.06	9.07	21.63						8.49	2.8161	0.87	4.32	3.63	10 ^{8.96}
84	153	7/2 [−]		1.25	0.97	10.23	19.30						5.98	4.0035	0.96	4.95	5.34	10 ^{−1.16}
85	154	5/2 ⁺	1/2 [−]	1.19	0.97	8.34	18.57						7.76	7.1213	1.58	5.61	5.40	10 ^{−1.12}
86	155	7/2 [−]		1.14	0.97	10.18	18.53						5.56	9.3755	1.64	6.12	4.82	10 ^{1.25}
87	156	7/2 [−]	3/2 [−]	1.10	0.99	8.52	18.71						7.18	5.6854	2.18	6.41	3.98	10 ^{6.45}
88	157	7/2 ⁺		1.05	1.00	10.24	18.76						4.70	> 100	2.28	7.19	3.42	10 ^{10.39}
89	158	7/2 ⁺	1/2 ⁺	1.03	1.01	8.15	18.39						6.22	> 100	2.67	7.56	3.50	10 ^{9.99}
90	159	1/2 ⁺		1.01	1.02	9.73	17.87						4.01	> 100	2.72	8.02	3.24	10 ^{11.88}
91	160	1/2 ⁺	3/2 ⁺	1.00	1.02	7.97	17.69						5.47	> 100	3.17	8.51	3.05	10 ^{14.03}
92	161	1/2 ⁺		1.00	1.02	9.46	17.43						3.28	> 100	3.22	9.05	2.85	10 ^{15.78}
93	162	1/2 ⁺	3/2 [−]	1.00	1.00	7.71	17.18						4.65	> 100	3.65	9.52	2.62	10 ^{18.95}
94	163	1/2 ⁺		1.00	1.01	9.19	16.91						2.42	> 100	3.76	10.16	2.35	> 10 ²⁰
95	164	1/2 ⁺	5/2 [−]	1.00	0.99	7.46	16.66						3.70	> 100	4.26	10.74	2.13	> 10 ²⁰
96	165	1/2 ⁺		0.99	0.98	8.83	16.30						1.46	> 100	4.35	11.34	1.84	> 10 ²⁰
97	166	1/2 ⁺	5/2 ⁺	1.00	0.95	7.13	15.97						2.83	> 100	4.89	11.94	1.59	> 10 ²⁰
98	167	1/2 ⁺		0.99	0.94	8.53	15.66						0.57	> 100	4.92	12.54	1.30	> 10 ²⁰
99	168	1/2 ⁺	1/2 [−]	0.99	0.92	6.80	15.32						±	±	5.44	13.14	1.04	> 10 ²⁰
100	169	1/2 ⁺		1.00	0.89	8.04	14.84						...	β-st	5.57	13.77	0.92	> 10 ²⁰
101	170	1/2 ⁺	7/2 ⁺	1.00	0.87	6.45	14.49	1.00	0.00	0.00	0.00	0.00	±	±	6.09	14.40	0.67	> 10 ²⁰
102	171	1/2 ⁺		1.00	0.86	7.61	14.06	1.00	0.00	0.00	0.00	0.00	0.17	> 100	6.21	15.03	0.47	> 10 ²⁰
103	172	1/2 ⁺	5/2 [−]	1.00	0.84	6.03	13.65	1.00	0.00	0.00	0.00	0.00	2.27	> 100	6.68	15.67	0.25	> 10 ²⁰
104	173	1/2 ⁺		1.01	0.84	7.13	13.16	1.00	0.00	0.00	0.00	0.00	1.29	> 100	6.82	16.29	0.11	> 10 ²⁰
105	174	1/2 ⁺	7/2 [−]	1.01	0.83	5.64	12.77	1.00	0.00	0.00	0.00	0.00	3.28	> 100	7.34	16.91	−0.14	
106	175	1/2 ⁺		1.01	0.82	6.81	12.46	1.00	0.00	0.00	0.00	0.00	2.30	> 100	7.50	17.64	−0.45	
107	176	1/2 ⁺	9/2 ⁺	1.01	0.82	5.32	12.14	1.00	0.00	0.00	0.00	0.00	4.30	> 100	7.96	18.27	−0.74	
108	177	1/2 ⁺		1.02	0.81	6.36	11.68	1.00	0.00	0.00	0.00	0.00	3.42	> 100	8.10	18.89	−1.02	
109	178	1/2 ⁺	1/2 [−]	1.02	0.80	4.81	11.17	1.00	0.00	0.00	0.00	0.00	5.48	30.7699	8.57	19.51	−1.14	
110	179	1/2 ⁺		1.03	0.79	5.84	10.65	1.00	0.00	0.00	0.00	0.00	4.60	22.4082	8.69	20.08	−1.24	
111	180	1/2 ⁺	3/2 [−]	1.04	0.77	4.36	10.20	1.00	0.00	0.00	0.00	0.00	6.51	9.5649	9.05	20.57	−1.41	
112	181	1/2 ⁺		1.05	0.76	5.54	9.90	0.99	0.01	0.00	0.24	0.01	5.58	8.2738	9.22	21.20	−1.68	
113	182	1/2 ⁺	11/2 ⁺	1.06	0.75	4.24	9.78	0.97	0.03	0.00	0.19	0.03	7.31	6.4182	9.75	21.78	−2.05	
114	183	1/2 ⁺		1.06	0.75	5.16	9.40	0.81	0.19	0.00	0.38	0.19	6.45	4.0610	9.73	22.22	−2.31	
115	184	1/2 ⁺	7/2 [−]	1.07	0.74	3.83	9.00	0.82	0.18	0.00	0.32	0.18	8.31	1.5904	10.12	22.67	−2.48	
116	185	1/2 ⁺		1.08	0.74	4.96	8.80	0.55	0.45	0.00	0.55	0.45	7.27	1.4374	10.14	23.15	−2.72	
117	186	1/2 ⁺	9/2 [−]	1.10	0.74	3.56	8.52	0.88	0.12	0.00	0.41	0.12	9.07	0.1946	10.56	23.59	−2.89	
118	187	1/2 ⁺		1.15	0.75	4.51	8.08	0.48	0.52	0.00	0.53	0.52	8.17	0.2581	10.49	24.04	−2.93	
119	188	7/2 [−]	1/2 ⁺	1.17	0.72	3.57	8.09	0.75	0.25	0.00	0.53	0.25	9.72	0.1150	10.98	24.50	−3.37	
120	189	7/2 [−]		1.18	0.73	4.93	8.50	0.75	0.25	0.00	0.65	0.25	8.27	0.1232	11.09	25.04	−4.24	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 69 (Tm)																		
121	190	7/2 ⁻	1/2 ⁻	1.20	0.72	3.28	8.21	0.75	0.25	0.00	0.59	0.25	10.38	0.0865	11.44	25.41	-4.40	
122	191	7/2 ⁻		1.23	0.64	4.58	7.85	0.52	0.48	0.00	0.60	0.48	9.17	0.1002	11.50	25.91	-4.60	
123	192	7/2 ⁻	3/2 ⁻	1.23	0.64	3.68	8.25	0.68	0.32	0.00	0.65	0.32	10.53	0.0821	11.84	26.28	-5.36	
124	193	7/2 ⁻		1.26	0.67	4.58	8.26	0.62	0.38	0.00	0.73	0.38	9.74	0.0671	11.91	26.75	-5.86	
125	194	7/2 ⁻	1/2 ⁻	1.28	0.56	3.16	7.74	0.65	0.35	0.00	0.78	0.35	11.54	0.0426	12.28	27.19	-5.72	
126	195	3/2 ⁻		1.28	0.85	4.27	7.42	0.51	0.49	0.00	0.73	0.49	10.45	0.0436	12.37	27.63	-5.88	
127	196	7/2 ⁻	9/2 ⁺	1.26	0.77	1.29	5.55	0.11	0.81	0.08	0.71	0.97	13.85	0.0214	12.74	28.00	-4.44	
128	197	3/2 ⁻		1.26	0.73	2.48	3.77	0.02	0.73	0.25	0.90	1.23	12.68	0.0419	12.75	28.43	-3.10	
129	198	5/2	3/2	1.26	0.75	1.06	3.54	0.04	0.08	0.83	0.90	1.89	14.49	0.0398	13.27	28.90	-3.24	
130	199	5/2		1.22	0.73	2.15	3.21	0.02	0.17	0.43	0.80	2.17	13.40	0.0289	13.13	29.10	-3.34	
131	200	5/2	1/2	1.15	0.71	1.37	3.52	0.02	0.03	0.50	0.79	2.43	14.52	0.0265	13.59	29.54	-4.12	
132	201	5/2		1.13	0.70	2.44	3.81	0.02	0.09	0.31	0.73	2.46	13.35	0.0229	13.59	29.92	-4.61	
133	202	5/2	5/2	1.14	0.73	1.24	3.68	0.02	0.04	0.59	0.72	2.33	14.93	0.0146	13.95	30.28	-4.92	
134	203	5/2		1.09	0.75	2.29	3.53	0.01	0.09	0.48	0.67	2.32	13.86	0.0136	13.97	30.71	-5.16	
135	204	5/2 ⁺	3/2 ⁻	1.07	0.73	1.31	3.60	0.02	0.03	0.57	0.70	2.36	15.29	0.0124	14.38	31.02	-5.59	
136	205	7/2 ⁻		1.05	0.73	2.44	3.75	0.01	0.15	0.47	0.64	2.21	13.98	0.0091	14.16	31.26	-6.16	
137	206	7/2 ⁻	3/2 ⁺	1.04	0.73	1.48	3.93	0.01	0.07	0.66	0.66	2.20	15.35	0.0077	14.72	31.77	-6.65	
138	207	7/2 ⁻		1.04	0.73	2.30	3.79	0.01	0.22	0.47	0.61	2.07	14.55	0.0065	14.72	32.17	-6.74	
139	208	7/2 ⁻	5/2 ⁺	1.04	0.73	1.20	3.50	0.01	0.04	0.70	0.66	2.23	15.98	0.0060	15.12	32.49	-6.97	
140	209	7/2 ⁻		1.03	0.72	2.31	3.51	0.01	0.11	0.49	0.62	2.27	14.87	0.0058	15.22	33.01	-7.39	
141	210	7/2 ⁻	5/2 ⁻	1.02	0.72	1.01	3.32	0.01	0.02	0.51	0.65	2.48	16.47	0.0051	15.48	33.24	-7.51	
142	211	7/2 ⁻		1.02	0.71	2.17	3.17	0.01	0.11	0.36	0.64	2.44	15.37	0.0043	15.49	33.63	-7.88	
143	212	7/2 ⁻	1/2 ⁺	1.02	0.72	0.99	3.15	0.01	0.05	0.39	0.65	2.62	16.89	0.0040	15.95	33.99	-8.09	
144	213	7/2 ⁻		1.01	0.70	2.00	2.99	0.01	0.08	0.24	0.65	2.65	15.88	0.0038	15.97	34.51	-8.32	
145	214	7/2 ⁺	7/2 ⁻	1.01	0.71	0.74	2.74	0.01	0.01	0.24	0.67	3.01	17.41	0.0040	16.33	34.88	-8.43	
146	215	7/2 ⁺		1.01	0.68	1.73	2.47	0.00	0.05	0.15	0.69	2.88	16.55	0.0032	16.36	35.27	-8.68	
147	216	7/2 ⁺	5/2 ⁺	1.01	0.68	0.61	2.34	0.01	0.01	0.19	0.70	3.27	18.03	0.0030	16.73	35.62	-8.92	
148	217	7/2 ⁺		1.00	0.67	1.58	2.18	0.00	0.03	0.09	0.72	3.20	17.08	0.0027	16.72	36.06	-9.15	
149	218	7/2 ⁺	7/2 ⁺	1.00	0.68	0.47	2.04	0.00	0.01	0.13	0.72	3.57	18.59	0.0022	17.13	36.55	-9.36	
150	219	1/2 ⁺		1.00	0.66	1.40	1.87	0.00	0.03	0.05	0.73	3.52	17.65	0.0022	17.17	37.02	-9.63	
151	220	1/2 ⁺	9/2 ⁻	1.00	0.67	0.28	1.68	0.01	0.01	0.06	0.76	3.97	19.18	0.0020	17.60	37.49	-9.93	
152	221	1/2 ⁺		1.00	0.65	1.14	1.42	0.00	0.03	0.02	0.75	4.02	18.19	0.0019	17.71	37.96	-10.14	
153	222	1/2 ⁺	1/2 ⁺	1.00	0.66	-0.11	1.03	0.01	0.01	0.05	0.78	4.45	19.83	0.0016	18.03	38.33	-10.22	
154	223	1/2 ⁺		1.00	0.66	0.69	0.59	0.00	0.03	0.01	0.78	4.64	19.09	0.0015	18.00	38.65	-10.25	
155	224	1/2 ⁺	3/2 ⁺	1.00	0.66	-0.23	0.46	0.01	0.01	0.04	0.80	5.13	20.51	0.0014	18.56	39.30	-10.50	
156	225	1/2 ⁺		1.00	0.65	0.50	0.27	0.00	0.03	0.01	0.80	5.38	19.69	0.0013	18.37	39.59	-10.61	
157	226	1/2 ⁺	7/2 ⁺	1.00	0.65	-0.34	0.16	0.00	0.02	0.03	0.82	6.00	21.02	0.0012	19.00	40.03	-11.16	
158	227	1/2 ⁺		1.00	0.63	0.54	0.20	0.00	0.03	0.01	0.81	6.21	20.22	0.0011	18.96		-11.48	
159	228	1/2 ⁺	11/2 ⁻	1.01	0.63	-0.46	0.07	0.00	0.01	0.03	0.83	6.93	21.51	0.0011	19.48		-11.80	
160	229	1/2 ⁺		1.01	0.62	0.47	0.01	0.00	0.04	0.01	0.81	6.87	20.78	0.0010				
161	230	1/2 ⁺	9/2 ⁺	1.02	0.63	-0.48	-0.01	0.00	0.01	0.03	0.82	7.56	22.21	0.0008				
Z = 70 (Yb)																		
73	143		5/2 ⁺	0.87	1.01								13.75	0.0525	-0.92	-2.74	5.40	10 ^{-0.61}
74	144			0.89	0.99	14.12							11.43	0.0770	-0.41	-2.11	5.34	10 ^{-1.41}
75	145		7/2 ⁺	0.90	0.99	11.95	26.07						12.66	0.0780	-0.26	-1.47	4.97	10 ^{1.36}
76	146			0.93	1.00	13.69	25.64						10.02	0.1579	0.24	-0.89	4.78	10 ^{1.24}
77	147		1/2 ⁺	0.94	0.99	11.24	24.93						11.56	0.1509	0.44	-0.21	4.84	10 ^{2.00}
78	148			1.07	1.04	13.44	24.68						9.39	0.3285	1.09	0.44	4.51	10 ^{2.70}
79	149		1/2 ⁻	1.13	1.06	11.44	24.87						10.61	0.4087	1.26	1.03	3.64	10 ^{9.51}
80	150			1.13	1.07	13.22	24.66						8.11	0.5513	1.83	1.71	3.20	10 ^{12.10}
81	151		1/2 ⁺	1.20	1.05	10.78	24.00						9.90	0.6214	1.89	2.10	3.27	10 ^{12.62}
82	152			1.29	1.25	13.22	24.00						5.74	2.0844	2.54	2.86	2.59	10 ^{18.92}
83	153		7/2 ⁻	1.26	1.07	9.06	22.28						6.91	4.6618	2.54	3.41	3.92	10 ^{7.45}
84	154			1.22	0.96	10.74	19.80						4.52	8.4274	3.04	4.00	5.64	10 ^{-2.67}
85	155		1/2 ⁻	1.16	0.97	8.36	19.10						6.34	5.0034	3.06	4.65	5.80	10 ^{-2.20}
86	156			1.14	0.98	10.64	19.00						4.23	28.7230	3.51	5.15	5.30	10 ^{-1.24}
87	157		3/2 ⁻	1.10	0.99	8.52	19.15						5.95	9.5729	3.51	5.69	4.50	10 ^{3.82}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 70 (Yb)																		
88	158			1.05	1.00	10.63	19.15						3.47	89.4967	3.90	6.17	4.00	10 ^{5.77}
89	159		3/2 ⁻	1.03	1.01	8.22	18.85						4.97	50.8789	3.97	6.64	3.76	10 ^{8.60}
90	160			1.01	1.02	10.15	18.38						2.78	> 100	4.40	7.12	3.75	10 ^{7.60}
91	161		3/2 ⁻	1.01	1.02	7.94	18.09						4.31	> 100	4.37	7.54	3.57	10 ^{9.98}
92	162			0.99	1.02	9.92	17.86						2.10	> 100	4.83	8.04	3.32	10 ^{11.01}
93	163		3/2 ⁻	1.00	1.01	7.73	17.65						3.57	> 100	4.84	8.49	3.11	10 ^{14.13}
94	164			0.99	1.00	9.64	17.37						1.39	> 100	5.30	9.06	2.88	10 ^{15.35}
95	165		5/2 ⁻	0.99	0.99	7.49	17.14						2.73	> 100	5.32	9.59	2.67	10 ^{18.98}
96	166			0.98	0.98	9.36	16.85						0.50	> 100	5.85	10.20	2.39	> 10 ²⁰
97	167		5/2 ⁺	0.98	0.96	7.19	16.55						1.84	> 100	5.91	10.80	2.17	> 10 ²⁰
98	168			0.99	0.94	9.02	16.20						...	β -st	6.40	11.31	1.90	> 10 ²⁰
99	169		1/2 ⁻	0.99	0.92	6.83	15.85						0.83	> 100	6.43	11.87	1.65	> 10 ²⁰
100	170			0.99	0.90	8.54	15.37						...	β -st	6.93	12.50	1.61	> 10 ²⁰
101	171		7/2 ⁺	0.99	0.89	6.52	15.06						...	β -st	7.00	13.09	1.36	> 10 ²⁰
102	172			0.99	0.88	8.13	14.66						...	β -st	7.52	13.73	1.14	> 10 ²⁰
103	173		5/2 ⁻	1.00	0.86	6.15	14.28						...	β -st	7.64	14.32	0.93	> 10 ²⁰
104	174			1.00	0.85	7.63	13.78						...	β -st	8.14	14.97	0.79	> 10 ²⁰
105	175		7/2 ⁻	1.00	0.83	5.83	13.46	1.00	0.00	0.00	0.00	0.00	0.46	> 100	8.33	15.67	0.52	> 10 ²⁰
106	176			1.00	0.83	7.33	13.16						...	β -st	8.84	16.35	0.18	> 10 ²⁰
107	177		9/2 ⁺	1.00	0.83	5.47	12.80	1.00	0.00	0.00	0.00	0.00	1.48	> 100	9.00	16.95	-0.17	
108	178			1.00	0.82	6.87	12.34	1.00	0.00	0.00	0.00	0.00	0.59	> 100	9.51	17.61	-0.39	
109	179		1/2 ⁻	1.01	0.80	4.96	11.82	1.00	0.00	0.00	0.00	0.00	2.65	> 100	9.65	18.22	-0.48	
110	180			1.01	0.79	6.28	11.23	1.00	0.00	0.00	0.00	0.00	1.75	> 100	10.09	18.79	-0.54	
111	181		3/2 ⁻	1.02	0.77	4.60	10.88	1.00	0.00	0.00	0.00	0.00	3.64	60.4076	10.34	19.39	-0.80	
112	182			1.02	0.77	5.98	10.58	1.00	0.00	0.00	0.00	0.00	2.62	83.6499	10.77	19.99	-1.07	
113	183		11/2 ⁺	1.02	0.76	4.30	10.28	1.00	0.00	0.00	0.00	0.00	4.47	28.9188	10.83	20.58	-1.37	
114	184			1.03	0.75	5.70	10.00	1.00	0.00	0.00	0.00	0.00	3.65	18.0516	11.36	21.09	-1.69	
115	185		7/2 ⁻	1.04	0.75	3.92	9.61	1.00	0.00	0.00	0.00	0.00	5.44	4.2237	11.45	21.57	-1.89	
116	186			1.04	0.75	5.36	9.28	1.00	0.00	0.00	0.00	0.00	4.51	3.7187	11.85	21.99	-2.07	
117	187		9/2 ⁻	1.06	0.75	3.62	8.98	1.00	0.00	0.00	0.00	0.00	6.30	0.3238	11.90	22.47	-2.25	
118	188			1.12	0.76	5.13	8.74	1.00	0.00	0.00	0.00	0.00	5.37	0.5058	12.52	23.01	-2.44	
119	189		1/2 ⁺	1.16	0.73	3.48	8.61	0.99	0.01	0.00	0.24	0.01	6.95	0.4737	12.42	23.41	-2.77	
120	190			1.16	0.74	5.38	8.86	0.99	0.01	0.00	0.28	0.01	5.35	0.6371	12.87	23.96	-3.57	
121	191		1/2 ⁻	1.19	0.72	3.37	8.75	0.99	0.01	0.00	0.25	0.01	7.42	0.3598	12.97	24.41	-3.86	
122	192			1.21	0.64	5.03	8.40	0.96	0.04	0.00	0.32	0.04	6.21	0.4922	13.42	24.92	-4.06	
123	193		3/2 ⁻	1.24	0.64	3.80	8.82	0.96	0.04	0.00	0.22	0.04	7.51	0.3987	13.54	25.38	-4.93	
124	194			1.25	0.70	4.95	8.75	0.97	0.03	0.00	0.38	0.03	6.75	0.3776	13.91	25.83	-5.37	
125	195		1/2 ⁻	1.28	0.56	3.18	8.13	0.93	0.07	0.00	0.38	0.07	8.56	0.1833	13.93	26.21	-5.21	
126	196			1.27	0.85	4.69	7.87	0.84	0.16	0.00	0.34	0.16	7.43	0.1949	14.36	26.72	-5.39	
127	197		9/2 ⁺	1.27	0.78	1.31	6.00	0.14	0.86	0.00	0.51	0.86	10.75	0.0780	14.38	27.12	-3.91	
128	198			1.26	0.73	2.87	4.18	0.16	0.82	0.02	0.93	0.86	9.74	0.1540	14.77	27.52	-2.60	
129	199		3/2 ⁺	1.25	0.76	1.06	3.93	0.17	0.19	0.64	0.82	1.47	11.63	0.1270	14.77	28.04	-2.75	
130	200			1.21	0.75	2.48	3.55	0.08	0.46	0.44	0.73	1.40	10.45	0.0773	15.11	28.24	-2.76	
131	201		1/2 ⁺	1.15	0.73	1.27	3.76	0.03	0.45	0.51	0.69	1.50	11.75	0.0281	15.01	28.61	-3.50	
132	202			1.13	0.72	2.81	4.08	0.05	0.65	0.28	0.68	1.27	10.61	0.0365	15.38	28.97	-4.02	
133	203		5/2	1.13	0.73	1.23	4.04	0.04	0.47	0.48	0.62	1.46	12.23	0.0194	15.37	29.33	-4.35	
134	204			1.12	0.75	2.73	3.96	0.04	0.69	0.26	0.65	1.24	11.11	0.0240	15.81	29.78	-4.64	
135	205		3/2	1.06	0.74	1.14	3.87	0.05	0.39	0.54	0.61	1.53	12.73	0.0130	15.64	30.02	-4.89	
136	206			1.05	0.73	2.85	3.99	0.03	0.66	0.29	0.61	1.30	11.35	0.0162	16.05	30.21	-5.47	
137	207		3/2 ⁺	1.05	0.72	1.50	4.35	0.09	0.33	0.56	0.59	1.51	12.63	0.0135	16.07	30.78	-6.07	
138	208			1.03	0.73	2.64	4.14	0.04	0.77	0.17	0.60	1.17	11.93	0.0110	16.40	31.12	-6.05	
139	209		5/2 ⁺	1.03	0.73	1.20	3.83	0.03	0.42	0.53	0.59	1.54	13.42	0.0088	16.40	31.52	-6.32	
140	210			1.02	0.73	2.61	3.81	0.02	0.62	0.34	0.58	1.36	12.33	0.0085	16.70	31.92	-6.63	
141	211		5/2 ⁻	1.02	0.73	1.06	3.67	0.02	0.17	0.76	0.62	1.85	13.85	0.0082	16.75	32.23	-6.89	
142	212			1.01	0.71	2.51	3.57	0.02	0.55	0.39	0.59	1.45	12.84	0.0065	17.09	32.58	-7.19	
143	213		1/2 ⁺	1.01	0.72	0.99	3.50	0.07	0.15	0.72	0.64	1.78	14.27	0.0058	17.10	33.05	-7.42	
144	214			1.01	0.71	2.28	3.26	0.02	0.41	0.49	0.60	1.64	13.35	0.0054	17.37	33.34	-7.54	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	<i>S</i> _{1n} (MeV)	<i>S</i> _{2n} (MeV)	<i>P</i> _{0n}	<i>P</i> _{1n}	<i>P</i> _{2n}	\bar{E}_n (MeV)	\bar{n}	<i>Q</i> _β (MeV)	<i>T</i> _β (s)	<i>S</i> _{1p} (MeV)	<i>S</i> _{2p} (MeV)	<i>Q</i> _α (MeV)	<i>T</i> _α (s)
Z = 70 (Yb)																		
145	215		7/2 ⁻	1.00	0.70	0.87	3.14	0.01	0.11	0.75	0.65	2.02	14.85	0.0051	17.50	33.82	-7.89	
146	216			1.00	0.69	2.09	2.95	0.01	0.30	0.55	0.61	1.83	13.91	0.0044	17.85	34.21	-8.00	
147	217		5/2 ⁺	1.00	0.67	0.63	2.72	0.02	0.10	0.65	0.67	2.13	15.52	0.0037	17.88	34.61	-8.24	
148	218			1.00	0.67	1.97	2.60	0.01	0.19	0.48	0.63	2.15	14.53	0.0035	18.27	34.99	-8.51	
149	219		7/2 ⁺	0.99	0.68	0.46	2.43	0.01	0.07	0.53	0.69	2.38	16.05	0.0028	18.26	35.40	-8.74	
150	220			0.99	0.67	1.81	2.27	0.01	0.12	0.34	0.67	2.46	15.11	0.0029	18.67	35.84	-8.96	
151	221		9/2 ⁻	0.99	0.68	0.15	1.96	0.01	0.03	0.31	0.71	2.87	16.66	0.0026	18.55	36.16	-9.06	
152	222			0.99	0.66	1.53	1.68	0.01	0.07	0.20	0.71	2.78	15.79	0.0023	18.94	36.64	-9.22	
153	223		1/2 ⁺	0.99	0.67	-0.04	1.48	0.01	0.03	0.16	0.73	3.31	17.37	0.0020	19.00	37.04	-9.34	
154	224			0.99	0.65	1.19	1.15	0.01	0.04	0.09	0.74	3.24	16.45	0.0020	19.50	37.50	-9.50	
155	225		7/2 ⁺	0.99	0.66	-0.33	0.86	0.01	0.01	0.10	0.77	3.81	18.10	0.0016	19.40	37.96	-9.60	
156	226			0.98	0.65	0.99	0.66	0.00	0.04	0.02	0.75	3.95	17.14	0.0016	19.90	38.27	-9.86	
157	227		3/2 ⁺	0.99	0.64	-0.26	0.73	0.01	0.00	0.07	0.78	4.48	18.46	0.0016	19.97	38.97	-10.38	
158	228			0.99	0.63	0.83	0.57	0.00	0.03	0.00	0.75	4.61	17.74	0.0014	20.27	39.22	-10.54	
159	229		11/2 ⁻	0.99	0.63	-0.26	0.57	0.00	0.01	0.04	0.78	5.18	18.89	0.0014	20.47	39.94	-11.24	
160	230			1.00	0.62	0.96	0.70	0.00	0.03	0.00	0.74	5.08	18.06	0.0012	20.96		-11.62	
161	231		9/2 ⁺	1.00	0.63	-0.52	0.43	0.00	0.00	0.03	0.77	5.71	19.49	0.0011	20.91		-12.08	
162	232			1.00	0.64	0.71	0.19	0.00	0.03	0.01	0.75	5.56	18.74	0.0010				
163	233		3/2 ⁺	1.00	0.64	-0.98	-0.27	0.01	0.00	0.04	0.79	6.33	20.58	0.0009				
164	234			1.01	0.62	0.18	-0.80	0.00	0.02	0.00	0.79	6.46	19.75	0.0008				
Z = 71 (Lu)																		
75	146	9/2 ⁻	7/2 ⁺	0.93	0.99								15.29	0.0428	-2.39	-2.65	5.53	10 ^{-0.60}
76	147	9/2 ⁻		0.93	1.00	13.86							12.67	0.0739	-2.21	-1.97	5.29	10 ^{0.10}
77	148	9/2 ⁻	1/2 ⁺	0.94	0.99	11.86	25.72						14.25	0.0860	-1.60	-1.16	5.23	10 ^{0.67}
78	149	5/2 ⁻		1.07	1.04	13.52	25.38						12.17	0.1207	-1.52	-0.42	4.89	10 ^{2.01}
79	150	5/2 ⁻	1/2 ⁻	1.09	1.06	11.95	25.47						13.44	0.1897	-1.00	0.26	3.99	10 ^{7.65}
80	151	5/2 ⁻		1.10	1.07	13.22	25.17						11.00	0.1927	-1.00	0.83	3.55	10 ^{10.60}
81	152	5/2 ⁻	1/2 ⁺	1.18	1.08	11.42	24.64						12.80	0.1893	-0.36	1.53	3.40	10 ^{12.21}
82	153	5/2 ⁻		1.25	1.24	13.14	24.56						8.73	0.5331	-0.44	2.10	2.91	10 ^{16.67}
83	154	5/2 ⁻	7/2 ⁻	1.20	1.05	9.63	22.77						9.83	1.1814	0.12	2.66	4.00	10 ^{7.58}
84	155	7/2 ⁻		1.16	0.99	10.63	20.26						7.56	1.1003	0.02	3.06	5.94	10 ^{-2.58}
85	156	7/2 ⁻	1/2 ⁻	1.14	0.97	9.09	19.72						9.10	1.0840	0.75	3.81	5.91	10 ^{-2.13}
86	157	7/2 ⁻		1.10	0.98	10.67	19.76						6.95	2.6701	0.78	4.30	5.48	10 ^{-0.74}
87	158	5/2 ⁺	3/2 ⁻	1.07	0.99	9.06	19.73						8.52	2.7876	1.32	4.83	4.76	10 ^{3.02}
88	159	1/2 ⁺		1.05	1.00	10.48	19.54						6.26	18.7286	1.18	5.08	4.46	10 ^{4.28}
89	160	1/2 ⁺	3/2 ⁻	1.02	1.01	8.87	19.36						7.54	13.4345	1.83	5.80	4.11	10 ^{6.78}
90	161	1/2 ⁺		0.99	1.02	10.19	19.06						5.29	41.3816	1.86	6.26	4.16	10 ^{6.11}
91	162	1/2 ⁺	1/2 ⁺	1.00	1.02	8.43	18.62						6.78	68.2765	2.35	6.73	3.88	10 ^{8.42}
92	163	7/2 ⁺		0.98	1.03	9.91	18.33						4.60	> 100	2.34	7.17	3.70	10 ^{9.41}
93	164	7/2 ⁺	3/2 ⁺	0.98	1.02	8.19	18.09						6.06	> 100	2.80	7.64	3.48	10 ^{11.53}
94	165	7/2 ⁺		0.98	1.01	9.64	17.82						3.92	> 100	2.79	8.09	3.31	10 ^{12.67}
95	166	7/2 ⁺	5/2 ⁻	0.99	0.99	7.94	17.57						5.35	41.9805	3.24	8.56	3.09	10 ^{15.12}
96	167	7/2 ⁺		0.98	0.99	9.40	17.33						3.13	> 100	3.27	9.12	2.88	10 ^{17.01}
97	168	7/2 ⁺	5/2 ⁺	0.98	0.97	7.64	17.03						4.51	> 100	3.72	9.62	2.71	10 ^{19.34}
98	169	9/2 ⁻		0.97	0.97	8.97	16.61						2.38	> 100	3.67	10.07	2.57	> 10 ²⁰
99	170	9/2 ⁻	1/2 ⁻	0.98	0.94	7.31	16.28						3.60	> 100	4.15	10.59	2.39	> 10 ²⁰
100	171	9/2 ⁻		0.97	0.93	8.65	15.97						1.47	> 100	4.27	11.20	2.27	> 10 ²⁰
101	172	9/2 ⁻	7/2 ⁺	0.97	0.90	6.96	15.62						2.64	> 100	4.71	11.71	2.10	> 10 ²⁰
102	173	9/2 ⁻		0.97	0.89	8.24	15.21						0.55	> 100	4.82	12.34	1.90	> 10 ²⁰
103	174	9/2 ⁻	5/2 ⁻	0.97	0.87	6.65	14.89						±	±	5.31	12.95	1.70	> 10 ²⁰
104	175	9/2 ⁻		0.98	0.86	7.82	14.46						...	β-st	5.50	13.64	1.50	> 10 ²⁰
105	176	9/2 ⁻	7/2 ⁻	0.98	0.85	6.32	14.14	1.00	0.00	0.00	0.00	0.00	±	±	5.99	14.32	1.21	> 10 ²⁰
106	177	9/2 ⁻		0.98	0.84	7.51	13.83	1.00	0.00	0.00	0.00	0.00	0.28	> 100	6.18	15.02	0.83	> 10 ²⁰
107	178	9/2 ⁻	9/2 ⁺	0.98	0.83	5.97	13.49	1.00	0.00	0.00	0.00	0.00	2.32	> 100	6.67	15.67	0.49	> 10 ²⁰
108	179	9/2 ⁻		0.98	0.82	7.01	12.99	1.00	0.00	0.00	0.00	0.00	1.37	> 100	6.82	16.32	0.29	> 10 ²⁰
109	180	9/2 ⁻	1/2 ⁻	0.98	0.81	5.39	12.40	1.00	0.00	0.00	0.00	0.00	3.45	> 100	7.25	16.90	0.23	> 10 ²⁰
110	181	9/2 ⁻		0.99	0.79	6.49	11.88	1.00	0.00	0.00	0.00	0.00	2.46	35.0024	7.46	17.56	0.10	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 71 (Lu)																		
111	182	9/2 ⁻	3/2 ⁻	0.99	0.78	4.95	11.45	1.00	0.00	0.00	0.00	0.00	4.48	10.5288	7.81	18.15	-0.05	
112	183	9/2 ⁻		0.99	0.78	6.15	11.10	1.00	0.00	0.00	0.00	0.00	3.48	10.3637	7.99	18.76	-0.36	
113	184	9/2 ⁻	11/2 ⁺	1.00	0.77	4.87	11.02	1.00	0.00	0.00	0.00	0.00	5.29	5.8483	8.56	19.39	-0.87	
114	185	9/2 ⁻		1.00	0.76	5.72	10.59	1.00	0.00	0.00	0.00	0.00	4.47	4.0185	8.58	19.94	-1.05	
115	186	9/2 ⁻	7/2 ⁻	1.00	0.75	4.42	10.14	1.00	0.00	0.00	0.00	0.00	6.34	1.6561	9.08	20.53	-1.23	
116	187	9/2 ⁻		1.00	0.75	5.41	9.83	1.00	0.00	0.00	0.00	0.00	5.48	1.2981	9.13	20.98	-1.48	
117	188	9/2 ⁻	9/2 ⁻	1.02	0.76	4.19	9.60	1.00	0.00	0.00	0.00	0.00	7.23	0.3481	9.71	21.61	-1.84	
118	189	7/2 ⁺		1.08	0.77	5.06	9.26	0.97	0.03	0.00	0.37	0.03	6.51	0.9434	9.65	22.16	-1.94	
119	190	5/2 ⁻	1/2 ⁺	1.14	0.76	3.79	8.85	0.94	0.06	0.00	0.34	0.06	8.39	0.2636	9.95	22.37	-2.16	
120	191	5/2 ⁻		1.15	0.76	5.44	9.23	0.93	0.07	0.00	0.50	0.07	6.72	0.3772	10.01	22.89	-3.09	
121	192	5/2 ⁻	1/2 ⁻	1.17	0.72	3.81	9.26	0.93	0.07	0.00	0.43	0.07	8.72	0.2804	10.45	23.42	-3.33	
122	193	5/2 ⁻		1.20	0.65	5.10	8.91	0.88	0.12	0.00	0.62	0.12	7.61	0.2882	10.52	23.94	-3.50	
123	194	5/2 ⁻	3/2 ⁻	1.23	0.67	4.19	9.29	0.89	0.11	0.00	0.49	0.11	9.07	0.2178	10.92	24.46	-4.41	
124	195	5/2 ⁻		1.24	0.71	4.99	9.18	0.87	0.13	0.00	0.76	0.13	8.27	0.1958	10.96	24.87	-4.82	
125	196	5/2 ⁻	1/2 ⁻	1.26	0.67	3.56	8.55	0.85	0.15	0.00	0.75	0.15	10.18	0.1192	11.34	25.27	-4.70	
126	197	7/2 ⁻		1.27	0.87	4.64	8.19	0.76	0.24	0.00	0.68	0.24	9.09	0.0995	11.28	25.64	-4.76	
127	198	5/2 ⁻	9/2 ⁺	1.26	0.78	1.85	6.49	0.15	0.83	0.02	0.64	0.87	12.33	0.0714	11.82	26.20	-3.45	
128	199	7/2 ⁻		1.26	0.73	2.96	4.81	0.05	0.89	0.06	1.00	1.01	11.28	0.0942	11.91	26.68	-2.15	
129	200	7/2 ⁻	3/2 ⁺	1.25	0.76	1.30	4.26	0.06	0.24	0.70	0.87	1.64	13.37	0.0736	12.15	26.92	-2.16	
130	201	7/2 ⁻		1.20	0.76	2.58	3.88	0.02	0.48	0.45	0.82	1.53	12.23	0.0501	12.24	27.35	-2.26	
131	202	7/2 ⁻	1/2 ⁺	1.14	0.74	1.67	4.25	0.02	0.12	0.83	0.81	1.87	13.48	0.0240	12.64	27.65	-2.87	
132	203	7/2 ⁻		1.12	0.73	2.84	4.51	0.02	0.30	0.56	0.74	1.78	12.02	0.0358	12.67	28.06	-3.57	
133	204	7/2 ⁻	3/2 ⁺	1.10	0.75	1.62	4.46	0.02	0.14	0.79	0.75	1.87	13.59	0.0203	13.06	28.43	-3.81	
134	205	7/2		1.11	0.75	2.76	4.37	0.01	0.36	0.54	0.68	1.71	12.42	0.0255	13.08	28.90	-4.13	
135	206	5/2	3/2	1.05	0.76	1.47	4.22	0.02	0.20	0.75	0.74	1.79	14.12	0.0156	13.42	29.06	-4.36	
136	207	5/2 ⁺		1.04	0.74	2.79	4.25	0.01	0.29	0.62	0.67	1.77	12.74	0.0189	13.35	29.40	-4.85	
137	208	5/2 ⁺	3/2 ⁺	1.04	0.74	1.94	4.72	0.02	0.19	0.74	0.70	1.82	13.92	0.0173	13.79	29.85	-5.48	
138	209	5/2 ⁺		1.03	0.73	2.68	4.62	0.01	0.34	0.55	0.63	1.74	12.85	0.0165	13.83	30.23	-5.72	
139	210	5/2 ⁺	5/2 ⁺	1.03	0.73	1.53	4.21	0.02	0.14	0.79	0.68	1.88	14.58	0.0118	14.17	30.56	-5.77	
140	211	1/2 ⁺		1.01	0.74	2.57	4.10	0.01	0.34	0.58	0.62	1.71	13.54	0.0103	14.12	30.82	-6.03	
141	212	1/2 ⁺	5/2 ⁻	1.01	0.73	1.50	4.07	0.02	0.06	0.84	0.69	1.99	15.04	0.0102	14.57	31.32	-6.34	
142	213	1/2 ⁺		1.01	0.72	2.42	3.92	0.01	0.22	0.63	0.63	1.90	14.05	0.0078	14.48	31.57	-6.44	
143	214	1/2 ⁺	1/2 ⁺	1.01	0.72	1.35	3.77	0.02	0.10	0.71	0.68	2.05	15.54	0.0068	14.84	31.94	-6.79	
144	215	1/2 ⁺		1.01	0.71	2.37	3.72	0.01	0.16	0.53	0.63	2.13	14.48	0.0066	14.93	32.30	-6.99	
145	216	1/2 ⁺	7/2 ⁻	1.00	0.70	1.15	3.51	0.01	0.03	0.64	0.69	2.31	16.04	0.0061	15.21	32.71	-7.15	
146	217	1/2 ⁺		1.00	0.70	2.24	3.38	0.01	0.12	0.43	0.66	2.32	15.00	0.0055	15.36	33.21	-7.39	
147	218	1/2 ⁺	5/2 ⁺	1.00	0.68	0.99	3.23	0.01	0.04	0.48	0.69	2.48	16.52	0.0049	15.72	33.60	-7.63	
148	219	1/2 ⁺		0.99	0.68	1.98	2.97	0.01	0.08	0.29	0.68	2.57	15.64	0.0043	15.73	34.00	-7.88	
149	220	1/2 ⁺	7/2 ⁺	0.99	0.68	0.86	2.84	0.01	0.02	0.38	0.71	2.71	17.04	0.0035	16.13	34.40	-8.14	
150	221	7/2 ⁺		0.98	0.67	1.71	2.57	0.01	0.05	0.18	0.73	2.78	16.20	0.0034	16.03	34.71	-8.27	
151	222	7/2 ⁺	9/2 ⁻	0.98	0.68	0.66	2.37	0.01	0.01	0.19	0.73	3.16	17.76	0.0030	16.54	35.09	-8.46	
152	223	7/2 ⁺		0.97	0.66	1.53	2.19	0.01	0.03	0.10	0.75	3.04	16.89	0.0026	16.54	35.48	-8.60	
153	224	7/2 ⁺	1/2 ⁺	0.97	0.67	0.28	1.81	0.01	0.02	0.11	0.76	3.52	18.47	0.0024	16.86	35.86	-8.60	
154	225	7/2 ⁺		0.97	0.66	1.32	1.60	0.00	0.03	0.04	0.76	3.52	17.49	0.0023	16.98	36.49	-8.77	
155	226	7/2 ⁺	7/2 ⁺	0.97	0.66	0.03	1.34	0.01	0.01	0.06	0.80	3.96	19.14	0.0019	17.34	36.74	-8.91	
156	227	7/2 ⁺		0.97	0.65	1.06	1.09	0.00	0.03	0.02	0.78	4.21	18.10	0.0019	17.41	37.31	-9.27	
157	228	7/2 ⁺	3/2 ⁺	0.97	0.64	0.11	1.17	0.01	0.01	0.05	0.80	4.58	19.52	0.0018	17.78	37.76	-9.61	
158	229	7/2 ⁺		0.97	0.64	0.90	1.00	0.00	0.02	0.01	0.79	4.77	18.69	0.0016	17.85	38.11	-10.01	
159	230	7/2 ⁺	11/2 ⁻	0.97	0.64	0.12	1.02	0.01	0.01	0.03	0.80	5.13	19.92	0.0016	18.23	38.70	-10.47	
160	231	7/2 ⁺		0.97	0.63	0.91	1.04	0.00	0.02	0.01	0.79	5.18	19.13	0.0014	18.19	39.14	-10.85	
161	232	9/2 ⁻	9/2 ⁺	0.97	0.63	-0.04	0.87	0.00	0.00	0.03	0.79	5.56	20.57	0.0012	18.67	39.58	-11.27	
162	233	9/2 ⁻		0.98	0.63	0.85	0.81	0.00	0.01	0.01	0.78	5.54	19.61	0.0011	18.82		-11.66	
163	234	9/2 ⁻	3/2 ⁺	0.98	0.64	-0.66	0.20	0.00	0.00	0.03	0.81	6.15	21.53	0.0010	19.14		-11.48	
164	235	9/2 ⁻		0.98	0.63	0.13	-0.53	0.00	0.01	0.00	0.82	6.42	20.72	0.0009	19.09			
165	236	9/2 ⁻	3/2 ⁺	0.98	0.62	-0.94	-0.82	0.00	0.00	0.01	0.86	7.16	22.28	0.0008				
166	237	9/2 ⁻		0.98	0.61	0.09	-0.86	0.00	0.00	0.00	0.87	7.52	21.33	0.0009				

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	<i>S</i> _{1n} (MeV)	<i>S</i> _{2n} (MeV)	<i>P</i> _{0n}	<i>P</i> _{1n}	<i>P</i> _{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	<i>Q</i> _β (MeV)	<i>T</i> _β (s)	<i>S</i> _{1p} (MeV)	<i>S</i> _{2p} (MeV)	<i>Q</i> _α (MeV)	<i>T</i> _α (s)
Z = 72 (Hf)																		
77	149		1/2 ⁺	0.92	0.99								13.46	0.0643	−0.72	−2.32	5.69	10 ^{−0.82}
78	150			1.04	1.06	14.32							11.09	0.1274	0.07	−1.44	5.06	10 ^{0.93}
79	151		1/2 [−]	1.06	1.07	11.84	26.16						12.48	0.1149	−0.04	−1.04	4.46	10 ^{5.22}
80	152			1.07	1.08	14.06	25.90						9.83	0.1453	0.80	−0.20	3.84	10 ^{8.17}
81	153		1/2 ⁺	1.15	1.09	11.64	25.70						11.34	0.1401	1.02	0.66	3.64	10 ^{10.84}
82	154			1.22	1.24	13.62	25.26						7.35	0.3572	1.51	1.06	3.24	10 ^{13.27}
83	155		7/2 [−]	1.17	1.08	9.76	23.38						8.22	1.1919	1.63	1.76	4.26	10 ^{6.44}
84	156			1.16	0.98	11.42	21.18						5.89	1.7649	2.42	2.44	6.06	10 ^{−3.33}
85	157		1/2 [−]	1.09	0.98	8.76	20.18						7.80	1.4689	2.09	2.84	6.36	10 ^{−3.34}
86	158			1.07	0.98	11.14	19.90						5.71	4.8356	2.56	3.35	5.96	10 ^{−2.95}
87	159		3/2 [−]	1.04	0.99	9.08	20.23						7.11	2.4369	2.59	3.91	5.23	10 ^{1.14}
88	160			1.03	1.00	10.93	20.02						5.05	12.7811	3.04	4.22	4.93	10 ^{1.58}
89	161		3/2 [−]	1.01	1.01	8.92	19.86						6.31	8.8354	3.09	4.92	4.53	10 ^{4.81}
90	162			0.99	1.01	10.63	19.56						4.11	26.0912	3.54	5.40	4.53	10 ^{3.80}
91	163		1/2 ⁺	0.98	1.02	8.40	19.03						5.62	40.5524	3.51	5.86	4.35	10 ^{5.94}
92	164			0.98	1.02	10.37	18.77						3.44	83.2464	3.97	6.31	4.14	10 ^{6.15}
93	165		3/2 ⁺	0.97	1.02	8.16	18.52						4.91	> 100	3.94	6.74	3.91	10 ^{8.80}
94	166			0.97	1.02	10.09	18.25						2.76	> 100	4.40	7.19	3.74	10 ^{8.99}
95	167		5/2 [−]	0.97	1.00	7.94	18.04						4.21	28.1783	4.40	7.64	3.53	10 ^{11.74}
96	168			0.97	1.00	9.81	17.75						2.04	> 100	4.81	8.08	3.36	10 ^{12.15}
97	169		5/2 ⁺	0.98	0.98	7.68	17.49						3.33	> 100	4.86	8.58	3.17	10 ^{15.01}
98	170			0.98	0.96	9.48	17.17						1.16	> 100	5.37	9.05	3.05	10 ^{15.06}
99	171		1/2 [−]	0.98	0.94	7.32	16.80						2.49	> 100	5.38	9.53	2.92	10 ^{17.63}
100	172			0.96	0.93	9.09	16.41						0.37	> 100	5.81	10.08	2.85	10 ^{17.36}
101	173		7/2 ⁺	0.96	0.91	7.02	16.11						1.59	> 100	5.87	10.58	2.66	> 10 ²⁰
102	174			0.96	0.90	8.69	15.72						...	β-st	6.32	11.14	2.51	> 10 ²⁰
103	175		5/2 [−]	0.96	0.87	6.71	15.41						0.65	> 100	6.39	11.70	2.32	> 10 ²⁰
104	176			0.95	0.88	8.36	15.07						...	β-st	6.93	12.43	2.09	> 10 ²⁰
105	177		7/2 [−]	0.96	0.86	6.40	14.76						...	β-st	7.01	13.00	1.84	> 10 ²⁰
106	178			0.96	0.84	8.02	14.42						...	β-st	7.52	13.69	1.45	> 10 ²⁰
107	179		9/2 ⁺	0.95	0.84	6.06	14.08						...	β-st	7.60	14.27	1.22	> 10 ²⁰
108	180			0.95	0.84	7.47	13.53						...	β-st	8.06	14.88	1.08	> 10 ²⁰
109	181		1/2 [−]	0.95	0.82	5.50	12.97	1.00	0.00	0.00	0.00	0.00	0.87	> 100	8.17	15.42	1.06	> 10 ²⁰
110	182			0.96	0.80	6.97	12.47	1.00	0.00	0.00	0.00	0.00	...	β-st	8.65	16.11	0.95	> 10 ²⁰
111	183		3/2 [−]	0.95	0.79	5.15	12.12	1.00	0.00	0.00	0.00	0.00	1.85	> 100	8.84	16.66	0.76	> 10 ²⁰
112	184			0.97	0.78	6.68	11.83	1.00	0.00	0.00	0.00	0.00	0.79	> 100	9.38	17.36	0.36	> 10 ²⁰
113	185		11/2 ⁺	0.97	0.78	4.90	11.58	1.00	0.00	0.00	0.00	0.00	2.66	> 100	9.40	17.96	0.06	> 10 ²⁰
114	186			0.96	0.76	6.29	11.19	1.00	0.00	0.00	0.00	0.00	1.72	> 100	9.98	18.56	−0.25	
115	187		7/2 [−]	0.96	0.75	4.56	10.85	1.00	0.00	0.00	0.00	0.00	3.62	51.3456	10.11	19.19	−0.51	
116	188			0.97	0.75	5.94	10.50	1.00	0.00	0.00	0.00	0.00	2.86	47.7349	10.64	19.77	−0.75	
117	189		9/2 [−]	0.98	0.75	4.34	10.28	1.00	0.00	0.00	0.00	0.00	4.54	1.5434	10.79	20.50	−1.17	
118	190			1.03	0.77	5.67	10.01	1.00	0.00	0.00	0.00	0.00	3.51	4.0423	11.40	21.04	−1.48	
119	191		13/2 ⁺	1.05	0.74	3.77	9.44	1.00	0.00	0.00	0.00	0.00	5.76	2.0947	11.38	21.33	−1.64	
120	192			1.13	0.76	5.82	9.58	1.00	0.00	0.00	0.00	0.00	4.17	2.9538	11.75	21.76	−2.33	
121	193		1/2 [−]	1.15	0.71	3.98	9.80	1.00	0.00	0.00	0.00	0.00	5.83	2.1408	11.92	22.38	−2.83	
122	194			1.18	0.67	5.66	9.64	1.00	0.00	0.00	0.00	0.00	4.63	3.4611	12.48	23.00	−3.10	
123	195		3/2 [−]	1.21	0.69	4.19	9.85	1.00	0.00	0.00	0.00	0.00	6.18	2.1419	12.48	23.40	−3.92	
124	196			1.22	0.73	5.46	9.65	1.00	0.00	0.00	0.00	0.00	5.32	2.3948	12.95	23.91	−4.36	
125	197		1/2 [−]	1.25	0.73	3.55	9.01	0.98	0.02	0.00	0.31	0.02	7.28	1.3802	12.94	24.28	−4.11	
126	198			1.25	0.88	5.09	8.64	0.89	0.11	0.00	0.34	0.11	6.12	1.7036	13.40	24.68	−4.25	
127	199		9/2 ⁺	1.24	0.78	1.91	7.00	0.39	0.61	0.00	0.52	0.61	9.30	0.5044	13.46	25.28	−2.98	
128	200			1.25	0.74	3.38	5.29	0.40	0.60	0.00	0.93	0.60	8.26	0.6032	13.88	25.80	−1.67	
129	201		3/2 ⁺	1.24	0.76	1.44	4.83	0.41	0.33	0.26	0.77	0.85	10.23	0.4657	14.03	26.18	−1.81	
130	202			1.23	0.81	2.92	4.36	0.29	0.57	0.14	0.79	0.85	9.21	0.3235	14.37	26.61	−1.86	
131	203		1/2 ⁺	1.14	0.75	1.38	4.30	0.08	0.74	0.18	0.57	1.10	10.86	0.0430	14.08	26.72	−2.18	
132	204			1.10	0.75	3.18	4.57	0.07	0.85	0.08	0.79	1.01	9.37	0.0767	14.42	27.10	−2.88	
133	205		5/2	1.10	0.74	1.59	4.78	0.13	0.65	0.22	0.59	1.09	10.96	0.0347	14.40	27.46	−3.20	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 72 (Hf)																		
134	206			1.08	0.76	3.16	4.76	0.05	0.91	0.04	0.73	0.99	9.77	0.0467	14.80	27.89	−3.55	
135	207		1/2	1.05	0.77	1.41	4.57	0.16	0.63	0.21	0.60	1.05	11.57	0.0227	14.74	28.16	−3.73	
136	208			1.03	0.76	3.11	4.52	0.04	0.91	0.05	0.71	1.01	10.29	0.0266	15.07	28.42	−4.11	
137	209		3/2 ⁺	1.03	0.74	1.62	4.73	0.15	0.53	0.32	0.58	1.17	11.68	0.0201	14.75	28.54	−4.59	
138	210			1.02	0.75	3.26	4.88	0.04	0.90	0.06	0.65	1.02	10.34	0.0241	15.33	29.16	−5.00	
139	211		5/2 ⁺	1.01	0.75	1.54	4.80	0.08	0.62	0.30	0.57	1.22	11.89	0.0177	15.33	29.50	−5.03	
140	212			1.01	0.74	3.00	4.53	0.06	0.89	0.05	0.62	0.99	11.01	0.0150	15.76	29.88	−5.39	
141	213		5/2 [−]	1.01	0.73	1.43	4.43	0.04	0.58	0.37	0.60	1.35	12.55	0.0134	15.69	30.26	−5.63	
142	214			1.00	0.73	2.84	4.27	0.03	0.85	0.11	0.63	1.10	11.50	0.0111	16.11	30.59	−5.86	
143	215		1/2 ⁺	1.00	0.73	1.30	4.15	0.10	0.36	0.53	0.59	1.45	13.10	0.0093	16.06	30.90	−6.10	
144	216			1.00	0.71	2.71	4.02	0.04	0.75	0.19	0.63	1.19	11.97	0.0087	16.41	31.34	−6.30	
145	217		7/2 [−]	1.00	0.70	1.20	3.91	0.03	0.28	0.67	0.63	1.68	13.45	0.0084	16.46	31.67	−6.51	
146	218			0.99	0.69	2.50	3.70	0.03	0.63	0.31	0.61	1.34	12.55	0.0070	16.73	32.09	−6.74	
147	219		5/2 ⁺	0.99	0.68	1.10	3.60	0.04	0.23	0.69	0.65	1.74	13.96	0.0065	16.84	32.56	−6.97	
148	220			0.99	0.67	2.26	3.36	0.02	0.44	0.49	0.63	1.57	13.08	0.0058	17.12	32.85	−7.15	
149	221		7/2 ⁺	0.98	0.69	0.87	3.13	0.02	0.19	0.72	0.67	1.85	14.64	0.0043	17.13	33.26	−7.39	
150	222			0.97	0.68	2.22	3.09	0.01	0.34	0.55	0.64	1.75	13.67	0.0044	17.64	33.67	−7.64	
151	223		9/2 [−]	0.97	0.67	0.66	2.88	0.01	0.09	0.73	0.71	2.09	15.27	0.0038	17.64	34.18	−7.84	
152	224			0.96	0.67	1.86	2.52	0.01	0.20	0.53	0.65	2.06	14.47	0.0033	17.96	34.51	−7.89	
153	225		1/2 ⁺	0.96	0.68	0.34	2.20	0.02	0.05	0.49	0.72	2.43	16.01	0.0030	18.03	34.89	−8.07	
154	226			0.95	0.67	1.67	2.02	0.01	0.09	0.32	0.70	2.52	15.05	0.0029	18.38	35.37	−8.22	
155	227		1/2 ⁺	0.96	0.67	0.03	1.70	0.01	0.04	0.21	0.74	3.02	16.63	0.0025	18.38	35.72	−8.29	
156	228			0.95	0.66	1.52	1.55	0.01	0.06	0.14	0.73	2.92	15.62	0.0025	18.85	36.26	−8.62	
157	229		3/2 ⁺	0.95	0.65	0.06	1.59	0.01	0.03	0.13	0.74	3.44	17.09	0.0022	18.80	36.58	−9.01	
158	230			0.95	0.63	1.36	1.42	0.01	0.05	0.08	0.74	3.27	16.17	0.0021	19.27	37.11	−9.38	
159	231		11/2 [−]	0.95	0.63	0.12	1.48	0.01	0.01	0.10	0.77	3.80	17.40	0.0021	19.26	37.49	−9.76	
160	232			0.95	0.61	1.40	1.52	0.01	0.04	0.06	0.74	3.53	16.42	0.0019	19.74	37.93	−10.33	
161	233		9/2 ⁺	0.95	0.63	−0.10	1.29	0.01	0.01	0.10	0.77	3.89	17.97	0.0016	19.68	38.35	−10.49	
162	234			0.96	0.63	1.27	1.16	0.00	0.05	0.06	0.74	3.71	17.06	0.0014	20.09	38.91	−10.80	
163	235		13/2 [−]	0.95	0.64	−0.68	0.58	0.00	0.01	0.06	0.80	4.46	18.96	0.0014	20.07	39.21	−10.64	
164	236			0.95	0.62	0.61	−0.07	0.00	0.03	0.02	0.79	4.52	18.11	0.0013	20.56	39.65	−10.54	
165	237		3/2 ⁺	0.95	0.61	−0.87	−0.26	0.01	0.00	0.04	0.84	5.18	19.72	0.0011	20.63		−10.66	
166	238			0.95	0.61	0.40	−0.47	0.00	0.02	0.00	0.84	5.48	18.67	0.0012	20.94		−10.87	
167	239		5/2 ⁺	0.96	0.62	−0.68	−0.28	0.00	0.00	0.02	0.88	6.33	19.67	0.0012				
168	240			0.96	0.62	0.13	−0.55	0.00	0.01	0.01	0.85	6.57	19.19	0.0010				
Z = 73 (Ta)																		
78	151	3/2 [−]		1.04	1.06								13.50	0.0575	−2.44	−2.37	5.29	10 ^{1.14}
79	152	3/2 [−]	1/2 [−]	1.06	1.07	12.45							15.11	0.0592	−1.83	−1.87	4.70	10 ^{4.47}
80	153	3/2 [−]		1.06	1.08	14.11	26.56						12.63	0.0733	−1.78	−0.98	4.10	10 ^{7.80}
81	154	3/2 [−]	1/2 ⁺	1.12	1.11	12.24	26.36						14.01	0.0861	−1.17	−0.15	3.81	10 ^{10.23}
82	155	9/2 [−]		1.18	1.24	13.60	25.84						10.17	0.1664	−1.20	0.31	3.43	10 ^{13.00}
83	156	3/2 [−]	7/2 [−]	1.13	1.08	10.37	23.97						11.23	0.4008	−0.58	1.05	4.48	10 ^{5.67}
84	157	1/2 ⁺		1.09	1.00	11.23	21.60						8.75	0.8352	−0.77	1.65	6.39	10 ^{−3.28}
85	158	1/2 ⁺	1/2 [−]	1.06	0.99	9.54	20.77						10.35	0.7993	0.01	2.10	6.48	10 ^{−3.25}
86	159	1/2 ⁺		1.02	0.99	11.14	20.68						8.30	1.5295	−0.00	2.56	5.98	10 ^{−1.78}
87	160	1/2 ⁺	3/2 [−]	1.01	0.99	9.52	20.66						9.71	0.9639	0.44	3.03	5.54	10 ^{0.32}
88	161	1/2 ⁺		0.99	1.00	10.97	20.50						7.67	3.4265	0.48	3.52	5.24	10 ^{1.37}
89	162	5/2 ⁺	3/2 [−]	0.98	1.01	9.20	20.17						9.09	3.2321	0.75	3.85	5.10	10 ^{2.38}
90	163	5/2 ⁺		0.97	1.02	10.94	20.14						6.55	7.7324	1.06	4.60	4.64	10 ^{4.46}
91	164	5/2 ⁺	5/2 [−]	0.97	1.02	8.83	19.77						8.09	2.8848	1.49	5.00	4.69	10 ^{4.58}
92	165	5/2 ⁺		0.96	1.03	10.39	19.21						5.86	22.7021	1.51	5.48	4.49	10 ^{5.33}
93	166	5/2 ⁺	5/2 [−]	0.95	1.03	8.67	19.05						7.29	5.0074	2.02	5.96	4.25	10 ^{7.15}
94	167	9/2 [−]		0.94	1.03	10.10	18.77						5.13	12.4853	2.03	6.43	4.06	10 ^{8.08}
95	168	9/2 [−]	3/2 ⁺	0.94	1.02	8.32	18.43						6.62	13.4816	2.41	6.81	3.92	10 ^{9.41}
96	169	9/2 [−]		0.95	1.01	9.88	18.20						4.42	23.5102	2.48	7.30	3.67	10 ^{10.98}
97	170	9/2 [−]	5/2 ⁺	0.95	0.99	8.08	17.96						5.82	25.7466	2.88	7.74	3.53	10 ^{12.47}
98	171	9/2 [−]		0.95	0.98	9.49	17.56						3.65	41.5566	2.88	8.25	3.44	10 ^{12.91}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 73 (Ta)																		
99	172	9/2 ⁻	1/2 ⁻	0.97	0.95	7.73	17.22						5.01	63.3335	3.30	8.67	3.34	10 ^{14.16}
100	173	9/2 ⁻		0.95	0.94	9.12	16.86						2.90	79.4476	3.33	9.15	3.19	10 ^{15.25}
101	174	9/2 ⁻	7/2 ⁺	0.95	0.92	7.49	16.62						4.10	> 100	3.81	9.68	3.01	10 ^{17.45}
102	175	7/2 ⁺		0.94	0.92	8.78	16.27						2.04	> 100	3.89	10.21	2.88	10 ^{18.56}
103	176	7/2 ⁺	5/2 ⁻	0.93	0.90	7.18	15.96						3.22	> 100	4.36	10.75	2.67	> 10 ²⁰
104	177	7/2 ⁺		0.94	0.88	8.42	15.60						1.20	> 100	4.42	11.34	2.49	> 10 ²⁰
105	178	7/2 ⁺	7/2 ⁻	0.95	0.87	6.88	15.30						2.34	> 100	4.90	11.91	2.25	> 10 ²⁰
106	179	7/2 ⁺		0.93	0.87	8.13	15.01						0.27	> 100	5.01	12.52	1.95	> 10 ²⁰
107	180	7/2 ⁺	9/2 ⁺	0.93	0.86	6.53	14.65						±	±	5.47	13.07	1.74	> 10 ²⁰
108	181	7/2 ⁺		0.93	0.84	7.58	14.10						...	β-st	5.58	13.64	1.67	> 10 ²⁰
109	182	7/2 ⁺	1/2 ⁻	0.93	0.83	6.03	13.61	1.00	0.00	0.00	0.00	0.00	±	±	6.11	14.28	1.62	> 10 ²⁰
110	183	7/2 ⁺		0.93	0.81	7.08	13.10	1.00	0.00	0.00	0.00	0.00	0.72	> 100	6.22	14.86	1.56	> 10 ²⁰
111	184	7/2 ⁺	3/2 ⁻	0.93	0.80	5.62	12.70	1.00	0.00	0.00	0.00	0.00	2.72	> 100	6.69	15.54	1.32	> 10 ²⁰
112	185	7/2 ⁺		0.94	0.78	6.76	12.39	1.00	0.00	0.00	0.00	0.00	1.72	> 100	6.77	16.15	1.05	> 10 ²⁰
113	186	7/2 ⁺	11/2 ⁺	0.93	0.77	5.36	12.12	1.00	0.00	0.00	0.00	0.00	3.66	> 100	7.24	16.64	0.64	> 10 ²⁰
114	187	7/2 ⁺		0.93	0.76	6.45	11.81	1.00	0.00	0.00	0.00	0.00	2.75	> 100	7.39	17.37	0.34	> 10 ²⁰
115	188	7/2 ⁺	7/2 ⁻	0.93	0.75	5.18	11.63	1.00	0.00	0.00	0.00	0.00	4.47	> 100	8.02	18.12	0.04	> 10 ²⁰
116	189	7/2 ⁺		0.95	0.75	6.03	11.21	1.00	0.00	0.00	0.00	0.00	3.74	72.7093	8.10	18.74	-0.27	
117	190	9/2 ⁻	9/2 ⁻	0.96	0.76	4.64	10.67	1.00	0.00	0.00	0.00	0.00	5.52	1.4317	8.40	19.18	-0.49	
118	191	9/2 ⁻		0.99	0.78	6.02	10.66	1.00	0.00	0.00	0.00	0.00	4.54	1.7709	8.75	20.14	-1.10	
119	192	9/2 ⁻	13/2 ⁺	1.01	0.74	4.22	10.24	1.00	0.00	0.00	0.00	0.00	6.86	1.0912	9.20	20.58	-1.12	
120	193	3/2 ⁻		1.10	0.77	5.65	9.87	1.00	0.00	0.00	0.00	0.00	5.60	0.8278	9.04	20.79	-1.71	
121	194	3/2 ⁻	1/2 ⁻	1.12	0.72	4.45	10.10	1.00	0.00	0.00	0.00	0.00	7.12	0.9170	9.51	21.43	-2.38	
122	195	3/2 ⁻		1.15	0.69	5.74	10.19	0.99	0.01	0.00	0.35	0.01	6.05	0.8905	9.59	22.07	-2.68	
123	196	3/2 ⁻	3/2 ⁻	1.18	0.72	4.61	10.35	0.99	0.01	0.00	0.25	0.01	7.59	0.6496	10.01	22.49	-3.47	
124	197	3/2 ⁻		1.19	0.75	5.50	10.11	0.98	0.02	0.00	0.47	0.02	6.78	0.5740	10.04	22.99	-3.88	
125	198	3/2 ⁻	1/2 ⁻	1.22	0.74	3.94	9.44	0.98	0.02	0.00	0.61	0.02	8.80	0.3340	10.43	23.37	-3.62	
126	199	3/2 ⁻		1.22	0.88	5.09	9.03	0.90	0.10	0.00	0.40	0.10	7.76	0.3822	10.43	23.83	-3.72	
127	200	3/2 ⁻	9/2 ⁺	1.22	0.79	2.33	7.43	0.39	0.61	0.00	0.44	0.61	10.97	0.1691	10.86	24.32	-2.50	
128	201	3/2 ⁻		1.22	0.74	3.42	5.76	0.09	0.91	0.00	1.13	0.91	9.86	0.2342	10.90	24.78	-1.29	
129	202	9/2 ⁻	3/2 ⁺	1.20	0.76	1.89	5.32	0.10	0.65	0.25	0.90	1.15	11.84	0.1633	11.35	25.38	-1.33	
130	203	3/2 ⁻		1.21	0.81	3.04	4.93	0.07	0.83	0.10	0.93	1.03	10.68	0.1642	11.46	25.83	-1.41	
131	204	9/2 ⁻	1/2 ⁺	1.12	0.75	1.69	4.73	0.02	0.55	0.43	0.81	1.41	12.42	0.0365	11.77	25.86	-1.81	
132	205	9/2 ⁻		1.10	0.76	3.19	4.88	0.02	0.69	0.28	0.82	1.28	10.85	0.0702	11.78	26.20	-2.41	
133	206	1/2 ⁺	3/2 ⁺	1.06	0.76	1.97	5.16	0.03	0.44	0.53	0.79	1.50	12.34	0.0432	12.15	26.55	-2.71	
134	207	1/2 ⁺		1.06	0.78	3.20	5.17	0.04	0.69	0.26	0.77	1.24	11.07	0.0652	12.19	27.00	-3.07	
135	208	1/2 ⁻	5/2 ⁻	1.07	0.78	1.83	5.04	0.04	0.27	0.69	0.74	1.65	12.79	0.0458	12.62	27.36	-3.29	
136	209	1/2 ⁺		1.01	0.78	3.01	4.84	0.02	0.72	0.25	0.73	1.25	11.64	0.0307	12.52	27.59	-3.54	
137	210	1/2 ⁺	3/2 ⁻	1.01	0.76	1.92	4.93	0.03	0.19	0.77	0.73	1.76	13.09	0.0299	12.82	27.57	-3.99	
138	211	1/2 ⁺		1.01	0.76	3.08	5.00	0.02	0.64	0.33	0.68	1.33	11.84	0.0250	12.64	27.97	-4.29	
139	212	5/2 ⁺	5/2 ⁺	1.01	0.75	2.12	5.20	0.02	0.33	0.64	0.68	1.64	13.12	0.0221	13.22	28.56	-4.47	
140	213	5/2 ⁺		0.99	0.76	2.97	5.09	0.02	0.62	0.35	0.66	1.35	12.00	0.0219	13.20	28.96	-4.76	
141	214	5/2 ⁺	5/2 ⁻	0.99	0.75	1.79	4.76	0.02	0.20	0.77	0.68	1.77	13.76	0.0172	13.56	29.24	-5.02	
142	215	5/2 ⁺		0.99	0.73	2.91	4.70	0.01	0.60	0.37	0.64	1.40	12.62	0.0142	13.62	29.73	-5.35	
143	216	5/2 ⁺	1/2 ⁺	1.00	0.73	1.58	4.48	0.05	0.17	0.76	0.69	1.75	14.26	0.0119	13.90	29.96	-5.43	
144	217	1/2 ⁻		1.00	0.72	2.68	4.26	0.02	0.42	0.52	0.65	1.58	13.21	0.0104	13.86	30.27	-5.69	
145	218	1/2 ⁻	7/2 ⁻	1.00	0.70	1.61	4.29	0.02	0.10	0.84	0.71	1.90	14.63	0.0103	14.28	30.74	-5.95	
146	219	1/2 ⁻		0.99	0.69	2.51	4.12	0.01	0.30	0.60	0.66	1.77	13.72	0.0084	14.28	31.01	-6.09	
147	220	9/2 ⁻	5/2 ⁺	0.98	0.69	1.38	3.89	0.01	0.13	0.77	0.71	1.95	15.24	0.0065	14.56	31.40	-6.32	
148	221	9/2 ⁻		0.97	0.68	2.44	3.81	0.01	0.23	0.61	0.66	1.90	14.19	0.0060	14.73	31.85	-6.52	
149	222	9/2 ⁻	7/2 ⁺	0.97	0.69	1.24	3.68	0.01	0.08	0.75	0.73	2.08	15.73	0.0047	15.10	32.23	-6.77	
150	223	9/2 ⁻		0.97	0.67	2.26	3.51	0.00	0.17	0.53	0.69	2.14	14.71	0.0049	15.15	32.78	-7.06	
151	224	9/2 ⁻	9/2 ⁻	0.96	0.68	1.06	3.32	0.01	0.03	0.65	0.73	2.29	16.29	0.0042	15.55	33.19	-7.25	
152	225	9/2 ⁻		0.96	0.67	1.88	2.94	0.00	0.10	0.36	0.71	2.46	15.43	0.0038	15.57	33.53	-7.42	
153	226	9/2 ⁻	1/2 ⁺	0.95	0.68	0.72	2.59	0.01	0.04	0.36	0.74	2.67	17.00	0.0033	15.94	33.97	-7.48	
154	227	9/2 ⁻		0.95	0.67	1.60	2.32	0.00	0.04	0.17	0.76	2.84	16.03	0.0032	15.87	34.25	-7.55	
155	228	9/2 ⁻	1/2 ⁺	0.95	0.67	0.51	2.11	0.00	0.02	0.17	0.76	3.27	17.60	0.0028	16.36	34.74	-7.78	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 73 (Ta)																		
156	229	9/2 ⁻		0.95	0.66	1.54	2.05	0.00	0.03	0.07	0.77	3.19	16.57	0.0027	16.37	35.21	-8.00	
157	230	9/2 ⁻	3/2 ⁺	0.94	0.65	0.44	1.97	0.00	0.01	0.11	0.77	3.67	17.97	0.0025	16.74	35.54	-8.41	
158	231	9/2 ⁻		0.94	0.65	1.35	1.79	0.00	0.03	0.04	0.77	3.54	17.02	0.0023	16.74	36.00	-8.71	
159	232	9/2 ⁻	11/2 ⁻	0.94	0.64	0.41	1.77	0.00	0.01	0.07	0.80	3.91	18.51	0.0022	17.03	36.29	-9.01	
160	233	9/2 ⁻		0.94	0.61	1.45	1.86	0.00	0.03	0.04	0.76	3.80	17.53	0.0019	17.08	36.83	-9.56	
161	234	9/2 ⁻	9/2 ⁺	0.94	0.62	0.36	1.81	0.00	0.01	0.09	0.79	3.98	19.02	0.0016	17.55	37.23	-9.80	
162	235	9/2 ⁻		0.94	0.62	1.21	1.57	0.00	0.02	0.04	0.78	3.95	18.10	0.0016	17.49	37.58	-10.10	
163	236	9/2 ⁻	13/2 ⁻	0.93	0.64	-0.23	0.98	0.00	0.00	0.04	0.82	4.45	20.05	0.0014	17.94	38.01	-9.91	
164	237	7/2 ⁺		0.94	0.62	0.74	0.51	0.00	0.03	0.02	0.83	4.54	19.08	0.0014	18.07	38.63	-9.80	
165	238	9/2 ⁻	3/2 ⁺	0.94	0.62	-0.65	0.09	0.00	0.00	0.03	0.86	5.26	20.65	0.0012	18.29	38.92	-9.80	
166	239	9/2 ⁻		0.93	0.62	0.32	-0.33	0.00	0.01	0.00	0.87	5.59	19.94	0.0011	18.21	39.15	-9.99	
167	240	9/2 ⁻	5/2 ⁺	0.94	0.62	-0.35	-0.03	0.00	0.00	0.01	0.89	6.25	21.02	0.0011	18.54		-10.59	
168	241	9/2 ⁻		0.94	0.62	0.28	-0.07	0.00	0.00	0.00	0.87	6.58	20.43	0.0010	18.69		-10.78	
169	242	9/2 ⁻	9/2 ⁺	0.94	0.62	-0.93	-0.65	0.00	0.00	0.01	0.90	7.41	21.69	0.0010				
170	243	9/2 ⁻		0.94	0.61	0.37	-0.56	0.00	0.00	0.00	0.89	7.71	20.96	0.0009				
Z = 74 (W)																		
80	154			1.03	1.08								11.52	0.0635	-0.06	-1.84	4.24	10 ^{6.71}
81	155	1/2 ⁺		1.06	1.11	12.43							12.69	0.0602	0.13	-1.04	3.65	10 ^{12.10}
82	156			1.11	1.25	14.23	26.66						8.82	0.1303	0.76	-0.43	3.47	10 ^{12.57}
83	157	7/2 ⁻		1.09	1.10	10.33	24.56						9.73	0.6778	0.72	0.14	4.78	10 ^{4.54}
84	158			1.03	1.01	11.71	22.03						7.56	0.4874	1.19	0.42	6.70	10 ^{-4.66}
85	159	1/2 ⁻		0.99	0.99	9.55	21.25						9.15	0.4099	1.20	1.21	6.91	10 ^{-4.27}
86	160			0.98	0.99	11.58	21.12						7.10	1.5276	1.64	1.64	6.76	10 ^{-4.86}
87	161	3/2 ⁻		0.96	1.00	9.55	21.12						8.53	0.7374	1.67	2.10	5.97	10 ^{-0.97}
88	162			0.96	1.00	11.46	21.01						6.27	3.0514	2.15	2.63	5.65	10 ^{-0.73}
89	163	3/2 ⁻		0.94	1.01	9.21	20.67						8.00	2.6500	2.16	2.92	5.52	10 ^{0.90}
90	164			0.94	1.02	11.18	20.40						5.64	5.5542	2.41	3.47	5.27	10 ^{0.93}
91	165	5/2 ⁻		0.94	1.02	9.11	20.30						6.91	2.1499	2.69	4.19	5.09	10 ^{2.92}
92	166			0.94	1.03	10.83	19.95						4.74	13.4139	3.14	4.65	4.88	10 ^{2.93}
93	167	1/2 ⁺		0.93	1.03	8.62	19.45						6.23	15.2641	3.09	5.11	4.67	10 ^{5.15}
94	168			0.92	1.03	10.60	19.21						3.96	36.4235	3.59	5.61	4.43	10 ^{5.50}
95	169	3/2 ⁺		0.93	1.03	8.33	18.93						5.50	40.1571	3.60	6.01	4.26	10 ^{7.64}
96	170			0.93	1.02	10.27	18.60						3.31	69.0648	3.98	6.46	4.09	10 ^{7.72}
97	171	5/2 ⁺		0.94	1.01	8.07	18.34						4.73	95.8408	3.98	6.85	3.96	10 ^{9.70}
98	172			0.95	0.98	9.95	18.03						2.51	> 100	4.44	7.33	3.81	10 ^{9.76}
99	173	1/2 ⁻		0.94	0.98	7.76	17.72						3.87	> 100	4.47	7.77	3.73	10 ^{11.45}
100	174			0.93	0.96	9.57	17.33						1.80	> 100	4.91	8.25	3.65	10 ^{11.03}
101	175	7/2 ⁺		0.94	0.94	7.50	17.06						3.08	> 100	4.92	8.72	3.47	10 ^{13.63}
102	176			0.92	0.94	9.25	16.75						1.01	> 100	5.39	9.28	3.30	10 ^{14.13}
103	177	5/2 ⁻		0.92	0.91	7.21	16.46						2.22	> 100	5.42	9.77	3.12	10 ^{17.09}
104	178			0.92	0.90	8.96	16.17						0.14	> 100	5.96	10.38	2.85	10 ^{18.80}
105	179	7/2 ⁻		0.93	0.88	6.91	15.87						1.36	> 100	5.98	10.88	2.66	> 10 ²⁰
106	180			0.92	0.88	8.66	15.57						...	β -st	6.52	11.53	2.36	> 10 ²⁰
107	181	9/2 ⁺		0.92	0.87	6.56	15.22						0.24	> 100	6.56	12.03	2.19	> 10 ²⁰
108	182			0.91	0.86	8.08	14.64						...	β -st	7.06	12.64	2.13	> 10 ²⁰
109	183	1/2 ⁻		0.92	0.83	5.99	14.06						...	β -st	7.01	13.13	2.20	> 10 ²⁰
110	184			0.91	0.82	7.62	13.61						...	β -st	7.56	13.78	2.05	> 10 ²⁰
111	185	3/2 ⁻		0.91	0.81	5.77	13.39	1.00	0.00	0.00	0.00	0.00	0.32	> 100	7.70	14.39	1.79	> 10 ²⁰
112	186			0.91	0.79	7.30	13.07						...	β -st	8.24	15.01	1.46	> 10 ²⁰
113	187	11/2 ⁺		0.92	0.78	5.54	12.84	1.00	0.00	0.00	0.00	0.00	1.08	> 100	8.42	15.65	1.07	> 10 ²⁰
114	188			0.92	0.77	6.90	12.43	1.00	0.00	0.00	0.00	0.00	0.12	> 100	8.87	16.26	0.86	> 10 ²⁰
115	189	7/2 ⁻		0.92	0.75	5.30	12.19	1.00	0.00	0.00	0.00	0.00	1.88	> 100	8.98	17.00	0.45	> 10 ²⁰
116	190			0.93	0.75	6.42	11.72	1.00	0.00	0.00	0.00	0.00	1.24	> 100	9.38	17.48	0.33	> 10 ²⁰
117	191	9/2 ⁻		0.95	0.76	5.04	11.46	1.00	0.00	0.00	0.00	0.00	2.78	10.3554	9.78	18.18	-0.16	
118	192			0.95	0.78	6.54	11.58	1.00	0.00	0.00	0.00	0.00	1.88	54.5788	10.30	19.05	-0.76	
119	193	13/2 ⁺		0.97	0.74	4.39	10.93	1.00	0.00	0.00	0.00	0.00	4.10	22.2066	10.46	19.66	-0.80	
120	194			1.08	0.77	5.98	10.37	1.00	0.00	0.00	0.00	0.00	2.97	27.5553	10.80	19.83	-1.11	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 74 (W)																		
121	195		1/2 ⁻	1.11	0.72	4.66	10.64	1.00	0.00	0.00	0.00	0.00	4.24	19.7280	11.00	20.51	-2.01	
122	196			1.12	0.69	6.15	10.81	1.00	0.00	0.00	0.00	0.00	3.25	32.4475	11.42	21.00	-2.34	
123	197		3/2 ⁻	1.15	0.74	4.69	10.85	1.00	0.00	0.00	0.00	0.00	4.82	18.6106	11.50	21.51	-3.05	
124	198			1.16	0.75	5.95	10.64	1.00	0.00	0.00	0.00	0.00	3.97	20.4672	11.95	21.99	-3.35	
125	199		1/2 ⁻	1.19	0.74	4.06	10.01	1.00	0.00	0.00	0.00	0.00	5.91	11.2652	12.08	22.51	-3.22	
126	200			1.19	0.88	5.54	9.61	1.00	0.00	0.00	0.00	0.00	4.64	13.4719	12.52	22.95	-3.30	
127	201		9/2 ⁺	1.18	0.79	2.31	7.85	0.85	0.15	0.00	0.36	0.15	7.88	2.4677	12.50	23.36	-2.06	
128	202			1.18	0.74	3.87	6.18	0.77	0.23	0.00	0.79	0.23	6.81	2.2639	12.95	23.84	-0.84	
129	203		7/2 ⁺	1.18	0.77	1.88	5.75	0.74	0.25	0.01	0.63	0.27	8.75	1.5524	12.94	24.28	-0.81	
130	204			1.18	0.81	3.43	5.32	0.58	0.42	0.00	0.80	0.42	7.63	1.1504	13.33	24.80	-0.86	
131	205		5/2 ⁺	1.17	0.84	1.61	5.05	0.53	0.35	0.12	0.68	0.59	9.51	0.8282	13.26	25.03	-1.03	
132	206			1.10	0.81	3.46	5.08	0.17	0.82	0.01	0.81	0.84	8.22	0.2674	13.53	25.30	-1.57	
133	207		3/2 ⁺	1.05	0.78	1.93	5.39	0.37	0.60	0.03	0.54	0.66	9.79	0.0635	13.49	25.64	-2.12	
134	208			1.03	0.78	3.56	5.49	0.09	0.91	0.00	0.67	0.91	8.49	0.0983	13.84	26.04	-2.49	
135	209		3/2	1.05	0.77	1.85	5.41	0.13	0.82	0.05	0.58	0.92	10.18	0.0673	13.86	26.48	-2.75	
136	210			1.03	0.81	3.37	5.23	0.06	0.93	0.01	0.68	0.95	9.04	0.0623	14.23	26.74	-2.96	
137	211		3/2 ⁻	1.01	0.77	1.84	5.21	0.07	0.85	0.08	0.60	1.01	10.62	0.0462	14.14	26.96	-3.39	
138	212			0.99	0.77	3.39	5.23	0.06	0.93	0.01	0.63	0.95	9.33	0.0371	14.45	27.09	-3.67	
139	213		5/2 ⁺	1.00	0.75	1.86	5.25	0.18	0.73	0.09	0.55	0.91	10.90	0.0279	14.19	27.42	-3.91	
140	214			0.99	0.75	3.55	5.40	0.09	0.90	0.01	0.62	0.92	9.52	0.0309	14.77	27.96	-4.20	
141	215		5/2 ⁻	0.99	0.75	1.77	5.31	0.07	0.82	0.11	0.59	1.04	11.11	0.0273	14.74	28.30	-4.43	
142	216			0.98	0.74	3.22	4.98	0.11	0.87	0.02	0.61	0.91	10.20	0.0199	15.06	28.67	-4.65	
143	217		5/2 ⁺	0.99	0.73	1.64	4.85	0.13	0.72	0.15	0.60	1.02	11.78	0.0160	15.11	29.01	-4.85	
144	218			0.98	0.73	3.02	4.66	0.06	0.90	0.04	0.65	0.98	10.72	0.0147	15.45	29.32	-5.03	
145	219		7/2 ⁻	1.00	0.70	1.60	4.63	0.06	0.61	0.33	0.60	1.27	12.18	0.0138	15.45	29.72	-5.34	
146	220			0.99	0.70	2.89	4.49	0.07	0.86	0.07	0.66	1.00	11.14	0.0118	15.83	30.11	-5.51	
147	221		5/2 ⁺	0.98	0.69	1.39	4.28	0.09	0.47	0.43	0.61	1.36	12.67	0.0103	15.85	30.41	-5.71	
148	222			0.98	0.68	2.77	4.17	0.07	0.80	0.12	0.67	1.07	11.72	0.0093	16.18	30.92	-5.98	
149	223		7/2 ⁺	0.97	0.69	1.25	4.02	0.06	0.45	0.48	0.62	1.44	13.26	0.0068	16.19	31.30	-6.13	
150	224			0.96	0.68	2.64	3.89	0.02	0.69	0.27	0.64	1.29	12.17	0.0074	16.57	31.71	-6.50	
151	225		9/2 ⁻	0.96	0.67	1.02	3.66	0.02	0.24	0.71	0.68	1.75	13.75	0.0066	16.53	32.07	-6.65	
152	226			0.95	0.67	2.28	3.31	0.02	0.51	0.43	0.65	1.49	12.94	0.0055	16.93	32.50	-6.72	
153	227		7/2 ⁺	0.95	0.68	0.64	2.92	0.02	0.16	0.76	0.71	1.87	14.61	0.0044	16.85	32.79	-6.69	
154	228			0.95	0.67	2.08	2.72	0.01	0.24	0.62	0.67	1.88	13.53	0.0045	17.33	33.20	-6.92	
155	229		1/2 ⁺	0.94	0.67	0.51	2.59	0.03	0.05	0.61	0.73	2.23	15.04	0.0040	17.33	33.68	-7.08	
156	230			0.94	0.67	1.84	2.35	0.01	0.16	0.43	0.68	2.24	14.09	0.0037	17.63	34.00	-7.25	
157	231		3/2 ⁺	0.93	0.67	0.41	2.24	0.02	0.05	0.44	0.73	2.51	15.61	0.0032	17.60	34.34	-7.63	
158	232			0.93	0.65	1.89	2.30	0.01	0.13	0.33	0.69	2.43	14.58	0.0030	18.14	34.88	-8.00	
159	233		9/2 ⁺	0.93	0.64	0.47	2.37	0.01	0.05	0.40	0.73	2.62	15.95	0.0026	18.20	35.23	-8.41	
160	234			0.93	0.62	1.85	2.33	0.01	0.11	0.32	0.71	2.50	14.98	0.0025	18.60	35.68	-8.90	
161	235		11/2 ⁻	0.93	0.63	0.29	2.14	0.01	0.03	0.31	0.75	2.86	16.49	0.0023	18.53	36.07	-9.07	
162	236			0.93	0.62	1.72	2.00	0.01	0.09	0.25	0.74	2.64	15.51	0.0021	19.03	36.53	-9.39	
163	237		13/2 ⁻	0.93	0.65	-0.22	1.49	0.00	0.02	0.19	0.78	3.24	17.33	0.0019	19.04	36.98	-9.26	
164	238			0.93	0.62	0.92	0.69	0.00	0.05	0.09	0.80	3.21	16.66	0.0017	19.22	37.29	-8.92	
165	239		3/2 ⁺	0.93	0.62	-0.39	0.53	0.01	0.01	0.08	0.83	3.86	18.12	0.0015	19.48	37.76	-9.21	
166	240			0.93	0.62	0.73	0.34	0.00	0.03	0.02	0.81	4.13	17.33	0.0015	19.88	38.09	-9.32	
167	241		5/2 ⁺	0.93	0.62	-0.31	0.42	0.00	0.00	0.05	0.85	4.76	18.43	0.0015	19.93	38.47	-9.88	
168	242			0.93	0.62	0.33	0.02	0.00	0.02	0.00	0.84	5.04	17.82	0.0013	19.98	38.67	-9.82	
169	243		9/2 ⁺	0.93	0.61	-0.37	-0.04	0.01	0.00	0.03	0.86	5.74	18.84	0.0014	20.54		-10.13	
170	244			0.93	0.61	0.48	0.12	0.00	0.02	0.00	0.83	6.00	18.05	0.0013	20.66		-10.49	
171	245		1/2 ⁺	0.93	0.60	-0.90	-0.42	0.00	0.00	0.03	0.86	6.72	19.58	0.0011				
172	246			0.93	0.60	0.59	-0.31	0.00	0.02	0.00	0.84	6.76	18.66	0.0011				
173	247		11/2 ⁺	0.94	0.60	-0.86	-0.27	0.00	0.00	0.02	0.86	7.42	20.12	0.0009				
Z = 75 (Re)																		
81	156	1/2 ⁻	1/2 ⁺	1.00	1.12								15.43	0.0369	-1.98	-1.85	3.79	10 ^{11.68}
82	157	11/2 ⁻		1.03	1.25	14.11							11.65	0.0486	-2.10	-1.34	3.80	10 ^{11.26}
83	158	1/2 ⁺	1/2 ⁻	1.01	1.12	10.68	24.79						12.67	0.2788	-1.75	-1.03	5.36	10 ^{2.19}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 75 (Re)																		
84	159	1/2 ⁺		1.00	1.03	12.28	22.96						9.94	0.2130	-1.18	0.02	6.68	10 ^{-3.41}
85	160	9/2 ⁻	1/2 ⁻	0.91	1.00	9.91	22.18						11.61	0.2092	-0.82	0.38	7.14	10 ^{-4.51}
86	161	9/2 ⁻		0.91	1.00	11.63	21.54						9.53	0.3052	-0.76	0.88	6.75	10 ^{-3.61}
87	162	9/2 ⁻	3/2 ⁻	0.91	1.01	9.98	21.61						11.01	0.3239	-0.33	1.33	6.31	10 ^{-1.74}
88	163	9/2 ⁻		0.93	1.01	11.46	21.43						8.77	0.5821	-0.34	1.82	5.99	10 ^{-0.86}
89	164	9/2 ⁻	3/2 ⁻	0.92	1.02	9.69	21.14						10.26	0.5155	0.14	2.30	5.82	10 ^{0.17}
90	165	9/2 ⁻		0.93	1.02	11.20	20.89						8.18	0.9798	0.15	2.56	5.60	10 ^{0.81}
91	166	9/2 ⁻	5/2 ⁻	0.91	1.03	9.37	20.57						9.65	0.6223	0.41	3.10	5.43	10 ^{1.87}
92	167	9/2 ⁻		0.91	1.03	11.14	20.51						7.12	2.1816	0.71	3.85	5.23	10 ^{2.47}
93	168	9/2 ⁻	1/2 ⁺	0.91	1.04	9.07	20.21						8.65	2.2345	1.16	4.25	4.99	10 ^{3.96}
94	169	5/2 ⁺		0.90	1.05	10.56	19.63						6.42	8.6848	1.13	4.71	4.82	10 ^{4.64}
95	170	5/2 ⁺	3/2 ⁺	0.91	1.04	8.84	19.41						7.85	13.1940	1.64	5.24	4.64	10 ^{5.94}
96	171	5/2 ⁺		0.92	1.03	10.26	19.10						5.66	19.3542	1.63	5.61	4.48	10 ^{6.49}
97	172	5/2 ⁺	5/2 ⁺	0.92	1.02	8.51	18.76						7.11	28.7693	2.06	6.04	4.30	10 ^{8.03}
98	173	5/2 ⁺		0.92	1.01	9.95	18.46						4.92	37.2386	2.06	6.51	4.23	10 ^{8.15}
99	174	5/2 ⁺	1/2 ⁻	0.92	1.00	8.21	18.16						6.28	61.8327	2.51	6.98	4.10	10 ^{9.38}
100	175	5/2 ⁺		0.92	0.98	9.62	17.83						4.15	88.6057	2.56	7.47	3.97	10 ^{9.97}
101	176	5/2 ⁺	5/2 ⁻	0.91	0.98	7.97	17.59						5.44	> 100	3.03	7.95	3.73	10 ^{12.08}
102	177	5/2 ⁺		0.91	0.96	9.29	17.26						3.35	> 100	3.07	8.46	3.57	10 ^{13.15}
103	178	5/2 ⁺	5/2 ⁻	0.91	0.93	7.69	16.98						4.62	> 100	3.56	8.97	3.37	10 ^{15.29}
104	179	5/2 ⁺		0.89	0.94	9.03	16.72						2.50	> 100	3.63	9.58	3.12	10 ^{17.43}
105	180	5/2 ⁺	7/2 ⁻	0.90	0.91	7.41	16.43						3.76	> 100	4.12	10.11	2.90	> 10 ²⁰
106	181	5/2 ⁺		0.92	0.89	8.64	16.04						1.68	> 100	4.10	10.62	2.67	> 10 ²⁰
107	182	5/2 ⁺	9/2 ⁺	0.92	0.88	7.08	15.72						2.68	> 100	4.61	11.17	2.48	> 10 ²⁰
108	183	5/2 ⁺		0.92	0.86	8.15	15.23						0.51	> 100	4.69	11.74	2.45	> 10 ²⁰
109	184	5/2 ⁺	1/2 ⁻	0.91	0.85	6.53	14.69						±	±	5.24	12.25	2.44	> 10 ²⁰
110	185	5/2 ⁺		0.91	0.83	7.69	14.22						...	β-st	5.31	12.86	2.33	> 10 ²⁰
111	186	5/2 ⁺	3/2 ⁻	0.91	0.81	6.24	13.92	1.00	0.00	0.00	0.00	0.00	±	±	5.78	13.48	2.13	> 10 ²⁰
112	187	5/2 ⁺		0.91	0.80	7.36	13.60	1.00	0.00	0.00	0.00	0.00	...	β-st	5.84	14.08	1.84	> 10 ²⁰
113	188	5/2 ⁺	11/2 ⁺	0.91	0.79	5.93	13.29	1.00	0.00	0.00	0.00	0.00	1.78	> 100	6.23	14.65	1.53	> 10 ²⁰
114	189	5/2 ⁺		0.92	0.77	7.07	13.00	1.00	0.00	0.00	0.00	0.00	0.79	> 100	6.40	15.27	1.23	> 10 ²⁰
115	190	5/2 ⁺	7/2 ⁻	0.92	0.75	5.77	12.84	1.00	0.00	0.00	0.00	0.00	2.36	> 100	6.87	15.86	0.82	> 10 ²⁰
116	191	5/2 ⁺		0.94	0.76	6.58	12.35	1.00	0.00	0.00	0.00	0.00	1.62	> 100	7.04	16.42	0.68	> 10 ²⁰
117	192	5/2 ⁺	9/2 ⁻	0.94	0.76	5.64	12.22	1.00	0.00	0.00	0.00	0.00	3.59	46.5915	7.64	17.41	0.22	> 10 ²⁰
118	193	5/2 ⁺		0.95	0.78	6.61	12.25	1.00	0.00	0.00	0.00	0.00	2.65	> 100	7.70	18.00	-0.36	
119	194	5/2 ⁺	13/2 ⁺	0.95	0.74	4.85	11.46	1.00	0.00	0.00	0.00	0.00	4.97	77.3600	8.17	18.63	-0.57	
120	195	5/2 ⁺		0.99	0.73	5.94	10.79	1.00	0.00	0.00	0.00	0.00	4.04	57.1330	8.12	18.92	-0.49	
121	196	1/2 ⁻	1/2 ⁻	1.06	0.75	5.16	11.10	1.00	0.00	0.00	0.00	0.00	5.47	4.8044	8.62	19.63	-1.43	
122	197	1/2 ⁻		1.08	0.72	6.26	11.43	1.00	0.00	0.00	0.00	0.00	4.52	4.0376	8.74	20.15	-2.04	
123	198	1/2 ⁻	3/2 ⁻	1.10	0.75	5.09	11.35	1.00	0.00	0.00	0.00	0.00	6.20	2.5727	9.13	20.63	-2.68	
124	199	1/2 ⁻		1.11	0.77	6.01	11.10	1.00	0.00	0.00	0.00	0.00	5.27	2.3698	9.19	21.14	-2.95	
125	200	11/2 ⁻	1/2 ⁻	1.14	0.74	4.26	10.28	1.00	0.00	0.00	0.00	0.00	7.48	1.0020	9.40	21.47	-2.61	
126	201	11/2 ⁻		1.14	0.88	5.56	9.82	0.99	0.01	0.00	0.24	0.01	6.47	1.2102	9.41	21.93	-2.66	
127	202	1/2 ⁻	9/2 ⁺	1.14	0.79	2.80	8.36	0.76	0.24	0.00	0.36	0.24	9.65	0.4475	9.90	22.40	-1.53	
128	203	11/2 ⁻		1.14	0.74	3.82	6.63	0.16	0.84	0.00	1.23	0.84	8.58	0.5485	9.85	22.80	-0.26	
129	204	11/2 ⁻	3/2 ⁺	1.13	0.77	2.31	6.13	0.17	0.81	0.02	1.05	0.85	10.59	0.3681	10.28	23.22	-0.23	
130	205	11/2 ⁻		1.12	0.81	3.49	5.80	0.12	0.87	0.01	1.07	0.89	9.40	0.3410	10.34	23.67	-0.30	
131	206	11/2 ⁻	1/2 ⁺	1.08	0.81	2.18	5.67	0.04	0.88	0.08	0.91	1.04	11.09	0.0760	10.90	24.16	-0.59	
132	207	1/2 ⁺		1.07	0.81	3.50	5.68	0.11	0.83	0.06	0.93	0.95	9.63	0.3270	10.94	24.47	-1.05	
133	208	1/2 ⁺	3/2 ⁺	1.04	0.79	2.25	5.75	0.04	0.78	0.18	0.79	1.14	11.18	0.0796	11.26	24.75	-1.61	
134	209	1/2		1.03	0.79	3.55	5.80	0.06	0.90	0.04	0.90	0.98	9.80	0.1348	11.25	25.10	-1.97	
135	210	9/2	5/2	1.02	0.78	2.23	5.78	0.04	0.73	0.23	0.77	1.19	11.48	0.0622	11.63	25.49	-2.23	
136	211	9/2 ⁻		1.00	0.81	3.42	5.65	0.03	0.94	0.03	0.87	1.00	10.26	0.0614	11.68	25.90	-2.45	
137	212	9/2 ⁻	5/2 ⁺	0.99	0.80	2.10	5.52	0.03	0.69	0.28	0.72	1.25	11.96	0.0354	11.94	26.08	-2.71	
138	213	9/2 ⁻		0.98	0.79	3.43	5.53	0.02	0.93	0.05	0.81	1.03	10.63	0.0371	11.98	26.44	-3.14	
139	214	9/2 ⁻	5/2 ⁺	0.99	0.76	2.16	5.60	0.03	0.63	0.34	0.69	1.31	12.15	0.0279	12.29	26.48	-3.38	
140	215	9/2 ⁻		0.98	0.76	3.35	5.51	0.02	0.91	0.07	0.77	1.05	10.91	0.0295	12.09	26.86	-3.65	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 75 (Re)																		
141	216	9/2 ⁻	5/2 ⁻	0.98	0.75	2.31	5.66	0.03	0.53	0.44	0.68	1.41	12.29	0.0315	12.63	27.38	-3.84	
142	217	9/2 ⁻		0.98	0.74	3.22	5.53	0.02	0.91	0.07	0.75	1.05	11.33	0.0220	12.63	27.69	-4.08	
143	218	9/2 ⁻	5/2 ⁺	0.98	0.73	1.96	5.18	0.03	0.55	0.42	0.66	1.39	12.95	0.0171	12.96	28.07	-4.26	
144	219	9/2 ⁻		0.97	0.73	3.07	5.03	0.01	0.80	0.19	0.71	1.18	11.83	0.0167	13.01	28.46	-4.42	
145	220	9/2 ⁻	1/2 ⁺	0.98	0.71	1.84	4.91	0.07	0.30	0.62	0.68	1.57	13.42	0.0140	13.25	28.69	-4.68	
146	221	9/2 ⁻		0.99	0.70	2.92	4.77	0.01	0.68	0.30	0.69	1.31	12.33	0.0127	13.28	29.11	-4.92	
147	222	9/2 ⁻	5/2 ⁺	0.99	0.69	1.83	4.75	0.02	0.29	0.68	0.70	1.68	13.78	0.0115	13.71	29.56	-5.15	
148	223	1/2 ⁻		0.98	0.68	2.78	4.61	0.02	0.50	0.46	0.67	1.48	12.82	0.0117	13.72	29.91	-5.42	
149	224	1/2 ⁻	7/2 ⁺	0.97	0.68	1.55	4.33	0.02	0.23	0.73	0.72	1.75	14.36	0.0082	14.02	30.22	-5.59	
150	225	5/2 ⁺		0.96	0.67	2.60	4.16	0.01	0.36	0.59	0.69	1.66	13.36	0.0083	13.99	30.56	-5.76	
151	226	5/2 ⁺	9/2 ⁻	0.96	0.67	1.47	4.08	0.01	0.10	0.83	0.77	1.95	14.85	0.0078	14.44	30.97	-5.99	
152	227	5/2 ⁺		0.95	0.67	2.31	3.78	0.01	0.24	0.63	0.71	1.86	13.96	0.0068	14.47	31.40	-6.04	
153	228	5/2 ⁺	7/2 ⁺	0.95	0.68	1.00	3.31	0.01	0.06	0.76	0.77	2.11	15.59	0.0055	14.83	31.68	-5.97	
154	229	5/2 ⁺		0.95	0.67	2.02	3.02	0.01	0.11	0.45	0.72	2.31	14.60	0.0055	14.77	32.10	-6.12	
155	230	5/2 ⁺	1/2 ⁺	0.94	0.67	0.89	2.91	0.01	0.05	0.43	0.76	2.50	16.13	0.0046	15.14	32.47	-6.28	
156	231	5/2 ⁺		0.93	0.69	1.93	2.81	0.00	0.07	0.25	0.75	2.66	15.05	0.0044	15.23	32.86	-6.61	
157	232	5/2 ⁺	3/2 ⁺	0.93	0.68	0.86	2.79	0.01	0.03	0.29	0.75	2.81	16.47	0.0040	15.69	33.29	-6.96	
158	233	5/2 ⁺		0.92	0.66	1.84	2.70	0.01	0.06	0.17	0.76	2.76	15.46	0.0037	15.64	33.77	-7.26	
159	234	5/2 ⁺	9/2 ⁺	0.92	0.65	0.89	2.72	0.01	0.02	0.31	0.75	2.88	16.86	0.0030	16.05	34.25	-7.71	
160	235	5/2 ⁺		0.92	0.64	1.79	2.68	0.01	0.06	0.15	0.77	2.81	15.85	0.0030	15.99	34.59	-8.15	
161	236	5/2 ⁺	11/2 ⁻	0.92	0.63	0.74	2.53	0.01	0.01	0.22	0.76	3.13	17.35	0.0028	16.44	34.97	-8.48	
162	237	5/2 ⁺		0.92	0.62	1.60	2.34	0.01	0.05	0.12	0.79	2.92	16.47	0.0024	16.32	35.36	-8.63	
163	238	5/2 ⁺	13/2 ⁻	0.92	0.65	0.25	1.84	0.00	0.01	0.14	0.80	3.46	18.12	0.0022	16.79	35.83	-8.51	
164	239	5/2 ⁺		0.92	0.62	1.07	1.31	0.00	0.03	0.05	0.82	3.46	17.28	0.0021	16.94	36.16	-8.37	
165	240	5/2 ⁺	3/2 ⁺	0.92	0.62	-0.06	1.00	0.00	0.01	0.06	0.86	3.99	18.72	0.0019	17.27	36.75	-8.54	
166	241	5/2 ⁺		0.92	0.62	0.79	0.73	0.00	0.02	0.02	0.83	4.30	17.98	0.0018	17.34	37.22	-8.59	
167	242	5/2 ⁺	5/2 ⁺	0.92	0.62	-0.28	0.51	0.00	0.00	0.04	0.87	4.89	19.31	0.0017	17.36	37.30	-8.96	
168	243	5/2 ⁺		0.92	0.62	0.66	0.38	0.00	0.02	0.01	0.86	5.03	18.57	0.0016	17.69	37.67	-9.30	
169	244	5/2 ⁺	9/2 ⁺	0.92	0.62	-0.31	0.35	0.00	0.00	0.02	0.89	5.74	19.77	0.0016	17.75	38.29	-9.34	
170	245	5/2 ⁺		0.92	0.61	0.63	0.32	0.00	0.01	0.01	0.87	5.98	18.88	0.0015	17.89	38.55	-9.69	
171	246	5/2 ⁺	1/2 ⁺	0.92	0.61	-0.32	0.31	0.00	0.01	0.03	0.88	6.32	20.42	0.0013	18.47		-10.30	
172	247	5/2 ⁺		0.92	0.60	0.60	0.28	0.00	0.02	0.01	0.87	6.39	19.59	0.0012	18.48		-10.53	
173	248	5/2 ⁺	11/2 ⁺	0.92	0.60	-0.37	0.23	0.00	0.00	0.02	0.89	6.94	20.76	0.0011	18.97			
174	249	5/2 ⁺		0.92	0.59	0.41	0.04	0.00	0.02	0.01	0.90	6.89	20.05	0.0011				
175	250	5/2 ⁺	15/2 ⁻	0.92	0.61	-0.71	-0.31	0.00	0.01	0.02	0.93	7.28	21.77	0.0009				
Z = 76 (Os)																		
83	159		7/2 ⁻	0.99	1.13								11.26	0.1451	0.23	-1.52	5.26	10 ^{3.14}
84	160			0.95	1.04	12.47							8.70	0.1324	0.43	-0.75	7.02	10 ^{-4.83}
85	161		3/2 ⁻	0.90	1.02	9.91	22.39						10.42	0.1568	0.43	-0.38	7.43	10 ^{-5.01}
86	162			0.85	1.01	12.00	21.91						8.39	0.2706	0.80	0.04	7.14	10 ^{-5.20}
87	163		3/2 ⁻	0.84	1.02	9.95	21.95						9.90	0.3226	0.78	0.44	6.73	10 ^{-2.85}
88	164			0.89	1.02	11.90	21.85						7.69	1.1208	1.22	0.88	6.41	10 ^{-2.76}
89	165		3/2 ⁻	0.89	1.03	9.69	21.58						9.20	0.7052	1.22	1.36	6.27	10 ^{-1.18}
90	166			0.88	1.03	11.66	21.35						6.90	1.4813	1.68	1.84	6.07	10 ^{-1.48}
91	167		5/2 ⁻	0.89	1.03	9.38	21.04						8.67	0.6610	1.69	2.10	5.90	10 ^{0.23}
92	168			0.89	1.04	11.33	20.70						6.40	4.0143	1.88	2.59	5.76	10 ^{-0.21}
93	169		1/2 ⁺	0.89	1.04	9.39	20.72						7.57	4.6548	2.21	3.37	5.48	10 ^{2.14}
94	170			0.90	1.04	11.01	20.40						5.41	12.5389	2.66	3.78	5.30	10 ^{1.83}
95	171		3/2 ⁺	0.90	1.05	8.76	19.77						6.90	6.0858	2.57	4.21	5.16	10 ^{3.63}
96	172			0.90	1.04	10.72	19.49						4.68	11.0224	3.04	4.67	5.03	10 ^{3.23}
97	173		5/2 ⁺	0.92	1.03	8.49	19.22						6.14	15.6097	3.03	5.09	4.87	10 ^{5.16}
98	174			0.93	1.01	10.44	18.93						3.91	24.3713	3.52	5.58	4.70	10 ^{5.10}
99	175		1/2 ⁻	0.93	1.00	8.20	18.64						5.33	30.2811	3.51	6.02	4.57	10 ^{6.94}
100	176			0.92	1.00	10.10	18.30						3.20	45.0261	3.99	6.55	4.42	10 ^{6.74}
101	177		5/2 ⁻	0.92	0.98	7.94	18.04						4.55	72.3643	3.96	6.99	4.25	10 ^{8.92}
102	178			0.91	0.98	9.80	17.73						2.44	> 100	4.46	7.54	4.02	10 ^{9.53}
103	179		7/2 ⁺	0.91	0.95	7.68	17.47						3.80	> 100	4.45	8.00	3.84	10 ^{11.89}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 76 (Os)																		
104	180			0.90	0.94	9.52	17.20						1.68	> 100	4.94	8.57	3.57	10 ^{13.05}
105	181		7/2 ⁻	0.91	0.90	7.37	16.89						2.95	46.4629	4.90	9.03	3.41	10 ^{15.56}
106	182			0.92	0.90	9.20	16.57						0.83	> 100	5.47	9.57	3.16	10 ^{16.97}
107	183		9/2 ⁺	0.92	0.88	7.08	16.28						1.90	> 100	5.47	10.08	3.00	10 ^{19.90}
108	184			0.92	0.87	8.65	15.73						...	β -st	5.96	10.65	3.01	10 ^{18.72}
109	185		1/2 ⁻	0.92	0.85	6.57	15.22						0.91	> 100	6.00	11.23	3.00	10 ^{19.78}
110	186			0.92	0.85	8.17	14.74						...	β -st	6.48	11.79	2.91	10 ^{19.76}
111	187		3/2 ⁻	0.92	0.83	6.21	14.39						0.12		6.46	12.23	2.68	> 10 ²⁰
112	188			0.92	0.82	7.83	14.05						...	β -st	6.93	12.77	2.46	> 10 ²⁰
113	189		11/2 ⁺	0.92	0.80	6.07	13.91						...	β -st	7.07	13.30	2.16	> 10 ²⁰
114	190			0.91	0.79	7.34	13.41						...	β -st	7.34	13.74	2.12	> 10 ²⁰
115	191		11/2 ⁺	0.93	0.79	5.85	13.19	1.00	0.00	0.00	0.00	0.00	0.08	> 100	7.42	14.30	1.81	> 10 ²⁰
116	192			0.93	0.76	7.60	13.45						...	β -st	8.44	15.48	1.10	> 10 ²⁰
117	193		9/2 ⁻	0.93	0.77	5.68	13.28	1.00	0.00	0.00	0.00	0.00	0.85	> 100	8.48	16.12	0.73	> 10 ²⁰
118	194			0.93	0.78	7.16	12.84	1.00	0.00	0.00	0.00	0.00	...	β -st	9.03	16.74	-0.02	
119	195		13/2 ⁺	0.95	0.76	5.01	12.17	1.00	0.00	0.00	0.00	0.00	2.18	> 100	9.20	17.36	0.01	> 10 ²⁰
120	196			0.95	0.73	6.59	11.61	1.00	0.00	0.00	0.00	0.00	1.25	> 100	9.85	17.97	-0.04	
121	197		1/2 ⁻	1.02	0.75	5.31	11.91	1.00	0.00	0.00	0.00	0.00	2.85	> 100	10.00	18.63	-0.97	
122	198			1.04	0.73	6.77	12.08	1.00	0.00	0.00	0.00	0.00	1.80	> 100	10.51	19.24	-1.75	
123	199		3/2 ⁻	1.05	0.74	5.08	11.85	1.00	0.00	0.00	0.00	0.00	3.58	> 100	10.49	19.63	-2.17	
124	200			1.06	0.76	6.48	11.56	1.00	0.00	0.00	0.00	0.00	2.58	> 100	10.96	20.16	-2.50	
125	201		1/2 ⁻	1.10	0.75	4.54	11.02	1.00	0.00	0.00	0.00	0.00	4.57	56.0858	11.24	20.64	-2.35	
126	202			1.10	0.88	5.98	10.52	1.00	0.00	0.00	0.00	0.00	3.54	50.6170	11.67	21.08	-2.38	
127	203		9/2 ⁺	1.09	0.79	2.76	8.74	1.00	0.00	0.00	0.00	0.00	6.79	6.6155	11.62	21.52	-1.08	
128	204			1.09	0.75	4.31	7.07	0.95	0.05	0.00	0.55	0.05	5.61	5.9226	12.11	21.97	0.15	> 10 ²⁰
129	205		7/2 ⁺	1.09	0.78	2.30	6.62	0.91	0.09	0.00	0.45	0.09	7.70	3.2610	12.11	22.39	0.16	> 10 ²⁰
130	206			1.09	0.82	3.87	6.18	0.78	0.22	0.00	0.74	0.22	6.53	2.6328	12.49	22.83	0.16	> 10 ²⁰
131	207		5/2 ⁺	1.08	0.85	2.04	5.91	0.73	0.27	0.00	0.68	0.27	8.41	1.7557	12.35	23.25	0.00	> 10 ²⁰
132	208			1.05	0.85	3.80	5.83	0.34	0.66	0.00	0.80	0.66	7.07	0.8856	12.64	23.59	-0.36	
133	209		3/2 ⁺	1.01	0.82	2.18	5.97	0.71	0.29	0.00	0.48	0.29	8.90	0.1015	12.57	23.83	-0.92	
134	210			1.00	0.81	3.90	6.08	0.16	0.84	0.00	0.62	0.84	7.42	0.2241	12.93	24.18	-1.37	
135	211		3/2	0.99	0.77	2.20	6.11	0.29	0.70	0.01	0.47	0.72	8.94	0.1259	12.90	24.53	-1.64	
136	212			0.98	0.80	3.79	6.00	0.19	0.81	0.00	0.49	0.81	7.73	0.1243	13.28	24.95	-1.88	
137	213		1/2 ⁻	0.98	0.82	2.11	5.90	0.11	0.88	0.01	0.51	0.90	9.41	0.1154	13.28	25.22	-2.13	
138	214			0.96	0.81	3.68	5.79	0.16	0.84	0.00	0.50	0.84	8.20	0.0689	13.53	25.51	-2.44	
139	215		3/2 ⁻	0.97	0.79	2.11	5.79	0.15	0.84	0.01	0.51	0.86	9.81	0.0631	13.48	25.77	-2.72	
140	216			0.97	0.77	3.68	5.79	0.18	0.82	0.00	0.51	0.82	8.51	0.0507	13.81	25.90	-3.01	
141	217		5/2 ⁻	0.97	0.76	2.26	5.95	0.16	0.82	0.02	0.49	0.86	9.90	0.0532	13.77	26.40	-3.41	
142	218			0.98	0.75	3.58	5.84	0.21	0.79	0.00	0.53	0.79	8.69	0.0428	14.13	26.76	-3.45	
143	219		5/2 ⁺	0.98	0.74	1.95	5.53	0.30	0.68	0.02	0.50	0.72	10.48	0.0290	14.12	27.08	-3.63	
144	220			0.98	0.72	3.43	5.38	0.18	0.82	0.00	0.57	0.82	9.38	0.0281	14.48	27.49	-3.85	
145	221		1/2 ⁺	0.98	0.71	1.83	5.27	0.20	0.74	0.06	0.57	0.86	10.97	0.0219	14.47	27.72	-4.04	
146	222			0.99	0.70	3.28	5.11	0.17	0.82	0.01	0.63	0.84	9.88	0.0201	14.83	28.10	-4.30	
147	223		5/2 ⁺	0.99	0.69	1.82	5.10	0.18	0.70	0.12	0.62	0.94	11.29	0.0181	14.82	28.53	-4.52	
148	224			0.98	0.68	3.09	4.91	0.12	0.86	0.02	0.65	0.90	10.34	0.0162	15.12	28.85	-4.71	
149	225		7/2 ⁺	0.97	0.68	1.61	4.70	0.14	0.71	0.15	0.60	1.01	11.87	0.0113	15.18	29.21	-4.93	
150	226			0.97	0.66	2.96	4.57	0.09	0.87	0.04	0.68	0.95	10.90	0.0120	15.54	29.53	-5.11	
151	227		9/2 ⁻	0.96	0.68	1.42	4.38	0.06	0.59	0.35	0.64	1.29	12.46	0.0102	15.49	29.93	-5.29	
152	228			0.95	0.67	2.63	4.05	0.04	0.85	0.10	0.68	1.08	11.60	0.0086	15.81	30.27	-5.28	
153	229		7/2 ⁺	0.95	0.68	1.03	3.66	0.04	0.35	0.60	0.67	1.58	13.18	0.0074	15.84	30.67	-5.29	
154	230			0.95	0.67	2.41	3.44	0.03	0.56	0.39	0.66	1.40	12.20	0.0071	16.23	31.00	-5.41	
155	231		1/2 ⁺	0.93	0.69	0.85	3.26	0.04	0.14	0.77	0.72	1.84	13.69	0.0061	16.19	31.34	-5.62	
156	232			0.93	0.69	2.28	3.13	0.02	0.36	0.57	0.66	1.65	12.57	0.0059	16.54	31.78	-5.82	
157	233		9/2 ⁺	0.92	0.70	0.84	3.12	0.01	0.14	0.76	0.72	1.94	13.99	0.0048	16.52	32.21	-6.15	
158	234			0.92	0.67	2.29	3.13	0.01	0.32	0.57	0.65	1.77	12.93	0.0050	16.97	32.60	-6.60	
159	235		3/2 ⁺	0.92	0.66	0.78	3.07	0.03	0.08	0.75	0.75	2.02	14.32	0.0047	16.86	32.91	-6.98	
160	236			0.92	0.63	2.24	3.02	0.02	0.24	0.61	0.67	1.86	13.21	0.0044	17.31	33.30	-7.33	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)	
Z = 76 (Os)																			
161	237		11/2 ⁻	0.92	0.63	0.71	2.96	0.01	0.08	0.71	0.76	2.13	14.65	0.0041	17.29	33.73	-7.57		
162	238			0.92	0.62	1.90	2.61	0.01	0.21	0.54	0.69	2.03	13.79	0.0036	17.59	33.91	-7.62		
163	239		13/2 ⁻	0.92	0.65	0.22	2.12	0.01	0.05	0.53	0.77	2.41	15.50	0.0032	17.56	34.36	-7.55		
164	240			0.92	0.63	1.38	1.60	0.01	0.10	0.30	0.75	2.52	14.82	0.0029	17.87	34.82	-7.21		
165	241		3/2 ⁺	0.92	0.63	0.05	1.43	0.01	0.03	0.22	0.80	2.95	16.24	0.0025	17.99	35.26	-7.49		
166	242			0.92	0.62	1.05	1.10	0.00	0.05	0.09	0.82	3.08	15.28	0.0026	18.25	35.58	-7.62		
167	243		5/2 ⁺	0.92	0.63	-0.08	0.97	0.01	0.01	0.10	0.84	3.64	16.70	0.0023	18.45	35.81	-7.93		
168	244			0.91	0.63	0.89	0.81	0.00	0.05	0.02	0.81	3.71	16.05	0.0020	18.68	36.38	-8.10		
169	245		5/2 ⁺	0.91	0.62	-0.27	0.63	0.01	0.01	0.07	0.84	4.25	17.43	0.0019	18.72	36.47	-8.14		
170	246			0.91	0.62	1.22	0.95	0.00	0.04	0.02	0.79	4.29	16.27	0.0019	19.32	37.21	-9.03		
171	247		1/2 ⁺	0.91	0.61	-0.23	0.98	0.01	0.00	0.06	0.84	4.72	17.53	0.0019	19.40	37.88	-9.16		
172	248			0.91	0.60	0.81	0.57	0.01	0.04	0.00	0.83	4.41	17.09	0.0014	19.61	38.09	-9.48		
173	249		1/2 ⁺	0.91	0.59	-0.31	0.50	0.01	0.02	0.05	0.87	4.75	18.51	0.0013	19.67	38.64	-10.07		
174	250			0.91	0.59	1.01	0.70	0.00	0.05	0.03	0.86	4.61	17.52	0.0013	20.28		-10.49		
175	251		5/2 ⁺	0.96	0.60	-1.19	-0.18	0.00	0.01	0.07	0.91	5.32	19.24	0.0011	19.80		-10.17		
176	252			0.97	0.57	0.83	-0.35	0.00	0.06	0.01	0.91	5.01	18.43	0.0010					
177	253		1/2 ⁺	0.97	0.59	-0.40	0.43	0.01	0.01	0.06	0.95	5.43	19.67	0.0010					
Z = 77 (Ir)																			
85	162	3/2 ⁺	9/2 ⁻	0.87	1.03								12.40	0.1093	-1.18	-0.75	6.87	10 ^{-2.77}	
86	163	3/2 ⁺		0.86	1.04	12.05							10.30	0.4096	-1.13	-0.33	7.09	10 ^{-3.86}	
87	164	11/2 ⁻	3/2 ⁻	0.88	1.02	9.97	22.02						12.23	0.1441	-1.12	-0.34	7.03	10 ^{-3.32}	
88	165	11/2 ⁻		0.88	1.03	11.91	21.88						10.01	0.2285	-1.11	0.11	6.76	10 ^{-2.77}	
89	166	11/2 ⁻	3/2 ⁻	0.89	1.03	10.09	21.99						11.59	0.2915	-0.71	0.51	6.65	10 ^{-2.05}	
90	167	11/2 ⁻		0.89	1.03	11.65	21.73					9.32	0.4119	-0.73	0.96		6.46	10 ^{-1.72}	
91	168	11/2 ⁻	5/2 ⁻	0.89	1.04	9.82	21.46					10.83	0.2610	-0.28	1.41		6.33	10 ^{-0.90}	
92	169	11/2 ⁻		0.89	1.04	11.30	21.11					8.93	0.8064	-0.32	1.56		6.23	10 ^{-0.86}	
93	170	11/2 ⁻	1/2 ⁺	0.90	1.04	9.46	20.76					10.48	0.8510	-0.25	1.96		6.14	10 ^{-0.13}	
94	171	11/2 ⁻		0.90	1.05	11.04	20.50					8.20	1.2977	-0.22	2.43		6.24	10 ^{-0.90}	
95	172	11/2 ⁻	3/2 ⁺	0.91	1.05	9.19	20.23					9.73	1.4236	0.21	2.78		6.11	10 ^{-0.05}	
96	173	11/2 ⁻		0.91	1.05	10.74	19.94					7.48	2.2418	0.23	3.27		5.93	10 ^{0.34}	
97	174	11/2 ⁻	5/2 ⁺	0.92	1.04	9.24	19.99					8.68	2.3608	0.98	4.00		5.53	10 ^{2.42}	
98	175	11/2 ⁻		0.93	1.03	10.40	19.64					6.48	3.5133	0.94	4.45		5.39	10 ^{2.73}	
99	176	1/2 ⁻	1/2 ⁻	0.97	0.96	8.65	19.05					7.93	7.7089	1.38	4.89		5.25	10 ^{3.76}	
100	177	1/2 ⁻		0.97	0.96	10.07	18.71					5.81	17.3835	1.35	5.34		5.13	10 ^{4.02}	
101	178	1/2 ⁻	7/2 ⁺	0.97	0.94	8.36	18.42					7.25	25.5475	1.77	5.73		4.98	10 ^{5.10}	
102	179	11/2 ⁻		0.93	0.98	9.86	18.21					5.06	14.3968	1.83	6.29		4.75	10 ^{6.15}	
103	180	1/2 ⁻	5/2 ⁻	0.96	0.91	8.07	17.93					6.52	66.0033	2.22	6.67		4.65	10 ^{7.02}	
104	181	11/2 ⁻		0.92	0.95	9.60	17.67					4.29	28.2185	2.30	7.24		4.34	10 ^{8.62}	
105	182	1/2 ⁻	7/2 ⁻	0.95	0.89	7.76	17.36					5.73	23.6801	2.69	7.59		4.28	10 ^{9.43}	
106	183	11/2 ⁻		0.92	0.91	9.30	17.06					3.51	44.8778	2.79	8.26		4.00	10 ^{11.01}	
107	184	11/2 ⁻	9/2 ⁺	0.92	0.90	7.53	16.83					4.63	66.5243	3.24	8.70		3.88	10 ^{12.27}	
108	185	11/2 ⁻		0.92	0.88	8.70	16.22					2.50	91.6622	3.29	9.25		3.82	10 ^{12.40}	
109	186	11/2 ⁻	1/2 ⁻	0.91	0.87	6.97	15.67					3.70	> 100	3.69	9.68		3.93	10 ^{11.88}	
110	187	11/2 ⁻		0.90	0.86	8.30	15.27					1.62	> 100	3.82	10.30		3.78	10 ^{12.72}	
111	188	11/2 ⁻	3/2 ⁻	0.90	0.84	6.77	15.07					2.68	> 100	4.37	10.83		3.55	10 ^{15.02}	
112	189	11/2 ⁻		0.90	0.84	7.59	14.35					1.17	> 100	4.12	11.05		3.65	10 ^{13.81}	
113	190	11/2 ⁻	3/2 ⁻	0.89	0.86	6.55	14.14					±	±	4.60	11.67		3.34	10 ^{16.99}	
114	191	11/2 ⁻		0.88	0.83	7.89	14.44					...	β-st	5.15	12.49		2.81	> 10 ²⁰	
115	192	11/2 ⁻	11/2 ⁺	0.88	0.80	6.41	14.30	1.00	0.00	0.00	0.00	0.00	±	±	5.71	13.13		2.33	> 10 ²⁰
116	193	11/2 ⁻		0.90	0.81	7.64	14.05					...	β-st	5.74	14.19		1.76	> 10 ²⁰	
117	194	11/2 ⁻	9/2 ⁻	0.90	0.78	6.18	13.81	1.00	0.00	0.00	0.00	0.00	±	±	6.24	14.72		1.36	> 10 ²⁰
118	195	11/2 ⁻		0.90	0.79	7.33	13.51	1.00	0.00	0.00	0.00	0.00	0.59	> 100	6.41	15.45		0.60	> 10 ²⁰
119	196	11/2 ⁻	13/2 ⁺	0.92	0.76	5.66	12.99	1.00	0.00	0.00	0.00	0.00	2.84	95.9384	7.06	16.26		0.58	> 10 ²⁰
120	197	3/2 ⁺		0.96	0.78	6.91	12.57	1.00	0.00	0.00	0.00	0.00	2.00	> 100	7.38	17.23		0.28	> 10 ²⁰
121	198	3/2 ⁺	1/2 ⁻	0.97	0.75	5.71	12.62	1.00	0.00	0.00	0.00	0.00	3.99	> 100	7.78	17.78		-0.58	
122	199	3/2 ⁺		0.99	0.74	6.86	12.57	1.00	0.00	0.00	0.00	0.00	2.89	> 100	7.87	18.38		-1.51	
123	200	3/2 ⁺	3/2 ⁻	1.00	0.75	5.48	12.34	1.00	0.00	0.00	0.00	0.00	4.78	> 100	8.28	18.77		-1.83	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 77 (Ir)																		
124	201	3/2 ⁺		1.00	0.77	6.53	12.01	1.00	0.00	0.00	0.00	0.00	3.77	> 100	8.33	19.29	-2.09	
125	202	1/2 ⁺	1/2 ⁻	1.04	0.76	4.95	11.48	1.00	0.00	0.00	0.00	0.00	5.76	49.7148	8.74	19.98	-1.95	
126	203	1/2 ⁺		1.04	0.89	6.01	10.97	1.00	0.00	0.00	0.00	0.00	4.71	43.3748	8.77	20.44	-1.96	
127	204	3/2 ⁺	9/2 ⁺	1.04	0.80	3.14	9.15	0.99	0.01	0.00	0.36	0.01	8.00	7.0439	9.15	20.77	-0.83	
128	205	1/2 ⁺		1.04	0.75	4.39	7.53	0.81	0.19	0.00	0.63	0.19	6.79	6.2954	9.23	21.34	0.33	> 10 ²⁰
129	206	3/2 ⁺	7/2 ⁺	1.04	0.78	2.69	7.09	0.82	0.18	0.00	0.67	0.18	8.88	3.6077	9.62	21.73	0.44	> 10 ²⁰
130	207	1/2 ⁺		1.03	0.82	3.93	6.62	0.61	0.39	0.00	0.83	0.39	7.67	3.0709	9.67	22.16	0.34	> 10 ²⁰
131	208	1/2 ⁺	5/2 ⁺	1.03	0.86	2.45	6.37	0.64	0.34	0.02	0.69	0.38	9.56	2.1516	10.08	22.43	0.20	> 10 ²⁰
132	209	3/2 ⁺		1.01	0.87	4.01	6.46	0.35	0.65	0.00	0.93	0.65	8.02	1.6037	10.30	22.94	-0.32	
133	210	3/2 ⁺	5/2 ⁺	1.00	0.87	2.43	6.44	0.28	0.68	0.04	0.89	0.76	10.01	0.6965	10.55	23.12	-0.57	
134	211	11/2		0.97	0.81	3.72	6.15	0.05	0.95	0.00	1.02	0.95	8.74	0.1624	10.36	23.29	-0.79	
135	212	11/2	5/2	0.97	0.80	2.58	6.30	0.07	0.90	0.03	0.81	0.96	10.35	0.1137	10.74	23.64	-1.12	
136	213	11/2		0.96	0.80	3.78	6.37	0.03	0.97	0.00	0.94	0.97	8.89	0.1122	10.73	24.01	-1.35	
137	214	11/2	1/2	0.95	0.83	2.48	6.26	0.05	0.89	0.06	0.79	1.01	10.57	0.1062	11.10	24.38	-1.60	
138	215	11/2 ⁻		0.95	0.84	3.72	6.19	0.03	0.97	0.00	0.88	0.97	9.27	0.0846	11.13	24.67	-1.90	
139	216	11/2 ⁻	3/2 ⁻	0.96	0.80	2.38	6.10	0.04	0.89	0.07	0.75	1.03	10.96	0.0678	11.41	24.88	-2.18	
140	217	11/2 ⁻		0.96	0.79	3.66	6.04	0.02	0.97	0.01	0.81	0.99	9.64	0.0545	11.38	25.19	-2.41	
141	218	11/2 ⁻	5/2 ⁻	0.97	0.76	2.37	6.03	0.03	0.85	0.12	0.69	1.09	11.22	0.0477	11.49	25.26	-2.61	
142	219	11/2 ⁻		0.97	0.76	3.74	6.11	0.02	0.97	0.01	0.79	0.99	9.82	0.0494	11.65	25.78	-3.00	
143	220	1/2 ⁻	5/2 ⁺	0.98	0.74	2.34	6.07	0.14	0.72	0.14	0.65	1.00	11.59	0.0378	12.03	26.15	-3.03	
144	221	1/2 ⁻		0.98	0.72	3.42	5.76	0.04	0.94	0.02	0.78	0.98	10.48	0.0385	12.02	26.50	-3.23	
145	222	1/2 ⁻	1/2 ⁺	0.97	0.73	2.19	5.61	0.13	0.59	0.28	0.68	1.15	12.07	0.0299	12.38	26.85	-3.46	
146	223	1/2 ⁻		0.96	0.73	3.23	5.43	0.03	0.92	0.05	0.76	1.02	11.05	0.0250	12.34	27.16	-3.63	
147	224	5/2 ⁺	5/2 ⁺	0.99	0.69	2.13	5.36	0.06	0.51	0.43	0.67	1.37	12.51	0.0240	12.64	27.46	-3.91	
148	225	5/2 ⁺		0.98	0.68	3.15	5.28	0.02	0.84	0.14	0.73	1.12	11.52	0.0210	12.70	27.83	-4.14	
149	226	5/2 ⁺	7/2 ⁺	0.98	0.68	1.98	5.13	0.03	0.51	0.46	0.68	1.43	13.05	0.0149	13.07	28.26	-4.29	
150	227	5/2 ⁺		0.97	0.67	2.98	4.96	0.01	0.70	0.28	0.71	1.29	12.01	0.0158	13.10	28.63	-4.49	
151	228	5/2 ⁺	9/2 ⁻	0.96	0.68	1.77	4.75	0.02	0.26	0.71	0.72	1.71	13.56	0.0132	13.44	28.93	-4.71	
152	229	5/2 ⁺		0.96	0.67	2.61	4.38	0.01	0.49	0.48	0.69	1.51	12.70	0.0116	13.43	29.23	-4.71	
153	230	1/2 ⁻	7/2 ⁺	0.96	0.68	1.43	4.04	0.02	0.17	0.79	0.76	1.81	14.25	0.0094	13.83	29.66	-4.67	
154	231	1/2 ⁻		0.96	0.67	2.34	3.77	0.01	0.27	0.63	0.72	1.80	13.29	0.0093	13.75	29.98	-4.70	
155	232	1/2 ⁻	1/2 ⁺	0.95	0.67	1.16	3.50	0.03	0.08	0.75	0.78	2.01	14.84	0.0075	14.07	30.26	-4.86	
156	233	1/2 ⁻		0.93	0.69	2.26	3.42	0.01	0.16	0.56	0.72	2.10	13.75	0.0068	14.05	30.59	-5.10	
157	234	1/2 ⁻	3/2 ⁺	0.93	0.68	1.23	3.49	0.02	0.06	0.63	0.76	2.21	15.09	0.0065	14.43	30.96	-5.44	
158	235	1/2 ⁻		0.92	0.68	2.17	3.39	0.00	0.13	0.47	0.72	2.28	14.11	0.0058	14.32	31.28	-5.69	
159	236	1/2 ⁻	3/2 ⁺	0.92	0.66	1.14	3.30	0.01	0.05	0.58	0.76	2.33	15.53	0.0051	14.67	31.54	-5.96	
160	237	11/2 ⁻		0.91	0.65	2.15	3.29	0.00	0.11	0.48	0.72	2.31	14.53	0.0043	14.58	31.89	-6.27	
161	238	11/2 ⁻	3/2 ⁺	0.91	0.63	1.04	3.19	0.01	0.03	0.57	0.77	2.38	15.96	0.0040	14.91	32.20	-6.43	
162	239	11/2 ⁻		0.91	0.63	1.93	2.97	0.00	0.09	0.36	0.75	2.50	15.07	0.0036	14.94	32.53	-6.56	
163	240	11/2 ⁻	13/2 ⁻	0.91	0.65	0.69	2.62	0.01	0.02	0.38	0.79	2.68	16.65	0.0033	15.41	32.97	-6.52	
164	241	11/2 ⁻		0.91	0.64	1.48	2.17	0.00	0.05	0.16	0.82	2.83	15.74	0.0032	15.51	33.39	-6.40	
165	242	11/2 ⁻	3/2 ⁺	0.91	0.63	0.08	1.56	0.00	0.02	0.14	0.82	3.30	17.49	0.0025	15.55	33.53	-6.24	
166	243	11/2 ⁻		0.90	0.63	1.34	1.43	0.00	0.03	0.04	0.85	3.34	16.30	0.0028	15.83	34.08	-6.51	
167	244	11/2 ⁻	9/2 ⁺	0.90	0.64	0.25	1.59	0.00	0.00	0.06	0.87	3.90	17.73	0.0025	16.16	34.61	-6.82	
168	245	11/2 ⁻		0.90	0.63	1.11	1.36	0.00	0.03	0.02	0.85	3.91	16.94	0.0023	16.38	35.07	-7.15	
169	246	11/2 ⁻	5/2 ⁺	0.89	0.64	0.05	1.17	0.00	0.01	0.05	0.89	4.34	18.18	0.0022	16.70	35.43	-7.48	
170	247	11/2 ⁻		0.89	0.65	1.03	1.08	0.00	0.02	0.02	0.86	4.36	17.46	0.0018	16.51	35.83	-7.85	
171	248	11/2 ⁻	11/2 ⁺	0.89	0.62	0.37	1.40	0.00	0.01	0.04	0.90	4.57	18.53	0.0018	17.12	36.52	-8.53	
172	249	11/2 ⁻		0.89	0.60	1.10	1.48	0.00	0.03	0.02	0.90	4.41	17.75	0.0018	17.42	37.03	-9.00	
173	250	11/2 ⁻	1/2 ⁺	0.89	0.59	0.02	1.13	0.00	0.01	0.05	0.93	4.63	19.29	0.0015	17.75	37.42	-9.35	
174	251	3/2 ⁺		0.93	0.61	0.53	0.56	0.01	0.08	0.02	0.93	4.37	19.00	0.0012	17.27	37.54	-9.28	
175	252	3/2 ⁺	5/2 ⁺	0.93	0.60	0.02	0.55	0.02	0.04	0.06	0.97	4.59	20.33	0.0011	18.48	38.28	-9.67	
176	253	3/2 ⁺		0.93	0.58	0.84	0.87	0.00	0.09	0.03	0.96	4.52	19.50	0.0011	18.49		-10.11	
177	254	3/2 ⁺	1/2 ⁺	0.93	0.60	-0.10	0.75	0.02	0.04	0.07	0.98	4.81	20.90	0.0010	18.79		-10.73	
178	255	3/2 ⁺		0.93	0.59	0.65	0.56	0.00	0.10	0.02	0.99	4.79	20.18	0.0009				
179	256	3/2 ⁺	1/2 ⁺	0.93	0.60	-0.69	-0.04	0.00	0.04	0.12	1.02	5.27	21.80	0.0008				

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	<i>S</i> _{1n} (MeV)	<i>S</i> _{2n} (MeV)	<i>P</i> _{0n}	<i>P</i> _{1n}	<i>P</i> _{2n}	\bar{E}_n (MeV)	\bar{n}	<i>Q</i> _β (MeV)	<i>T</i> _β (s)	<i>S</i> _{1p} (MeV)	<i>S</i> _{2p} (MeV)	<i>Q</i> _α (MeV)	<i>T</i> _α (s)
Z = 78 (Pt)																		
87	165		5/2 ⁻	0.78	1.04								10.94	0.2765	0.19	-0.93	7.28	10 ^{-3.74}
88	166			0.79	1.04	12.27							8.76	0.1415	0.55	-0.56	7.01	10 ^{-3.95}
89	167		3/2 ⁻	0.83	1.04	9.77	22.04						10.63	0.2167	0.23	-0.48	7.19	10 ^{-3.46}
90	168			0.82	1.04	12.07	21.84						8.38	0.5814	0.66	-0.07	7.02	10 ^{-3.98}
91	169		5/2 ⁻	0.84	1.04	9.82	21.89						9.86	0.3267	0.65	0.37	6.89	10 ^{-2.48}
92	170			0.85	1.05	11.74	21.55						7.58	0.6388	1.10	0.78	6.82	10 ^{-3.31}
93	171		1/2 ⁺	0.85	1.05	9.47	21.20						9.15	1.1710	1.10	0.85	6.73	10 ^{-1.90}
94	172			0.87	1.05	11.46	20.93						6.89	5.8954	1.52	1.30	6.60	10 ^{-2.55}
95	173		3/2 ⁺	0.87	1.05	9.21	20.67						8.42	1.7320	1.54	1.75	6.78	10 ^{-2.11}
96	174			0.88	1.05	11.17	20.38						6.49	3.4909	1.96	2.19	6.62	10 ^{-2.62}
97	175		5/2 ⁺	0.90	1.04	8.90	20.07						7.99	6.8860	1.63	2.61	6.48	10 ^{-1.05}
98	176			0.98	0.97	11.05	19.95						5.59	6.7839	2.28	3.21	6.15	10 ^{-0.89}
99	177		1/2 ⁻	0.99	0.94	8.75	19.80						6.91	5.5136	2.38	3.76	5.90	10 ^{1.24}
100	178			0.99	0.94	10.56	19.31						4.71	41.8136	2.87	4.22	5.78	10 ^{0.69}
101	179		7/2 ⁺	0.99	0.92	8.46	19.01						6.10	15.2896	2.97	4.74	5.53	10 ^{2.88}
102	180			0.98	0.91	10.17	18.62						4.00	25.9182	3.28	5.11	5.46	10 ^{2.14}
103	181		5/2 ⁻	0.98	0.91	8.16	18.33						5.44	40.4821	3.38	5.60	5.23	10 ^{4.34}
104	182			0.94	0.93	9.98	18.14						3.22	91.7636	3.76	6.06	5.05	10 ^{4.20}
105	183		7/2 ⁻	0.96	0.89	7.84	17.83						4.68	13.7332	3.85	6.53	4.88	10 ^{6.20}
106	184			0.94	0.90	9.69	17.53						2.51	> 100	4.23	7.02	4.71	10 ^{6.11}
107	185		9/2 ⁺	0.94	0.88	7.56	17.25						3.65	> 100	4.27	7.50	4.52	10 ^{8.34}
108	186			0.92	0.88	9.12	16.69						1.50	> 100	4.69	7.98	4.60	10 ^{6.84}
109	187		1/2 ⁻	0.92	0.86	6.99	16.11						2.81	> 100	4.71	8.40	4.69	10 ^{7.30}
110	188			0.89	0.87	8.72	15.71						0.86	> 100	5.13	8.94	4.62	10 ^{6.66}
111	189		7/2 ⁻	0.88	0.88	6.75	15.47						1.69	> 100	5.11	9.48	4.43	10 ^{8.92}
112	190			0.87	0.89	8.40	15.15						...	β-st	5.92	10.04	4.21	10 ^{9.41}
113	191		9/2 ⁻	0.86	0.88	6.68	15.08						1.05	> 100	6.06	10.66	3.74	10 ^{14.00}
114	192			0.86	0.87	8.46	15.14						...	β-st	6.62	11.77	3.12	10 ^{18.88}
115	193		11/2 ⁺	0.87	0.84	6.42	14.87						0.22	> 100	6.63	12.34	2.77	> 10 ²⁰
116	194			0.87	0.82	8.17	14.59						...	β-st	7.16	12.91	1.94	> 10 ²⁰
117	195		3/2 ⁻	0.88	0.80	6.15	14.32						...	β-st	7.14	13.38	1.64	> 10 ²⁰
118	196			0.89	0.80	7.91	14.06						...	β-st	7.72	14.13	1.33	> 10 ²⁰
119	197		1/2 ⁻	0.91	0.82	6.07	13.99	1.00	0.00	0.00	0.00	0.00	0.69	> 100	8.13	15.19	0.93	> 10 ²⁰
120	198			0.92	0.79	7.70	13.78						...	β-st	8.92	16.30	0.39	> 10 ²⁰
121	199		1/2 ⁻	0.92	0.75	5.76	13.46	1.00	0.00	0.00	0.00	0.00	1.38	> 100	8.96	16.74	-0.35	
122	200			0.94	0.75	7.38	13.13	1.00	0.00	0.00	0.00	0.00	0.28	> 100	9.48	17.36	-1.14	
123	201		3/2 ⁻	0.95	0.76	5.52	12.90	1.00	0.00	0.00	0.00	0.00	2.14	> 100	9.52	17.80	-1.34	
124	202			0.95	0.78	6.94	12.46	1.00	0.00	0.00	0.00	0.00	1.11	> 100	9.93	18.26	-1.51	
125	203		1/2 ⁻	0.98	0.76	4.97	11.90	1.00	0.00	0.00	0.00	0.00	3.15	> 100	9.94	18.68	-1.40	
126	204			0.98	0.89	6.42	11.39	1.00	0.00	0.00	0.00	0.00	2.18	> 100	10.35	19.12	-1.35	
127	205		9/2 ⁺	0.98	0.80	3.19	9.61	1.00	0.00	0.00	0.00	0.00	5.44	21.3520	10.40	19.55	0.01	> 10 ²⁰
128	206			0.98	0.75	4.79	7.97	1.00	0.00	0.00	0.00	0.00	4.26	20.7378	10.80	20.02	1.21	> 10 ²⁰
129	207		3/2 ⁺	0.98	0.79	2.71	7.50	0.99	0.01	0.00	0.26	0.01	6.36	9.1509	10.82	20.43	1.25	> 10 ²⁰
130	208			0.98	0.83	4.33	7.05	0.95	0.05	0.00	0.52	0.05	5.03	9.2479	11.22	20.89	1.23	> 10 ²⁰
131	209		5/2 ⁺	0.97	0.86	2.47	6.81	0.93	0.07	0.00	0.53	0.07	7.01	5.1191	11.25	21.33	1.06	> 10 ²⁰
132	210			0.96	0.88	4.42	6.89	0.66	0.34	0.00	0.54	0.34	5.49	4.0255	11.66	21.95	0.52	> 10 ²⁰
133	211		5/2 ⁺	0.95	0.89	2.45	6.87	0.58	0.42	0.00	0.42	0.42	7.34	2.2928	11.68	22.23	0.10	> 10 ²⁰
134	212			0.94	0.90	4.20	6.65	0.54	0.46	0.00	0.38	0.46	6.11	0.9704	12.15	22.52	-0.30	
135	213		3/2	0.94	0.81	2.32	6.51	0.64	0.36	0.00	0.35	0.36	8.00	0.2459	11.89	22.63	-0.44	
136	214			0.94	0.83	4.16	6.47	0.39	0.61	0.00	0.37	0.61	6.48	0.3011	12.26	22.99	-0.69	
137	215		1/2	0.94	0.81	2.42	6.58	0.51	0.49	0.00	0.33	0.49	8.22	0.1920	12.20	23.30	-0.91	
138	216			0.93	0.84	4.07	6.49	0.49	0.51	0.00	0.33	0.51	6.87	0.1544	12.56	23.69	-1.19	
139	217		3/2 ⁻	0.94	0.83	2.34	6.41	0.31	0.69	0.00	0.33	0.69	8.59	0.1432	12.52	23.92	-1.42	
140	218			0.94	0.80	3.95	6.29	0.46	0.54	0.00	0.35	0.54	7.29	0.0954	12.81	24.19	-1.69	
141	219		5/2 ⁻	0.98	0.75	2.34	6.29	0.46	0.54	0.00	0.39	0.54	8.91	0.0822	12.78	24.27	-1.91	
142	220			0.98	0.73	4.10	6.44	0.45	0.55	0.00	0.43	0.55	7.39	0.0922	13.14	24.79	-2.33	
143	221		5/2 ⁺	0.99	0.73	2.31	6.42	0.56	0.44	0.00	0.44	0.44	8.98	0.0660	13.12	25.15	-2.38	

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 78 (Pt)																		
144	222			0.99	0.72	3.77	6.09	0.48	0.52	0.00	0.44	0.52	8.04	0.0558	13.48	25.49	−2.58	
145	223		1/2 ⁺	0.99	0.71	2.22	5.99	0.38	0.62	0.00	0.46	0.62	9.59	0.0443	13.50	25.88	−2.84	
146	224			0.98	0.70	3.59	5.80	0.36	0.64	0.00	0.53	0.64	8.58	0.0381	13.85	26.19	−3.00	
147	225		5/2 ⁺	1.00	0.68	2.17	5.76	0.35	0.64	0.01	0.52	0.66	10.00	0.0319	13.89	26.53	−3.33	
148	226			0.99	0.67	3.51	5.68	0.29	0.71	0.00	0.58	0.71	8.91	0.0323	14.25	26.95	−3.57	
149	227		7/2 ⁺	0.98	0.68	1.94	5.45	0.33	0.65	0.02	0.54	0.69	10.52	0.0195	14.21	27.29	−3.68	
150	228			0.98	0.67	3.31	5.25	0.20	0.79	0.01	0.60	0.81	9.56	0.0204	14.54	27.64	−3.91	
151	229		9/2 [−]	0.98	0.67	1.76	5.07	0.15	0.79	0.06	0.62	0.91	11.12	0.0179	14.53	27.97	−4.05	
152	230			0.97	0.67	2.98	4.74	0.14	0.85	0.01	0.66	0.87	10.29	0.0145	14.90	28.33	−4.08	
153	231		7/2 ⁺	0.97	0.68	1.37	4.35	0.10	0.64	0.26	0.63	1.16	11.84	0.0124	14.84	28.67	−4.02	
154	232			0.96	0.67	2.72	4.09	0.06	0.83	0.11	0.68	1.05	10.86	0.0122	15.22	28.97	−4.11	
155	233		1/2 ⁺	0.96	0.67	1.17	3.89	0.08	0.37	0.54	0.65	1.48	12.39	0.0099	15.23	29.30	−4.26	
156	234			0.93	0.71	2.57	3.74	0.03	0.76	0.20	0.68	1.19	11.35	0.0087	15.54	29.58	−4.41	
157	235		9/2 ⁺	0.93	0.69	1.18	3.75	0.04	0.33	0.62	0.67	1.60	12.66	0.0076	15.49	29.93	−4.75	
158	236			0.93	0.68	2.56	3.74	0.04	0.63	0.31	0.66	1.31	11.65	0.0077	15.89	30.20	−5.03	
159	237		3/2 ⁺	0.93	0.65	1.14	3.70	0.05	0.24	0.69	0.69	1.68	13.03	0.0068	15.89	30.56	−5.33	
160	238			0.92	0.65	2.48	3.63	0.03	0.62	0.33	0.66	1.34	12.04	0.0061	16.23	30.81	−5.53	
161	239		11/2 [−]	0.92	0.63	1.03	3.52	0.03	0.21	0.74	0.71	1.75	13.49	0.0057	16.21	31.12	−5.78	
162	240			0.92	0.63	2.27	3.30	0.02	0.47	0.48	0.66	1.52	12.51	0.0053	16.56	31.50	−5.81	
163	241		13/2 [−]	0.91	0.66	0.58	2.85	0.01	0.11	0.81	0.77	1.95	14.24	0.0047	16.44	31.85	−5.67	
164	242			0.91	0.64	1.83	2.41	0.01	0.21	0.61	0.72	1.95	13.37	0.0044	16.79	32.31	−5.60	
165	243		3/2 ⁺	0.90	0.65	0.15	1.98	0.02	0.04	0.60	0.82	2.30	15.03	0.0035	16.86	32.40	−5.53	
166	244			0.90	0.64	1.68	1.83	0.01	0.08	0.32	0.78	2.54	13.83	0.0039	17.19	33.03	−5.83	
167	245		9/2 ⁺	0.89	0.64	0.32	2.01	0.01	0.02	0.24	0.82	2.95	14.99	0.0041	17.27	33.43	−6.10	
168	246			0.88	0.67	1.30	1.62	0.01	0.06	0.14	0.81	2.82	14.45	0.0030	17.45	33.84	−6.35	
169	247		11/2 ⁺	0.88	0.67	0.31	1.61	0.01	0.03	0.28	0.82	3.04	15.99	0.0024	17.71	34.41	−6.74	
170	248			0.91	0.64	1.44	1.75	0.02	0.06	0.26	0.82	2.67	15.37	0.0021	18.12	34.64	−7.29	
171	249		3/2 ⁺	0.91	0.63	0.32	1.76	0.02	0.02	0.29	0.87	2.92	16.88	0.0019	18.07	35.19	−7.87	
172	250			0.91	0.60	1.56	1.88	0.02	0.05	0.20	0.88	2.75	15.95	0.0018	18.53	35.94	−8.22	
173	251		3/2 ⁺	0.91	0.64	0.24	1.81	0.03	0.03	0.18	0.90	3.05	17.39	0.0017	18.75	36.50	−8.70	
174	252			0.91	0.61	1.35	1.60	0.02	0.05	0.09	0.93	3.01	16.51	0.0017	19.57	36.84	−9.24	
175	253		5/2 ⁺	0.91	0.59	0.01	1.36	0.01	0.03	0.10	0.94	3.53	17.83	0.0016	19.56	38.04	−9.56	
176	254			0.91	0.57	1.30	1.31	0.02	0.05	0.04	0.94	3.31	16.97	0.0015	20.02	38.50	−9.85	
177	255		1/2 ⁺	0.91	0.59	−0.07	1.23	0.01	0.03	0.06	0.97	3.83	18.29	0.0014	20.05	38.84	−10.97	
178	256			0.91	0.59	0.94	0.87	0.00	0.06	0.03	0.94	3.83	17.60	0.0013	20.33		−11.07	
179	257		1/2 ⁺	0.90	0.60	−0.64	0.29	0.03	0.03	0.06	0.99	4.24	19.17	0.0011	20.38		−10.83	
180	258			0.90	0.57	0.64	−0.01	0.00	0.07	0.02	0.98	4.49	18.21	0.0012				
181	259		3/2 ⁺	0.90	0.60	−0.68	−0.04	0.00	0.00	0.07	1.01	5.16	19.58	0.0010				
182	260			0.91	0.56	0.25	−0.43	0.00	0.08	0.02	0.99	5.11	18.97	0.0008				
Z = 79 (Au)																		
88	167		1/2 ⁺		0.73	1.06							10.64	0.2553	−1.65	−1.10	7.53	10 ^{−4.38}
89	168		1/2 ⁺	7/2 [−]	0.75	1.05	10.37						12.34	0.1430	−1.05	−0.82	7.12	10 ^{−2.80}
90	169		1/2 ⁺		0.75	1.06	11.99	22.36					10.17	0.2437	−1.13	−0.47	7.04	10 ^{−2.85}
91	170		1/2 ⁺	3/2 [−]	0.75	1.07	9.97	21.96					11.93	0.1937	−0.98	−0.32	7.16	10 ^{−2.89}
92	171		1/2 ⁺		0.74	1.07	11.75	21.72					9.65	0.1908	−0.96	0.13	7.05	10 ^{−2.88}
93	172		3/2 ⁺	5/2 [−]	0.83	1.05	9.92	21.66					11.19	0.4732	−0.52	0.59	6.96	10 ^{−2.24}
94	173		3/2 ⁺		0.84	1.05	11.47	21.39					8.93	0.6071	−0.50	1.02	6.78	10 ^{−2.00}
95	174		3/2 ⁺	5/2 [−]	0.84	1.06	9.61	21.08					10.49	1.3606	−0.10	1.44	6.63	10 ^{−1.13}
96	175		3/2 ⁺		0.84	1.06	11.15	20.77					8.24	1.8289	−0.12	1.85	6.51	10 ^{−1.00}
97	176		3/2 ⁺	5/2 [−]	0.85	1.06	9.34	20.49					9.95	1.0541	0.32	1.95	6.37	10 ^{−0.13}
98	177		3/2 ⁺		0.85	1.06	10.87	20.21					7.83	1.9858	0.14	2.42	6.24	10 ^{−0.01}
99	178		11/2 [−]	1/2 [−]	1.00	0.95	9.05	19.92					9.33	1.4958	0.44	2.82	6.44	10 ^{−0.40}
100	179		11/2 [−]		1.00	0.94	10.58	19.63					7.21	2.3186	0.46	3.33	6.25	10 ^{−0.01}
101	180		3/2 [−]	7/2 ⁺	1.01	0.92	8.74	19.32					8.64	6.1940	0.75	3.72	6.16	10 ^{0.69}
102	181		3/2 [−]		1.01	0.90	10.27	19.01					6.54	9.3618	0.84	4.12	5.96	10 ^{1.13}
103	182		3/2 [−]	5/2 [−]	1.01	0.89	8.63	18.90					7.89	13.9316	1.31	4.69	5.69	10 ^{2.69}
104	183		11/2 [−]		0.96	0.93	9.89	18.52					5.85	8.0170	1.21	4.97	5.66	10 ^{2.49}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 79 (Au)																		
105	184	3/2 ⁻	7/2 ⁻	1.00	0.87	8.39	18.28						7.14	6.9909	1.77	5.61	5.33	10 ^{4.40}
106	185	1/2 ⁻		0.96	0.89	9.61	18.01						5.09	98.4665	1.69	5.92	5.32	10 ^{4.11}
107	186	1/2 ⁻	9/2 ⁺	0.96	0.88	8.01	17.62						6.21	> 100	2.14	6.40	5.07	10 ^{5.75}
108	187	1/2 ⁺		0.81	1.03	9.08	17.10						4.11	> 100	2.10	6.79	5.29	10 ^{4.26}
109	188	1/2 ⁺	5/2 ⁺	0.82	1.03	7.52	16.60						5.31	> 100	2.62	7.33	5.30	10 ^{4.60}
110	189	1/2 ⁺		0.87	1.02	9.05	16.56						3.02	> 100	2.95	8.08	4.95	10 ^{6.06}
111	190	1/2 ⁺	5/2 ⁺	0.88	1.02	7.38	16.43						4.04	> 100	3.58	8.69	4.54	10 ^{8.84}
112	191	1/2 ⁺		0.88	1.01	8.89	16.27						1.83	> 100	4.07	9.99	3.95	10 ^{12.65}
113	192	1/2 ⁺	5/2 ⁺	0.90	0.99	7.17	16.06						3.12	> 100	4.56	10.61	3.55	10 ^{16.47}
114	193	1/2 ⁺		0.91	0.99	8.56	15.72						0.98	> 100	4.66	11.28	2.58	> 10 ²⁰
115	194	1/2 ⁺	3/2 ⁺	0.91	0.97	6.88	15.43						±	±	5.11	11.75	2.25	> 10 ²⁰
116	195	1/2 ⁺		0.91	0.94	8.18	15.06						0.24	> 100	5.13	12.29	1.96	> 10 ²⁰
117	196	1/2 ⁺	1/2 ⁺	0.91	0.90	6.85	15.03						±	±	5.82	12.96	1.53	> 10 ²⁰
118	197	1/2 ⁺		0.92	0.85	8.07	14.91						...	β-st	5.98	13.69	1.10	> 10 ²⁰
119	198	1/2 ⁺	1/2 ⁻	0.92	0.84	6.42	14.49	1.00	0.00	0.00	0.00	0.00	±	±	6.32	14.45	0.85	> 10 ²⁰
120	199	1/2 ⁺		0.92	0.80	7.74	14.16	1.00	0.00	0.00	0.00	0.00	0.24	> 100	6.36	15.28	0.45	> 10 ²⁰
121	200	1/2 ⁺	1/2 ⁻	0.91	0.77	6.28	14.02	1.00	0.00	0.00	0.00	0.00	2.19	> 100	6.88	15.84	-0.17	
122	201	1/2 ⁺		0.92	0.76	7.37	13.65	1.00	0.00	0.00	0.00	0.00	1.17	> 100	6.88	16.36	-0.63	
123	202	1/2 ⁺	3/2 ⁻	0.92	0.78	5.91	13.29	1.00	0.00	0.00	0.00	0.00	3.11	> 100	7.27	16.79	-0.83	
124	203	1/2 ⁺		0.92	0.79	7.00	12.91	1.00	0.00	0.00	0.00	0.00	2.08	> 100	7.33	17.26	-0.97	
125	204	3/2 ⁺	1/2 ⁻	0.92	0.76	5.45	12.45	1.00	0.00	0.00	0.00	0.00	4.01	> 100	7.82	17.76	-0.94	
126	205	3/2 ⁺		0.92	0.89	6.45	11.91	1.00	0.00	0.00	0.00	0.00	3.20	> 100	7.85	18.20	-0.86	
127	206	1/2 ⁺	9/2 ⁺	0.92	0.80	3.60	10.05	1.00	0.00	0.00	0.00	0.00	6.47	23.8381	8.26	18.66	0.49	> 10 ²⁰
128	207	3/2 ⁺	3/2 ⁺	0.92	0.76	4.82	8.41	0.97	0.03	0.00	0.40	0.03	5.26	23.4229	8.29	19.08	1.69	> 10 ²⁰
129	208	3/2 ⁺	3/2 ⁺	0.92	0.79	3.01	7.82	0.96	0.04	0.00	0.32	0.04	7.54	9.4730	8.58	19.40	1.82	> 10 ²⁰
130	209	3/2 ⁺		0.92	0.83	4.46	7.46	0.84	0.16	0.00	0.67	0.16	6.09	10.4102	8.71	19.93	1.75	> 10 ²⁰
131	210	3/2 ⁺	5/2 ⁺	0.92	0.86	2.90	7.35	0.88	0.12	0.00	0.64	0.12	8.10	5.8317	9.13	20.38	1.55	> 10 ²⁰
132	211	3/2 ⁺		0.91	0.89	4.30	7.19	0.62	0.38	0.00	0.91	0.38	6.72	5.0138	9.01	20.66	1.18	> 10 ²⁰
133	212	3/2 ⁺	1/2 ⁺	0.90	0.90	2.97	7.27	0.64	0.36	0.00	0.32	0.36	8.45	0.3397	9.53	21.21	0.65	> 10 ²⁰
134	213	1/2 ⁺		0.90	0.91	4.20	7.17	0.22	0.78	0.00	1.00	0.78	7.02	1.5391	9.53	21.69	0.47	> 10 ²⁰
135	214	3/2	3/2	0.91	0.85	2.64	6.84	0.32	0.68	0.00	0.70	0.68	9.05	0.4225	9.86	21.75	0.25	> 10 ²⁰
136	215	3/2		0.91	0.84	4.15	6.80	0.07	0.93	0.00	0.91	0.93	7.49	0.3986	9.85	22.12	-0.18	
137	216	3/2	5/2	0.92	0.84	2.72	6.88	0.10	0.90	0.00	0.72	0.90	9.28	0.3002	10.16	22.36	-0.33	
138	217	3/2		0.91	0.84	4.06	6.79	0.05	0.95	0.00	0.80	0.95	7.96	0.1892	10.15	22.71	-0.60	
139	218	3/2 ⁺	3/2 ⁻	0.92	0.83	2.65	6.71	0.08	0.92	0.00	0.67	0.92	9.70	0.1681	10.46	22.98	-0.77	
140	219	3/2 ⁺		0.92	0.84	3.96	6.61	0.04	0.96	0.00	0.78	0.96	8.32	0.1410	10.47	23.28	-1.02	
141	220	1/2 ⁻	5/2 ⁻	0.97	0.74	2.58	6.54	0.12	0.87	0.01	0.63	0.89	9.99	0.1233	10.71	23.49	-1.22	
142	221	1/2 ⁻		0.97	0.74	3.90	6.48	0.08	0.92	0.00	0.76	0.92	8.67	0.1134	10.51	23.65	-1.46	
143	222	11/2 ⁻	5/2 ⁺	0.98	0.73	2.83	6.74	0.22	0.77	0.01	0.59	0.79	10.30	0.0691	11.03	24.15	-1.92	
144	223	11/2 ⁻		0.99	0.72	3.77	6.60	0.06	0.94	0.00	0.74	0.94	9.18	0.0710	11.02	24.50	-1.95	
145	224	11/2 ⁻	1/2 ⁺	0.99	0.71	2.58	6.35	0.17	0.79	0.04	0.66	0.87	10.72	0.0525	11.39	24.88	-2.20	
146	225	11/2 ⁻		0.99	0.70	3.59	6.17	0.06	0.94	0.00	0.74	0.94	9.69	0.0499	11.39	25.24	-2.37	
147	226	11/2 ⁻	1/2 ⁺	0.99	0.69	2.42	6.01	0.13	0.77	0.10	0.67	0.97	11.23	0.0385	11.64	25.53	-2.59	
148	227	3/2 ⁻		1.00	0.67	3.55	5.97	0.08	0.91	0.01	0.75	0.93	10.14	0.0448	11.68	25.93	-2.91	
149	228	3/2 ⁻	7/2 ⁺	0.99	0.67	2.35	5.90	0.13	0.70	0.17	0.64	1.04	11.66	0.0274	12.08	26.30	-3.13	
150	229	3/2 ⁻		0.99	0.66	3.33	5.68	0.05	0.91	0.04	0.74	0.99	10.70	0.0314	12.10	26.65	-3.30	
151	230	3/2 ⁻	9/2 ⁻	0.99	0.67	2.14	5.47	0.04	0.60	0.36	0.68	1.32	12.23	0.0252	12.49	27.02	-3.47	
152	231	3/2 ⁻		0.98	0.67	2.92	5.06	0.02	0.85	0.13	0.73	1.11	11.43	0.0194	12.43	27.33	-3.41	
153	232	3/2 ⁻	7/2 ⁺	0.98	0.68	1.73	4.65	0.03	0.39	0.58	0.72	1.55	13.01	0.0161	12.79	27.63	-3.37	
154	233	3/2 ⁻		0.97	0.67	2.71	4.44	0.01	0.54	0.44	0.71	1.45	11.98	0.0161	12.78	28.00	-3.47	
155	234	3/2 ⁻	1/2 ⁺	0.97	0.67	1.52	4.23	0.06	0.17	0.76	0.77	1.72	13.49	0.0140	13.13	28.36	-3.56	
156	235	11/2 ⁻		0.94	0.70	2.50	4.02	0.01	0.40	0.56	0.71	1.61	12.53	0.0100	13.06	28.60	-3.72	
157	236	11/2 ⁻	9/2 ⁺	0.94	0.69	1.54	4.04	0.01	0.14	0.82	0.76	1.87	13.83	0.0083	13.42	28.92	-4.10	
158	237	1/2 ⁻		0.93	0.69	2.53	4.07	0.01	0.28	0.65	0.71	1.76	12.80	0.0094	13.39	29.28	-4.37	
159	238	11/2 ⁻	11/2 ⁻	0.94	0.66	1.50	4.02	0.01	0.09	0.84	0.78	1.96	14.19	0.0083	13.74	29.64	-4.64	
160	239	11/2 ⁻		0.94	0.63	2.48	3.97	0.01	0.29	0.62	0.70	1.77	13.18	0.0071	13.74	29.96	-4.95	
161	240	1/2 ⁻	3/2 ⁺	0.93	0.64	1.29	3.77	0.02	0.08	0.81	0.80	1.98	14.64	0.0070	14.00	30.21	-5.11	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 79 (Au)																		
162	241	11/2 ⁻		0.94	0.63	2.31	3.61	0.01	0.22	0.61	0.74	1.92	13.65	0.0059	14.04	30.60	-5.27	
163	242	1/2 ⁻	13/2 ⁻	0.93	0.65	0.95	3.27	0.01	0.05	0.69	0.82	2.20	15.28	0.0058	14.42	30.86	-5.18	
164	243	1/2 ⁻		0.92	0.64	1.81	2.77	0.00	0.10	0.43	0.79	2.38	14.48	0.0052	14.40	31.19	-5.06	
165	244	3/2 ⁺	3/2 ⁺	0.91	0.65	0.48	2.29	0.02	0.03	0.38	0.84	2.57	16.15	0.0040	14.73	31.58	-4.85	
166	245	3/2 ⁺		0.88	0.69	1.49	1.96	0.01	0.04	0.18	0.87	2.76	15.19	0.0034	14.53	31.73	-4.85	
167	246	3/2 ⁺	3/2 ⁺	0.88	0.70	0.76	2.24	0.02	0.01	0.19	0.87	3.00	16.71	0.0031	14.96	32.23	-5.52	
168	247	1/2 ⁺		0.90	0.71	1.85	2.61	0.02	0.04	0.13	0.89	2.83	15.78	0.0026	15.52	32.97	-6.03	
169	248	1/2 ⁺	1/2 ⁺	0.90	0.67	0.82	2.67	0.03	0.02	0.25	0.87	2.96	17.26	0.0025	16.03	33.74	-6.60	
170	249	1/2 ⁺		0.90	0.65	1.82	2.65	0.02	0.04	0.17	0.91	2.78	16.26	0.0023	16.41	34.53	-7.31	
171	250	1/2 ⁺	3/2 ⁺	0.90	0.63	0.64	2.47	0.03	0.02	0.20	0.92	2.98	17.77	0.0021	16.74	34.80	-7.90	
172	251	1/2 ⁺		0.90	0.62	1.68	2.32	0.02	0.04	0.09	0.97	2.92	16.74	0.0021	16.85	35.38	-8.56	
173	252	1/2 ⁺	3/2 ⁺	0.90	0.64	0.47	2.15	0.05	0.02	0.11	0.95	3.20	18.24	0.0019	17.08	35.82	-8.65	
174	253	1/2 ⁺		0.90	0.61	1.34	1.81	0.04	0.04	0.05	1.00	3.12	17.40	0.0018	17.07	36.64	-8.89	
175	254	1/2 ⁺	5/2 ⁺	0.90	0.60	0.44	1.78	0.06	0.02	0.07	1.00	3.47	18.68	0.0017	17.49	37.05	-9.31	
176	255	1/2 ⁺		0.91	0.57	1.25	1.69	0.04	0.06	0.03	0.99	3.36	17.89	0.0016	17.44	37.46	-10.03	
177	256	1/2 ⁺	1/2 ⁺	0.91	0.59	0.25	1.50	0.05	0.03	0.05	1.02	3.72	19.24	0.0014	17.76	37.80	-10.25	
178	257	1/2 ⁺		0.91	0.60	0.92	1.17	0.01	0.09	0.03	0.98	3.86	18.58	0.0014	17.74	38.07	-10.33	
179	258	1/2 ⁺	1/2 ⁺	0.90	0.59	-0.32	0.60	0.00	0.08	0.06	1.02	4.20	20.14	0.0011	18.06	38.44	-10.10	
180	259	1/2 ⁺		0.90	0.57	0.69	0.37	0.00	0.10	0.03	1.03	4.41	19.15	0.0012	18.12		-10.14	
181	260	1/2 ⁺	3/2 ⁺	0.89	0.60	-0.36	0.33	0.00	0.05	0.07	1.03	4.92	20.53	0.0010	18.43		-10.47	
182	261	1/2 ⁺		0.88	0.56	0.36	-0.01	0.00	0.09	0.04	1.04	5.00	19.62	0.0010	18.54			
183	262	1/2 ⁺	1/2 ⁺	0.88	0.60	-0.23	0.13	0.01	0.05	0.08	1.03	5.50	20.96	0.0009				
184	263	1/2 ⁺		0.88	0.68	0.35	0.12	0.00	0.09	0.03	1.01	5.62	20.33	0.0007				
Z = 80 (Hg)																		
90	170			0.78	1.07								9.23	0.1178	-0.04	-1.17	7.63	10 ^{-5.05}
91	171		3/2 ⁻	0.81	1.07	10.12							10.86	0.2412	0.11	-0.87	7.28	10 ^{-2.91}
92	172			0.81	1.07	12.15	22.27						8.62	0.3082	0.51	-0.45	7.20	10 ^{-3.72}
93	173		5/2 ⁻	0.81	1.08	9.81	21.96						10.28	0.2524	0.41	-0.11	7.20	10 ^{-2.69}
94	174			0.81	1.08	11.89	21.70						8.00	0.5541	0.83	0.32	7.05	10 ^{-3.23}
95	175		5/2 ⁻	0.85	1.08	9.54	21.44						9.61	0.3311	0.76	0.66	6.98	10 ^{-1.93}
96	176			0.85	1.08	11.60	21.14						7.35	0.9998	1.20	1.09	6.83	10 ^{-2.48}
97	177		1/2 ⁻	0.84	1.08	9.36	20.95						8.87	1.5294	1.22	1.54	6.69	10 ^{-0.92}
98	178			0.86	1.08	11.31	20.66						6.61	2.6739	1.65	1.79	6.55	10 ^{-1.47}
99	179		11/2 ⁺	0.88	1.07	9.06	20.37						8.13	3.3995	1.67	2.11	6.39	10 ^{0.20}
100	180			0.86	1.07	11.04	20.10						5.83	4.1099	2.13	2.59	6.41	10 ^{-0.91}
101	181		3/2 ⁻	0.86	1.06	8.80	19.83						7.30	1.6904	2.18	2.93	6.36	10 ^{0.31}
102	182			0.85	1.06	10.83	19.62						5.10	10.2409	2.74	3.59	6.09	10 ^{0.33}
103	183		1/2 ⁻	0.86	1.05	8.49	19.32						6.49	2.3598	2.61	3.92	6.05	10 ^{1.56}
104	184			0.85	1.05	10.57	19.06						4.32	24.0644	3.29	4.51	5.65	10 ^{2.26}
105	185		9/2 ⁺	0.85	1.05	8.25	18.82						5.68	54.8095	3.15	4.91	5.56	10 ^{3.74}
106	186			0.85	1.04	10.19	18.44						3.50	92.7633	3.73	5.42	5.35	10 ^{3.70}
107	187		7/2 ⁺	0.86	1.04	7.94	18.13						4.65	> 100	3.66	5.79	5.26	10 ^{5.23}
108	188			0.86	1.04	9.89	17.83						2.27	> 100	4.46	6.56	5.06	10 ^{5.22}
109	189		3/2 ⁻	0.86	1.04	7.64	17.53						3.68	> 100	4.58	7.21	4.98	10 ^{6.73}
110	190			0.89	1.05	9.64	17.27						1.43	> 100	5.17	8.12	4.47	10 ^{8.69}
111	191		5/2 ⁺	0.91	1.05	7.38	17.01						2.94	> 100	5.17	8.75	4.08	10 ^{12.57}
112	192			0.93	1.03	9.34	16.72						0.77	> 100	5.62	9.69	3.46	10 ^{16.80}
113	193		5/2 ⁻	0.93	1.02	7.16	16.50						2.16	> 100	5.61	10.16	3.05	> 10 ²⁰
114	194			0.94	1.00	9.06	16.22						...	β -st	6.11	10.77	2.39	> 10 ²⁰
115	195		3/2 ⁺	0.94	0.97	6.95	16.01						1.21	> 100	6.19	11.30	2.12	> 10 ²⁰
116	196			0.94	0.95	8.83	15.78						...	β -st	6.83	11.96	1.75	> 10 ²⁰
117	197		1/2 ⁺	0.94	0.90	6.70	15.53						0.59	> 100	6.69	12.51	1.47	> 10 ²⁰
118	198			0.93	0.88	8.54	15.24						...	β -st	7.16	13.14	1.10	> 10 ²⁰
119	199		1/2 ⁻	0.95	0.84	6.45	14.99						...	β -st	7.19	13.52	0.80	> 10 ²⁰
120	200			0.92	0.83	8.23	14.68						...	β -st	7.68	14.04	0.48	> 10 ²⁰
121	201		1/2 ⁻	0.91	0.80	6.36	14.59						...	β -st	7.77	14.65	0.20	> 10 ²⁰
122	202			0.90	0.77	7.85	14.21						...	β -st	8.24	15.12	0.05	> 10 ²⁰

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 80 (Hg)																		
123	203		3/2 ⁻	0.90	0.78	5.97	13.82	1.00	0.00	0.00	0.00	0.00	0.40	> 100	8.30	15.56	-0.16	
124	204			0.89	0.77	7.39	13.35						...	β -st	8.69	16.02	-0.17	
125	205		1/2 ⁻	0.87	0.79	5.64	13.03	1.00	0.00	0.00	0.00	0.00	1.32	> 100	8.87	16.69	-0.30	
126	206			0.87	0.90	6.87	12.51	1.00	0.00	0.00	0.00	0.00	0.71	> 100	9.29	17.14	-0.23	
127	207		9/2 ⁺	0.87	0.81	3.60	10.47	1.00	0.00	0.00	0.00	0.00	4.00	39.2045	9.29	17.55	1.14	> 10 ²⁰
128	208			0.88	0.76	5.29	8.89	1.00	0.00	0.00	0.00	0.00	2.71	49.4538	9.76	18.05	2.28	> 10 ²⁰
129	209		3/2 ⁺	0.88	0.79	3.01	8.30	1.00	0.00	0.00	0.00	0.00	5.04	30.5724	9.77	18.35	2.45	> 10 ²⁰
130	210			0.88	0.83	4.91	7.92	1.00	0.00	0.00	0.00	0.00	3.56	44.3327	10.22	18.92	2.33	> 10 ²⁰
131	211		3/2 ⁺	0.87	0.87	2.91	7.82	1.00	0.00	0.00	0.00	0.00	5.56	17.7922	10.23	19.36	2.13	> 10 ²⁰
132	212			0.87	0.90	4.71	7.62	0.98	0.02	0.00	0.31	0.02	4.16	20.5990	10.64	19.65	1.76	> 10 ²⁰
133	213		5/2 ⁺	0.87	0.93	2.77	7.47	0.96	0.04	0.00	0.37	0.04	6.14	9.9072	10.44	19.97	1.47	> 10 ²⁰
134	214			0.87	0.93	4.67	7.44	0.90	0.10	0.00	0.31	0.10	4.63	5.4729	10.91	20.44	1.21	> 10 ²⁰
135	215		1/2	0.90	0.86	2.59	7.26	0.96	0.04	0.00	0.23	0.04	6.62	0.3952	10.86	20.72	1.07	> 10 ²⁰
136	216			0.89	0.87	4.52	7.11	0.80	0.20	0.00	0.23	0.20	5.15	1.2980	11.22	21.08	0.75	> 10 ²⁰
137	217		7/2	0.91	0.85	2.74	7.26	0.91	0.09	0.00	0.20	0.09	6.91	0.3026	11.24	21.40	0.32	> 10 ²⁰
138	218			0.90	0.85	4.39	7.13	0.85	0.15	0.00	0.21	0.15	5.55	0.4794	11.57	21.72	0.09	> 10 ²⁰
139	219		5/2	0.90	0.85	2.58	6.98	0.86	0.14	0.00	0.25	0.14	7.34	0.1890	11.50	21.96	-0.07	
140	220			0.90	0.85	4.24	6.82	0.77	0.23	0.00	0.24	0.23	6.05	0.2424	11.78	22.25	-0.24	
141	221		5/2 ⁻	0.97	0.74	2.59	6.83	0.79	0.21	0.00	0.28	0.21	7.72	0.1700	11.79	22.50	-0.49	
142	222			0.98	0.73	4.46	7.05	0.77	0.23	0.00	0.38	0.23	6.03	0.2399	12.35	22.86	-1.00	
143	223		5/2 ⁺	0.98	0.73	2.65	7.11	0.84	0.16	0.00	0.29	0.16	7.65	0.1353	12.16	23.19	-1.31	
144	224			0.99	0.72	4.12	6.77	0.80	0.20	0.00	0.29	0.20	6.72	0.1279	12.52	23.54	-1.33	
145	225		1/2 ⁺	1.00	0.70	2.56	6.68	0.69	0.31	0.00	0.37	0.31	8.28	0.0950	12.50	23.89	-1.58	
146	226			0.99	0.70	3.96	6.52	0.60	0.40	0.00	0.38	0.40	7.19	0.0939	12.86	24.25	-1.76	
147	227		5/2 ⁺	1.00	0.68	2.46	6.42	0.56	0.44	0.00	0.39	0.44	8.65	0.0752	12.91	24.55	-2.00	
148	228			1.01	0.67	3.87	6.33	0.54	0.46	0.00	0.48	0.46	7.63	0.0688	13.23	24.91	-2.28	
149	229		7/2 ⁺	1.01	0.67	2.37	6.23	0.58	0.42	0.00	0.46	0.42	9.12	0.0431	13.25	25.33	-2.48	
150	230			1.00	0.66	3.67	6.04	0.44	0.56	0.00	0.50	0.56	8.18	0.0473	13.59	25.70	-2.65	
151	231		9/2 ⁻	0.99	0.67	2.12	5.79	0.31	0.69	0.00	0.54	0.69	9.74	0.0369	13.57	26.06	-2.82	
152	232			0.99	0.66	3.31	5.43	0.29	0.71	0.00	0.57	0.71	8.91	0.0311	13.96	26.39	-2.83	
153	233		7/2 ⁺	0.98	0.68	1.67	4.98	0.22	0.75	0.03	0.60	0.81	10.56	0.0223	13.90	26.69	-2.74	
154	234			0.98	0.67	3.03	4.71	0.15	0.84	0.01	0.66	0.86	9.53	0.0237	14.23	27.01	-2.80	
155	235		1/2 ⁺	0.98	0.67	1.54	4.57	0.15	0.62	0.23	0.63	1.08	11.05	0.0190	14.25	27.38	-2.97	
156	236			0.96	0.69	2.84	4.38	0.08	0.89	0.03	0.69	0.95	10.07	0.0160	14.59	27.65	-3.09	
157	237		9/2 ⁺	0.95	0.69	1.50	4.34	0.11	0.60	0.29	0.62	1.18	11.46	0.0118	14.55	27.97	-3.42	
158	238			0.95	0.68	2.89	4.39	0.07	0.88	0.05	0.71	0.98	10.41	0.0133	14.91	28.30	-3.74	
159	239		11/2 ⁻	0.95	0.66	1.46	4.35	0.05	0.50	0.45	0.63	1.40	11.73	0.0128	14.88	28.62	-4.02	
160	240			0.94	0.66	2.75	4.21	0.06	0.87	0.07	0.71	1.01	10.82	0.0103	15.15	28.88	-4.21	
161	241		3/2 ⁺	0.95	0.63	1.33	4.08	0.08	0.45	0.46	0.67	1.40	12.33	0.0091	15.18	29.18	-4.40	
162	242			0.94	0.64	2.58	3.91	0.05	0.78	0.16	0.74	1.13	11.32	0.0085	15.45	29.49	-4.49	
163	243		13/2 ⁻	0.94	0.66	1.01	3.59	0.03	0.28	0.68	0.72	1.67	12.95	0.0072	15.51	29.93	-4.47	
164	244			0.92	0.65	2.14	3.16	0.02	0.55	0.41	0.74	1.43	12.10	0.0066	15.84	30.24	-4.34	
165	245		9/2 ⁺	0.92	0.65	0.53	2.67	0.01	0.12	0.82	0.85	1.92	13.60	0.0058	15.90	30.62	-4.30	
166	246			0.91	0.76	2.28	2.81	0.01	0.34	0.60	0.77	1.69	12.56	0.0043	16.69	31.22	-4.75	
167	247		1/2 ⁻	0.91	0.74	0.92	3.20	0.02	0.10	0.81	0.86	1.94	14.18	0.0041	16.85	31.81	-5.52	
168	248			0.90	0.70	2.30	3.22	0.02	0.44	0.50	0.80	1.56	13.10	0.0037	17.30	32.82	-6.14	
169	249		1/2 ⁺	0.90	0.68	0.82	3.12	0.02	0.07	0.85	0.91	1.96	14.65	0.0034	17.30	33.33	-6.64	
170	250			0.90	0.65	2.16	2.97	0.02	0.28	0.61	0.81	1.78	13.65	0.0032	17.63	34.04	-7.49	
171	251		3/2 ⁺	0.90	0.62	0.64	2.80	0.01	0.06	0.81	0.94	2.06	15.18	0.0029	17.63	34.37	-7.83	
172	252			0.91	0.63	1.97	2.62	0.01	0.16	0.65	0.84	2.01	14.19	0.0027	17.93	34.78	-8.36	
173	253		3/2 ⁺	0.91	0.63	0.50	2.47	0.02	0.04	0.63	0.95	2.27	15.57	0.0025	17.96	35.03	-8.54	
174	254			0.91	0.62	1.72	2.22	0.01	0.09	0.52	0.88	2.31	14.69	0.0022	18.34	35.40	-8.70	
175	255		5/2 ⁺	0.92	0.60	0.46	2.18	0.01	0.03	0.44	0.94	2.57	15.90	0.0022	18.36	35.85	-8.91	
176	256			0.92	0.57	1.60	2.06	0.01	0.06	0.33	0.90	2.59	15.03	0.0021	18.71	36.15	-9.16	
177	257		1/2 ⁺	0.92	0.60	0.26	1.86	0.01	0.03	0.30	0.93	2.85	16.36	0.0019	18.72	36.47	-9.41	
178	258			0.92	0.60	1.24	1.50	0.01	0.05	0.17	0.92	2.86	15.65	0.0018	19.03	36.78	-9.35	
179	259		1/2 ⁺	0.90	0.59	-0.30	0.93	0.02	0.02	0.10	0.94	3.40	17.21	0.0016	19.06	37.12	-9.11	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 80 (Hg)																		
180	260			0.90	0.57	1.03	0.72	0.01	0.04	0.04	0.96	3.39	16.41	0.0017	19.39	37.51	−9.20	
181	261		3/2 ⁺	0.86	0.58	−0.56	0.46	0.01	0.03	0.06	0.99	3.99	17.91	0.0015	19.19	37.62	−9.28	
182	262			0.86	0.56	1.11	0.55	0.02	0.06	0.01	0.95	3.99	17.11	0.0014	19.95	38.49	−9.76	
183	263		1/2 ⁺	0.86	0.60	−0.27	0.84	0.01	0.04	0.05	0.97	4.43	18.48	0.0014	19.90		−10.16	
184	264			0.86	0.68	0.67	0.40	0.00	0.07	0.02	0.93	4.41	17.83	0.0010	20.22		−10.59	
185	265		11/2 [−]	0.86	0.67	−1.92	−1.25	0.00	0.02	0.17	0.97	5.03	20.40	0.0008				
186	266			0.86	0.65	−0.23	−2.15	0.00	0.01	0.01	1.01	5.88	19.01	0.0010				
Z = 81 (Tl)																		
92	173	1/2 ⁺		0.83	1.09								11.14	0.1378	−2.10	−1.60	8.18	10 ^{−5.43}
93	174	1/2	5/2	0.81	1.08	10.34							12.69	0.1802	−1.58	−1.18	7.81	10 ^{−4.06}
94	175	1/2		0.81	1.07	11.95	22.28						10.29	0.3602	−1.53	−0.70	7.61	10 ^{−3.84}
95	176	1/2	7/2	0.81	1.07	10.03	21.98						11.85	0.1464	−1.04	−0.28	7.50	10 ^{−3.11}
96	177	1/2		0.81	1.08	11.65	21.69						9.56	0.4713	−0.98	0.22	7.31	10 ^{−2.88}
97	178	1/2 ⁺	7/2 [−]	0.83	1.08	9.76	21.41						11.11	0.5822	−0.58	0.64	7.17	10 ^{−2.09}
98	179	1/2 ⁺		0.81	1.08	11.40	21.16						8.77	0.8029	−0.49	1.16	6.93	10 ^{−1.62}
99	180	1/2	9/2	0.77	1.06	9.49	20.89						10.32	0.2556	−0.07	1.60	6.78	10 ^{−0.72}
100	181	1/2 ⁺		0.69	1.07	11.03	20.52						8.08	1.7576	−0.07	2.06	6.62	10 ^{−0.48}
101	182	1/2 ⁺	13/2 ⁺	0.90	1.08	9.22	20.25						9.70	2.0526	0.35	2.53	6.45	10 ^{0.47}
102	183	1/2 ⁺		0.90	1.08	10.75	19.96						7.44	4.1317	0.27	3.01	6.28	10 ^{0.79}
103	184	1/2 ⁺	11/2 ⁺	0.90	1.07	8.95	19.69						9.06	6.0434	0.72	3.33	6.07	10 ^{2.00}
104	185	1/2 ⁺		0.90	1.07	10.57	19.52						6.75	12.4191	0.72	4.01	5.77	10 ^{2.97}
105	186	1/2 ⁺	9/2 ⁺	0.89	1.07	8.68	19.25						8.26	17.9219	1.15	4.30	5.72	10 ^{3.54}
106	187	1/2 ⁺		0.89	1.07	10.27	18.94						5.93	39.8322	1.22	4.95	5.34	10 ^{4.99}
107	188	1/2 ⁺	7/2 ⁺	0.90	1.08	8.28	18.54						7.54	62.4653	1.56	5.22	5.46	10 ^{4.78}
108	189	1/2 ⁺		0.89	1.08	10.08	18.36						5.10	> 100	1.76	6.22	4.99	10 ^{6.92}
109	190	1/2 ⁺	5/2 ⁺	0.89	1.08	8.10	18.18						6.64	> 100	2.21	6.80	4.90	10 ^{7.72}
110	191	1/2 ⁺		0.90	1.08	9.74	17.84						4.28	> 100	2.32	7.49	4.25	10 ^{11.64}
111	192	1/2 ⁺	3/2 ⁺	0.90	1.08	7.84	17.58						5.77	> 100	2.78	7.95	3.92	10 ^{14.51}
112	193	1/2 ⁺		0.90	1.08	9.48	17.32						3.45	> 100	2.92	8.54	3.49	10 ^{17.97}
113	194	1/2 ⁺	1/2 ⁺	0.90	1.07	7.61	17.09						4.90	> 100	3.38	8.98	3.26	> 10 ²⁰
114	195	1/2 ⁺		0.90	1.05	9.18	16.79						2.67	> 100	3.49	9.61	2.97	> 10 ²⁰
115	196	1/2 ⁺	3/2 [−]	0.90	1.04	7.39	16.57						4.11	> 100	3.93	10.12	2.75	> 10 ²⁰
116	197	1/2 ⁺		0.89	1.02	8.92	16.31						1.90	> 100	4.03	10.86	2.38	> 10 ²⁰
117	198	1/2 ⁺	5/2 [−]	0.89	0.99	7.11	16.03						3.32	> 100	4.44	11.13	2.15	> 10 ²⁰
118	199	1/2 ⁺		0.89	0.96	8.66	15.77						1.11	> 100	4.55	11.72	1.67	> 10 ²⁰
119	200	1/2 ⁺	1/2 [−]	0.89	0.92	6.95	15.61						2.39	> 100	5.05	12.24	1.57	> 10 ²⁰
120	201	1/2 ⁺		0.89	0.89	8.27	15.22						0.48	> 100	5.10	12.78	1.36	> 10 ²⁰
121	202	1/2 ⁺	1/2 [−]	0.89	0.84	6.74	15.01						±	±	5.47	13.24	1.05	> 10 ²⁰
122	203	1/2 ⁺		0.90	0.80	7.96	14.70						...	β-st	5.58	13.83	0.82	> 10 ²⁰
123	204	1/2 ⁺	1/2 [−]	0.90	0.77	6.38	14.34	1.00	0.00	0.00	0.00	0.00	±	±	6.00	14.29	0.72	> 10 ²⁰
124	205	1/2 ⁺		0.91	0.75	7.57	13.95						0.02		6.18	14.87	0.52	> 10 ²⁰
125	206	1/2 ⁺	1/2 [−]	0.91	0.80	6.25	13.83	1.00	0.00	0.00	0.00	0.00	1.95	> 100	6.79	15.67	0.18	> 10 ²⁰
126	207	1/2 ⁺		0.91	0.90	6.89	13.14	1.00	0.00	0.00	0.00	0.00	1.28	> 100	6.82	16.11	0.29	> 10 ²⁰
127	208	1/2 ⁺	9/2 ⁺	0.91	0.81	4.00	10.89	1.00	0.00	0.00	0.00	0.00	4.58	> 100	7.22	16.51	1.75	> 10 ²⁰
128	209	1/2 ⁺		0.91	0.76	5.34	9.34	1.00	0.00	0.00	0.00	0.00	3.26	92.4262	7.26	17.03	2.86	> 10 ²⁰
129	210	1/2 ⁺	1/2 ⁺	0.90	0.80	3.43	8.77	1.00	0.00	0.00	0.00	0.00	5.60	58.9064	7.68	17.45	3.03	> 10 ²⁰
130	211	1/2 ⁺		0.91	0.84	4.92	8.34	1.00	0.00	0.00	0.00	0.00	4.14	74.8078	7.69	17.91	2.93	> 10 ²⁰
131	212	1/2 ⁺	3/2 ⁺	0.91	0.87	3.31	8.22	1.00	0.00	0.00	0.00	0.00	6.17	29.3698	8.08	18.32	2.63	> 10 ²⁰
132	213	1/2 ⁺		0.91	0.90	4.74	8.05	0.95	0.05	0.00	0.47	0.05	4.75	29.0008	8.12	18.76	2.35	> 10 ²⁰
133	214	1/2 ⁺	5/2 ⁺	0.91	0.93	3.16	7.91	0.97	0.03	0.00	0.35	0.03	6.74	16.9958	8.52	18.95	2.08	> 10 ²⁰
134	215	1/2 ⁺		0.90	0.95	4.59	7.75	0.72	0.28	0.00	0.79	0.28	5.35	15.6869	8.43	19.34	1.79	> 10 ²⁰
135	216	1/2	9/2	0.92	0.91	3.05	7.64	0.72	0.28	0.00	0.62	0.28	7.29	7.8728	8.89	19.75	1.71	> 10 ²⁰
136	217	1/2		0.93	0.90	4.49	7.54	0.28	0.72	0.00	0.67	0.72	5.99	3.1076	8.86	20.09	1.42	> 10 ²⁰
137	218	1/2	3/2	0.92	0.88	3.04	7.53	0.41	0.59	0.00	0.56	0.59	7.83	1.4366	9.16	20.40	1.02	> 10 ²⁰
138	219	1/2		0.91	0.89	4.38	7.41	0.13	0.87	0.00	0.58	0.87	6.44	0.7712	9.14	20.71	0.80	> 10 ²⁰
139	220	1/2	5/2	0.91	0.87	2.95	7.33	0.44	0.56	0.00	0.51	0.56	8.29	0.4030	9.51	21.02	0.57	> 10 ²⁰
140	221	1/2		0.91	0.89	4.25	7.21	0.07	0.93	0.00	0.64	0.93	6.89	0.3826	9.53	21.31	0.38	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 81 (Tl)																		
141	222	3/2 ⁺	5/2 ⁻	0.97	0.73	2.77	7.02	0.34	0.66	0.00	0.48	0.66	8.76	0.2914	9.71	21.50	0.26	> 10 ²⁰
142	223	3/2 ⁺		0.98	0.73	4.27	7.04	0.20	0.80	0.00	0.65	0.80	7.27	0.3313	9.52	21.86	-0.04	
143	224	3/2 ⁺	5/2 ⁺	0.98	0.73	3.20	7.46	0.53	0.47	0.00	0.51	0.47	8.73	0.2446	10.06	22.22	-0.66	
144	225	3/2 ⁺		0.99	0.72	4.12	7.32	0.24	0.76	0.00	0.63	0.76	7.65	0.2795	10.06	22.58	-0.88	
145	226	3/2 ⁺	7/2 ⁻	0.98	0.73	2.87	6.99	0.26	0.74	0.00	0.56	0.74	9.45	0.1768	10.37	22.87	-0.91	
146	227	3/2 ⁻		1.00	0.70	3.92	6.79	0.16	0.84	0.00	0.67	0.84	8.41	0.1396	10.33	23.20	-1.07	
147	228	3/2 ⁻	5/2 ⁺	1.01	0.68	2.85	6.77	0.32	0.67	0.01	0.62	0.69	9.92	0.1084	10.72	23.63	-1.34	
148	229	3/2 ⁻		1.00	0.68	3.85	6.70	0.16	0.84	0.00	0.72	0.84	8.88	0.0977	10.70	23.93	-1.60	
149	230	11/2 ⁻	7/2 ⁺	1.02	0.67	2.74	6.59	0.22	0.76	0.02	0.57	0.80	10.34	0.0516	11.07	24.32	-1.92	
150	231	11/2 ⁻		1.01	0.66	3.68	6.42	0.10	0.90	0.00	0.72	0.90	9.40	0.0567	11.08	24.67	-2.05	
151	232	11/2 ⁻	9/2 ⁻	1.01	0.67	2.49	6.17	0.08	0.85	0.07	0.65	0.99	10.93	0.0489	11.44	25.01	-2.18	
152	233	11/2 ⁻		1.00	0.66	3.32	5.81	0.05	0.94	0.01	0.74	0.96	10.12	0.0371	11.45	25.42	-2.18	
153	234	11/2 ⁻	7/2 ⁺	1.00	0.68	2.00	5.33	0.05	0.71	0.24	0.66	1.19	11.78	0.0262	11.78	25.69	-2.04	
154	235	11/2 ⁻		1.00	0.67	3.05	5.06	0.02	0.85	0.13	0.74	1.11	10.78	0.0274	11.81	26.03	-2.17	
155	236	11/2 ⁻	1/2 ⁺	0.99	0.67	1.87	4.92	0.07	0.39	0.54	0.71	1.47	12.25	0.0228	12.13	26.38	-2.31	
156	237	3/2 ⁻		0.97	0.70	2.89	4.76	0.02	0.64	0.34	0.69	1.32	11.14	0.0232	12.18	26.77	-2.49	
157	238	3/2 ⁻	1/2 ⁺	0.97	0.69	1.84	4.73	0.06	0.21	0.73	0.73	1.67	12.51	0.0211	12.52	27.07	-2.81	
158	239	3/2 ⁻		0.96	0.69	2.79	4.63	0.01	0.59	0.39	0.68	1.40	11.53	0.0166	12.42	27.32	-3.09	
159	240	3/2 ⁻	11/2 ⁻	0.96	0.66	1.84	4.62	0.02	0.21	0.76	0.75	1.76	12.87	0.0180	12.79	27.67	-3.39	
160	241	3/2 ⁻		0.96	0.65	2.84	4.68	0.01	0.54	0.44	0.70	1.45	11.84	0.0145	12.88	28.03	-3.70	
161	242	3/2 ⁻	3/2 ⁺	0.96	0.65	1.57	4.41	0.03	0.18	0.78	0.79	1.77	13.40	0.0123	13.12	28.30	-3.77	
162	243	3/2 ⁻		0.96	0.63	2.64	4.21	0.01	0.42	0.55	0.74	1.58	12.41	0.0113	13.18	28.63	-3.94	
163	244	3/2 ⁻	13/2 ⁻	0.95	0.66	1.29	3.93	0.01	0.11	0.86	0.86	1.89	14.09	0.0095	13.46	28.97	-3.93	
164	245	1/2 ⁻		0.94	0.65	2.03	3.32	0.01	0.22	0.69	0.82	1.84	13.37	0.0076	13.34	29.19	-3.65	
165	246	9/2 ⁻	3/2 ⁻	0.90	0.78	1.24	3.27	0.01	0.03	0.88	0.93	2.04	14.77	0.0053	14.05	29.95	-3.93	
166	247	9/2 ⁻		0.90	0.75	2.54	3.78	0.01	0.19	0.70	0.83	1.89	13.61	0.0046	14.32	31.01	-4.67	
167	248	9/2 ⁻	1/2 ⁻	0.89	0.73	1.23	3.77	0.01	0.04	0.84	0.96	2.06	15.13	0.0047	14.62	31.47	-5.42	
168	249	9/2 ⁻		0.89	0.70	2.36	3.59	0.00	0.13	0.71	0.86	2.03	13.85	0.0046	14.68	31.99	-6.29	
169	250	9/2 ⁻	1/2 ⁺	0.89	0.68	1.16	3.52	0.01	0.03	0.75	0.96	2.18	15.31	0.0045	15.03	32.33	-6.70	
170	251	9/2 ⁻		0.89	0.64	2.17	3.33	0.00	0.11	0.59	0.87	2.20	14.40	0.0040	15.04	32.67	-7.02	
171	252	9/2 ⁻	3/2 ⁺	0.89	0.62	0.99	3.16	0.01	0.03	0.70	0.97	2.24	15.91	0.0035	15.38	33.02	-7.18	
172	253	9/2 ⁻		0.89	0.60	1.88	2.86	0.00	0.07	0.50	0.92	2.37	15.04	0.0033	15.29	33.22	-7.24	
173	254	9/2 ⁻	3/2 ⁺	0.89	0.63	0.84	2.72	0.01	0.02	0.47	0.96	2.51	16.40	0.0030	15.63	33.59	-7.44	
174	255	9/2 ⁻		0.89	0.60	1.67	2.51	0.00	0.04	0.22	0.96	2.75	15.50	0.0030	15.57	33.91	-7.42	
175	256	9/2 ⁻	5/2 ⁺	0.88	0.60	0.73	2.40	0.00	0.02	0.22	0.96	2.96	16.73	0.0028	15.85	34.21	-7.69	
176	257	9/2 ⁻		0.89	0.57	1.59	2.32	0.00	0.04	0.12	0.99	2.91	15.90	0.0026	15.84	34.55	-7.93	
177	258	9/2 ⁻	1/2 ⁺	0.89	0.60	0.53	2.12	0.00	0.01	0.14	0.95	3.29	17.24	0.0024	16.11	34.83	-8.02	
178	259	1/2 ⁺		0.88	0.57	1.25	1.78	0.01	0.03	0.06	1.00	3.12	16.47	0.0022	16.12	35.16	-8.03	
179	260	1/2	1/2	0.88	0.58	0.23	1.48	0.03	0.02	0.06	0.98	3.52	17.83	0.0020	16.66	35.71	-8.01	
180	261	1/2 ⁺		0.89	0.60	0.93	1.16	0.02	0.03	0.03	0.99	3.58	17.33	0.0018	16.56	35.95	-8.02	
181	262	1/2 ⁺	3/2 ⁺	0.89	0.58	0.32	1.25	0.05	0.01	0.04	1.01	3.87	18.62	0.0017	17.44	36.63	-8.66	
182	263	1/2 ⁺		0.89	0.56	1.09	1.41	0.02	0.05	0.03	0.96	3.88	17.83	0.0016	17.42	37.37	-9.06	
183	264	1/2 ⁺	1/2 ⁺	0.88	0.60	0.03	1.12	0.03	0.04	0.04	1.00	4.21	19.19	0.0015	17.72	37.62	-9.45	
184	265	1/2 ⁺		0.88	0.68	0.65	0.67	0.00	0.07	0.03	0.96	4.23	18.55	0.0012	17.70	37.92	-9.74	
185	266	1/2 ⁺	11/2 ⁻	0.88	0.67	-1.62	-0.97	0.00	0.03	0.17	1.00	4.78	21.11	0.0009	18.00		-8.35	
186	267	1/2 ⁺		0.88	0.65	-0.22	-1.84	0.00	0.01	0.04	1.03	5.67	19.70	0.0011	18.01		-7.78	
187	268	1/2	3/2	0.89	0.67	-1.96	-2.18	0.00	0.01	0.02	1.05	6.41	21.77	0.0009				
188	269	1/2 ⁺		0.88	0.72	-0.57	-2.53	0.00	0.00	0.01	1.07	7.35	20.42	0.0009				
Z = 82 (Pb)																		
93	175		3/2 ⁻	1.03	1.12								11.82	0.0680	-0.66	-2.24	8.58	10 ^{-5.82}
94	176			1.03	1.11	12.41							9.45	0.1197	-0.20	-1.73	8.32	10 ^{-6.21}
95	177		5/2	1.02	1.10	10.05	22.46						11.05	0.1089	-0.18	-1.22	8.08	10 ^{-4.49}
96	178			1.02	1.09	12.15	22.20						8.66	0.2443	0.32	-0.67	7.82	10 ^{-4.81}
97	179		7/2	1.01	1.06	9.78	21.93						10.28	0.1931	0.34	-0.24	7.59	10 ^{-3.06}
98	180			1.01	1.06	11.93	21.71						7.84	0.7599	0.87	0.38	7.26	10 ^{-3.08}
99	181		9/2	0.99	1.05	9.46	21.39						9.41	0.2582	0.84	0.77	7.16	10 ^{-1.69}
100	182			1.00	1.06	11.65	21.10						6.98	1.8909	1.45	1.38	6.81	10 ^{-1.58}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 82 (Pb)																		
101	183		13/2	1.00	1.04	9.15	20.79						8.58	2.2851	1.38	1.73	6.74	10 ^{-0.19}
102	184			1.00	1.06	11.33	20.47						6.20	4.9269	1.97	2.23	6.44	10 ^{-0.16}
103	185		11/2	1.02	1.07	8.92	20.25						7.84	6.0012	1.94	2.66	6.31	10 ^{1.43}
104	186			1.03	1.07	10.99	19.91						5.53	12.5042	2.36	3.08	6.16	10 ^{0.98}
105	187		5/2 ⁺	1.02	1.08	8.66	19.65						7.14	15.1039	2.34	3.49	5.99	10 ^{2.77}
106	188			1.03	1.09	10.69	19.35						4.72	34.6201	2.77	3.99	5.86	10 ^{2.28}
107	189		11/2 ⁺	1.03	1.09	8.43	19.12						6.38	40.7829	2.92	4.48	5.69	10 ^{4.13}
108	190			1.02	1.10	10.41	18.84						4.07	86.8979	3.25	5.00	5.47	10 ^{4.13}
109	191		3/2 ⁺	1.02	1.10	8.15	18.55						5.66	> 100	3.30	5.51	5.26	10 ^{6.27}
110	192			1.02	1.10	10.20	18.34						3.31	> 100	3.75	6.07	4.95	10 ^{6.92}
111	193		11/2 ⁺	1.00	1.10	7.80	17.99						4.99	> 100	3.71	6.49	4.80	10 ^{8.88}
112	194			1.01	1.10	10.03	17.83						2.57	> 100	4.26	7.18	4.40	10 ^{10.41}
113	195		13/2 ⁺	0.98	1.09	7.50	17.53						4.25	> 100	4.15	7.53	4.28	10 ^{12.32}
114	196			1.01	1.09	9.81	17.31						1.83	> 100	4.77	8.27	3.81	10 ^{14.95}
115	197		1/2 ⁻	1.00	1.08	7.35	17.16						3.40	> 100	4.74	8.67	3.62	10 ^{17.71}
116	198			1.00	1.06	9.42	16.77						1.09	> 100	5.24	9.27	3.26	> 10 ²⁰
117	199		3/2 ⁻	1.00	1.04	7.12	16.54						2.63	> 100	5.25	9.68	3.09	> 10 ²⁰
118	200			1.00	1.01	9.12	16.24						0.46	> 100	5.71	10.26	2.80	> 10 ²⁰
119	201		3/2 ⁻	1.00	0.99	6.95	16.07						1.78	> 100	5.71	10.76	2.55	> 10 ²⁰
120	202			1.00	0.94	8.77	15.72						...	β -st	6.20	11.30	2.32	> 10 ²⁰
121	203		1/2 ⁻	0.99	0.90	6.70	15.47						1.01	> 100	6.17	11.64	2.07	> 10 ²⁰
122	204			0.99	0.85	8.48	15.19						...	β -st	6.69	12.28	1.81	> 10 ²⁰
123	205		1/2 ⁻	0.98	0.79	6.50	14.98						...	β -st	6.81	12.81	1.68	> 10 ²⁰
124	206			0.99	0.76	8.19	14.68						...	β -st	7.42	13.60	1.34	> 10 ²⁰
125	207		1/2 ⁻	1.00	0.81	6.22	14.40						...	β -st	7.39	14.18	1.09	> 10 ²⁰
126	208			1.00	0.91	7.30	13.52						...	β -st	7.79	14.61	1.18	> 10 ²⁰
127	209		9/2 ⁺	0.99	0.81	4.02	11.32	1.00	0.00	0.00	0.00	0.00	0.72	> 100	7.82	15.03	2.80	> 10 ²⁰
128	210			0.99	0.77	5.77	9.79	1.00	0.00	0.00	0.00	0.00	...	β -st	8.25	15.51	3.90	10 ^{14.19}
129	211		1/2 ⁺	0.99	0.80	3.45	9.22	1.00	0.00	0.00	0.00	0.00	1.79	> 100	8.27	15.95	4.05	10 ^{14.05}
130	212			0.99	0.84	5.34	8.79	1.00	0.00	0.00	0.00	0.00	0.43	> 100	8.69	16.39	4.00	10 ^{13.38}
131	213		3/2 ⁺	0.99	0.88	3.32	8.66	1.00	0.00	0.00	0.00	0.00	2.42	> 100	8.71	16.79	3.68	10 ^{17.08}
132	214			0.99	0.91	5.15	8.47	1.00	0.00	0.00	0.00	0.00	1.01	> 100	9.12	17.24	3.44	10 ^{18.38}
133	215		7/2	0.99	0.93	3.20	8.35	1.00	0.00	0.00	0.00	0.00	3.09	> 100	9.15	17.67	3.16	> 10 ²⁰
134	216			0.99	0.93	4.99	8.19	1.00	0.00	0.00	0.00	0.00	1.80	> 100	9.56	17.99	2.87	> 10 ²⁰
135	217		9/2	0.99	0.88	3.19	8.18	1.00	0.00	0.00	0.00	0.00	3.74	> 100	9.70	18.59	2.45	> 10 ²⁰
136	218			0.99	0.92	4.88	8.07	1.00	0.00	0.00	0.00	0.00	2.53	90.0567	10.08	18.94	2.24	> 10 ²⁰
137	219		1/2	0.98	0.89	2.99	7.86	1.00	0.00	0.00	0.00	0.00	4.49	16.7920	10.04	19.19	1.85	> 10 ²⁰
138	220			0.99	0.92	4.81	7.80	1.00	0.00	0.00	0.00	0.00	3.32	6.9223	10.46	19.61	1.56	> 10 ²⁰
139	221		1/2	0.98	0.91	2.86	7.66	1.00	0.00	0.00	0.00	0.00	5.26	0.5312	10.37	19.88	1.44	> 10 ²⁰
140	222			0.99	0.93	4.64	7.49	1.00	0.00	0.00	0.00	0.00	3.98	1.5107	10.75	20.28	1.20	> 10 ²⁰
141	223		5/2 ⁻	0.97	0.73	2.77	7.41	0.99	0.01	0.00	0.12	0.01	5.87	0.9315	10.75	20.46	1.01	> 10 ²⁰
142	224			0.99	0.71	4.65	7.42	0.99	0.01	0.00	0.16	0.01	4.77	0.7292	11.14	20.65	0.60	> 10 ²⁰
143	225		5/2 ⁺	0.98	0.73	3.05	7.70	0.98	0.02	0.00	0.15	0.02	6.38	0.3665	10.99	21.05	0.14	> 10 ²⁰
144	226			0.99	0.72	4.67	7.72	0.96	0.04	0.00	0.20	0.04	5.09	0.5800	11.54	21.60	-0.07	
145	227		7/2 ⁻	1.00	0.71	2.88	7.55	0.94	0.06	0.00	0.17	0.06	6.94	0.3155	11.55	21.91	-0.30	
146	228			1.01	0.69	4.36	7.24	0.90	0.10	0.00	0.30	0.10	5.87	0.2608	11.98	22.32	-0.53	
147	229		5/2 ⁺	1.02	0.68	2.81	7.17	0.85	0.15	0.00	0.29	0.15	7.39	0.1770	11.95	22.67	-0.79	
148	230			1.03	0.67	4.20	7.01	0.80	0.20	0.00	0.37	0.20	6.33	0.1881	12.30	23.00	-1.03	
149	231		7/2 ⁺	1.02	0.67	2.73	6.93	0.82	0.18	0.00	0.33	0.18	7.85	0.0910	12.30	23.37	-1.30	
150	232			1.02	0.66	4.02	6.75	0.68	0.32	0.00	0.36	0.32	6.92	0.1140	12.64	23.71	-1.45	
151	233		9/2 ⁻	1.02	0.67	2.52	6.54	0.53	0.47	0.00	0.39	0.47	8.38	0.0939	12.67	24.11	-1.60	
152	234			1.01	0.66	3.66	6.18	0.51	0.49	0.00	0.44	0.49	7.58	0.0676	13.00	24.46	-1.59	
153	235		7/2 ⁺	1.01	0.67	2.06	5.72	0.42	0.58	0.00	0.50	0.58	9.21	0.0505	13.06	24.84	-1.52	
154	236			1.01	0.67	3.33	5.39	0.31	0.69	0.00	0.58	0.69	8.27	0.0475	13.33	25.14	-1.54	
155	237		1/2 ⁺	1.01	0.67	1.78	5.11	0.25	0.72	0.03	0.60	0.78	9.85	0.0370	13.25	25.38	-1.65	
156	238			0.98	0.70	3.21	5.00	0.16	0.84	0.00	0.61	0.84	8.75	0.0317	13.57	25.76	-1.83	
157	239		1/2 ⁺	0.98	0.69	1.81	5.02	0.15	0.77	0.08	0.60	0.93	10.13	0.0286	13.54	26.06	-2.10	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 82 (Pb)																		
158	240			0.97	0.69	3.17	4.98	0.13	0.86	0.01	0.64	0.88	9.13	0.0241	13.92	26.34	-2.43	
159	241		11/2 ⁻	0.98	0.66	1.81	4.98	0.12	0.80	0.08	0.62	0.96	10.56	0.0227	13.90	26.69	-2.74	
160	242			0.97	0.66	3.13	4.94	0.12	0.87	0.01	0.67	0.89	9.48	0.0202	14.18	27.07	-2.98	
161	243		3/2 ⁺	0.97	0.65	1.65	4.77	0.11	0.77	0.12	0.66	1.01	11.04	0.0161	14.27	27.39	-3.16	
162	244			0.97	0.63	2.97	4.62	0.10	0.88	0.02	0.74	0.92	10.04	0.0149	14.60	27.78	-3.39	
163	245		13/2 ⁻	0.96	0.66	1.31	4.28	0.06	0.61	0.33	0.70	1.27	11.67	0.0128	14.61	28.07	-3.36	
164	246			0.95	0.76	2.65	3.95	0.01	0.98	0.01	0.73	1.00	10.69	0.0046	15.23	28.57	-3.43	
165	247		5/2 ⁺	0.95	0.77	1.38	4.02	0.01	0.53	0.46	0.73	1.45	11.82	0.0064	15.37	29.42	-3.79	
166	248			0.95	0.75	2.75	4.13	0.01	0.97	0.02	0.85	1.01	10.69	0.0058	15.58	29.89	-4.40	
167	249		3/2 ⁺	0.94	0.78	1.08	3.83	0.02	0.57	0.40	0.75	1.40	12.52	0.0053	15.43	30.06	-4.95	
168	250			0.94	0.77	2.62	3.70	0.02	0.94	0.03	0.91	1.03	11.36	0.0052	15.69	30.37	-5.30	
169	251		1/2 ⁺	0.88	0.67	1.26	3.88	0.02	0.26	0.71	0.79	1.71	12.83	0.0065	15.79	30.82	-5.64	
170	252			0.88	0.64	2.50	3.76	0.02	0.76	0.21	0.85	1.21	11.87	0.0058	16.12	31.16	-5.83	
171	253		3/2 ⁺	0.88	0.62	1.00	3.50	0.02	0.19	0.77	0.83	1.79	13.35	0.0053	16.13	31.52	-6.02	
172	254			0.88	0.60	2.21	3.21	0.02	0.47	0.48	0.82	1.52	12.50	0.0049	16.46	31.75	-6.07	
173	255		3/2 ⁺	0.88	0.63	0.77	2.97	0.02	0.10	0.83	0.91	1.92	13.98	0.0043	16.39	32.02	-6.19	
174	256			0.93	0.75	1.96	2.73	0.02	0.36	0.58	0.82	1.64	13.20	0.0030	16.68	32.26	-6.18	
175	257		5/2 ⁺	0.88	0.60	0.76	2.73	0.01	0.07	0.75	0.93	2.10	14.43	0.0038	16.71	32.56	-6.44	
176	258			0.93	0.71	1.86	2.63	0.02	0.16	0.71	0.83	1.92	13.60	0.0028	16.98	32.82	-6.58	
177	259		7/2 ⁺	0.92	0.67	0.48	2.34	0.01	0.03	0.67	0.93	2.28	15.01	0.0029	16.94	33.05	-6.60	
178	260			0.92	0.64	1.59	2.07	0.01	0.08	0.61	0.83	2.24	14.18	0.0023	17.28	33.40	-6.60	
179	261		1/2 ⁺	0.92	0.63	0.43	2.02	0.01	0.02	0.46	0.90	2.55	15.39	0.0024	17.48	34.13	-6.77	
180	262			0.92	0.60	1.61	2.04	0.01	0.04	0.25	0.86	2.72	14.33	0.0027	18.16	34.72	-7.14	
181	263		3/2 ⁺	0.92	0.58	0.30	1.91	0.01	0.02	0.19	0.87	3.07	15.54	0.0027	18.14	35.58	-7.75	
182	264			0.92	0.56	1.39	1.69	0.01	0.04	0.11	0.88	2.95	14.72	0.0026	18.44	35.86	-8.11	
183	265		1/2 ⁺	0.92	0.60	0.00	1.39	0.01	0.02	0.11	0.87	3.43	16.07	0.0024	18.41	36.13	-8.67	
184	266			0.91	0.68	0.94	0.95	0.01	0.05	0.07	0.88	3.10	15.46	0.0018	18.71	36.41	-8.50	
185	267		11/2 ⁻	0.91	0.67	-1.64	-0.70	0.13	0.01	0.05	0.95	3.63	17.98	0.0013	18.69	36.69	-7.14	
186	268			0.91	0.66	0.12	-1.52	0.00	0.05	0.05	0.95	4.57	16.63	0.0017	19.03	37.04	-6.59	
187	269		3/2	0.92	0.66	-1.92	-1.80	0.00	0.07	0.07	0.98	5.22	18.62	0.0014	19.07		-6.59	
188	270			0.92	0.68	-0.22	-2.14	0.00	0.00	0.02	0.99	6.19	17.26	0.0014	19.42		-6.60	
189	271		5/2	0.94	0.64	-1.45	-1.67	0.00	0.01	0.01	0.99	6.95	18.48	0.0014				
190	272			0.94	0.63	-0.08	-1.53	0.00	0.01	0.01	0.98	7.77	17.46	0.0014				
191	273		7/2	0.93	0.64	-1.41	-1.49	0.00	0.01	0.02	0.97	8.28	18.88	0.0012				
Z = 83 (Bi)																		
95	178	1/2	7/2	0.90	1.02								14.55	0.0735	-3.18	-3.36	9.69	10 ^{-8.01}
96	179	1/2		0.90	1.02	12.08							12.24	0.1131	-3.25	-2.93	9.55	10 ^{-8.03}
97	180	1/2	7/2	0.91	1.02	10.25	22.34						13.92	0.1652	-2.77	-2.43	9.32	10 ^{-7.22}
98	181	1/2		0.91	1.02	11.80	22.06						11.58	0.2176	-2.90	-2.03	9.18	10 ^{-7.21}
99	182	1/2 ⁻	7/2 ⁺	1.05	0.93	10.24	22.04						12.98	0.2602	-2.12	-1.27	8.69	10 ^{-5.68}
100	183	1/2 ⁻		1.05	0.92	11.61	21.85						10.52	0.2800	-2.15	-0.70	8.48	10 ^{-5.49}
101	184	1/2 ⁻	1/2 ⁻	1.05	0.90	9.91	21.52						11.94	0.2091	-1.39	-0.01	8.06	10 ^{-4.00}
102	185	1/2 ⁻		1.05	0.89	11.11	21.02						9.75	0.7709	-1.61	0.35	7.98	10 ^{-4.11}
103	186	1/2 ⁺	5/2 ⁻	1.05	0.88	9.57	20.68						11.17	0.3290	-0.97	0.98	7.63	10 ^{-2.73}
104	187	1/2 ⁺		1.05	0.87	10.67	20.24						9.16	0.7485	-1.28	1.08	7.71	10 ^{-3.32}
105	188	13/2 ⁺	9/2 ⁺	0.87	1.01	9.28	19.96						10.57	1.2854	-0.66	1.68	7.37	10 ^{-1.91}
106	189	13/2 ⁺		0.87	1.00	10.72	20.00						8.28	2.2014	-0.63	2.14	7.22	10 ^{-1.76}
107	190	13/2 ⁺	7/2 ⁺	0.87	1.00	8.92	19.63						9.77	2.0890	-0.15	2.78	6.98	10 ^{-0.60}
108	191	13/2 ⁺		0.87	0.99	10.34	19.26						7.58	3.8122	-0.21	3.04	6.91	10 ^{-0.66}
109	192	1/2 ⁻	1/2 ⁻	0.89	1.05	8.63	18.97						9.15	15.9751	0.27	3.57	6.56	10 ^{0.94}
110	193	1/2 ⁻		0.90	1.05	10.17	18.80						6.77	54.2996	0.24	3.99	6.47	10 ^{0.95}
111	194	1/2 ⁻	1/2 ⁻	0.90	1.06	8.34	18.51						8.47	51.0154	0.78	4.49	6.23	10 ^{2.26}
112	195	9/2 ⁻		0.90	1.09	10.30	18.64						5.67	> 100	1.05	5.31	5.67	10 ^{4.47}
113	196	1/2 ⁻	1/2 ⁻	0.90	1.06	7.70	18.00						7.77	> 100	1.25	5.40	5.81	10 ^{4.06}
114	197	9/2 ⁻		0.90	1.07	10.06	17.75						5.07	> 100	1.50	6.27	5.24	10 ^{6.66}
115	198	9/2 ⁻	3/2 ⁻	0.90	1.05	7.85	17.90						6.64	> 100	1.99	6.74	5.00	10 ^{8.35}
116	199	9/2 ⁻		0.90	1.03	9.38	17.23						4.38	> 100	1.96	7.20	4.80	10 ^{9.20}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 83 (Bi)																		
117	200	9/2 ⁻	5/2 ⁻	0.90	1.01	7.58	16.96						5.92	> 100	2.42	7.66	4.60	10 ^{10.76}
118	201	9/2 ⁻		0.90	0.97	9.12	16.70						3.75	> 100	2.42	8.12	4.41	10 ^{11.70}
119	202	9/2 ⁻	1/2 ⁻	0.90	0.93	7.44	16.55						5.08	> 100	2.90	8.61	4.08	10 ^{14.48}
120	203	9/2 ⁻		0.91	0.91	8.72	16.16						3.07	> 100	2.85	9.06	4.02	10 ^{14.54}
121	204	9/2 ⁻	1/2 ⁻	0.89	0.85	7.23	15.95						4.32	> 100	3.38	9.55	3.74	10 ^{17.33}
122	205	9/2 ⁻		0.90	0.82	8.37	15.60						2.45	> 100	3.27	9.96	3.64	10 ^{17.90}
123	206	9/2 ⁻	1/2 ⁻	0.92	0.79	6.79	15.16						3.84	> 100	3.56	10.37	3.59	10 ^{18.72}
124	207	9/2 ⁻		0.92	0.76	8.17	14.96						1.88	> 100	3.55	10.97	3.38	> 10 ²⁰
125	208	9/2 ⁻	1/2 ⁻	0.92	0.81	6.60	14.78						2.58	> 100	3.94	11.32	3.15	> 10 ²⁰
126	209	9/2 ⁻		0.92	0.90	7.32	13.93						...	β -st	3.96	11.76	3.40	> 10 ²⁰
127	210	9/2 ⁻	9/2 ⁺	0.91	0.81	4.55	11.87	1.00	0.00	0.00	0.00	0.00	\pm	\pm	4.49	12.31	5.11	10 ^{7.66}
128	211	9/2 ⁻		0.92	0.77	5.74	10.29	1.00	0.00	0.00	0.00	0.00	0.67	> 100	4.46	12.71	6.26	10 ^{1.80}
129	212	9/2 ⁻	7/2 ⁺	0.91	0.80	3.98	9.72	1.00	0.00	0.00	0.00	0.00	2.94	> 100	4.98	13.26	6.28	10 ^{2.06}
130	213	9/2 ⁻		0.91	0.84	5.31	9.29	1.00	0.00	0.00	0.00	0.00	1.53	> 100	4.96	13.65	6.30	10 ^{1.63}
131	214	9/2 ⁻	7/2 ⁺	0.91	0.88	3.75	9.06	1.00	0.00	0.00	0.00	0.00	3.61	> 100	5.38	14.09	5.99	10 ^{3.34}
132	215	9/2 ⁻		0.91	0.90	5.27	9.02	1.00	0.00	0.00	0.00	0.00	2.12	> 100	5.51	14.62	5.63	10 ^{4.61}
133	216	1/2	7/2	0.92	0.79	3.70	8.97	1.00	0.00	0.00	0.00	0.00	4.05	> 100	6.01	15.16	5.23	10 ^{7.00}
134	217	1/2		0.91	0.82	5.13	8.83	1.00	0.00	0.00	0.00	0.00	2.94	> 100	6.15	15.71	4.84	10 ^{8.90}
135	218	1/2	1/2	0.91	0.82	3.66	8.79	1.00	0.00	0.00	0.00	0.00	4.85	3.7918	6.62	16.32	4.35	10 ^{12.54}
136	219	1/2		0.91	0.84	4.95	8.61	1.00	0.00	0.00	0.00	0.00	3.75	27.1498	6.70	16.78	3.98	10 ^{14.94}
137	220	1/2	7/2	0.90	0.82	3.63	8.59	1.00	0.00	0.00	0.00	0.00	5.54	15.2532	7.34	17.38	3.39	> 10 ²⁰
138	221	1/2		0.89	0.81	4.80	8.43	0.98	0.02	0.00	0.13	0.02	4.48	4.9756	7.34	17.80	3.09	> 10 ²⁰
139	222	1/2	5/2	0.89	0.82	3.36	8.16	0.93	0.07	0.00	0.17	0.07	6.32	3.9334	7.84	18.21	2.76	> 10 ²⁰
140	223	1/2 ⁺		0.93	0.75	4.66	8.02	0.83	0.17	0.00	0.34	0.17	5.19	3.4066	7.86	18.61	2.48	> 10 ²⁰
141	224	1/2 ⁺	5/2 ⁻	0.95	0.74	3.55	8.21	0.88	0.12	0.00	0.24	0.12	6.87	2.2795	8.64	19.40	1.88	> 10 ²⁰
142	225	1/2 ⁺		0.96	0.73	4.66	8.21	0.74	0.26	0.00	0.35	0.26	5.82	1.4462	8.65	19.79	1.48	> 10 ²⁰
143	226	1/2 ⁺	5/2 ⁺	0.98	0.73	3.38	8.03	0.84	0.16	0.00	0.33	0.16	7.47	0.6507	8.98	19.97	0.87	> 10 ²⁰
144	227	1/2 ⁺		0.99	0.72	4.73	8.10	0.60	0.40	0.00	0.43	0.40	6.15	1.1808	9.04	20.57	0.41	> 10 ²⁰
145	228	3/2 ⁻	5/2 ⁺	1.01	0.70	3.29	8.02	0.78	0.22	0.00	0.42	0.22	8.00	0.4563	9.45	21.00	0.31	> 10 ²⁰
146	229	3/2 ⁺		1.02	0.69	4.33	7.62	0.46	0.54	0.00	0.55	0.54	7.03	0.4821	9.42	21.40	0.11	> 10 ²⁰
147	230	3/2	5/2	1.02	0.68	3.13	7.46	0.58	0.42	0.00	0.50	0.42	8.58	0.2950	9.74	21.69	-0.16	
148	231	1/2 ⁺		1.04	0.67	4.26	7.39	0.56	0.44	0.00	0.50	0.44	7.69	0.1560	9.80	22.10	-0.49	
149	232	1/2 ⁺	7/2 ⁺	1.03	0.66	3.10	7.35	0.58	0.42	0.00	0.46	0.42	9.17	0.0974	10.16	22.45	-0.74	
150	233	1/2 ⁺		1.03	0.66	3.98	7.07	0.40	0.60	0.00	0.59	0.60	8.29	0.1033	10.12	22.76	-0.87	
151	234	1/2 ⁻	9/2 ⁻	1.03	0.67	2.85	6.83	0.21	0.78	0.01	0.59	0.80	9.72	0.1381	10.45	23.12	-0.99	
152	235	1/2 ⁻		1.03	0.66	3.69	6.54	0.16	0.84	0.00	0.66	0.84	8.96	0.1006	10.48	23.49	-1.00	
153	236	1/2 ⁻	7/2 ⁺	1.03	0.67	2.39	6.07	0.15	0.80	0.05	0.64	0.90	10.56	0.0704	10.81	23.87	-0.90	
154	237	1/2 ⁻		1.02	0.67	3.36	5.75	0.06	0.92	0.02	0.73	0.96	9.58	0.0736	10.84	24.18	-0.93	
155	238	1/2 ⁻	1/2 ⁺	1.02	0.67	2.12	5.48	0.11	0.61	0.28	0.67	1.17	11.20	0.0509	11.18	24.43	-1.05	
156	239	3/2 ⁺		0.99	0.71	3.18	5.30	0.03	0.92	0.05	0.74	1.02	10.06	0.0407	11.15	24.72	-1.18	
157	240	3/2 ⁺	1/2 ⁺	0.98	0.70	2.18	5.36	0.08	0.42	0.50	0.66	1.42	11.44	0.0366	11.52	25.06	-1.49	
158	241	3/2 ⁺		0.98	0.69	3.24	5.42	0.03	0.89	0.08	0.73	1.05	10.32	0.0331	11.59	25.52	-1.84	
159	242	3/2 ⁺	1/2 ⁺	0.97	0.69	2.05	5.29	0.07	0.39	0.54	0.66	1.47	11.75	0.0291	11.83	25.72	-2.05	
160	243	3/2 ⁺		0.97	0.67	3.20	5.25	0.03	0.85	0.12	0.72	1.09	10.68	0.0259	11.90	26.09	-2.47	
161	244	3/2 ⁺	3/2 ⁺	0.98	0.64	1.98	5.18	0.06	0.39	0.55	0.69	1.49	12.27	0.0209	12.23	26.50	-2.60	
162	245	3/2 ⁺		0.97	0.64	2.94	4.91	0.02	0.77	0.21	0.74	1.19	11.27	0.0191	12.20	26.80	-2.70	
163	246	3/2 ⁺	13/2 ⁻	0.97	0.66	1.67	4.60	0.03	0.23	0.74	0.78	1.71	12.91	0.0166	12.56	27.17	-2.80	
164	247	3/2 ⁻		0.96	0.66	2.50	4.17	0.01	0.45	0.53	0.75	1.54	12.03	0.0142	12.41	27.64	-2.66	
165	248	9/2 ⁻	5/2 ⁺	0.90	0.79	1.62	4.13	0.01	0.10	0.88	0.81	1.89	13.22	0.0065	12.66	28.03	-2.99	
166	249	9/2 ⁻		0.90	0.77	2.91	4.53	0.01	0.58	0.40	0.76	1.41	11.95	0.0068	12.82	28.39	-3.87	
167	250	9/2 ⁻	1/2 ⁺	0.90	0.78	1.46	4.37	0.01	0.10	0.88	0.85	1.89	13.60	0.0065	13.20	28.63	-4.10	
168	251	9/2 ⁻		0.86	0.73	2.73	4.20	0.01	0.49	0.49	0.79	1.50	12.50	0.0071	13.31	29.00	-4.29	
169	252	1/2 ⁺	1/2 ⁺	0.86	0.71	1.53	4.27	0.01	0.07	0.91	0.91	1.92	13.89	0.0074	13.58	29.38	-4.60	
170	253	1/2 ⁺		0.86	0.68	2.48	4.01	0.01	0.30	0.66	0.81	1.71	12.96	0.0064	13.56	29.68	-4.71	
171	254	1/2 ⁺	3/2 ⁺	0.87	0.63	1.36	3.84	0.01	0.07	0.89	0.94	1.94	14.44	0.0061	13.92	30.05	-4.91	
172	255	1/2 ⁺		0.87	0.61	2.25	3.61	0.01	0.17	0.73	0.85	1.90	13.52	0.0056	13.97	30.43	-4.99	
173	256	1/2 ⁺	3/2 ⁺	0.86	0.64	1.18	3.43	0.01	0.04	0.83	0.95	2.07	14.87	0.0051	14.38	30.76	-5.18	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 83 (Bi)																		
174	257	9/2 ⁻		0.88	0.70	2.00	3.18	0.00	0.07	0.70	0.85	2.17	14.06	0.0040	14.41	31.10	-5.30	
175	258	1/2 ⁺	5/2 ⁺	0.86	0.61	1.03	3.02	0.01	0.03	0.57	0.90	2.37	15.37	0.0044	14.68	31.39	-5.49	
176	259	9/2 ⁻		0.86	0.61	1.89	2.92	0.00	0.05	0.39	0.87	2.53	14.46	0.0041	14.70	31.69	-5.71	
177	260	9/2 ⁻	1/2 ⁺	0.87	0.64	0.76	2.66	0.01	0.02	0.36	0.89	2.63	15.89	0.0036	14.99	31.93	-5.74	
178	261	9/2 ⁻		0.89	0.63	1.64	2.41	0.00	0.03	0.22	0.89	2.77	15.05	0.0032	15.04	32.32	-5.80	
179	262	9/2 ⁻	1/2 ⁺	0.89	0.61	0.55	2.19	0.00	0.01	0.18	0.88	3.04	16.44	0.0030	15.16	32.64	-5.82	
180	263	9/2 ⁻		0.89	0.58	1.51	2.06	0.00	0.03	0.07	0.93	3.03	15.37	0.0032	15.06	33.21	-6.08	
181	264	9/2 ⁻	3/2 ⁺	0.89	0.57	0.57	2.08	0.00	0.01	0.07	0.89	3.53	16.69	0.0030	15.33	33.47	-6.42	
182	265	9/2 ⁻		0.89	0.55	1.35	1.92	0.00	0.03	0.03	0.91	3.32	15.99	0.0028	15.29	33.73	-6.84	
183	266	9/2 ⁻	1/2 ⁺	0.89	0.60	0.33	1.68	0.00	0.01	0.06	0.91	3.79	17.32	0.0026	15.62	34.03	-6.85	
184	267	7/2 ⁻		0.89	0.67	0.89	1.21	0.00	0.03	0.03	0.90	3.63	16.76	0.0021	15.56	34.27	-6.64	
185	268	9/2 ⁻	11/2 ⁻	0.89	0.67	-1.24	-0.35	0.09	0.01	0.03	0.96	4.08	19.23	0.0014	15.96	34.65	-5.38	
186	269	9/2 ⁻		0.88	0.66	0.07	-1.17	0.00	0.01	0.04	0.97	4.92	17.85	0.0019	15.92	34.95	-4.81	
187	270	1/2	3/2	0.89	0.67	-1.57	-1.50	0.04	0.01	0.05	0.99	5.44	19.87	0.0014	16.26	35.33	-4.85	
188	271	9/2		0.90	0.68	-0.23	-1.80	0.00	0.00	0.01	0.99	6.52	18.54	0.0016	16.25	35.67	-4.84	
189	272	3/2	5/2	0.91	0.63	-1.10	-1.33	0.00	0.01	0.01	0.99	7.04	19.80	0.0015	16.60		-5.70	
190	273	1/2		0.91	0.62	0.00	-1.10	0.00	0.01	0.02	0.98	7.69	18.80	0.0013	16.68		-6.27	
191	274	1/2	7/2	0.91	0.62	-0.96	-0.96	0.00	0.00	0.01	0.99	8.69	20.07	0.0013	17.13			
192	275	1/2		0.91	0.62	-0.14	-1.10	0.00	0.01	0.02	0.97	8.73	19.26	0.0011				
193	276	1/2	9/2	0.91	0.64	-1.21	-1.35	0.00	0.00	0.02	0.97	8.91	20.71	0.0010				
Z = 84 (Po)																		
97	181		5/2 ⁻	1.04	0.95								12.12	0.0711	-1.11	-3.88	10.25	10 ^{-8.89}
98	182			1.04	0.95	12.65							9.72	0.1309	-0.26	-3.16	9.75	10 ^{-8.92}
99	183		7/2 ⁺	1.03	0.93	10.48	23.13						10.85	0.2162	-0.02	-2.14	9.05	10 ^{-6.26}
100	184			1.03	0.92	12.09	22.57						8.66	0.4203	0.46	-1.69	8.89	10 ^{-6.91}
101	185		1/2 ⁻	1.03	0.91	9.95	22.04						9.82	0.2703	0.50	-0.89	8.40	10 ^{-4.61}
102	186			1.02	0.90	11.58	21.53						7.81	0.5249	0.97	-0.64	8.46	10 ^{-5.84}
103	187		5/2 ⁻	1.03	0.89	9.49	21.07						8.99	0.5535	0.90	-0.07	8.12	10 ^{-3.84}
104	188			1.04	0.88	11.15	20.64						7.13	1.0498	1.38	0.09	8.30	10 ^{-5.40}
105	189		7/2 ⁻	1.05	0.86	9.23	20.38						8.62	0.4482	1.32	0.66	7.99	10 ^{-3.49}
106	190			0.87	0.99	10.87	20.10						6.66	6.6664	1.47	0.84	8.11	10 ^{-4.87}
107	191		7/2 ⁺	0.87	0.98	8.96	19.83						8.05	5.0542	1.51	1.36	7.81	10 ^{-2.93}
108	192			0.87	0.98	10.77	19.72						5.91	8.2879	1.94	1.72	7.74	10 ^{-3.82}
109	193		5/2 ⁺	0.87	0.97	8.62	19.39						7.46	13.8758	1.93	2.20	7.55	10 ^{-2.13}
110	194			0.87	0.97	10.42	19.04						5.37	11.3669	2.18	2.42	7.54	10 ^{-3.16}
111	195		3/2 ⁺	0.87	0.97	8.30	18.73						7.37	13.1864	2.15	2.93	7.38	10 ^{-1.55}
112	196			0.88	1.02	10.18	18.48						4.89	74.9992	2.02	3.07	7.40	10 ^{-2.72}
113	197		11/2 ⁺	0.88	1.01	8.13	18.31						6.81	93.7467	2.46	3.71	7.06	10 ^{-0.50}
114	198			0.88	1.01	10.05	18.18						4.62	> 100	2.45	3.95	7.05	10 ^{-1.50}
115	199		13/2 ⁺	0.88	0.99	7.90	17.94						6.10	> 100	2.49	4.49	6.65	10 ^{0.99}
116	200			0.87	1.01	10.19	18.09						3.49	> 100	3.30	5.26	6.26	10 ^{1.45}
117	201		1/2 ⁻	0.88	0.99	7.29	17.48						5.33	> 100	3.01	5.43	6.34	10 ^{2.22}
118	202			0.88	0.96	9.91	17.20						2.85	> 100	3.80	6.22	5.84	10 ^{3.29}
119	203		1/2 ⁻	0.87	0.92	7.44	17.35						4.13	> 100	3.81	6.71	5.52	10 ^{5.95}
120	204			0.89	0.91	9.13	16.57						2.23	> 100	4.22	7.08	5.50	10 ^{4.99}
121	205		1/2 ⁻	0.88	0.85	7.25	16.38						3.35	> 100	4.24	7.62	5.21	10 ^{7.59}
122	206			0.90	0.85	8.66	15.90						1.48	> 100	4.53	7.79	5.32	10 ^{5.93}
123	207		5/2 ⁻	0.89	0.79	6.89	15.54						2.77	> 100	4.62	8.18	5.14	10 ^{7.98}
124	208			0.89	0.77	8.73	15.61						0.64	> 100	5.18	8.73	4.89	10 ^{8.37}
125	209		1/2 ⁻	0.89	0.81	6.69	15.42						1.27	> 100	5.27	9.20	4.69	10 ^{10.63}
126	210			0.89	0.91	7.74	14.44						...	β -st	5.69	9.65	5.14	10 ^{6.91}
127	211		9/2 ⁺	0.89	0.81	4.49	12.23						...	β -st	5.63	10.12	6.86	10 ^{0.17}
128	212			0.89	0.77	6.24	10.73						...	β -st	6.13	10.59	7.92	10 ^{-4.32}
129	213		1/2 ⁺	0.89	0.81	3.91	10.15						0.17		6.06	11.05	8.03	10 ^{-3.61}
130	214			0.89	0.85	5.82	9.73						...	β -st	6.57	11.53	7.98	10 ^{-4.50}
131	215		3/2 ⁺	0.89	0.88	3.79	9.61	1.00	0.00	0.00	0.00	0.00	0.86	> 100	6.61	11.99	7.65	10 ^{-2.41}
132	216			0.88	0.91	5.63	9.41						...	β -st	6.96	12.47	7.36	10 ^{-2.59}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 84 (Po)																		
133	217		7/2	0.88	0.79	4.03	9.66	1.00	0.00	0.00	0.00	0.00	1.58	> 100	7.29	13.31	6.65	10 ^{0.99}
134	218			0.88	0.80	5.56	9.59	1.00	0.00	0.00	0.00	0.00	0.59	> 100	7.72	13.87	6.24	10 ^{1.57}
135	219		3/2	0.87	0.77	3.86	9.42	1.00	0.00	0.00	0.00	0.00	2.47	80.8768	7.92	14.54	5.58	10 ^{5.65}
136	220			0.88	0.76	5.43	9.29	1.00	0.00	0.00	0.00	0.00	1.49	> 100	8.40	15.09	5.14	10 ^{6.91}
137	221		7/2	0.88	0.78	3.74	9.17	1.00	0.00	0.00	0.00	0.00	3.26	85.5141	8.50	15.84	4.59	10 ^{11.35}
138	222			0.88	0.78	5.19	8.93	1.00	0.00	0.00	0.00	0.00	2.20	36.0780	8.89	16.23	4.28	10 ^{12.53}
139	223		5/2 ⁺	0.93	0.73	3.53	8.72	1.00	0.00	0.00	0.00	0.00	3.90	4.0051	9.06	16.90	3.74	10 ^{17.94}
140	224			0.93	0.74	5.23	8.76	1.00	0.00	0.00	0.00	0.00	2.71	12.2657	9.64	17.50	3.31	> 10 ²⁰
141	225		5/2 ⁻	0.95	0.73	3.61	8.84	1.00	0.00	0.00	0.00	0.00	4.34	6.7872	9.69	18.34	2.55	> 10 ²⁰
142	226			0.96	0.73	5.02	8.63	1.00	0.00	0.00	0.00	0.00	3.37	4.0504	10.06	18.71	2.17	> 10 ²⁰
143	227		5/2 ⁺	1.00	0.72	3.42	8.44	1.00	0.00	0.00	0.00	0.00	5.00	1.3363	10.10	19.08	1.53	> 10 ²⁰
144	228			1.01	0.71	5.14	8.56	1.00	0.00	0.00	0.00	0.00	3.90	2.0854	10.51	19.55	1.04	> 10 ²⁰
145	229		1/2 ⁺	1.02	0.69	3.36	8.50	1.00	0.00	0.00	0.00	0.00	5.56	0.9153	10.58	20.03	0.72	> 10 ²⁰
146	230			1.02	0.69	4.68	8.05	1.00	0.00	0.00	0.00	0.00	4.60	0.8705	10.94	20.36	0.71	> 10 ²⁰
147	231		5/2 ⁺	1.04	0.68	3.36	8.05	0.99	0.01	0.00	0.14	0.01	6.05	0.5424	11.17	20.91	0.22	> 10 ²⁰
148	232			1.04	0.66	4.57	7.94	0.98	0.02	0.00	0.25	0.02	5.14	0.5792	11.48	21.28	0.01	> 10 ²⁰
149	233		7/2 ⁺	1.04	0.66	3.10	7.67	0.96	0.04	0.00	0.18	0.04	6.60	0.2265	11.49	21.65	-0.28	
150	234			1.04	0.66	4.28	7.38	0.92	0.08	0.00	0.23	0.08	5.76	0.2757	11.79	21.91	-0.36	
151	235		9/2 ⁻	1.04	0.67	2.93	7.21	0.83	0.17	0.00	0.24	0.17	7.20	0.2390	11.86	22.32	-0.56	
152	236			1.04	0.66	3.99	6.91	0.78	0.22	0.00	0.31	0.22	6.43	0.1582	12.16	22.64	-0.52	
153	237		7/2 ⁺	1.04	0.67	2.39	6.37	0.63	0.37	0.00	0.36	0.37	8.01	0.1084	12.16	22.98	-0.39	
154	238			1.04	0.67	3.73	6.12	0.55	0.45	0.00	0.47	0.45	7.06	0.1144	12.54	23.38	-0.47	
155	239		1/2 ⁺	1.03	0.67	2.04	5.78	0.41	0.59	0.00	0.47	0.59	8.68	0.0743	12.46	23.64	-0.45	
156	240			1.01	0.70	3.55	5.59	0.30	0.70	0.00	0.50	0.70	7.53	0.0697	12.83	23.98	-0.68	
157	241		1/2 ⁺	1.01	0.69	2.13	5.68	0.27	0.72	0.01	0.53	0.74	8.87	0.0638	12.78	24.30	-1.02	
158	242			0.99	0.69	3.48	5.60	0.30	0.70	0.00	0.53	0.70	7.94	0.0487	13.01	24.60	-1.28	
159	243		11/2 ⁻	0.99	0.67	2.14	5.62	0.20	0.80	0.00	0.55	0.80	9.34	0.0450	13.10	24.93	-1.61	
160	244			1.00	0.65	3.56	5.70	0.25	0.75	0.00	0.59	0.75	8.14	0.0432	13.46	25.37	-2.00	
161	245		3/2 ⁺	1.00	0.64	1.93	5.50	0.22	0.77	0.01	0.56	0.79	9.84	0.0290	13.42	25.65	-2.13	
162	246			1.00	0.63	3.31	5.24	0.18	0.82	0.00	0.63	0.82	8.82	0.0287	13.79	25.99	-2.31	
163	247		13/2 ⁻	0.98	0.66	1.62	4.93	0.11	0.82	0.07	0.67	0.96	10.44	0.0239	13.74	26.30	-2.28	
164	248			0.97	0.65	2.82	4.44	0.09	0.90	0.01	0.73	0.92	9.66	0.0191	14.06	26.48	-2.13	
165	249		1/2 ⁺	0.88	0.77	1.64	4.46	0.03	0.80	0.17	0.73	1.14	10.85	0.0127	14.08	26.74	-2.46	
166	250			0.88	0.76	3.11	4.74	0.02	0.97	0.01	0.73	0.99	9.65	0.0112	14.28	27.09	-2.92	
167	251		7/2 ⁺	0.87	0.75	1.64	4.74	0.04	0.81	0.15	0.72	1.11	11.13	0.0110	14.45	27.65	-3.18	
168	252			0.87	0.72	2.92	4.56	0.03	0.96	0.01	0.78	0.98	10.18	0.0096	14.64	27.95	-3.36	
169	253		1/2 ⁺	0.87	0.70	1.55	4.47	0.03	0.74	0.23	0.76	1.20	11.64	0.0095	14.66	28.24	-3.82	
170	254			0.87	0.68	2.83	4.38	0.03	0.95	0.02	0.83	0.99	10.69	0.0083	15.01	28.58	-4.03	
171	255		3/2 ⁺	0.87	0.65	1.34	4.17	0.03	0.50	0.47	0.76	1.44	12.07	0.0082	14.99	28.91	-4.11	
172	256			0.87	0.62	2.53	3.86	0.02	0.86	0.11	0.82	1.11	11.23	0.0070	15.27	29.23	-4.14	
173	257		3/2 ⁺	0.87	0.65	1.19	3.71	0.03	0.26	0.70	0.78	1.69	12.58	0.0068	15.27	29.65	-4.32	
174	258			0.87	0.62	2.33	3.52	0.02	0.59	0.38	0.75	1.38	11.74	0.0065	15.61	30.02	-4.45	
175	259		5/2 ⁺	0.88	0.61	0.98	3.32	0.03	0.12	0.83	0.83	1.84	13.10	0.0058	15.57	30.24	-4.67	
176	260			0.87	0.66	2.19	3.18	0.01	0.45	0.51	0.76	1.56	12.24	0.0048	15.87	30.58	-4.90	
177	261		1/2 ⁺	0.87	0.60	0.80	2.99	0.02	0.06	0.86	0.86	1.97	13.63	0.0049	15.91	30.90	-4.94	
178	262			0.87	0.62	1.94	2.74	0.01	0.24	0.69	0.77	1.81	12.78	0.0039	16.21	31.24	-5.02	
179	263		1/2 ⁺	0.87	0.62	0.45	2.39	0.01	0.03	0.84	0.87	2.10	14.29	0.0032	16.10	31.26	-4.98	
180	264			0.87	0.58	1.89	2.33	0.01	0.08	0.64	0.77	2.19	13.10	0.0036	16.48	31.54	-5.28	
181	265		3/2 ⁺	0.87	0.57	0.65	2.54	0.01	0.02	0.60	0.85	2.37	14.17	0.0034	16.56	31.89	-5.50	
182	266			0.87	0.55	1.66	2.31	0.01	0.06	0.43	0.76	2.47	13.37	0.0033	16.86	32.16	-5.55	
183	267		1/2 ⁺	0.87	0.58	0.32	1.98	0.00	0.02	0.41	0.82	2.68	14.64	0.0031	16.86	32.48	-5.57	
184	268			0.87	0.67	1.24	1.56	0.02	0.04	0.32	0.78	2.63	14.01	0.0026	17.21	32.77	-5.42	
185	269		11/2 ⁻	0.87	0.67	-1.31	-0.07	0.08	0.02	0.06	0.86	3.30	16.56	0.0019	17.14	33.10	-4.10	
186	270			0.87	0.66	0.45	-0.86	0.00	0.05	0.02	0.88	3.92	15.14	0.0024	17.52	33.43	-3.61	
187	271		3/2	0.88	0.66	-1.56	-1.11	0.09	0.01	0.06	0.92	4.45	17.15	0.0020	17.53	33.79	-3.69	
188	272			0.89	0.67	0.16	-1.41	0.00	0.02	0.03	0.92	5.32	15.75	0.0021	17.91	34.17	-3.73	
189	273		5/2	0.89	0.63	-1.00	-0.84	0.05	0.03	0.03	0.92	5.68	16.95	0.0022	18.02	34.61	-4.65	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 84 (Po)																		
190	274			0.90	0.63	0.31	−0.69	0.00	0.03	0.06	0.89	6.52	16.10	0.0020	18.33	35.01	−5.18	
191	275		7/2	0.90	0.62	−0.95	−0.64	0.00	0.00	0.04	0.89	7.49	17.45	0.0019	18.34	35.47	−5.67	
192	276			0.90	0.62	0.24	−0.71	0.00	0.07	0.05	0.87	7.53	16.67	0.0015	18.72		−6.00	
193	277		9/2	0.90	0.63	−1.16	−0.92	0.04	0.03	0.07	0.86	7.75	18.09	0.0015	18.77		−6.25	
194	278			0.90	0.64	0.04	−1.12	0.00	0.03	0.02	0.86	8.53	17.23	0.0012				
195	279		11/2	0.91	0.65	−1.45	−1.41	0.00	0.00	0.01	0.87	9.01	18.84	0.0011				
Z = 85 (At)																		
99	184	3/2 ⁺	7/2 ⁺	0.99	0.94								13.37	0.1156	−2.07	−2.08	8.34	10 ^{−4.03}
100	185	3/2 ⁺		1.00	0.92	12.14							11.18	0.1357	−2.02	−1.56	8.00	10 ^{−3.40}
101	186	3/2 ⁺	1/2 [−]	1.00	0.91	10.38	22.52						12.38	0.1478	−1.59	−1.08	7.87	10 ^{−2.64}
102	187	3/2 ⁺		1.00	0.91	11.63	22.01						10.24	0.2049	−1.54	−0.56	7.85	10 ^{−2.92}
103	188	5/2 ⁺	1/2 ⁺	0.96	0.91	9.91	21.54						11.49	0.2693	−1.12	−0.22	7.85	10 ^{−2.61}
104	189	5/2 ⁺		0.94	0.92	11.17	21.08						9.54	0.3872	−1.10	0.28	7.78	10 ^{−2.77}
105	190	5/2 ⁺	5/2 [−]	0.94	0.92	9.47	20.65						10.94	0.6096	−0.85	0.47	7.88	10 ^{−2.70}
106	191	7/2 [−]		0.88	0.98	10.96	20.43						8.94	1.3558	−0.77	0.70	7.59	10 ^{−2.15}
107	192	7/2 [−]	7/2 ⁺	0.88	0.97	9.44	20.39						10.27	1.2147	−0.28	1.23	7.44	10 ^{−1.36}
108	193	7/2 [−]		0.88	0.97	10.79	20.23						8.10	2.1447	−0.26	1.68	7.37	10 ^{−1.44}
109	194	7/2 [−]	5/2 ⁺	0.88	0.96	9.05	19.85						9.46	2.0884	0.18	2.10	7.23	10 ^{−0.62}
110	195	7/2 [−]		0.87	0.96	10.42	19.48						7.34	3.8313	0.18	2.36	7.15	10 ^{−0.69}
111	196	7/2 [−]	3/2 ⁺	0.87	0.96	8.73	19.16						8.79	3.6089	0.61	2.76	7.04	10 ^{0.04}
112	197	7/2 [−]		0.87	0.96	10.10	18.84						6.82	9.4965	0.53	2.56	7.11	10 ^{−0.55}
113	198	7/2 [−]	1/2 ⁺	0.87	0.94	8.47	18.57						8.39	8.7134	0.87	3.33	6.97	10 ^{0.32}
114	199	3/2 [−]		0.91	0.97	9.77	18.24						6.52	56.3789	0.59	3.04	7.51	10 ^{−1.89}
115	200	3/2 [−]	1/2 [−]	0.91	0.94	8.21	17.97						8.51	48.3712	0.90	3.40	7.00	10 ^{0.22}
116	201	3/2 [−]		0.92	0.94	10.05	18.26						5.74	> 100	0.77	4.07	7.00	10 ^{−0.16}
117	202	3/2 [−]	3/2 [−]	0.91	0.92	7.77	17.82						7.88	81.2248	1.25	4.26	7.08	10 ^{−0.10}
118	203	7/2 [−]		0.90	0.92	10.08	17.85						5.24	> 100	1.42	5.22	6.38	10 ^{2.18}
119	204	7/2 [−]	1/2 [−]	0.91	0.89	7.85	17.92						6.53	> 100	1.82	5.63	6.12	10 ^{3.67}
120	205	7/2 [−]		0.91	0.86	9.16	17.01						4.61	> 100	1.85	6.07	6.07	10 ^{3.55}
121	206	7/2 [−]	1/2 [−]	0.91	0.82	7.65	16.81						5.62	> 100	2.25	6.49	5.86	10 ^{4.84}
122	207	7/2 [−]		0.92	0.81	8.78	16.43						3.72	> 100	2.38	6.90	5.80	10 ^{4.83}
123	208	7/2 [−]	1/2 [−]	0.93	0.79	7.29	16.07						5.17	> 100	2.78	7.40	5.74	10 ^{5.41}
124	209	3/2 [−]		0.94	0.77	8.43	15.72						3.43	> 100	2.49	7.66	5.67	10 ^{5.41}
125	210	3/2 [−]	1/2 [−]	0.94	0.81	6.94	15.37						4.23	> 100	2.73	8.00	5.53	10 ^{6.51}
126	211	3/2 [−]		0.94	0.90	7.80	14.74						0.92	> 100	2.79	8.47	5.90	10 ^{4.32}
127	212	3/2 [−]	1/2 ⁺	0.93	0.82	5.03	12.83						±	±	3.32	8.95	7.48	10 ^{−1.42}
128	213	7/2 [−]		0.93	0.77	6.22	11.25						...	β-st	3.30	9.43	8.58	10 ^{−5.01}
129	214	7/2 [−]	7/2 ⁺	0.93	0.81	4.51	10.73						±	±	3.90	9.96	8.62	10 ^{−4.75}
130	215	3/2 [−]		0.93	0.85	5.78	10.29						...	β-st	3.86	10.43	8.58	10 ^{−4.99}
131	216	3/2	5/2	0.89	0.74	4.47	10.25	1.00	0.00	0.00	0.00	0.00	±	±	4.55	11.16	8.09	10 ^{−3.32}
132	217	3/2		0.87	0.74	5.91	10.38	1.00	0.00	0.00	0.00	0.00	0.75	> 100	4.83	11.79	7.49	10 ^{−1.83}
133	218	3/2	1/2	0.86	0.73	4.57	10.48	1.00	0.00	0.00	0.00	0.00	2.57	> 100	5.37	12.66	6.66	10 ^{1.41}
134	219	3/2		0.86	0.74	5.74	10.31	1.00	0.00	0.00	0.00	0.00	1.64	> 100	5.55	13.27	6.19	10 ^{2.98}
135	220	3/2	3/2	0.87	0.74	4.44	10.18	1.00	0.00	0.00	0.00	0.00	3.38	> 100	6.13	14.05	5.46	10 ^{6.82}
136	221	3/2		0.87	0.75	5.51	9.95	1.00	0.00	0.00	0.00	0.00	2.43	> 100	6.21	14.61	5.08	10 ^{8.56}
137	222	3/2	7/2	0.87	0.76	4.13	9.64	1.00	0.00	0.00	0.00	0.00	4.22	25.7623	6.60	15.11	4.61	10 ^{11.83}
138	223	3/2		0.88	0.77	5.24	9.37	1.00	0.00	0.00	0.00	0.00	3.22	84.9454	6.65	15.55	4.32	10 ^{13.53}
139	224	1/2	3/2	0.92	0.74	4.04	9.28	1.00	0.00	0.00	0.00	0.00	4.92	4.7534	7.16	16.23	3.91	10 ^{17.14}
140	225	1/2		0.94	0.73	5.24	9.28	1.00	0.00	0.00	0.00	0.00	3.81	4.7046	7.17	16.81	3.48	> 10 ²⁰
141	226	1/2	5/2	0.95	0.72	4.05	9.28	1.00	0.00	0.00	0.00	0.00	5.44	14.1569	7.60	17.30	2.79	> 10 ²⁰
142	227	3/2 [−]		0.98	0.71	5.05	9.10	1.00	0.00	0.00	0.00	0.00	4.48	8.8994	7.64	17.70	2.39	> 10 ²⁰
143	228	3/2 [−]	5/2 ⁺	1.00	0.72	4.04	9.09	1.00	0.00	0.00	0.00	0.00	6.22	2.3029	8.26	18.36	1.91	> 10 ²⁰
144	229	1/2 ⁺		1.01	0.70	5.02	9.06	0.97	0.03	0.00	0.28	0.03	5.07	2.4020	8.14	18.65	1.55	> 10 ²⁰
145	230	1/2 ⁺	1/2 ⁺	1.02	0.69	3.73	8.75	0.98	0.02	0.00	0.22	0.02	6.75	0.7725	8.51	19.09	1.19	> 10 ²⁰
146	231	3/2 ⁺		1.03	0.67	4.81	8.54	0.88	0.12	0.00	0.33	0.12	5.78	1.8423	8.63	19.57	1.11	> 10 ²⁰
147	232	1/2 [−]	5/2 ⁺	1.04	0.67	3.66	8.47	0.91	0.09	0.00	0.32	0.09	7.32	0.9907	8.93	20.09	0.74	> 10 ²⁰
148	233	1/2 [−]		1.04	0.66	4.57	8.22	0.71	0.29	0.00	0.46	0.29	6.44	1.0185	8.92	20.41	0.51	> 10 ²⁰

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 85 (At)																		
149	234	1/2 ⁻	7/2 ⁺	1.04	0.66	3.44	8.00	0.78	0.22	0.00	0.34	0.22	7.90	0.3688	9.26	20.75	0.20	> 10 ²⁰
150	235	1/2 ⁻		1.04	0.65	4.37	7.81	0.54	0.46	0.00	0.48	0.46	7.00	0.5516	9.35	21.14	0.09	> 10 ²⁰
151	236	1/2 ⁺	9/2 ⁻	1.04	0.67	3.21	7.58	0.65	0.35	0.00	0.44	0.35	8.52	0.2168	9.63	21.50	-0.03	
152	237	1/2 ⁺		1.04	0.66	3.97	7.18	0.44	0.56	0.00	0.54	0.56	7.74	0.1536	9.62	21.78	-0.02	
153	238	1/2 ⁺	7/2 ⁺	1.04	0.68	2.78	6.75	0.41	0.59	0.00	0.52	0.59	9.36	0.1130	10.01	22.18	0.05	> 10 ²⁰
154	239	1/2 ⁺		1.04	0.67	3.66	6.44	0.23	0.77	0.00	0.65	0.77	8.37	0.1158	9.94	22.48	0.08	> 10 ²⁰
155	240	1/2 ⁺	1/2 ⁺	1.04	0.68	2.41	6.07	0.25	0.71	0.04	0.61	0.79	9.96	0.0863	10.30	22.76	0.06	> 10 ²⁰
156	241	1/2 ⁺		1.01	0.71	3.47	5.87	0.07	0.93	0.00	0.72	0.93	8.95	0.0850	10.22	23.04	-0.05	
157	242	1/2 ⁺	1/2 ⁺	1.01	0.70	2.55	6.02	0.13	0.69	0.18	0.64	1.05	10.20	0.0927	10.64	23.42	-0.48	
158	243	1/2 ⁺		0.99	0.70	3.53	6.08	0.07	0.93	0.00	0.73	0.93	9.19	0.0654	10.69	23.71	-0.83	
159	244	1/2 ⁺	1/2 ⁺	0.99	0.69	2.36	5.90	0.11	0.72	0.17	0.64	1.06	10.69	0.0537	10.92	24.03	-1.02	
160	245	1/2 ⁺		0.99	0.67	3.63	6.00	0.06	0.93	0.01	0.73	0.95	9.44	0.0588	10.99	24.45	-1.40	
161	246	1/2 ⁺	3/2 ⁺	1.00	0.66	2.29	5.92	0.11	0.61	0.28	0.64	1.17	10.95	0.0471	11.35	24.77	-1.65	
162	247	1/2 ⁺		1.01	0.63	3.24	5.53	0.06	0.91	0.03	0.73	0.97	10.09	0.0391	11.28	25.07	-1.68	
163	248	1/2 ⁺	13/2 ⁻	0.99	0.66	2.04	5.28	0.06	0.49	0.45	0.68	1.39	11.66	0.0326	11.70	25.44	-1.74	
164	249	1/2 ⁺		0.98	0.65	2.83	4.87	0.04	0.76	0.20	0.72	1.16	10.85	0.0259	11.71	25.77	-1.64	
165	250	3/2 ⁻	11/2 ⁺	0.92	0.72	1.90	4.73	0.02	0.36	0.62	0.73	1.60	12.18	0.0156	11.97	26.05	-1.87	
166	251	3/2 ⁻		0.89	0.75	3.12	5.02	0.01	0.81	0.18	0.77	1.17	10.79	0.0139	11.98	26.26	-2.49	
167	252	7/2 ⁻	7/2 ⁺	0.89	0.71	1.98	5.10	0.05	0.22	0.73	0.76	1.68	12.17	0.0162	12.32	26.78	-2.85	
168	253	1/2 ⁺		0.90	0.68	3.01	4.99	0.01	0.84	0.15	0.79	1.14	11.18	0.0140	12.41	27.05	-2.94	
169	254	1/2 ⁺	1/2 ⁺	0.90	0.66	1.89	4.89	0.02	0.28	0.70	0.77	1.68	12.58	0.0135	12.74	27.40	-3.37	
170	255	7/2 ⁻		0.89	0.67	2.72	4.60	0.01	0.73	0.26	0.78	1.25	11.77	0.0103	12.63	27.64	-3.35	
171	256	1/2 ⁺	3/2 ⁺	0.90	0.61	1.69	4.41	0.02	0.17	0.80	0.83	1.80	13.14	0.0106	12.98	27.97	-3.50	
172	257	1/2 ⁺		0.90	0.59	2.53	4.21	0.01	0.37	0.61	0.77	1.62	12.22	0.0100	12.98	28.25	-3.55	
173	258	7/2 ⁻	3/2 ⁺	0.88	0.65	1.50	4.03	0.01	0.07	0.90	0.89	1.93	13.52	0.0091	13.29	28.57	-3.69	
174	259	7/2 ⁻		0.89	0.62	2.34	3.84	0.01	0.20	0.74	0.80	1.83	12.79	0.0081	13.30	28.91	-3.78	
175	260	7/2 ⁻	5/2 ⁺	0.89	0.61	1.34	3.68	0.01	0.06	0.87	0.89	1.98	14.10	0.0074	13.65	29.22	-3.95	
176	261	7/2 ⁻		0.89	0.61	2.19	3.53	0.01	0.11	0.74	0.82	2.01	13.24	0.0070	13.65	29.52	-4.14	
177	262	7/2 ⁻	1/2 ⁺	0.89	0.60	1.09	3.28	0.01	0.04	0.74	0.87	2.16	14.66	0.0060	13.94	29.84	-4.20	
178	263	7/2 ⁻		0.89	0.59	1.96	3.05	0.01	0.07	0.47	0.81	2.37	13.80	0.0059	13.96	30.16	-4.27	
179	264	7/2 ⁻	1/2 ⁺	0.88	0.60	0.69	2.65	0.01	0.02	0.46	0.83	2.51	15.31	0.0046	14.20	30.30	-4.19	
180	265	7/2 ⁻		0.89	0.58	1.72	2.41	0.00	0.04	0.22	0.83	2.75	14.39	0.0043	14.04	30.51	-4.27	
181	266	3/2 ⁻	1/2 ⁺	0.89	0.57	0.87	2.59	0.00	0.01	0.16	0.82	3.05	15.40	0.0047	14.25	30.81	-4.59	
182	267	1/2 ⁻		0.89	0.55	1.58	2.45	0.00	0.03	0.07	0.85	2.98	14.53	0.0043	14.18	31.04	-4.66	
183	268	3/2 ⁻	3/2 ⁺	0.89	0.59	0.61	2.20	0.00	0.01	0.08	0.82	3.46	15.89	0.0042	14.47	31.32	-4.71	
184	269	1/2 ⁻		0.89	0.66	1.24	1.85	0.00	0.04	0.05	0.85	3.11	15.27	0.0032	14.47	31.68	-4.59	
185	270	7/2 ⁻	11/2 ⁻	0.88	0.67	-0.97	0.27	0.01	0.11	0.05	0.87	3.60	17.77	0.0023	14.81	31.95	-3.29	
186	271	1/2 ⁻		0.88	0.66	0.45	-0.52	0.00	0.03	0.06	0.89	4.34	16.35	0.0030	14.81	32.33	-2.86	
187	272	3/2	3/2	0.89	0.67	-1.24	-0.79	0.06	0.01	0.08	0.91	4.77	18.38	0.0023	15.13	32.66	-2.85	
188	273	1/2		0.90	0.66	0.20	-1.04	0.00	0.01	0.03	0.91	5.59	17.01	0.0025	15.17	33.09	-2.98	
189	274	3/2	5/2	0.91	0.61	-0.55	-0.35	0.04	0.01	0.04	0.91	5.94	18.13	0.0025	15.63	33.64	-4.01	
190	275	3/2		0.91	0.61	0.40	-0.14	0.00	0.03	0.03	0.89	6.57	17.23	0.0022	15.72	34.04	-4.64	
191	276	3/2	7/2	0.90	0.61	-0.54	-0.14	0.00	0.01	0.06	0.88	7.30	18.51	0.0021	16.13	34.46	-5.20	
192	277	3/2		0.90	0.61	0.26	-0.28	0.00	0.05	0.03	0.85	7.42	17.76	0.0017	16.14	34.86	-5.46	
193	278	3/2	9/2	0.90	0.63	-0.82	-0.56	0.00	0.01	0.07	0.85	8.14	19.40	0.0015	16.49	35.25	-5.60	
194	279	3/2		0.90	0.64	0.16	-0.66	0.00	0.03	0.03	0.84	8.17	18.38	0.0013	16.61		-5.90	
195	280	3/2	1/2	0.88	0.62	-1.33	-1.16	0.00	0.00	0.03	0.87	9.17	20.05	0.0012	16.73		-5.79	
196	281	3/2		0.88	0.62	-0.11	-1.44	0.00	0.01	0.02	0.84	8.97	19.05	0.0010				
197	282	3/2	1/2	0.88	0.63	-1.02	-1.14	0.01	0.00	0.01	0.86	9.15	20.44	0.0009				
Z = 86 (Rn)																		
100	186			0.96	0.93								9.95	0.1150	-0.35	-2.37	8.10	10 ^{-4.08}
101	187		1/2 ⁻	0.96	0.92	10.47							11.12	0.1511	-0.27	-1.85	8.12	10 ^{-3.05}
102	188			0.97	0.91	12.08	22.54						8.95	0.1594	0.18	-1.36	8.13	10 ^{-4.17}
103	189		1/2 ⁺	0.93	0.91	9.95	22.03						10.17	0.1653	0.22	-0.90	8.13	10 ^{-3.07}
104	190			0.92	0.92	11.61	21.56						8.03	0.3119	0.66	-0.44	8.10	10 ^{-4.08}
105	191		7/2 ⁻	1.03	0.88	9.46	21.06						9.53	0.2269	0.64	-0.21	8.13	10 ^{-3.10}
106	192			0.92	0.92	11.23	20.69						7.73	0.4093	0.92	0.16	8.05	10 ^{-3.93}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
$Z = 86$ (Rn)																		
107	193		9/2 ⁺	1.08	0.87	9.24	20.47						9.29	0.5767	0.72	0.44	8.04	10 ^{-2.81}
108	194			0.88	0.96	11.15	20.38						7.20	2.5461	1.08	0.82	7.76	10 ^{-3.06}
109	195		5/2 ⁺	0.88	0.96	9.11	20.26						8.51	1.9233	1.13	1.31	7.60	10 ^{-1.52}
110	196			0.88	0.96	10.84	19.95						6.41	3.7505	1.55	1.72	7.54	10 ^{-2.33}
111	197		3/2 ⁺	0.88	0.95	8.75	19.59						7.75	3.1985	1.57	2.17	7.40	10 ^{-0.83}
112	198			0.88	0.94	10.50	19.26						5.73	5.6854	1.97	2.50	7.32	10 ^{-1.63}
113	199		1/2 ⁺	0.88	0.94	8.51	19.01						6.98	14.2458	2.00	2.87	7.12	10 ^{0.13}
114	200			0.89	0.93	10.21	18.71						4.98	8.2164	2.44	3.03	7.09	10 ^{-0.83}
115	201		3/2 ⁻	0.88	0.91	8.24	18.45						6.79	18.0533	2.48	3.38	6.98	10 ^{0.67}
116	202			0.92	0.94	10.16	18.41						4.40	50.2937	2.59	3.36	6.86	10 ^{0.01}
117	203		5/2 ⁻	0.92	0.91	8.08	18.24						6.39	11.9415	2.90	4.15	6.67	10 ^{1.80}
118	204			0.92	0.87	9.99	18.07						4.25	68.6923	2.81	4.23	6.88	10 ^{-0.03}
119	205		1/2 ⁻	0.93	0.85	7.89	17.88						5.52	> 100	2.86	4.68	6.27	10 ^{3.48}
120	206			0.93	0.83	9.60	17.49						3.57	> 100	3.30	5.15	6.58	10 ^{1.13}
121	207		1/2 ⁻	0.94	0.81	7.73	17.33						4.63	> 100	3.38	5.63	6.29	10 ^{3.31}
122	208			0.96	0.80	9.17	16.90						2.74	> 100	3.76	6.14	6.25	10 ^{2.41}
123	209		3/2 ⁻	0.96	0.79	7.29	16.46						3.88	> 100	3.77	6.55	6.21	10 ^{3.69}
124	210			0.99	0.77	8.74	16.03						2.09	> 100	4.07	6.56	6.13	10 ^{2.98}
125	211		1/2 ⁻	0.99	0.82	7.14	15.88						2.75	> 100	4.27	7.00	5.88	10 ^{5.23}
126	212			0.99	0.90	8.19	15.33						...	β -st	4.66	7.45	6.42	10 ^{1.74}
127	213		9/2 ⁺	0.98	0.82	4.96	13.15						0.84	> 100	4.59	7.92	8.15	10 ^{-3.16}
128	214			0.98	0.78	6.72	11.68						...	β -st	5.09	8.39	9.17	10 ^{-6.92}
129	215		7/2 ⁺	0.98	0.81	4.41	11.12						0.01	> 100	4.99	8.89	9.26	10 ^{-6.07}
130	216			0.98	0.85	6.26	10.67						...	β -st	5.47	9.33	9.24	10 ^{-7.11}
131	217		5/2	0.89	0.74	4.88	11.14						...	β -st	5.88	10.42	8.27	10 ^{-3.50}
132	218			0.88	0.73	6.39	11.27						...	β -st	6.36	11.19	7.70	10 ^{-2.87}
133	219		5/2	0.86	0.73	4.81	11.20	1.00	0.00	0.00	0.00	0.00	0.20	> 100	6.60	11.97	6.68	10 ^{1.76}
134	220			0.86	0.73	6.18	10.99						...	β -st	7.04	12.59	6.12	10 ^{3.02}
135	221		3/2	0.87	0.74	4.56	10.74	1.00	0.00	0.00	0.00	0.00	1.10	> 100	7.16	13.29	5.59	10 ^{6.61}
136	222			0.87	0.75	5.92	10.48	1.00	0.00	0.00	0.00	0.00	0.19	> 100	7.57	13.78	5.23	10 ^{7.46}
137	223		1/2	0.89	0.73	4.24	10.16	1.00	0.00	0.00	0.00	0.00	1.98	38.9048	7.68	14.28	4.85	10 ^{10.79}
138	224			0.89	0.74	5.74	9.98	1.00	0.00	0.00	0.00	0.00	1.00	> 100	8.18	14.83	4.54	10 ^{11.77}
139	225		3/2	0.93	0.73	4.13	9.87	1.00	0.00	0.00	0.00	0.00	2.62	16.1553	8.26	15.43	4.15	10 ^{15.65}
140	226			0.94	0.73	5.68	9.81	1.00	0.00	0.00	0.00	0.00	1.50	> 100	8.71	15.88	3.66	10 ^{18.95}
141	227		5/2	0.96	0.72	4.09	9.77	1.00	0.00	0.00	0.00	0.00	3.11	58.8529	8.75	16.35	3.10	> 10 ²⁰
142	228			0.99	0.71	5.77	9.86	1.00	0.00	0.00	0.00	0.00	2.08	36.6853	9.47	17.10	2.56	> 10 ²⁰
143	229		7/2	1.00	0.71	3.88	9.65	1.00	0.00	0.00	0.00	0.00	3.76	36.0978	9.31	17.57	2.29	> 10 ²⁰
144	230			1.02	0.69	5.40	9.28	1.00	0.00	0.00	0.00	0.00	2.70	13.5524	9.69	17.83	1.91	> 10 ²⁰
145	231		1/2 ⁺	1.02	0.68	3.84	9.25	1.00	0.00	0.00	0.00	0.00	4.22	4.7424	9.81	18.31	1.48	> 10 ²⁰
146	232			1.03	0.67	5.20	9.04	1.00	0.00	0.00	0.00	0.00	3.33	5.5449	10.20	18.83	1.43	> 10 ²⁰
147	233		5/2 ⁺	1.04	0.67	3.68	8.88	1.00	0.00	0.00	0.00	0.00	4.78	1.9813	10.22	19.15	1.10	> 10 ²⁰
148	234			1.04	0.66	4.90	8.59	1.00	0.00	0.00	0.00	0.00	3.92	2.2900	10.56	19.48	0.89	> 10 ²⁰
149	235		7/2 ⁺	1.04	0.66	3.47	8.37	1.00	0.00	0.00	0.00	0.00	5.41	0.6668	10.59	19.84	0.78	> 10 ²⁰
150	236			1.04	0.65	4.73	8.20	1.00	0.00	0.00	0.00	0.00	4.48	1.0919	10.95	20.30	0.62	> 10 ²⁰
151	237		9/2 ⁻	1.05	0.67	3.19	7.93	0.99	0.01	0.00	0.18	0.01	6.01	0.7272	10.93	20.57	0.53	> 10 ²⁰
152	238			1.05	0.67	4.40	7.59	0.97	0.03	0.00	0.19	0.03	5.18	0.5223	11.36	20.98	0.41	> 10 ²⁰
153	239		7/2 ⁺	1.05	0.68	2.67	7.07	0.88	0.12	0.00	0.23	0.12	6.91	0.2619	11.25	21.26	0.67	> 10 ²⁰
154	240			1.04	0.67	4.00	6.67	0.75	0.25	0.00	0.31	0.25	5.90	0.3152	11.59	21.53	0.65	> 10 ²⁰
155	241		1/2 ⁺	1.05	0.67	2.45	6.45	0.66	0.34	0.00	0.33	0.34	7.46	0.2106	11.63	21.94	0.59	> 10 ²⁰
156	242			1.03	0.69	3.80	6.25	0.58	0.42	0.00	0.43	0.42	6.38	0.1751	11.97	22.18	0.52	> 10 ²⁰
157	243		1/2 ⁺	1.02	0.69	2.53	6.33	0.51	0.49	0.00	0.42	0.49	7.73	0.1528	11.94	22.58	0.04	> 10 ²⁰
158	244			1.01	0.69	3.87	6.39	0.52	0.48	0.00	0.40	0.48	6.75	0.1103	12.28	22.97	-0.27	
159	245		1/2 ⁺	1.02	0.67	2.38	6.25	0.41	0.59	0.00	0.44	0.59	8.18	0.0903	12.29	23.21	-0.53	
160	246			1.01	0.66	3.80	6.18	0.42	0.58	0.00	0.45	0.58	7.13	0.0847	12.46	23.45	-0.85	
161	247		3/2 ⁺	1.02	0.65	2.38	6.18	0.37	0.63	0.00	0.49	0.63	8.51	0.0721	12.55	23.90	-1.09	
162	248			1.02	0.63	3.61	5.99	0.34	0.66	0.00	0.48	0.66	7.61	0.0595	12.92	24.20	-1.14	
163	249		13/2 ⁻	1.01	0.66	2.02	5.63	0.23	0.77	0.00	0.58	0.77	9.18	0.0498	12.91	24.60	-1.23	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 86 (Rn)																		
164	250			0.99	0.65	3.22	5.25	0.18	0.82	0.00	0.63	0.82	8.33	0.0415	13.29	25.00	−1.14	
165	251		9/2 ⁺	0.99	0.66	1.73	4.96	0.16	0.79	0.05	0.66	0.89	9.83	0.0342	13.13	25.10	−1.26	
166	252			0.93	0.69	3.35	5.09	0.08	0.92	0.00	0.68	0.92	8.52	0.0272	13.36	25.34	−1.79	
167	253		13/2 [−]	0.93	0.68	2.03	5.38	0.08	0.85	0.07	0.67	0.99	9.79	0.0311	13.41	25.73	−2.18	
168	254			0.91	0.68	3.28	5.31	0.09	0.91	0.00	0.62	0.91	8.82	0.0207	13.68	26.09	−2.35	
169	255		1/2 ⁺	0.91	0.66	1.91	5.19	0.09	0.89	0.02	0.68	0.93	10.22	0.0198	13.71	26.45	−2.63	
170	256			0.91	0.63	3.05	4.96	0.09	0.90	0.01	0.71	0.92	9.41	0.0163	14.04	26.67	−2.75	
171	257		3/2 ⁺	0.90	0.61	1.61	4.66	0.09	0.81	0.10	0.73	1.01	10.87	0.0142	13.96	26.94	−2.81	
172	258			0.90	0.60	2.80	4.41	0.07	0.91	0.02	0.78	0.95	10.01	0.0126	14.23	27.21	−2.78	
173	259		3/2 ⁺	0.90	0.65	1.61	4.40	0.05	0.65	0.30	0.72	1.25	11.35	0.0115	14.34	27.64	−3.05	
174	260			0.91	0.62	2.65	4.26	0.04	0.90	0.06	0.80	1.02	10.42	0.0113	14.66	27.95	−3.17	
175	261		5/2 ⁺	0.91	0.61	1.33	3.98	0.05	0.31	0.64	0.73	1.59	11.74	0.0107	14.65	28.30	−3.32	
176	262			0.91	0.60	2.51	3.84	0.04	0.76	0.19	0.76	1.17	10.87	0.0097	14.96	28.61	−3.49	
177	263		1/2 ⁺	0.91	0.60	1.10	3.61	0.03	0.18	0.78	0.75	1.77	12.25	0.0089	14.98	28.92	−3.61	
178	264			0.91	0.59	2.20	3.30	0.02	0.48	0.48	0.72	1.50	11.50	0.0079	15.22	29.17	−3.62	
179	265		1/2 ⁺	0.90	0.59	0.80	3.00	0.02	0.07	0.88	0.80	1.92	12.90	0.0068	15.33	29.53	−3.62	
180	266			0.91	0.57	1.88	2.68	0.02	0.19	0.74	0.71	1.82	12.16	0.0055	15.49	29.52	−3.55	
181	267		3/2 ⁺	0.92	0.57	0.72	2.59	0.01	0.03	0.85	0.82	2.08	13.29	0.0048	15.33	29.59	−3.82	
182	268			0.92	0.55	1.97	2.68	0.01	0.09	0.68	0.72	2.12	12.25	0.0052	15.72	29.89	−3.90	
183	269		1/2 ⁺	0.91	0.59	0.62	2.59	0.01	0.03	0.63	0.78	2.31	13.59	0.0047	15.73	30.19	−3.87	
184	270			0.91	0.66	1.53	2.15	0.02	0.07	0.59	0.71	2.23	12.98	0.0038	16.02	30.49	−3.75	
185	271		11/2 [−]	0.91	0.67	−0.97	0.56	0.07	0.03	0.17	0.78	2.79	15.47	0.0027	16.02	30.83	−2.45	
186	272			0.91	0.67	0.79	−0.18	0.00	0.06	0.04	0.83	3.30	14.02	0.0037	16.36	31.17	−2.01	
187	273		3/2	0.93	0.66	−1.18	−0.38	0.08	0.00	0.08	0.86	3.95	16.02	0.0030	16.43	31.55	−2.14	
188	274			0.94	0.64	0.58	−0.60	0.00	0.07	0.03	0.84	4.55	14.55	0.0035	16.80	31.97	−2.27	
189	275		5/2	0.93	0.61	−0.50	0.08	0.08	0.00	0.07	0.85	5.01	15.69	0.0035	16.85	32.48	−3.33	
190	276			0.93	0.61	0.74	0.24	0.00	0.12	0.01	0.79	5.48	14.88	0.0030	17.19	32.90	−3.92	
191	277		7/2	0.92	0.61	−0.49	0.25	0.00	0.00	0.13	0.79	6.24	16.21	0.0028	17.24	33.37	−4.43	
192	278			0.92	0.61	0.82	0.33	0.00	0.12	0.00	0.75	6.30	15.43	0.0023	17.80	33.94	−4.93	
193	279		9/2	0.92	0.63	−0.86	−0.04	0.00	0.00	0.15	0.75	6.87	16.95	0.0021	17.76	34.25	−5.03	
194	280			0.91	0.63	0.34	−0.52	0.00	0.09	0.02	0.72	7.10	16.10	0.0017	17.95	34.55	−5.13	
195	281		1/2	0.88	0.62	−1.11	−0.77	0.00	0.00	0.03	0.74	8.34	17.54	0.0016	18.16	34.89	−5.18	
196	282			0.88	0.62	0.36	−0.75	0.00	0.02	0.02	0.71	7.81	16.68	0.0013	18.64		−5.51	
197	283		7/2	0.88	0.64	−1.28	−0.91	0.01	0.00	0.01	0.74	8.57	18.33	0.0011	18.38		−5.68	
198	284			0.88	0.64	0.35	−0.93	0.00	0.01	0.01	0.72	8.55	17.15	0.0011				
199	285		5/2	0.89	0.64	−0.83	−0.48	0.00	0.00	0.01	0.74	9.19	18.27	0.0013				
200	286			0.92	0.60	0.02	−0.81	0.00	0.01	0.01	0.73	9.04	17.37	0.0011				
Z = 87 (Fr)																		
102	189	5/2 ⁺		0.95	0.91								11.49	0.0868	−2.32	−2.15	8.43	10 ^{−3.90}
103	190	5/2 ⁺	1/2 ⁺	0.93	0.92	10.44							12.66	0.0862	−1.84	−1.61	8.38	10 ^{−3.39}
104	191	5/2 ⁺		0.92	0.93	11.68	22.11						10.44	0.1487	−1.77	−1.11	8.33	10 ^{−3.62}
105	192	5/2 ⁺	5/2 [−]	0.92	0.92	9.94	21.61						11.74	0.2129	−1.29	−0.65	8.30	10 ^{−3.17}
106	193	5/2 ⁺		0.91	0.92	11.24	21.18						9.74	0.2578	−1.28	−0.36	8.23	10 ^{−3.31}
107	194	11/2 [−]	9/2 ⁺	1.04	0.88	9.51	20.75						11.37	0.2645	−1.01	−0.29	8.19	10 ^{−2.85}
108	195	5/2 ⁺		0.93	0.92	10.89	20.40						9.60	0.2570	−1.27	−0.19	8.26	10 ^{−3.39}
109	196	11/2 ⁺	5/2 ⁺	0.90	0.95	9.52	20.41						10.92	0.5197	−0.86	0.27	8.18	10 ^{−2.82}
110	197	11/2 ⁺		0.90	0.95	10.87	20.39						8.80	0.5950	−0.83	0.72	8.10	10 ^{−2.93}
111	198	11/2 ⁺	3/2 ⁺	0.90	0.95	9.16	20.03						10.14	0.7812	−0.42	1.15	7.99	10 ^{−2.29}
112	199	11/2 ⁺		0.90	0.94	10.52	19.68						8.13	0.7753	−0.40	1.57	7.90	10 ^{−2.33}
113	200	11/2 ⁺	1/2 ⁺	0.90	0.93	8.89	19.41						9.45	0.7484	−0.02	1.98	7.75	10 ^{−1.49}
114	201	11/2 ⁺		0.91	0.93	10.21	19.10						7.48	1.3089	−0.02	2.43	7.64	10 ^{−1.48}
115	202	11/2 ⁺	5/2 [−]	0.91	0.91	8.67	18.89						8.97	1.3780	0.41	2.89	7.44	10 ^{−0.51}
116	203	11/2 ⁺		0.92	0.88	10.01	18.68						7.04	2.1249	0.26	2.85	7.19	10 ^{0.01}
117	204	11/2 ⁺	1/2 ⁺	0.93	0.85	8.31	18.32						8.72	2.2365	0.49	3.39	7.09	10 ^{0.71}
118	205	13/2 ⁺		0.94	0.86	10.19	18.51						6.42	4.8291	0.69	3.51	6.95	10 ^{0.88}
119	206	13/2 ⁺	1/2 [−]	0.94	0.83	8.23	18.43						7.79	4.7006	1.03	3.89	6.48	10 ^{3.02}
120	207	13/2 ⁺		0.94	0.81	9.62	17.85						5.90	6.4313	1.05	4.35	6.94	10 ^{0.91}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
$Z = 87$ (Fr)																		
121	208	13/2 ⁺	1/2 ⁻	0.96	0.79	8.06	17.68						7.01	8.0150	1.38	4.76	6.73	10 ^{2.05}
122	209	13/2 ⁺		0.98	0.78	9.17	17.23						5.13	10.9966	1.38	5.14	6.73	10 ^{1.71}
123	210	5/2 ⁻	3/2 ⁻	1.00	0.79	7.68	16.85						6.19	> 100	1.77	5.54	6.69	10 ^{2.17}
124	211	5/2 ⁻		1.03	0.77	8.69	16.38						4.63	> 100	1.72	5.80	6.78	10 ^{1.52}
125	212	5/2 ⁻	1/2 ⁻	1.03	0.82	7.46	16.15						5.36	> 100	2.04	6.31	6.61	10 ^{2.53}
126	213	5/2 ⁻		1.03	0.90	8.23	15.69						2.09	> 100	2.08	6.74	6.82	10 ^{1.37}
127	214	1/2 ⁻	9/2 ⁺	1.03	0.82	5.37	13.60						3.44	> 100	2.49	7.09	8.39	10 ^{-3.42}
128	215	5/2 ⁻		1.03	0.78	6.78	12.15						1.06	> 100	2.56	7.65	9.40	10 ^{-6.36}
129	216	5/2 ⁻	3/2 ⁺	1.02	0.81	4.93	11.71						±	±	3.08	8.07	9.50	10 ^{-6.25}
130	217	1/2		0.89	0.73	6.64	11.57						0.64	> 100	3.46	8.93	9.08	10 ^{-5.58}
131	218	1/2	5/2	0.87	0.73	5.47	12.11						±	±	4.05	9.93	8.12	10 ^{-2.64}
132	219	1/2		0.86	0.72	6.56	12.03						...	β -st	4.22	10.58	7.34	10 ^{-0.51}
133	220	1/2	5/2	0.86	0.72	5.36	11.92	1.00	0.00	0.00	0.00	0.00	±	±	4.77	11.37	6.45	10 ^{3.18}
134	221	1/2		0.86	0.73	6.29	11.65	1.00	0.00	0.00	0.00	0.00	0.19	> 100	4.88	11.92	6.07	10 ^{4.49}
135	222	1/2	3/2	0.86	0.73	5.01	11.30	1.00	0.00	0.00	0.00	0.00	1.95	> 100	5.33	12.48	5.63	10 ^{6.95}
136	223	1/2		0.87	0.73	6.03	11.04	1.00	0.00	0.00	0.00	0.00	1.06	> 100	5.44	13.01	5.35	10 ^{8.14}
137	224	1/2	1/2	0.87	0.73	4.76	10.79	1.00	0.00	0.00	0.00	0.00	2.81	> 100	5.96	13.63	5.03	10 ^{10.33}
138	225	1/2		0.89	0.74	5.75	10.51	1.00	0.00	0.00	0.00	0.00	1.90	> 100	5.97	14.15	4.78	10 ^{11.50}
139	226	3/2	3/2	0.91	0.73	4.57	10.32	1.00	0.00	0.00	0.00	0.00	3.57	24.1880	6.40	14.67	4.35	10 ^{14.84}
140	227	3/2		0.92	0.73	5.69	10.26	1.00	0.00	0.00	0.00	0.00	2.50	35.4105	6.41	15.12	3.90	10 ^{18.16}
141	228	3/2	5/2	0.95	0.72	4.74	10.43	1.00	0.00	0.00	0.00	0.00	4.11	> 100	7.07	15.82	3.20	> 10 ²⁰
142	229	1/2 ⁺		0.98	0.70	5.56	10.31	1.00	0.00	0.00	0.00	0.00	3.16	80.0152	6.86	16.33	2.87	> 10 ²⁰
143	230	1/2 ⁺	7/2 ⁻	1.00	0.70	4.34	9.90	1.00	0.00	0.00	0.00	0.00	4.86	42.0809	7.32	16.63	2.58	> 10 ²⁰
144	231	1/2 ⁻		1.01	0.68	5.37	9.71	1.00	0.00	0.00	0.00	0.00	3.96	26.0273	7.28	16.98	2.27	> 10 ²⁰
145	232	1/2 ⁻	1/2 ⁺	1.02	0.68	4.31	9.68	1.00	0.00	0.00	0.00	0.00	5.42	13.1928	7.75	17.56	1.99	> 10 ²⁰
146	233	1/2		1.02	0.67	5.14	9.45	1.00	0.00	0.00	0.00	0.00	4.58	10.7212	7.69	17.88	1.87	> 10 ²⁰
147	234	3/2 ⁺	5/2 ⁺	1.03	0.67	4.04	9.17	1.00	0.00	0.00	0.00	0.00	6.07	1.5183	8.04	18.26	1.57	> 10 ²⁰
148	235	3/2 ⁺		1.03	0.66	4.96	8.99	0.99	0.01	0.00	0.22	0.01	5.17	1.5064	8.10	18.65	1.42	> 10 ²⁰
149	236	3/2 ⁺	7/2 ⁺	1.03	0.65	3.81	8.77	0.99	0.01	0.00	0.26	0.01	6.69	0.6865	8.44	19.03	1.27	> 10 ²⁰
150	237	3/2 ⁺		1.04	0.65	4.72	8.53	0.92	0.08	0.00	0.36	0.08	5.79	0.8673	8.42	19.37	1.12	> 10 ²⁰
151	238	3/2 ⁺	9/2 ⁻	1.04	0.67	3.56	8.28	0.91	0.09	0.00	0.29	0.09	7.31	0.5657	8.79	19.72	0.99	> 10 ²⁰
152	239	3/2 ⁺		1.04	0.67	4.40	7.96	0.77	0.23	0.00	0.42	0.23	6.49	0.4908	8.79	20.16	0.96	> 10 ²⁰
153	240	3/2 ⁺	7/2 ⁺	1.05	0.68	2.99	7.39	0.70	0.30	0.00	0.40	0.30	8.27	0.2618	9.12	20.36	1.18	> 10 ²⁰
154	241	3/2 ⁺		1.05	0.67	4.02	7.01	0.42	0.58	0.00	0.55	0.58	7.29	0.2862	9.13	20.72	1.14	> 10 ²⁰
155	242	3/2 ⁺	1/2 ⁺	1.05	0.67	2.72	6.73	0.41	0.59	0.00	0.51	0.59	8.90	0.2012	9.40	21.03	1.20	> 10 ²⁰
156	243	1/2 ⁺		1.04	0.69	3.87	6.59	0.26	0.74	0.00	0.59	0.74	7.78	0.1592	9.48	21.44	0.99	> 10 ²⁰
157	244	1/2 ⁻	1/2 ⁺	1.03	0.69	2.88	6.76	0.24	0.74	0.02	0.59	0.78	9.05	0.2582	9.83	21.77	0.51	> 10 ²⁰
158	245	1/2 ⁺		1.02	0.69	3.82	6.70	0.22	0.78	0.00	0.58	0.78	8.11	0.1162	9.78	22.06	0.16	> 10 ²⁰
159	246	1/2	1/2	1.02	0.68	2.75	6.57	0.18	0.80	0.02	0.63	0.84	9.50	0.1566	10.15	22.45	-0.04	
160	247	5/2 ⁻		1.03	0.66	3.76	6.51	0.12	0.88	0.00	0.65	0.88	8.44	0.1340	10.11	22.57	-0.27	
161	248	5/2 ⁻	3/2 ⁺	1.03	0.65	2.70	6.46	0.19	0.77	0.04	0.60	0.85	9.89	0.1055	10.43	22.98	-0.61	
162	249	1/2 ⁺		1.03	0.64	3.59	6.29	0.13	0.87	0.00	0.67	0.87	8.94	0.0880	10.42	23.34	-0.57	
163	250	5/2 ⁻	13/2 ⁻	1.02	0.65	2.37	5.96	0.09	0.76	0.15	0.63	1.06	10.49	0.0732	10.77	23.67	-0.65	
164	251	5/2 ⁻		1.00	0.65	3.24	5.61	0.06	0.92	0.02	0.73	0.96	9.60	0.0617	10.79	24.08	-0.65	
165	252	5/2 ⁻	9/2 ⁺	1.00	0.66	2.04	5.28	0.06	0.49	0.45	0.66	1.39	11.14	0.0475	11.09	24.22	-0.65	
166	253	5/2 ⁻		0.95	0.69	3.29	5.33	0.02	0.92	0.06	0.76	1.04	9.87	0.0328	11.03	24.39	-1.11	
167	254	5/2 ⁻	13/2 ⁻	0.95	0.68	2.31	5.61	0.04	0.37	0.59	0.69	1.55	11.04	0.0410	11.32	24.72	-1.52	
168	255	5/2 ⁻		0.92	0.65	3.32	5.63	0.04	0.91	0.05	0.75	1.01	10.04	0.0307	11.35	25.04	-1.72	
169	256	5/2 ⁻	1/2 ⁺	0.92	0.63	2.23	5.55	0.05	0.59	0.36	0.68	1.31	11.39	0.0289	11.67	25.38	-1.97	
170	257	13/2 ⁺		0.92	0.62	3.07	5.30	0.02	0.94	0.04	0.77	1.02	10.61	0.0176	11.69	25.73	-2.04	
171	258	13/2 ⁺	3/2 ⁺	0.92	0.61	1.94	5.01	0.03	0.51	0.46	0.71	1.43	12.05	0.0154	12.02	25.99	-2.09	
172	259	13/2 ⁺		0.92	0.60	2.95	4.89	0.01	0.77	0.22	0.73	1.21	11.03	0.0154	12.17	26.41	-2.32	
173	260	13/2 ⁺	3/2 ⁺	0.92	0.64	1.73	4.67	0.02	0.27	0.71	0.77	1.69	12.50	0.0140	12.29	26.64	-2.36	
174	261	13/2 ⁺		0.92	0.62	2.65	4.38	0.01	0.49	0.49	0.72	1.50	11.58	0.0132	12.29	26.94	-2.48	
175	262	13/2 ⁺	5/2 ⁺	0.93	0.61	1.64	4.29	0.02	0.15	0.82	0.81	1.82	12.91	0.0122	12.60	27.24	-2.63	
176	263	13/2 ⁺		0.93	0.60	2.48	4.12	0.01	0.32	0.64	0.75	1.69	12.09	0.0115	12.57	27.53	-2.76	
177	264	5/2 ⁻	1/2 ⁺	0.93	0.60	1.45	3.93	0.01	0.07	0.89	0.84	1.94	13.46	0.0108	12.92	27.90	-2.87	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 87 (Fr)																		
178	265	5/2 ⁻		0.93	0.59	2.20	3.65	0.01	0.11	0.78	0.76	1.97	12.67	0.0102	12.92	28.14	-2.88	
179	266	5/2 ⁻	1/2 ⁺	0.93	0.58	1.14	3.34	0.01	0.04	0.79	0.82	2.11	14.07	0.0086	13.26	28.59	-2.94	
180	267	5/2 ⁻		0.94	0.57	1.84	2.98	0.01	0.06	0.49	0.76	2.37	13.28	0.0073	13.22	28.71	-2.82	
181	268	3/2 ⁻	3/2 ⁺	0.95	0.57	0.93	2.77	0.01	0.02	0.39	0.77	2.57	14.40	0.0067	13.44	28.77	-3.06	
182	269	3/2 ⁻		0.95	0.55	1.96	2.89	0.01	0.04	0.17	0.76	2.74	13.44	0.0069	13.43	29.14	-3.30	
183	270	3/2 ⁻	1/2 ⁺	0.94	0.59	0.93	2.88	0.01	0.02	0.20	0.75	2.90	14.78	0.0063	13.73	29.46	-3.35	
184	271	3/2 ⁻		0.94	0.66	1.52	2.45	0.01	0.05	0.15	0.77	2.77	14.17	0.0050	13.72	29.74	-3.29	
185	272	5/2 ⁻	11/2 ⁻	0.94	0.67	-0.66	0.86	0.03	0.08	0.07	0.77	3.24	16.66	0.0035	14.03	30.05	-2.02	
186	273	3/2 ⁻		0.94	0.67	0.82	0.16	0.00	0.05	0.06	0.80	3.72	15.18	0.0047	14.06	30.42	-1.60	
187	274	7/2	3/2	0.96	0.66	-0.89	-0.07	0.01	0.03	0.15	0.82	4.22	17.22	0.0038	14.35	30.77	-1.68	
188	275	5/2		0.96	0.64	0.63	-0.25	0.00	0.03	0.03	0.83	4.84	15.80	0.0041	14.41	31.21	-1.86	
189	276	1/2	5/2	0.94	0.60	-0.07	0.57	0.00	0.01	0.04	0.83	5.61	16.87	0.0041	14.84	31.69	-3.04	
190	277	5/2		0.94	0.58	0.84	0.77	0.00	0.05	0.04	0.78	5.74	16.03	0.0037	14.94	32.12	-3.68	
191	278	5/2	7/2	0.92	0.60	0.04	0.88	0.04	0.02	0.11	0.77	5.88	17.35	0.0035	15.46	32.71	-4.26	
192	279	5/2		0.92	0.60	0.66	0.70	0.00	0.07	0.04	0.74	6.27	16.61	0.0027	15.30	33.10	-4.52	
193	280	5/2	9/2	0.92	0.62	-0.50	0.16	0.00	0.00	0.09	0.74	7.01	18.05	0.0024	15.66	33.43	-4.56	
194	281	5/2		0.93	0.63	0.32	-0.18	0.00	0.05	0.02	0.72	6.91	17.26	0.0019	15.64	33.59	-4.62	
195	282	1/2	1/2	0.88	0.62	-0.49	-0.17	0.00	0.00	0.02	0.72	8.02	18.44	0.0018	16.27	34.42	-4.96	
196	283	1/2		0.88	0.62	0.38	-0.11	0.00	0.00	0.00	0.70	7.90	17.62	0.0016	16.28	34.91	-5.17	
197	284	1/2	1/2	0.88	0.61	-0.83	-0.45	0.00	0.00	0.01	0.71	8.53	19.11	0.0014	16.72	35.10	-5.67	
198	285	1/2		0.88	0.61	0.29	-0.54	0.00	0.00	0.00	0.69	8.57	18.17	0.0013	16.66		-6.07	
199	286	3/2	5/2	0.90	0.62	-0.89	-0.59	0.00	0.00	0.00	0.71	9.26	19.70	0.0012	16.61		-6.21	
200	287	1/2 ⁺		0.92	0.60	0.39	-0.50	0.00	0.00	0.00	0.71	9.16	18.11	0.0014	16.97			
201	288	1/2 ⁺	1/2 ⁻	0.92	0.61	-0.74	-0.36	0.00	0.00	0.01	0.72	9.37	19.87	0.0011				
202	289	1/2 ⁺		0.92	0.60	0.30	-0.44	0.00	0.01	0.01	0.71	9.19	18.90	0.0011				
Z = 88 (Ra)																		
104	192			0.91	0.93								9.53	0.1729	-0.38	-2.14	8.88	10 ^{-5.52}
105	193	5/2 ⁻		0.91	0.92	9.97							10.80	0.1932	-0.34	-1.63	8.87	10 ^{-4.40}
106	194			0.91	0.92	11.68	21.65						8.64	0.2170	0.09	-1.19	8.80	10 ^{-5.28}
107	195	9/2 ⁺		1.04	0.87	9.48	21.15						10.05	0.2217	0.06	-0.95	8.78	10 ^{-4.16}
108	196			0.92	0.92	11.39	20.87						8.17	0.3209	0.56	-0.70	8.62	10 ^{-4.80}
109	197	9/2 ⁺		0.93	0.91	9.12	20.51						9.92	0.3672	0.17	-0.70	8.74	10 ^{-4.06}
110	198			0.90	0.95	11.21	20.33						7.88	0.7009	0.51	-0.32	8.67	10 ^{-4.94}
111	199	3/2 ⁺		0.90	0.94	9.21	20.42						9.19	0.9353	0.55	0.13	8.58	10 ^{-3.60}
112	200			0.90	0.94	10.95	20.16						7.12	1.1147	0.98	0.58	8.46	10 ^{-4.36}
113	201	1/2 ⁺		0.91	0.94	8.90	19.85						8.43	1.4864	1.00	0.98	8.31	10 ^{-2.87}
114	202			0.92	0.92	10.64	19.54						6.46	1.6389	1.43	1.41	8.17	10 ^{-3.53}
115	203	5/2 ⁻		0.92	0.91	8.68	19.32						7.79	1.4338	1.44	1.85	8.00	10 ^{-1.95}
116	204			0.93	0.89	10.48	19.16						5.62	4.9171	1.91	2.17	7.73	10 ^{-2.14}
117	205	1/2 ⁺		0.94	0.86	8.48	18.97						7.33	3.5260	2.08	2.57	7.49	10 ^{-0.32}
118	206			0.96	0.86	10.36	18.84						5.20	11.9318	2.25	2.94	7.29	10 ^{-0.70}
119	207	1/2 ⁻		0.96	0.83	8.28	18.64						6.54	16.8474	2.30	3.33	7.09	10 ^{1.08}
120	208			0.96	0.81	9.95	18.23						4.65	62.7275	2.63	3.68	7.13	10 ^{-0.13}
121	209	1/2 ⁻		0.98	0.79	8.09	18.04						5.72	75.1123	2.66	4.04	6.93	10 ^{1.67}
122	210			1.01	0.78	9.59	17.68						3.81	68.8961	3.08	4.46	6.94	10 ^{0.57}
123	211	3/2 ⁻		1.02	0.79	7.71	17.30						4.80	34.7094	3.11	4.88	6.96	10 ^{1.56}
124	212			1.04	0.79	9.15	16.86						3.10	> 100	3.57	5.29	6.98	10 ^{0.46}
125	213	1/2 ⁻		1.07	0.82	7.35	16.50						3.99	> 100	3.46	5.50	6.92	10 ^{1.71}
126	214			1.06	0.90	8.63	15.98						0.73	> 100	3.86	5.94	7.03	10 ^{0.23}
127	215	9/2 ⁺		1.06	0.82	5.46	14.09						2.05	> 100	3.95	6.45	8.70	10 ^{-3.98}
128	216			1.06	0.78	7.16	12.62						...	β -st	4.33	6.88	9.74	10 ^{-7.56}
129	217	3/2		0.97	0.73	5.03	12.19						1.43	> 100	4.43	7.51	9.66	10 ^{-6.33}
130	218			0.90	0.73	7.21	12.24						...	β -st	5.00	8.46	9.18	10 ^{-6.25}
131	219	5/2		0.88	0.73	5.61	12.81						0.65	> 100	5.13	9.18	7.97	10 ^{-1.86}
132	220			0.86	0.72	7.04	12.65						...	β -st	5.61	9.84	7.19	10 ^{-0.35}
133	221	5/2		0.85	0.72	5.45	12.49						...	β -st	5.71	10.47	6.62	10 ^{2.88}
134	222			0.86	0.73	6.77	12.21						...	β -st	6.18	11.06	6.25	10 ^{3.38}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	<i>S</i> _{1n} (MeV)	<i>S</i> _{2n} (MeV)	<i>P</i> _{0n}	<i>P</i> _{1n}	<i>P</i> _{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	<i>Q</i> _{β} (MeV)	<i>T</i> _{β} (s)	<i>S</i> _{1p} (MeV)	<i>S</i> _{2p} (MeV)	<i>Q</i> _{α} (MeV)	<i>T</i> _{α} (s)
Z = 88 (Ra)																		
135	223		3/2	0.86	0.73	5.14	11.91						...	β -st	6.31	11.64	5.92	10 ^{5.96}
136	224			0.86	0.73	6.50	11.64						...	β -st	6.79	12.22	5.60	10 ^{6.49}
137	225		1/2	0.87	0.73	4.84	11.35	1.00	0.00	0.00	0.00	0.00	0.45	> 100	6.87	12.83	5.31	10 ^{9.12}
138	226			0.88	0.73	6.23	11.08						...	β -st	7.35	13.32	5.00	10 ^{9.88}
139	227		3/2	0.89	0.74	4.62	10.85	1.00	0.00	0.00	0.00	0.00	1.20	> 100	7.41	13.81	4.62	10 ^{13.43}
140	228			0.90	0.73	6.36	10.97	1.00	0.00	0.00	0.00	0.00	0.10	> 100	8.07	14.48	4.01	10 ^{17.07}
141	229		5/2	0.95	0.71	4.61	10.97	1.00	0.00	0.00	0.00	0.00	1.71	> 100	7.94	15.01	3.52	> 10 ²⁰
142	230			0.97	0.71	6.04	10.65	1.00	0.00	0.00	0.00	0.00	0.74	> 100	8.42	15.27	3.17	> 10 ²⁰
143	231		7/2 ⁻	0.98	0.70	4.47	10.51	1.00	0.00	0.00	0.00	0.00	2.36	> 100	8.55	15.86	2.78	> 10 ²⁰
144	232			1.00	0.69	5.77	10.24	1.00	0.00	0.00	0.00	0.00	1.45	> 100	8.95	16.23	2.78	> 10 ²⁰
145	233		1/2 ⁺	1.00	0.68	4.30	10.07	1.00	0.00	0.00	0.00	0.00	2.95	47.4291	8.93	16.69	2.37	> 10 ²⁰
146	234			1.00	0.68	5.52	9.82	1.00	0.00	0.00	0.00	0.00	2.09	72.8114	9.32	17.01	2.25	> 10 ²⁰
147	235		5/2 ⁺	1.01	0.67	4.06	9.59	1.00	0.00	0.00	0.00	0.00	3.62	7.8270	9.35	17.39	2.03	> 10 ²⁰
148	236			1.01	0.66	5.33	9.39	1.00	0.00	0.00	0.00	0.00	2.72	17.5303	9.72	17.81	1.90	> 10 ²⁰
149	237		7/2 ⁺	1.02	0.66	3.82	9.15	1.00	0.00	0.00	0.00	0.00	4.21	2.2884	9.73	18.17	1.76	> 10 ²⁰
150	238			1.02	0.65	5.08	8.91	1.00	0.00	0.00	0.00	0.00	3.32	4.8902	10.09	18.52	1.58	> 10 ²⁰
151	239		9/2 ⁻	1.04	0.66	3.58	8.66	1.00	0.00	0.00	0.00	0.00	4.82	2.9974	10.11	18.91	1.47	> 10 ²⁰
152	240			1.04	0.66	4.77	8.35	1.00	0.00	0.00	0.00	0.00	4.00	1.9043	10.48	19.27	1.44	> 10 ²⁰
153	241		7/2 ⁺	1.04	0.69	3.04	7.80	0.99	0.01	0.00	0.16	0.01	5.73	0.8118	10.52	19.64	1.59	> 10 ²⁰
154	242			1.04	0.68	4.33	7.37	0.97	0.03	0.00	0.24	0.03	4.79	0.9057	10.84	19.97	1.66	> 10 ²⁰
155	243		1/2 ⁺	1.05	0.67	2.75	7.08	0.89	0.11	0.00	0.20	0.11	6.38	0.5570	10.87	20.27	1.58	> 10 ²⁰
156	244			1.05	0.68	4.15	6.90	0.84	0.16	0.00	0.25	0.16	5.28	0.5845	11.15	20.62	1.43	> 10 ²⁰
157	245		1/2 ⁺	1.04	0.69	2.88	7.03	0.81	0.19	0.00	0.28	0.19	6.56	0.4832	11.14	20.97	1.00	> 10 ²⁰
158	246			1.04	0.69	4.14	7.02	0.81	0.19	0.00	0.25	0.19	5.65	0.3346	11.47	21.25	0.66	> 10 ²⁰
159	247		1/2 ⁺	1.03	0.68	2.71	6.85	0.67	0.33	0.00	0.26	0.33	7.11	0.2254	11.42	21.57	0.48	> 10 ²⁰
160	248			1.04	0.65	4.15	6.86	0.68	0.32	0.00	0.34	0.32	5.94	0.2397	11.81	21.92	0.20	> 10 ²⁰
161	249		3/2 ⁺	1.04	0.64	2.64	6.79	0.62	0.38	0.00	0.33	0.38	7.36	0.1724	11.75	22.18	-0.06	
162	250			1.05	0.63	3.93	6.57	0.62	0.38	0.00	0.32	0.38	6.51	0.1399	12.08	22.50	-0.19	
163	251		13/2 ⁻	1.04	0.66	2.35	6.28	0.42	0.58	0.00	0.44	0.58	8.03	0.1177	12.06	22.82	-0.15	
164	252			1.01	0.65	3.58	5.93	0.35	0.65	0.00	0.51	0.65	7.13	0.0961	12.39	23.18	-0.13	
165	253		9/2 ⁺	1.01	0.65	2.03	5.60	0.27	0.73	0.00	0.55	0.73	8.66	0.0730	12.38	23.47	-0.13	
166	254			0.96	0.69	3.49	5.51	0.19	0.81	0.00	0.53	0.81	7.56	0.0453	12.57	23.60	-0.39	
167	255		13/2 ⁻	0.96	0.68	2.32	5.80	0.13	0.87	0.00	0.56	0.87	8.61	0.0647	12.58	23.90	-0.97	
168	256			0.96	0.66	3.57	5.89	0.21	0.79	0.00	0.50	0.79	7.69	0.0490	12.84	24.19	-1.19	
169	257		1/2 ⁺	0.94	0.65	2.30	5.87	0.15	0.85	0.00	0.51	0.85	8.94	0.0416	12.90	24.57	-1.46	
170	258			0.94	0.62	3.38	5.67	0.17	0.83	0.00	0.51	0.83	8.25	0.0299	13.20	24.90	-1.56	
171	259		3/2 ⁺	0.94	0.60	1.93	5.31	0.13	0.86	0.01	0.60	0.88	9.73	0.0250	13.20	25.22	-1.58	
172	260			0.93	0.60	3.19	5.12	0.19	0.81	0.00	0.62	0.81	8.83	0.0223	13.44	25.61	-1.72	
173	261		3/2 ⁺	0.94	0.64	1.74	4.93	0.11	0.82	0.07	0.70	0.96	10.18	0.0226	13.45	25.74	-1.85	
174	262			0.94	0.63	2.97	4.71	0.07	0.92	0.01	0.72	0.94	9.24	0.0201	13.77	26.06	-2.02	
175	263		5/2 ⁺	0.94	0.61	1.66	4.63	0.08	0.64	0.28	0.68	1.20	10.45	0.0204	13.79	26.39	-2.07	
176	264			0.95	0.60	2.82	4.48	0.08	0.89	0.03	0.74	0.95	9.69	0.0178	14.13	26.70	-2.24	
177	265		1/2 ⁺	0.95	0.61	1.41	4.23	0.08	0.54	0.38	0.66	1.30	11.09	0.0147	14.09	27.00	-2.31	
178	266			0.95	0.60	2.55	3.95	0.06	0.81	0.13	0.72	1.07	10.28	0.0138	14.43	27.35	-2.35	
179	267		1/2 ⁺	0.95	0.58	1.05	3.60	0.03	0.22	0.74	0.69	1.73	11.74	0.0112	14.34	27.60	-2.30	
180	268			0.96	0.57	2.05	3.09	0.02	0.51	0.45	0.67	1.47	11.07	0.0088	14.55	27.77	-2.15	
181	269		3/2 ⁺	0.97	0.56	1.00	3.05	0.01	0.06	0.91	0.75	1.94	12.05	0.0084	14.62	28.06	-2.35	
182	270			0.97	0.55	2.26	3.26	0.02	0.19	0.75	0.64	1.81	11.11	0.0089	14.92	28.35	-2.73	
183	271		1/2 ⁺	0.97	0.59	0.91	3.17	0.02	0.06	0.86	0.74	1.97	12.45	0.0078	14.91	28.64	-2.93	
184	272			0.97	0.66	1.83	2.74	0.03	0.20	0.72	0.65	1.80	11.84	0.0063	15.22	28.94	-2.79	
185	273		11/2 ⁻	0.97	0.67	-0.66	1.17	0.06	0.04	0.46	0.73	2.31	14.32	0.0042	15.22	29.25	-1.51	
186	274			0.97	0.67	1.15	0.49	0.00	0.08	0.08	0.76	2.84	12.86	0.0060	15.55	29.61	-1.13	
187	275		3/2	0.98	0.64	-0.79	0.36	0.07	0.00	0.10	0.78	3.49	14.79	0.0050	15.65	30.00	-1.32	
188	276			0.98	0.62	1.00	0.22	0.00	0.10	0.01	0.74	3.98	13.31	0.0058	16.02	30.43	-1.53	
189	277		5/2	0.95	0.59	0.00	1.00	0.01	0.01	0.08	0.73	4.62	14.50	0.0053	16.09	30.93	-2.70	
190	278			0.93	0.59	1.36	1.36	0.05	0.06	0.00	0.69	4.55	13.67	0.0047	16.61	31.55	-3.49	
191	279		7/2	0.93	0.60	-0.08	1.28	0.05	0.08	0.05	0.68	4.94	15.01	0.0047	16.49	31.95	-3.90	

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 88 (Ra)																		
192	280			0.93	0.60	0.94	0.85	0.03	0.08	0.02	0.63	4.75	14.29	0.0035	16.77	32.07	−4.10	
193	281		9/2	0.93	0.62	−0.46	0.47	0.00	0.03	0.10	0.64	5.31	15.70	0.0032	16.80	32.46	−4.12	
194	282			0.88	0.60	0.69	0.23	0.00	0.05	0.01	0.62	5.01	14.85	0.0024	17.17	32.81	−4.00	
195	283		3/2	0.88	0.62	−0.45	0.25	0.01	0.00	0.05	0.64	5.62	16.16	0.0022	17.21	33.48	−4.41	
196	284			0.88	0.62	0.66	0.22	0.00	0.04	0.01	0.62	5.68	15.30	0.0020	17.50	33.78	−4.73	
197	285		1/2	0.88	0.61	−0.66	0.01	0.01	0.00	0.04	0.64	6.52	16.44	0.0021	17.67	34.40	−5.18	
198	286			0.88	0.60	0.65	−0.01	0.00	0.03	0.01	0.62	6.63	15.61	0.0018	18.03	34.70	−5.47	
199	287		3/2 [−]	0.93	0.62	−1.21	−0.56	0.01	0.00	0.03	0.62	7.10	17.54	0.0013	17.71	34.32	−5.54	
200	288			0.91	0.61	1.02	−0.18	0.00	0.04	0.01	0.61	7.53	15.98	0.0017	18.35	35.32	−6.21	
201	289		1/2	0.92	0.61	−0.67	0.35	0.02	0.00	0.04	0.63	8.10	17.36	0.0016	18.42		−6.37	
202	290			0.92	0.60	0.60	−0.07	0.00	0.06	0.01	0.61	8.01	16.47	0.0015	18.72		−6.95	
203	291		7/2	0.92	0.59	−0.56	0.05	0.00	0.00	0.06	0.60	8.65	18.05	0.0013				
204	292			0.93	0.59	0.38	−0.18	0.00	0.07	0.00	0.59	8.25	17.36	0.0011				
Z = 89 (Ac)																		
106	195	11/2 [−]		0.91	0.93								10.98	0.1191	−2.29	−2.20	9.32	10 ^{−5.48}
107	196	11/2 [−]	7/2 [−]	0.93	0.92	9.94							12.43	0.0996	−1.82	−1.76	9.31	10 ^{−5.12}
108	197	11/2 [−]		0.93	0.92	11.33	21.27						10.22	0.1778	−1.89	−1.32	9.23	10 ^{−5.26}
109	198	11/2 [−]	9/2 ⁺	0.94	0.91	9.60	20.92						11.84	0.2011	−1.41	−1.24	9.14	10 ^{−4.69}
110	199	11/2 [−]		0.93	0.92	11.00	20.59						10.05	0.1950	−1.62	−1.12	9.03	10 ^{−4.76}
111	200	5/2 [−]	3/2 ⁺	0.92	0.94	9.64	20.64						11.37	1.1036	−1.19	−0.64	8.91	10 ^{−4.10}
112	201	5/2 [−]		0.92	0.93	10.88	20.52						9.39	0.7567	−1.27	−0.29	8.90	10 ^{−4.42}
113	202	5/2 [−]	1/2 ⁺	0.92	0.93	9.38	20.25						10.65	0.9362	−0.80	0.20	8.69	10 ^{−3.52}
114	203	7/2 [−]		0.93	0.93	10.63	20.00						8.71	0.9154	−0.81	0.62	8.58	10 ^{−3.56}
115	204	7/2 [−]	3/2 [−]	0.94	0.91	9.03	19.66						10.16	1.1369	−0.46	0.98	8.44	10 ^{−2.82}
116	205	7/2 [−]		0.94	0.89	10.43	19.47						8.21	1.4591	−0.51	1.40	8.22	10 ^{−2.52}
117	206	7/2 [−]	1/2 ⁺	0.95	0.86	8.95	19.39						9.62	1.9271	−0.04	2.04	7.93	10 ^{−1.33}
118	207	7/2 [−]		0.96	0.84	10.25	19.20						7.65	2.8390	−0.15	2.10	7.70	10 ^{−0.91}
119	208	7/2 [−]	1/2 [−]	0.98	0.84	8.70	18.95						8.90	8.1625	0.27	2.56	7.31	10 ^{0.75}
120	209	7/2 [−]		0.98	0.81	9.99	18.69						7.00	17.4176	0.31	2.94	7.51	10 ^{−0.28}
121	210	7/2 [−]	1/2 [−]	1.00	0.78	8.41	18.40						8.18	7.0696	0.62	3.29	7.34	10 ^{0.65}
122	211	7/2 [−]		1.02	0.77	9.53	17.94						6.36	15.0253	0.56	3.65	7.43	10 ^{−0.00}
123	212	5/2 [−]	3/2 [−]	1.04	0.79	8.11	17.64						7.41	17.2388	0.96	4.07	7.38	10 ^{0.51}
124	213	13/2 ⁺		1.06	0.80	9.11	17.22						5.65	4.8480	0.92	4.49	7.44	10 ^{−0.04}
125	214	1/2 [−]	1/2 [−]	1.09	0.82	7.72	16.82						6.56	> 100	1.29	4.75	7.40	10 ^{0.44}
126	215	1/2 [−]		1.09	0.90	8.67	16.39						3.35	> 100	1.33	5.19	7.42	10 ^{−0.00}
127	216	1/2 [−]	9/2 ⁺	1.09	0.82	5.86	14.53						4.65	> 100	1.72	5.68	9.02	10 ^{−4.39}
128	217	1/2 [−]		1.09	0.79	7.23	13.09						2.45	> 100	1.80	6.12	10.02	10 ^{−7.11}
129	218	5/2	3/2	0.93	0.73	5.87	13.09						3.79	13.1269	2.63	7.06	9.53	10 ^{−5.65}
130	219	5/2		0.89	0.73	7.37	13.24						2.03	60.5425	2.80	7.80	8.94	10 ^{−4.52}
131	220	5/2	5/2	0.87	0.73	6.08	13.46						2.99	> 100	3.28	8.41	7.78	10 ^{−0.86}
132	221	5/2		0.86	0.73	7.17	13.25						1.26	> 100	3.40	9.02	7.25	10 ^{0.59}
133	222	5/2	5/2	0.85	0.73	5.89	13.06						2.14	> 100	3.84	9.55	6.84	10 ^{2.50}
134	223	5/2		0.84	0.74	6.90	12.79						0.38	> 100	3.98	10.16	6.49	10 ^{3.53}
135	224	5/2	3/2	0.85	0.73	5.61	12.51	1.00	0.00	0.00	0.00	0.00	±	±	4.45	10.76	6.24	10 ^{5.00}
136	225	5/2		0.85	0.73	6.57	12.18						...	β-st	4.51	11.30	5.97	10 ^{5.95}
137	226	5/2	1/2	0.86	0.74	5.28	11.85	1.00	0.00	0.00	0.00	0.00	±	±	4.95	11.82	5.69	10 ^{7.64}
138	227	3/2		0.87	0.74	6.32	11.61	1.00	0.00	0.00	0.00	0.00	0.36	> 100	5.04	12.39	5.40	10 ^{8.84}
139	228	3/2	3/2	0.88	0.74	5.25	11.57	1.00	0.00	0.00	0.00	0.00	1.97	> 100	5.67	13.08	4.91	10 ^{12.10}
140	229	3/2		0.92	0.71	6.23	11.48	1.00	0.00	0.00	0.00	0.00	1.04	> 100	5.54	13.61	4.43	10 ^{15.01}
141	230	3/2	5/2	0.93	0.72	5.07	11.30	1.00	0.00	0.00	0.00	0.00	2.75	> 100	6.00	13.94	3.93	10 ^{19.51}
142	231	1/2 [−]		0.95	0.72	6.09	11.16	1.00	0.00	0.00	0.00	0.00	1.82	> 100	6.05	14.46	3.53	> 10 ²⁰
143	232	3/2 ⁺	7/2 [−]	0.95	0.70	4.86	10.95	1.00	0.00	0.00	0.00	0.00	3.54	43.2187	6.44	14.99	3.41	> 10 ²⁰
144	233	3/2 ⁺		0.97	0.69	5.79	10.66	1.00	0.00	0.00	0.00	0.00	2.63	36.3740	6.46	15.42	3.18	> 10 ²⁰
145	234	3/2 ⁺	1/2 ⁺	0.98	0.69	4.67	10.46	1.00	0.00	0.00	0.00	0.00	4.13	18.3924	6.83	15.77	2.85	> 10 ²⁰
146	235	3/2 ⁺		0.99	0.68	5.59	10.26	1.00	0.00	0.00	0.00	0.00	3.25	44.4481	6.91	16.23	2.63	> 10 ²⁰
147	236	3/2 ⁺	5/2 ⁺	0.99	0.67	4.42	10.02	1.00	0.00	0.00	0.00	0.00	4.75	13.7466	7.26	16.61	2.52	> 10 ²⁰
148	237	3/2 ⁺		1.00	0.66	5.31	9.73	1.00	0.00	0.00	0.00	0.00	3.93	16.2685	7.25	16.97	2.34	> 10 ²⁰

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 89 (Ac)																		
149	238	3/2 ⁺	7/2 ⁺	1.00	0.65	4.19	9.51	1.00	0.00	0.00	0.00	0.00	5.41	4.1608	7.62	17.35	2.19	> 10 ²⁰
150	239	3/2 ⁺	3/2 ⁺	1.01	0.65	5.08	9.27	1.00	0.00	0.00	0.00	0.00	4.54	9.2831	7.61	17.71	2.06	> 10 ²⁰
151	240	3/2 ⁺	9/2 ⁻	1.01	0.67	3.95	9.03	0.99	0.01	0.00	0.18	0.01	6.04	6.5114	7.99	18.10	1.92	> 10 ²⁰
152	241	3/2 ⁺	3/2 ⁺	1.03	0.66	4.76	8.72	0.95	0.05	0.00	0.30	0.05	5.26	3.5462	7.98	18.46	1.88	> 10 ²⁰
153	242	3/2 ⁺	7/2 ⁺	1.03	0.68	3.39	8.16	0.92	0.08	0.00	0.32	0.08	6.99	1.2520	8.34	18.86	2.05	> 10 ²⁰
154	243	3/2 ⁺	3/2 ⁺	1.04	0.68	4.34	7.73	0.66	0.34	0.00	0.43	0.34	6.06	1.4578	8.35	19.18	2.11	> 10 ²⁰
155	244	3/2 ⁺	1/2 ⁺	1.04	0.68	3.05	7.39	0.62	0.38	0.00	0.39	0.38	7.72	0.8865	8.65	19.52	2.05	> 10 ²⁰
156	245	3/2 ⁺	3/2 ⁺	1.04	0.68	4.16	7.21	0.36	0.64	0.00	0.50	0.64	6.64	0.9371	8.65	19.80	1.91	> 10 ²⁰
157	246	1/2 ⁺	1/2 ⁺	1.04	0.69	3.23	7.39	0.44	0.56	0.00	0.44	0.56	7.92	0.8440	9.01	20.15	1.40	> 10 ²⁰
158	247	1/2 ⁻	1/2 ⁻	1.04	0.69	4.17	7.40	0.32	0.68	0.00	0.53	0.68	6.89	0.6337	9.03	20.50	1.11	> 10 ²⁰
159	248	1/2 ⁺	1/2 ⁺	1.04	0.67	2.98	7.15	0.43	0.57	0.00	0.44	0.57	8.46	0.2723	9.30	20.72	1.01	> 10 ²⁰
160	249	1/2 ⁻	1/2 ⁻	1.05	0.65	4.06	7.04	0.27	0.73	0.00	0.56	0.73	7.42	0.3460	9.21	21.02	0.76	> 10 ²⁰
161	250	1/2 ⁻	3/2 ⁺	1.05	0.64	3.09	7.14	0.35	0.65	0.00	0.51	0.65	8.67	0.3274	9.66	21.41	0.43	> 10 ²⁰
162	251	1/2 ⁻	1/2 ⁻	1.05	0.64	3.87	6.95	0.26	0.74	0.00	0.56	0.74	7.92	0.2297	9.60	21.68	0.33	> 10 ²⁰
163	252	1/2 ⁻	13/2 ⁻	1.04	0.66	2.68	6.54	0.18	0.81	0.01	0.57	0.83	9.51	0.1686	9.93	21.98	0.35	> 10 ²⁰
164	253	1/2	1/2	1.02	0.65	3.55	6.23	0.11	0.89	0.00	0.67	0.89	8.51	0.1451	9.90	22.29	0.39	> 10 ²⁰
165	254	1/2	9/2	1.02	0.65	2.39	5.95	0.13	0.69	0.18	0.60	1.05	9.98	0.1148	10.27	22.65	0.37	> 10 ²⁰
166	255	1/2	1/2	0.98	0.69	3.36	5.76	0.07	0.93	0.00	0.68	0.93	9.15	0.0384	10.15	22.72	0.25	> 10 ²⁰
167	256	1/2	13/2	0.97	0.67	2.65	6.01	0.08	0.72	0.20	0.65	1.12	9.97	0.0670	10.48	23.06	-0.36	
168	257	5/2 ⁻	5/2 ⁻	0.94	0.66	3.55	6.20	0.09	0.90	0.01	0.69	0.92	8.93	0.0608	10.45	23.29	-0.62	
169	258	11/2 ⁺	1/2 ⁺	0.95	0.63	2.69	6.24	0.19	0.75	0.06	0.59	0.87	10.23	0.0439	10.85	23.75	-1.00	
170	259	5/2 ⁻	5/2 ⁻	0.95	0.61	3.40	6.09	0.07	0.92	0.01	0.70	0.94	9.38	0.0488	10.87	24.08	-1.08	
171	260	5/2 ⁻	3/2 ⁺	0.95	0.60	2.30	5.70	0.11	0.72	0.17	0.64	1.06	10.83	0.0394	11.24	24.44	-1.15	
172	261	5/2 ⁻	5/2 ⁻	0.94	0.60	3.09	5.39	0.04	0.93	0.03	0.71	0.99	10.03	0.0322	11.14	24.58	-1.16	
173	262	5/2 ⁻	3/2 ⁺	0.95	0.63	2.03	5.12	0.05	0.34	0.61	0.66	1.56	11.38	0.0336	11.43	24.88	-1.25	
174	263	5/2 ⁻	5/2 ⁻	0.95	0.61	2.87	4.90	0.03	0.68	0.29	0.66	1.26	10.59	0.0300	11.33	25.10	-1.17	
175	264	5/2 ⁻	5/2 ⁺	0.96	0.61	2.06	4.92	0.05	0.18	0.77	0.72	1.72	11.72	0.0281	11.72	25.52	-1.51	
176	265	5/2 ⁻	5/2 ⁻	0.97	0.60	2.81	4.86	0.02	0.50	0.48	0.64	1.46	10.93	0.0255	11.71	25.84	-1.66	
177	266	13/2 ⁺	1/2 ⁺	0.97	0.61	1.74	4.55	0.03	0.26	0.71	0.73	1.68	12.34	0.0194	12.05	26.13	-1.76	
178	267	13/2 ⁺	13/2 ⁺	0.97	0.60	2.51	4.24	0.01	0.39	0.59	0.69	1.60	11.56	0.0160	12.00	26.43	-1.79	
179	268	13/2 ⁺	1/2 ⁺	0.97	0.59	1.38	3.88	0.02	0.10	0.86	0.76	1.88	13.01	0.0142	12.33	26.67	-1.71	
180	269	3/2 ⁻	3/2 ⁻	0.99	0.57	1.99	3.36	0.01	0.09	0.78	0.71	2.01	12.33	0.0122	12.27	26.82	-1.50	
181	270	7/2 ⁻	1/2 ⁺	1.00	0.56	1.32	3.31	0.01	0.03	0.72	0.73	2.20	13.38	0.0120	12.59	27.21	-1.68	
182	271	7/2 ⁻	7/2 ⁻	1.00	0.55	2.25	3.57	0.01	0.07	0.35	0.69	2.49	12.41	0.0137	12.58	27.50	-2.09	
183	272	7/2 ⁻	3/2 ⁺	1.00	0.59	1.22	3.46	0.02	0.03	0.44	0.69	2.46	13.75	0.0119	12.88	27.79	-2.37	
184	273	5/2 ⁻	5/2 ⁻	0.99	0.66	1.83	3.05	0.01	0.07	0.37	0.68	2.47	13.11	0.0085	12.89	28.10	-2.25	
185	274	3/2 ⁻	11/2 ⁻	0.99	0.67	-0.31	1.52	0.05	0.06	0.13	0.71	2.79	15.56	0.0058	13.23	28.45	-1.01	
186	275	5/2 ⁻	5/2 ⁻	0.99	0.67	1.15	0.83	0.00	0.09	0.06	0.75	3.15	14.08	0.0080	13.22	28.77	-0.63	
187	276	9/2	3/2	1.00	0.66	-0.48	0.67	0.01	0.04	0.18	0.76	3.65	16.05	0.0068	13.53	29.18	-0.81	
188	277	1/2	1/2	0.98	0.60	1.19	0.71	0.00	0.05	0.04	0.74	4.31	14.55	0.0077	13.72	29.74	-1.19	
189	278	5/2	5/2	0.95	0.60	0.53	1.72	0.00	0.01	0.06	0.72	4.87	15.51	0.0074	14.25	30.34	-2.61	
190	279	1/2	1/2	0.94	0.59	1.25	1.78	0.01	0.08	0.02	0.69	4.76	14.82	0.0064	14.14	30.75	-3.22	
191	280	1/2	7/2	0.94	0.60	0.22	1.47	0.01	0.07	0.11	0.68	5.07	16.17	0.0064	14.45	30.94	-3.51	
192	281	1/2	1/2	0.94	0.60	0.95	1.17	0.00	0.08	0.06	0.63	5.11	15.50	0.0045	14.46	31.22	-3.62	
193	282	1/2	9/2	0.94	0.62	-0.16	0.79	0.00	0.01	0.08	0.64	5.67	16.94	0.0039	14.76	31.57	-3.42	
194	283	5/2	5/2	0.89	0.60	0.86	0.71	0.00	0.03	0.02	0.61	5.45	15.92	0.0030	14.94	32.11	-3.63	
195	284	5/2	3/2	0.89	0.62	-0.20	0.66	0.00	0.00	0.04	0.63	6.20	17.00	0.0036	15.18	32.40	-3.93	
196	285	3/2 ⁻	3/2 ⁻	0.91	0.62	0.48	0.28	0.00	0.01	0.01	0.60	5.85	16.54	0.0020	15.00	32.50	-4.09	
197	286	3/2 ⁻	1/2 ⁻	0.91	0.62	-0.19	0.30	0.00	0.00	0.04	0.60	6.31	17.98	0.0018	15.47	33.15	-4.39	
198	287	3/2 ⁻	3/2 ⁻	0.91	0.62	0.73	0.54	0.00	0.02	0.01	0.59	6.39	17.05	0.0018	15.55	33.58	-4.75	
199	288	3/2 ⁻	3/2 ⁻	0.91	0.62	-0.54	0.19	0.00	0.00	0.03	0.60	7.11	18.62	0.0014	16.22	33.93	-5.03	
200	289	3/2 ⁻	3/2 ⁻	0.92	0.61	0.71	0.17	0.00	0.01	0.01	0.58	7.20	17.56	0.0015	15.90	34.25	-5.45	
201	290	3/2 ⁻	11/2 ⁺	0.92	0.62	-0.28	0.43	0.00	0.00	0.02	0.60	7.98	18.57	0.0016	16.30	34.71	-6.06	
202	291	1/2	1/2	0.92	0.61	1.02	0.74	0.00	0.02	0.01	0.58	7.95	17.45	0.0018	16.71	35.43	-6.69	
203	292	1/2	7/2	0.92	0.60	-0.32	0.70	0.01	0.00	0.03	0.58	8.45	18.99	0.0016	16.95		-7.12	
204	293	1/2	1/2	0.92	0.60	0.25	-0.07	0.00	0.02	0.00	0.57	8.26	18.27	0.0013	16.82		-7.07	
205	294	3/2	5/2	0.93	0.59	-0.42	-0.17	0.00	0.00	0.05	0.58	8.60	19.45	0.0013				

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 89 (Ac)																		
206	295	1/2 ⁻		0.93	0.58	0.32	-0.09	0.00	0.02	0.00	0.58	8.60	18.71	0.0011				
Z = 90 (Th)																		
108	198			1.01	0.88								8.97	0.1341	-0.16	-2.05	9.48	10 ^{-6.30}
109	199	9/2 ⁺		0.93	0.91	9.62							10.35	0.2235	-0.14	-1.55	9.34	10 ^{-4.90}
110	200			0.93	0.92	11.28	20.89						8.72	0.2156	0.14	-1.48	9.45	10 ^{-6.23}
111	201	9/2 ⁻		0.98	0.85	9.52	20.80						10.08	0.1767	0.02	-1.18	9.06	10 ^{-4.19}
112	202			0.96	0.85	11.22	20.73						8.23	0.5471	0.36	-0.91	9.05	10 ^{-5.23}
113	203	11/2 ⁺		0.98	0.85	9.43	20.65						9.43	1.1625	0.41	-0.38	8.83	10 ^{-3.58}
114	204			0.94	0.93	11.01	20.44						7.45	0.6758	0.80	-0.01	8.77	10 ^{-4.49}
115	205	1/2 ⁻		1.00	0.83	9.10	20.10						8.79	0.9766	0.86	0.40	8.58	10 ^{-2.90}
116	206			0.95	0.89	10.70	19.80						7.04	1.7370	1.13	0.62	8.52	10 ^{-3.79}
117	207	1/2 ⁺		0.96	0.86	8.99	19.69						8.30	1.2380	1.16	1.12	8.21	10 ^{-1.82}
118	208			0.98	0.84	10.58	19.56						6.43	2.2666	1.49	1.34	8.12	10 ^{-2.62}
119	209	1/2 ⁻		1.00	0.83	8.78	19.35						7.64	1.9522	1.57	1.83	7.83	10 ^{-0.64}
120	210			1.00	0.81	10.38	19.15						5.68	4.3493	1.95	2.26	7.81	10 ^{-1.64}
121	211	1/2 ⁻		1.02	0.79	8.43	18.81						6.77	4.0195	1.97	2.60	7.66	10 ^{-0.09}
122	212			1.05	0.77	9.94	18.37						4.94	10.6276	2.39	2.95	7.67	10 ^{-1.18}
123	213	3/2 ⁻		1.06	0.79	8.12	18.07						5.92	6.8896	2.40	3.36	7.64	10 ^{-0.02}
124	214			1.08	0.82	9.52	17.64						4.13	14.9407	2.81	3.73	7.71	10 ^{-1.35}
125	215	1/2 ⁻		1.12	0.82	7.66	17.18						5.14	> 100	2.75	4.04	7.76	10 ^{-0.41}
126	216			1.12	0.90	9.07	16.73						1.92	> 100	3.15	4.48	7.84	10 ^{-1.77}
127	217	9/2 ⁺		1.11	0.82	5.92	14.99						3.24	> 100	3.21	4.93	9.28	10 ^{-4.72}
128	218			1.11	0.79	7.64	13.55						1.47	> 100	3.61	5.41	10.27	10 ^{-8.10}
129	219	3/2		0.95	0.74	6.04	13.68						2.80	47.1918	3.79	6.42	9.69	10 ^{-5.74}
130	220			0.91	0.74	7.79	13.83						1.09	> 100	4.21	7.00	9.06	10 ^{-5.25}
131	221	1/2		0.88	0.73	6.16	13.95						2.10	> 100	4.29	7.56	7.93	10 ^{-0.96}
132	222			0.87	0.73	7.58	13.75						0.41	> 100	4.70	8.10	7.55	10 ^{-0.75}
133	223	5/2		0.84	0.74	5.99	13.57						1.32	> 100	4.80	8.64	7.17	10 ^{1.63}
134	224			0.83	0.74	7.36	13.35						...	β -st	5.25	9.23	6.85	10 ^{1.78}
135	225	3/2		0.84	0.74	5.70	13.06						0.44	> 100	5.35	9.79	6.60	10 ^{3.85}
136	226			0.85	0.74	7.01	12.71						...	β -st	5.78	10.30	6.36	10 ^{3.81}
137	227	1/2		0.85	0.74	5.40	12.41						...	β -st	5.90	10.85	6.10	10 ^{6.06}
138	228			0.86	0.75	6.86	12.26						...	β -st	6.44	11.48	5.75	10 ^{6.76}
139	229	5/2 ⁻		0.90	0.73	5.30	12.16						...	β -st	6.49	12.16	5.29	10 ^{10.28}
140	230			0.90	0.72	6.77	12.07						...	β -st	7.03	12.57	4.75	10 ^{12.60}
141	231	5/2 ⁺		0.91	0.72	5.16	11.93	1.00	0.00	0.00	0.00	0.00	0.34	> 100	7.12	13.12	4.21	10 ^{17.69}
142	232			0.93	0.72	6.59	11.75						...	β -st	7.62	13.67	3.98	10 ^{18.67}
143	233	7/2 ⁻		0.93	0.71	4.88	11.47	1.00	0.00	0.00	0.00	0.00	1.09	> 100	7.64	14.08	3.71	> 10 ²⁰
144	234			0.94	0.70	6.17	11.05	1.00	0.00	0.00	0.00	0.00	0.17	> 100	8.02	14.48	3.58	> 10 ²⁰
145	235	1/2 ⁺		0.95	0.69	4.70	10.88	1.00	0.00	0.00	0.00	0.00	1.77	> 100	8.06	14.89	3.34	> 10 ²⁰
146	236			0.96	0.68	5.92	10.63	1.00	0.00	0.00	0.00	0.00	0.85	> 100	8.38	15.29	3.19	> 10 ²⁰
147	237	5/2 ⁺		0.97	0.68	4.49	10.42	1.00	0.00	0.00	0.00	0.00	2.37	50.3601	8.46	15.72	2.99	> 10 ²⁰
148	238			0.98	0.67	5.67	10.17	1.00	0.00	0.00	0.00	0.00	1.51	> 100	8.82	16.07	2.84	> 10 ²⁰
149	239	7/2 ⁺		0.98	0.66	4.21	9.89	1.00	0.00	0.00	0.00	0.00	2.98	12.3888	8.84	16.46	2.69	> 10 ²⁰
150	240			0.99	0.66	5.45	9.67	1.00	0.00	0.00	0.00	0.00	2.11	45.8223	9.21	16.83	2.57	> 10 ²⁰
151	241	9/2 ⁻		1.00	0.67	3.98	9.43	1.00	0.00	0.00	0.00	0.00	3.60	23.7046	9.24	17.22	2.41	> 10 ²⁰
152	242			1.01	0.67	5.13	9.10	1.00	0.00	0.00	0.00	0.00	2.80	10.3274	9.60	17.59	2.37	> 10 ²⁰
153	243	7/2 ⁺		1.02	0.68	3.41	8.54	1.00	0.00	0.00	0.00	0.00	4.53	2.9881	9.62	17.96	2.54	> 10 ²⁰
154	244			1.02	0.68	4.71	8.12	1.00	0.00	0.00	0.00	0.00	3.58	4.5082	9.99	18.34	2.60	> 10 ²⁰
155	245	1/2 ⁺		1.03	0.68	3.07	7.78	1.00	0.00	0.00	0.00	0.00	5.30	1.9196	10.01	18.66	2.56	> 10 ²⁰
156	246			1.03	0.69	4.51	7.58	0.99	0.01	0.00	0.18	0.01	4.13	2.2953	10.36	19.02	2.38	> 10 ²⁰
157	247	9/2 ⁺		1.04	0.68	3.14	7.65	0.99	0.01	0.00	0.16	0.01	5.54	0.6661	10.27	19.28	1.99	> 10 ²⁰
158	248			1.04	0.68	4.55	7.69	0.98	0.02	0.00	0.19	0.02	4.43	1.3598	10.65	19.68	1.60	> 10 ²⁰
159	249	11/2 ⁻		1.05	0.66	3.02	7.57	0.95	0.05	0.00	0.15	0.05	5.94	0.9690	10.69	20.00	1.45	> 10 ²⁰
160	250			1.05	0.64	4.34	7.36	0.93	0.07	0.00	0.19	0.07	4.97	0.6347	10.98	20.19	1.26	> 10 ²⁰
161	251	3/2 ⁺		1.05	0.64	3.11	7.45	0.90	0.10	0.00	0.22	0.10	6.22	0.5286	11.00	20.66	0.85	> 10 ²⁰
162	252			1.05	0.64	4.27	7.38	0.90	0.10	0.00	0.20	0.10	5.35	0.4230	11.41	21.00	0.73	> 10 ²⁰

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 90 (Th)																		
163	253		13/2 ⁻	1.05	0.66	2.55	6.82	0.69	0.31	0.00	0.27	0.31	7.06	0.2864	11.28	21.20	0.82	> 10 ²⁰
164	254			1.04	0.65	3.87	6.41	0.60	0.40	0.00	0.38	0.40	6.07	0.2535	11.59	21.49	0.89	> 10 ²⁰
165	255		9/2 ⁺	1.03	0.64	2.54	6.40	0.51	0.49	0.00	0.38	0.49	7.38	0.2055	11.73	22.00	0.70	> 10 ²⁰
166	256			1.00	0.68	3.46	6.00	0.43	0.57	0.00	0.34	0.57	6.75	0.0816	11.83	21.98	0.81	> 10 ²⁰
167	257		13/2 ⁻	0.99	0.67	2.52	5.98	0.26	0.74	0.00	0.41	0.74	7.88	0.0976	11.70	22.18	0.32	> 10 ²⁰
168	258			0.99	0.65	3.99	6.51	0.35	0.65	0.00	0.43	0.65	6.49	0.1187	12.14	22.59	-0.18	
169	259		1/2 ⁺	0.96	0.63	2.55	6.54	0.43	0.57	0.00	0.30	0.57	7.85	0.0891	12.00	22.85	-0.42	
170	260			0.96	0.61	3.75	6.30	0.39	0.61	0.00	0.36	0.61	6.93	0.0800	12.35	23.22	-0.60	
171	261		3/2 ⁺	0.96	0.60	2.28	6.03	0.35	0.65	0.00	0.43	0.65	8.47	0.0574	12.33	23.57	-0.58	
172	262			0.97	0.59	3.38	5.66	0.21	0.79	0.00	0.49	0.79	7.72	0.0457	12.63	23.76	-0.58	
173	263		3/2 ⁺	0.97	0.63	2.08	5.46	0.17	0.82	0.01	0.60	0.84	8.98	0.0491	12.67	24.10	-0.73	
174	264			0.97	0.61	3.19	5.27	0.18	0.82	0.00	0.63	0.82	8.12	0.0463	13.00	24.33	-0.73	
175	265		5/2 ⁺	0.98	0.61	2.01	5.20	0.13	0.84	0.03	0.64	0.90	9.35	0.0401	12.95	24.68	-1.01	
176	266			0.98	0.60	3.15	5.16	0.12	0.88	0.00	0.64	0.88	8.53	0.0366	13.30	25.01	-1.19	
177	267		1/2 ⁺	0.99	0.61	1.73	4.88	0.12	0.79	0.09	0.66	0.97	9.89	0.0309	13.29	25.33	-1.26	
178	268			0.99	0.60	2.83	4.56	0.10	0.89	0.01	0.69	0.91	9.18	0.0259	13.61	25.61	-1.26	
179	269		1/2 ⁺	0.99	0.59	1.30	4.13	0.06	0.49	0.45	0.62	1.39	10.68	0.0220	13.54	25.86	-1.16	
180	270			1.01	0.57	2.37	3.67	0.03	0.78	0.19	0.64	1.16	9.87	0.0176	13.92	26.19	-0.98	
181	271		3/2 ⁺	1.02	0.56	1.28	3.65	0.02	0.14	0.83	0.63	1.83	10.91	0.0152	13.87	26.46	-1.21	
182	272			1.02	0.55	2.56	3.84	0.03	0.58	0.38	0.59	1.37	10.04	0.0154	14.18	26.76	-1.72	
183	273		1/2 ⁺	1.02	0.59	1.20	3.76	0.02	0.15	0.82	0.65	1.82	11.30	0.0142	14.16	27.05	-1.92	
184	274			1.01	0.65	2.13	3.33	0.04	0.45	0.50	0.58	1.48	10.68	0.0111	14.46	27.35	-1.79	
185	275		11/2 ⁻	1.01	0.67	-0.33	1.80	0.06	0.05	0.77	0.70	1.96	13.13	0.0073	14.44	27.67	-0.54	
186	276			1.01	0.67	1.50	1.16	0.00	0.09	0.26	0.66	2.57	11.64	0.0105	14.79	28.02	-0.21	
187	277		3/2	1.02	0.63	-0.32	1.18	0.09	0.00	0.12	0.68	3.07	13.46	0.0095	14.95	28.49	-0.55	
188	278			0.99	0.60	1.50	1.18	0.01	0.11	0.01	0.65	3.27	12.14	0.0100	15.26	28.98	-0.90	
189	279		5/2	0.96	0.60	0.55	2.05	0.03	0.02	0.09	0.63	3.80	13.15	0.0093	15.29	29.54	-2.24	
190	280			0.95	0.59	1.58	2.13	0.07	0.05	0.01	0.55	3.61	12.49	0.0079	15.61	29.76	-2.82	
191	281		7/2	0.95	0.59	0.27	1.85	0.07	0.09	0.06	0.57	3.71	13.83	0.0079	15.66	30.11	-3.09	
192	282			0.94	0.59	1.29	1.56	0.06	0.06	0.04	0.54	3.31	13.12	0.0056	16.00	30.46	-3.01	
193	283		9/2	0.94	0.63	-0.15	1.13	0.01	0.07	0.06	0.56	3.82	14.58	0.0048	16.00	30.77	-2.94	
194	284			0.89	0.63	0.88	0.72	0.00	0.06	0.07	0.54	3.65	13.75	0.0031	16.02	30.95	-2.88	
195	285		1/2 ⁺	0.89	0.63	0.02	0.90	0.01	0.00	0.10	0.55	4.19	15.16	0.0029	16.24	31.42	-3.37	
196	286			0.89	0.62	1.25	1.28	0.01	0.08	0.01	0.52	4.05	14.24	0.0026	17.01	32.02	-3.93	
197	287		1/2 ⁻	0.89	0.63	-0.20	1.05	0.02	0.02	0.13	0.53	4.53	15.70	0.0023	17.00	32.47	-4.18	
198	288			0.89	0.63	1.02	0.82	0.00	0.06	0.05	0.52	4.53	14.76	0.0022	17.29	32.85	-4.54	
199	289		3/2 ⁻	0.90	0.62	-0.35	0.68	0.01	0.00	0.11	0.53	5.10	16.02	0.0020	17.49	33.71	-4.85	
200	290			0.90	0.62	0.73	0.38	0.00	0.04	0.02	0.51	5.17	15.34	0.0018	17.51	33.41	-4.93	
201	291		11/2 ⁺	0.90	0.62	-0.10	0.62	0.00	0.00	0.06	0.53	5.81	16.51	0.0019	17.69	33.98	-6.03	
202	292			0.91	0.61	1.23	1.13	0.00	0.06	0.01	0.52	5.88	15.01	0.0024	17.89	34.61	-6.24	
203	293		7/2 ⁺	0.91	0.60	-0.47	0.76	0.00	0.00	0.07	0.53	6.71	16.35	0.0023	17.74	34.70	-6.44	
204	294			0.92	0.60	0.76	0.29	0.02	0.04	0.00	0.50	6.41	15.91	0.0016	18.25	35.08	-6.60	
205	295		5/2 ⁻	0.92	0.59	-0.42	0.34	0.02	0.02	0.06	0.50	6.98	17.13	0.0016	18.25		-6.74	
206	296			0.92	0.58	0.72	0.30	0.00	0.06	0.02	0.48	7.05	16.30	0.0015	18.65		-7.08	
207	297		7/2 ⁻	0.93	0.58	-0.68	0.03	0.01	0.00	0.07	0.49	7.75	17.70	0.0012				
208	298			0.93	0.57	0.58	-0.11	0.00	0.06	0.01	0.48	7.64	16.75	0.0013				
209	299		9/2 ⁺	0.94	0.57	-0.79	-0.21	0.00	0.00	0.05	0.50	8.55	18.12	0.0011				
Z = 91 (Pa)																		
109	200	5/2 ⁻	9/2 ⁺	0.94	0.91								12.59	0.1970	-2.09	-2.23	9.61	10 ^{-5.17}
110	201	5/2 ⁻		0.94	0.92	11.40							10.70	0.1715	-1.97	-1.83	9.54	10 ^{-5.32}
111	202	3/2 ⁺	9/2 ⁻	0.97	0.85	9.74	21.14						12.18	0.1178	-1.75	-1.73	9.39	10 ^{-4.63}
112	203	3/2 ⁺		0.96	0.84	11.13	20.87						10.48	0.1875	-1.84	-1.47	9.26	10 ^{-4.67}
113	204	3/2 ⁺	11/2 ⁺	0.96	0.83	9.76	20.89						11.73	0.3106	-1.50	-1.09	9.14	10 ^{-4.00}
114	205	3/2 ⁺		0.99	0.83	11.04	20.81						9.78	0.3595	-1.47	-0.67	8.97	10 ^{-3.89}
115	206	3/2 ⁺	1/2 ⁻	1.00	0.81	9.49	20.53						11.00	0.4171	-1.08	-0.22	8.86	10 ^{-3.26}
116	207	3/2		1.01	0.81	10.72	20.20						9.27	1.2310	-1.07	0.06	8.77	10 ^{-3.36}
117	208	5/2 ⁻	1/2 ⁺	0.96	0.86	9.23	19.95						10.61	0.8028	-0.82	0.34	8.57	10 ^{-2.45}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 91 (Pa)																		
118	209	5/2 ⁻		0.98	0.84	10.69	19.92						8.70	0.9299	-0.70	0.79	8.31	10 ^{-2.04}
119	210	7/2 ⁻	1/2 ⁻	1.01	0.83	8.99	19.68						10.08	2.5845	-0.49	1.08	8.27	10 ^{-1.58}
120	211	7/2 ⁻		1.01	0.82	10.39	19.39						8.11	1.7719	-0.47	1.48	8.12	10 ^{-1.49}
121	212	11/2 ⁺	1/2 ⁻	1.03	0.79	8.72	19.12						9.34	0.8537	-0.18	1.80	8.11	10 ^{-1.09}
122	213	7/2 ⁻		1.06	0.77	9.96	18.68						7.50	3.5722	-0.16	2.23	8.13	10 ^{-1.52}
123	214	7/2 ⁻	3/2 ⁻	1.07	0.79	8.51	18.47						8.51	3.6776	0.22	2.62	8.04	10 ^{-0.87}
124	215	3/2 ⁻		1.11	0.82	9.45	17.95						6.72	13.4414	0.16	2.96	8.12	10 ^{-1.46}
125	216	9/2 ⁻	1/2 ⁻	1.14	0.82	8.05	17.50						7.74	42.1316	0.55	3.30	8.18	10 ^{-1.31}
126	217	9/2 ⁻		1.14	0.90	9.11	17.16						4.55	86.8508	0.58	3.73	8.18	10 ^{-1.62}
127	218	3/2 ⁻	9/2 ⁺	1.13	0.82	6.33	15.44						5.86	57.3615	1.00	4.21	9.57	10 ^{-5.07}
128	219	3/2		1.03	0.75	7.76	14.09						4.14	64.5358	1.12	4.74	10.48	10 ^{-7.46}
129	220	3/2	3/2	0.93	0.74	6.77	14.53						5.16	31.7407	1.85	5.64	9.57	10 ^{-5.07}
130	221	3/2		0.91	0.74	7.89	14.66						3.43	15.8248	1.95	6.16	8.90	10 ^{-3.73}
131	222	3/2	1/2	0.89	0.74	6.62	14.52						4.39	21.3127	2.41	6.70	8.15	10 ^{-1.21}
132	223	3/2		0.87	0.74	7.67	14.29						2.71	39.4680	2.50	7.20	7.85	10 ^{-0.61}
133	224	3/2	5/2	0.86	0.74	6.45	14.12						3.61	> 100	2.96	7.76	7.48	10 ^{1.01}
134	225	3/2		0.84	0.74	7.46	13.91						1.85	> 100	3.06	8.32	7.19	10 ^{1.68}
135	226	3/2	3/2	0.84	0.74	6.11	13.57						2.74	> 100	3.48	8.83	6.97	10 ^{2.89}
136	227	3/2		0.84	0.74	7.10	13.21						1.05	> 100	3.57	9.36	6.77	10 ^{3.34}
137	228	3/2	1/2	0.84	0.74	5.90	13.00						2.01	> 100	4.07	9.97	6.48	10 ^{4.86}
138	229	3/2 ⁺		0.86	0.74	6.99	12.89						0.31	> 100	4.20	10.64	6.05	10 ^{6.43}
139	230	3/2 ⁺	5/2 ⁻	0.87	0.73	5.79	12.79	1.00	0.00	0.00	0.00	0.00	±	±	4.70	11.18	5.54	10 ^{9.37}
140	231	3/2 ⁺		0.89	0.73	6.79	12.58						...	β-st	4.71	11.75	5.08	10 ^{11.77}
141	232	3/2 ⁺	5/2 ⁺	0.89	0.72	5.56	12.36	1.00	0.00	0.00	0.00	0.00	±	±	5.12	12.24	4.76	10 ^{14.21}
142	233	3/2 ⁺		0.90	0.72	6.66	12.22	1.00	0.00	0.00	0.00	0.00	0.43	> 100	5.19	12.81	4.33	10 ^{17.04}
143	234	1/2 ⁺	7/2 ⁻	0.91	0.71	5.25	11.91	1.00	0.00	0.00	0.00	0.00	2.23	> 100	5.56	13.20	4.15	10 ^{18.85}
144	235	1/2 ⁺		0.91	0.69	6.30	11.55	1.00	0.00	0.00	0.00	0.00	1.24	> 100	5.69	13.71	3.94	> 10 ²⁰
145	236	1/2 ⁺	1/2 ⁺	0.92	0.69	5.01	11.31	1.00	0.00	0.00	0.00	0.00	2.88	> 100	5.99	14.05	3.79	> 10 ²⁰
146	237	1/2 ⁺		0.94	0.69	6.01	11.02	1.00	0.00	0.00	0.00	0.00	1.90	> 100	6.08	14.47	3.57	> 10 ²⁰
147	238	1/2 ⁺	5/2 ⁺	0.94	0.69	4.81	10.82	1.00	0.00	0.00	0.00	0.00	3.47	> 100	6.40	14.85	3.43	> 10 ²⁰
148	239	1/2 ⁺		0.95	0.68	5.69	10.50	1.00	0.00	0.00	0.00	0.00	2.69	> 100	6.41	15.23	3.33	> 10 ²⁰
149	240	1/2 ⁺	7/2 ⁺	0.96	0.67	4.58	10.27	1.00	0.00	0.00	0.00	0.00	4.19	23.1444	6.78	15.62	3.18	> 10 ²⁰
150	241	1/2 ⁺		0.97	0.67	5.47	10.05	1.00	0.00	0.00	0.00	0.00	3.32	83.9783	6.80	16.01	3.02	> 10 ²⁰
151	242	5/2 ⁺	9/2 ⁻	0.98	0.67	4.33	9.80	1.00	0.00	0.00	0.00	0.00	4.78	6.6038	7.15	16.39	2.88	> 10 ²⁰
152	243	5/2 ⁺		1.00	0.68	5.14	9.47	1.00	0.00	0.00	0.00	0.00	4.00	4.1688	7.16	16.76	2.82	> 10 ²⁰
153	244	1/2 ⁺	7/2 ⁺	1.00	0.68	3.76	8.90	1.00	0.00	0.00	0.00	0.00	5.77	5.7012	7.51	17.13	3.02	> 10 ²⁰
154	245	1/2 ⁺		1.01	0.68	4.79	8.55	0.97	0.03	0.00	0.25	0.03	4.76	9.2687	7.59	17.58	2.99	> 10 ²⁰
155	246	1/2 ⁺	1/2 ⁺	1.01	0.68	3.34	8.13	0.93	0.07	0.00	0.24	0.07	6.55	3.6960	7.86	17.87	3.04	> 10 ²⁰
156	247	1/2 ⁺		1.01	0.69	4.54	7.89	0.76	0.24	0.00	0.30	0.24	5.44	3.8682	7.89	18.26	2.83	> 10 ²⁰
157	248	1/2 ⁺	9/2 ⁺	1.03	0.68	3.44	7.99	0.87	0.13	0.00	0.23	0.13	6.88	1.0503	8.20	18.47	2.44	> 10 ²⁰
158	249	1/2 ⁺		1.03	0.68	4.53	7.97	0.67	0.33	0.00	0.39	0.33	5.77	2.3026	8.18	18.83	2.07	> 10 ²⁰
159	250	5/2 ⁻	1/2 ⁺	1.04	0.66	3.37	7.90	0.69	0.31	0.00	0.34	0.31	7.25	1.6734	8.53	19.22	1.93	> 10 ²⁰
160	251	3/2 ⁺		1.05	0.63	4.36	7.72	0.65	0.35	0.00	0.40	0.35	6.26	0.6093	8.54	19.52	1.74	> 10 ²⁰
161	252	3/2 ⁺	3/2 ⁺	1.06	0.63	3.41	7.77	0.73	0.27	0.00	0.36	0.27	7.74	0.4367	8.84	19.84	1.32	> 10 ²⁰
162	253	3/2 ⁺		1.05	0.63	4.25	7.66	0.53	0.47	0.00	0.44	0.47	6.78	0.3887	8.82	20.23	1.12	> 10 ²⁰
163	254	1/2 ⁺	13/2 ⁻	1.05	0.65	2.87	7.12	0.42	0.58	0.00	0.41	0.58	8.47	0.2667	9.15	20.43	1.33	> 10 ²⁰
164	255	1/2 ⁺		1.04	0.65	3.84	6.72	0.29	0.71	0.00	0.52	0.71	7.56	0.2174	9.13	20.72	1.35	> 10 ²⁰
165	256	1/2 ⁻	9/2 ⁺	1.03	0.65	2.84	6.68	0.25	0.74	0.01	0.54	0.76	8.78	0.3247	9.43	21.16	1.19	> 10 ²⁰
166	257	1/2 ⁻		1.03	0.65	3.64	6.48	0.16	0.84	0.00	0.62	0.84	7.90	0.2755	9.61	21.44	1.10	> 10 ²⁰
167	258	1/2 ⁻	13/2 ⁻	1.01	0.66	2.60	6.24	0.10	0.87	0.03	0.61	0.93	9.31	0.1561	9.70	21.40	0.89	> 10 ²⁰
168	259	3/2 ⁺		1.00	0.65	3.92	6.52	0.13	0.87	0.00	0.62	0.87	8.04	0.1062	9.62	21.77	0.34	> 10 ²⁰
169	260	7/2 ⁻	1/2 ⁺	0.98	0.63	2.83	6.75	0.22	0.76	0.02	0.60	0.80	9.30	0.1152	9.90	21.90	0.16	> 10 ²⁰
170	261	7/2 ⁻		0.97	0.61	3.82	6.65	0.16	0.84	0.00	0.63	0.84	8.23	0.1190	9.97	22.32	-0.11	
171	262	7/2 ⁻	3/2 ⁺	0.97	0.61	2.63	6.45	0.22	0.76	0.02	0.60	0.80	9.70	0.0880	10.32	22.65	-0.05	
172	263	11/2 ⁺		0.98	0.60	3.34	5.97	0.09	0.91	0.00	0.61	0.91	8.99	0.0508	10.27	22.90	0.02	> 10 ²⁰
173	264	11/2 ⁺	3/2 ⁺	0.99	0.62	2.34	5.68	0.08	0.76	0.16	0.57	1.08	10.40	0.0490	10.53	23.21	-0.02	
174	265	11/2 ⁺		0.99	0.61	3.24	5.57	0.04	0.92	0.04	0.64	1.00	9.51	0.0478	10.58	23.58	-0.17	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 91 (Pa)																		
175	266	3/2 ⁻	5/2 ⁺	1.00	0.61	2.33	5.57	0.09	0.37	0.54	0.60	1.45	10.68	0.0598	10.90	23.85	-0.47	
176	267	3/2 ⁻		1.00	0.60	3.09	5.42	0.06	0.79	0.15	0.63	1.09	9.89	0.0529	10.83	24.13	-0.69	
177	268	3/2 ⁻	1/2 ⁺	1.00	0.61	2.12	5.21	0.07	0.29	0.64	0.63	1.57	11.24	0.0448	11.23	24.51	-0.76	
178	269	3/2 ⁻		1.01	0.61	2.80	4.93	0.04	0.60	0.36	0.61	1.32	10.51	0.0378	11.20	24.81	-0.75	
179	270	3/2 ⁻	1/2 ⁺	1.01	0.59	1.56	4.36	0.04	0.11	0.85	0.70	1.81	12.06	0.0310	11.46	24.99	-0.58	
180	271	1/2 ⁻		1.03	0.56	2.32	3.88	0.02	0.16	0.81	0.64	1.81	11.30	0.0231	11.41	25.32	-0.39	
181	272	1/2 ⁻	3/2 ⁺	1.04	0.56	1.69	4.01	0.02	0.05	0.89	0.71	1.95	12.24	0.0265	11.82	25.69	-0.70	
182	273	9/2 ⁻		1.04	0.55	2.45	4.14	0.02	0.11	0.65	0.64	2.07	11.41	0.0269	11.71	25.90	-1.17	
183	274	9/2 ⁻	3/2 ⁺	1.04	0.59	1.51	3.97	0.03	0.06	0.75	0.68	2.04	12.75	0.0229	12.03	26.19	-1.36	
184	275	7/2 ⁻		1.04	0.65	2.12	3.63	0.02	0.10	0.68	0.64	2.06	12.12	0.0158	12.02	26.48	-1.23	
185	276	1/2 ⁻	11/2 ⁻	1.03	0.67	0.00	2.12	0.07	0.07	0.30	0.65	2.37	14.55	0.0101	12.35	26.80	-0.02	
186	277	7/2 ⁻		1.03	0.67	1.50	1.50	0.00	0.13	0.07	0.70	2.73	13.02	0.0146	12.36	27.15	0.32	> 10 ²⁰
187	278	9/2	3/2	1.02	0.61	0.18	1.68	0.02	0.04	0.18	0.69	3.34	14.69	0.0141	12.85	27.81	-0.18	
188	279	3/2		0.99	0.60	1.57	1.75	0.00	0.10	0.03	0.66	3.66	13.39	0.0142	12.92	28.19	-0.60	
189	280	3/2	5/2	0.96	0.60	0.92	2.48	0.01	0.01	0.10	0.64	3.99	14.50	0.0107	13.29	28.57	-1.99	
190	281	3/2		0.96	0.59	1.61	2.53	0.02	0.12	0.03	0.59	3.97	13.68	0.0116	13.32	28.93	-2.41	
191	282	3/2	7/2	0.95	0.59	0.58	2.19	0.02	0.09	0.13	0.57	4.15	15.00	0.0117	13.62	29.28	-2.46	
192	283	3/2		0.95	0.59	1.31	1.88	0.02	0.11	0.04	0.55	3.90	14.29	0.0081	13.65	29.65	-2.51	
193	284	7/2 ⁺	5/2 ⁺	0.88	0.63	0.04	1.35	0.01	0.01	0.10	0.55	4.00	15.71	0.0035	13.84	29.85	-2.33	
194	285	7/2 ⁺		0.88	0.63	1.44	1.48	0.01	0.04	0.05	0.52	3.84	14.81	0.0032	14.40	30.42	-2.82	
195	286	7/2 ⁺	1/2 ⁺	0.88	0.63	0.33	1.77	0.01	0.01	0.08	0.53	4.32	16.12	0.0031	14.71	30.95	-3.32	
196	287	7/2 ⁺		0.88	0.62	1.26	1.59	0.01	0.04	0.05	0.52	4.20	15.29	0.0027	14.71	31.72	-3.71	
197	288	7/2 ⁺	1/2 ⁻	0.88	0.63	0.09	1.35	0.01	0.02	0.10	0.52	4.61	16.71	0.0024	15.01	32.00	-4.00	
198	289	7/2 ⁺		0.88	0.63	0.91	1.00	0.00	0.03	0.03	0.51	4.82	15.71	0.0025	14.89	32.19	-4.43	
199	290	7/2 ⁺	3/2 ⁻	0.89	0.62	0.05	0.96	0.01	0.00	0.07	0.52	5.14	17.17	0.0021	15.29	32.77	-4.66	
200	291	7/2 ⁺		0.89	0.62	1.07	1.11	0.00	0.04	0.01	0.51	5.18	16.21	0.0021	15.62	33.13	-5.00	
201	292	11/2 ⁻	9/2 ⁺	0.92	0.60	-0.27	0.79	0.00	0.00	0.03	0.53	6.23	17.61	0.0021	15.45	33.14	-5.27	
202	293	11/2 ⁻		0.92	0.60	0.88	0.60	0.00	0.01	0.02	0.51	6.16	16.77	0.0018	15.10	33.00	-5.44	
203	294	3/2 ⁺	7/2 ⁺	0.90	0.60	0.32	1.20	0.00	0.00	0.03	0.52	6.85	17.66	0.0023	15.89	33.63	-6.03	
204	295	1/2		0.91	0.61	0.81	1.12	0.00	0.02	0.01	0.50	6.68	17.00	0.0018	15.93	34.19	-5.82	
205	296	1/2	5/2	0.91	0.59	-0.12	0.69	0.00	0.00	0.05	0.50	7.20	18.35	0.0016	16.23	34.48	-6.02	
206	297	3/2 ⁺		0.91	0.58	0.72	0.60	0.00	0.01	0.01	0.49	7.20	17.45	0.0016	16.23	34.88	-6.48	
207	298	1/2	7/2	0.92	0.58	-0.37	0.35	0.01	0.00	0.08	0.49	7.45	18.92	0.0013	16.55		-6.53	
208	299	1/2 ⁺		0.92	0.57	0.58	0.21	0.00	0.05	0.00	0.49	7.46	18.02	0.0013	16.55		-6.79	
209	300	1/2 ⁺	9/2 ⁺	0.93	0.57	-0.49	0.09	0.00	0.00	0.06	0.50	8.26	19.30	0.0012	16.84			
210	301	1/2 ⁺		0.93	0.56	0.63	0.14	0.00	0.04	0.00	0.48	8.12	18.46	0.0011				
211	302	1/2 ⁺	7/2 ⁻	0.94	0.58	-0.79	-0.16	0.00	0.00	0.05	0.50	8.53	19.92	0.0010				
Z = 92 (U)																		
111	203		9/2 ⁻	0.95	0.85								10.86	0.1090	-0.51	-2.26	9.76	10 ^{-5.24}
112	204			0.94	0.84	11.44							9.18	0.2192	-0.20	-2.04	9.61	10 ^{-5.95}
113	205		11/2 ⁺	0.96	0.83	9.72	21.16						10.50	0.2739	-0.24	-1.75	9.40	10 ^{-4.36}
114	206			0.98	0.82	11.37	21.09						8.62	0.3018	0.08	-1.39	9.25	10 ^{-5.05}
115	207		1/2 ⁻	1.00	0.81	9.53	20.90						9.81	0.4261	0.12	-0.95	9.15	10 ^{-3.72}
116	208			1.02	0.80	11.09	20.62						7.95	0.6322	0.50	-0.57	9.07	10 ^{-4.58}
117	209		3/2	1.03	0.80	9.20	20.29						9.45	0.4006	0.46	-0.35	8.97	10 ^{-3.25}
118	210			0.99	0.85	11.06	20.26						7.38	0.5723	0.84	0.13	8.61	10 ^{-3.32}
119	211		1/2 ⁻	1.03	0.84	9.11	20.17						8.66	0.7880	0.95	0.47	8.48	10 ^{-1.90}
120	212			1.03	0.83	10.69	19.80						6.69	0.9967	1.25	0.78	8.37	10 ^{-2.62}
121	213		1/2 ⁻	1.05	0.79	8.75	19.44						7.90	1.1769	1.28	1.10	8.39	10 ^{-1.61}
122	214			1.06	0.77	10.31	19.07						6.09	1.8806	1.63	1.48	8.45	10 ^{-2.85}
123	215		3/2 ⁻	1.09	0.80	8.56	18.87						6.98	2.2167	1.69	1.91	8.32	10 ^{-1.43}
124	216			1.11	0.82	9.91	18.47						5.12	3.3839	2.15	2.30	8.36	10 ^{-2.59}
125	217		1/2 ⁻	1.16	0.82	7.97	17.88						6.25	6.9085	2.07	2.62	8.51	10 ^{-1.96}
126	218			1.15	0.90	9.51	17.48						3.08	15.4231	2.47	3.05	8.51	10 ^{-3.03}
127	219		1/2	1.13	0.82	6.37	15.88						4.46	12.9817	2.51	3.51	9.80	10 ^{-5.34}
128	220			1.03	0.75	8.24	14.62						2.99	9.9054	3.00	4.12	10.63	10 ^{-8.24}
129	221		3/2	0.95	0.74	6.76	15.01						4.12	8.5827	2.99	4.84	9.78	10 ^{-5.31}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 92 (U)																		
130	222			0.92	0.74	8.27	15.04						2.47	17.5273	3.37	5.33	9.14	$10^{-4.76}$
131	223		5/2	0.89	0.74	6.67	14.94						3.47	17.7636	3.42	5.83	8.52	$10^{-1.99}$
132	224			0.86	0.75	8.07	14.74						1.85	54.5874	3.82	6.32	8.23	$10^{-2.19}$
133	225		5/2	0.86	0.75	6.50	14.57						2.81	> 100	3.87	6.83	7.90	$10^{-0.09}$
134	226			0.86	0.74	7.88	14.38						1.05	> 100	4.29	7.35	7.61	$10^{-0.19}$
135	227		3/2	0.84	0.74	6.21	14.09						1.94	> 100	4.38	7.86	7.39	$10^{1.69}$
136	228			0.83	0.77	7.61	13.82						0.22	> 100	4.89	8.47	7.13	$10^{1.55}$
137	229		3/2 ⁺	0.83	0.75	6.13	13.75						1.08	> 100	5.13	9.20	6.69	$10^{4.32}$
138	230			0.83	0.74	7.53	13.66						...	β -st	5.66	9.86	6.18	$10^{5.60}$
139	231		5/2 ⁻	0.85	0.74	5.85	13.38						0.29	> 100	5.72	10.42	5.73	$10^{8.91}$
140	232			0.86	0.73	7.30	13.15						...	β -st	6.23	10.94	5.28	$10^{10.25}$
141	233		5/2 ⁺	0.87	0.73	5.64	12.94						...	β -st	6.30	11.42	4.95	$10^{13.44}$
142	234			0.89	0.72	7.05	12.69						...	β -st	6.70	11.89	4.66	$10^{14.29}$
143	235		7/2 ⁻	0.89	0.71	5.31	12.36						...	β -st	6.76	12.32	4.52	$10^{16.45}$
144	236			0.89	0.70	6.65	11.96						...	β -st	7.11	12.80	4.45	$10^{15.84}$
145	237		1/2 ⁺	0.90	0.70	5.03	11.68	1.00	0.00	0.00	0.00	0.00	0.53	> 100	7.13	13.12	4.31	$10^{18.17}$
146	238			0.91	0.69	6.39	11.41						...	β -st	7.50	13.58	4.09	$10^{18.87}$
147	239		5/2 ⁺	0.92	0.68	4.90	11.29	1.00	0.00	0.00	0.00	0.00	1.08	> 100	7.59	13.99	3.89	$> 10^{20}$
148	240			0.92	0.68	6.08	10.98	1.00	0.00	0.00	0.00	0.00	0.26	> 100	7.98	14.39	3.74	$> 10^{20}$
149	241		7/2 ⁺	0.94	0.67	4.61	10.68	1.00	0.00	0.00	0.00	0.00	1.76	> 100	8.01	14.79	3.63	$> 10^{20}$
150	242			0.95	0.67	5.79	10.39	1.00	0.00	0.00	0.00	0.00	0.94	> 100	8.32	15.12	3.51	$> 10^{20}$
151	243		9/2 ⁻	0.96	0.67	4.36	10.15	1.00	0.00	0.00	0.00	0.00	2.39	> 100	8.36	15.51	3.36	$> 10^{20}$
152	244			0.98	0.68	5.53	9.89	1.00	0.00	0.00	0.00	0.00	1.65	> 100	8.74	15.90	3.29	$> 10^{20}$
153	245		7/2 ⁺	0.99	0.68	3.78	9.31	1.00	0.00	0.00	0.00	0.00	3.37	14.2268	8.76	16.27	3.49	$> 10^{20}$
154	246			0.99	0.68	5.14	8.92	1.00	0.00	0.00	0.00	0.00	2.37	39.7903	9.11	16.70	3.48	$> 10^{20}$
155	247		1/2 ⁺	1.00	0.68	3.44	8.57	1.00	0.00	0.00	0.00	0.00	4.07	11.8163	9.21	17.07	3.45	$> 10^{20}$
156	248			1.00	0.69	4.88	8.32	1.00	0.00	0.00	0.00	0.00	3.00	13.0854	9.54	17.44	3.28	$> 10^{20}$
157	249		11/2 ⁻	1.01	0.68	3.42	8.30	1.00	0.00	0.00	0.00	0.00	4.49	8.0595	9.52	17.72	2.93	$> 10^{20}$
158	250			1.01	0.68	4.84	8.26	1.00	0.00	0.00	0.00	0.00	3.36	6.2183	9.83	18.01	2.61	$> 10^{20}$
159	251		1/2 ⁺	1.03	0.66	3.38	8.22	1.00	0.00	0.00	0.00	0.00	4.79	3.6659	9.84	18.37	2.37	$> 10^{20}$
160	252			1.04	0.63	4.88	8.26	1.00	0.00	0.00	0.00	0.00	3.58	3.7662	10.36	18.91	2.03	$> 10^{20}$
161	253		3/2 ⁺	1.05	0.63	3.29	8.17	1.00	0.00	0.00	0.00	0.00	5.12	1.8711	10.25	19.09	1.76	$> 10^{20}$
162	254			1.05	0.63	4.57	7.86	1.00	0.00	0.00	0.00	0.00	4.26	1.4648	10.57	19.39	1.53	$> 10^{20}$
163	255		13/2 ⁻	1.05	0.66	2.93	7.50	0.96	0.04	0.00	0.14	0.04	5.91	0.9943	10.62	19.77	1.71	$> 10^{20}$
164	256			1.05	0.64	4.06	6.99	0.88	0.12	0.00	0.20	0.12	5.10	0.7325	10.84	19.97	1.92	$> 10^{20}$
165	257		9/2 ⁺	1.03	0.65	2.77	6.83	0.75	0.25	0.00	0.24	0.25	6.38	0.5278	10.77	20.20	1.70	$> 10^{20}$
166	258			1.03	0.65	4.01	6.78	0.73	0.27	0.00	0.31	0.27	5.44	0.4928	11.13	20.74	1.56	$> 10^{20}$
167	259		11/2 ⁺	1.02	0.65	2.64	6.65	0.78	0.22	0.00	0.29	0.22	6.89	0.2183	11.18	20.87	1.45	$> 10^{20}$
168	260			1.02	0.65	4.09	6.73	0.61	0.39	0.00	0.27	0.39	5.71	0.2234	11.35	20.97	0.82	$> 10^{20}$
169	261		15/2 ⁻	1.02	0.64	2.75	6.84	0.55	0.45	0.00	0.30	0.45	6.97	0.2461	11.27	21.17	0.59	$> 10^{20}$
170	262			0.98	0.61	4.10	6.85	0.69	0.31	0.00	0.28	0.31	5.92	0.1800	11.55	21.52	0.48	$> 10^{20}$
171	263		3/2 ⁺	0.98	0.61	2.63	6.73	0.58	0.42	0.00	0.29	0.42	7.27	0.1445	11.55	21.86	0.41	$> 10^{20}$
172	264			0.98	0.61	3.74	6.37	0.52	0.48	0.00	0.29	0.48	6.52	0.1120	11.95	22.23	0.41	$> 10^{20}$
173	265		3/2 ⁺	1.00	0.63	2.35	6.09	0.27	0.73	0.00	0.43	0.73	7.92	0.1088	11.96	22.50	0.34	$> 10^{20}$
174	266			1.00	0.61	3.50	5.85	0.25	0.75	0.00	0.47	0.75	7.04	0.1038	12.23	22.81	0.22	$> 10^{20}$
175	267		5/2 ⁺	1.02	0.60	2.30	5.80	0.19	0.81	0.00	0.49	0.81	8.28	0.0869	12.20	23.10	0.00	$> 10^{20}$
176	268			1.02	0.60	3.46	5.77	0.17	0.83	0.00	0.50	0.83	7.38	0.0845	12.58	23.41	-0.27	
177	269		1/2 ⁺	1.02	0.61	2.07	5.54	0.16	0.83	0.01	0.53	0.85	8.83	0.0633	12.52	23.75	-0.33	
178	270			1.02	0.61	3.12	5.19	0.13	0.87	0.00	0.57	0.87	8.08	0.0537	12.84	24.04	-0.30	
179	271		1/2 ⁺	1.03	0.59	1.56	4.68	0.10	0.78	0.12	0.59	1.02	9.66	0.0426	12.84	24.30	-0.13	
180	272			1.05	0.56	2.63	4.19	0.05	0.94	0.01	0.63	0.96	8.84	0.0317	13.15	24.56	0.07	$> 10^{20}$
181	273		3/2 ⁺	1.06	0.56	1.62	4.25	0.03	0.48	0.49	0.53	1.46	9.97	0.0258	13.08	24.90	-0.24	
182	274			1.06	0.55	2.85	4.47	0.05	0.89	0.06	0.61	1.01	8.89	0.0311	13.48	25.19	-0.73	
183	275		1/2 ⁺	1.06	0.58	1.49	4.35	0.04	0.29	0.67	0.54	1.63	10.09	0.0297	13.46	25.49	-0.95	
184	276			1.06	0.65	2.43	3.93	0.05	0.83	0.12	0.60	1.07	9.47	0.0222	13.77	25.79	-0.82	
185	277		11/2 ⁻	1.05	0.67	-0.04	2.40	0.08	0.07	0.83	0.62	1.79	11.93	0.0136	13.73	26.09	0.41	$> 10^{20}$
186	278			1.05	0.67	1.85	1.81	0.03	0.09	0.68	0.59	2.05	10.52	0.0189	14.08	26.44	0.69	$> 10^{20}$

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 92 (U)																		
187	279		3/2	1.02	0.61	0.27	2.12	0.11	0.06	0.16	0.60	2.46	12.04	0.0214	14.17	27.03	0.09	> 10 ²⁰
188	280			0.99	0.59	2.03	2.30	0.07	0.09	0.05	0.58	2.60	10.82	0.0210	14.64	27.56	-0.44	
189	281		5/2	0.97	0.60	0.79	2.82	0.05	0.05	0.30	0.53	2.82	12.14	0.0148	14.51	27.79	-1.55	
190	282			0.96	0.60	1.90	2.69	0.09	0.07	0.13	0.50	2.51	11.38	0.0141	14.80	28.11	-1.95	
191	283		7/2	0.95	0.59	0.60	2.50	0.08	0.10	0.15	0.50	2.78	12.53	0.0157	14.82	28.44	-1.99	
192	284			0.87	0.63	1.46	2.06	0.02	0.21	0.25	0.47	2.32	12.02	0.0055	14.97	28.62	-1.87	
193	285		5/2 ⁺	0.87	0.63	0.54	2.00	0.03	0.07	0.30	0.48	2.74	13.41	0.0052	15.47	29.31	-2.14	
194	286			0.87	0.62	1.64	2.18	0.02	0.18	0.21	0.46	2.49	12.60	0.0044	15.67	30.07	-2.50	
195	287		1/2 ⁺	0.87	0.62	0.43	2.07	0.02	0.06	0.26	0.48	3.01	13.81	0.0044	15.77	30.48	-3.08	
196	288			0.87	0.62	1.51	1.93	0.02	0.12	0.16	0.46	2.79	13.05	0.0038	16.02	30.73	-3.71	
197	289		1/2 ⁻	0.87	0.63	-0.09	1.42	0.02	0.07	0.16	0.48	3.34	14.49	0.0032	15.83	30.84	-3.59	
198	290			0.87	0.62	1.51	1.42	0.02	0.09	0.11	0.46	3.32	13.45	0.0033	16.43	31.32	-3.85	
199	291		3/2 ⁻	0.87	0.63	0.11	1.61	0.02	0.05	0.14	0.47	3.72	14.92	0.0028	16.49	31.78	-4.15	
200	292			0.92	0.61	1.13	1.23	0.01	0.06	0.03	0.46	3.96	13.99	0.0027	16.55	32.18	-4.26	
201	293		9/2 ⁺	0.92	0.60	0.04	1.17	0.01	0.02	0.06	0.47	4.53	15.38	0.0025	16.87	32.32	-4.65	
202	294			0.91	0.60	1.21	1.25	0.01	0.06	0.01	0.46	4.33	14.47	0.0023	17.20	32.30	-5.12	
203	295		3/2 ⁺	0.89	0.62	0.15	1.35	0.01	0.02	0.05	0.46	5.04	15.58	0.0027	17.02	32.91	-5.37	
204	296			0.89	0.61	1.23	1.37	0.02	0.05	0.02	0.44	4.69	14.69	0.0024	17.44	33.38	-5.37	
205	297		5/2 ⁻	0.90	0.59	-0.18	1.04	0.03	0.02	0.04	0.44	5.30	16.12	0.0021	17.38	33.61	-5.66	
206	298			0.89	0.58	1.11	0.93	0.00	0.07	0.02	0.42	5.22	15.11	0.0021	17.77	34.00	-6.00	
207	299		7/2 ⁻	0.90	0.58	-0.32	0.78	0.02	0.00	0.06	0.43	5.82	16.49	0.0018	17.81	34.36	-6.09	
208	300			0.90	0.57	0.79	0.47	0.00	0.06	0.00	0.42	5.89	15.75	0.0017	18.03	34.58	-6.17	
209	301		9/2 ⁺	0.91	0.57	-0.21	0.58	0.00	0.00	0.07	0.43	6.64	16.79	0.0017	18.31	35.15	-6.64	
210	302			0.91	0.56	0.67	0.46	0.00	0.07	0.00	0.42	6.42	16.16	0.0014	18.34		-6.74	
211	303		7/2 ⁻	0.92	0.58	-0.78	-0.11	0.02	0.00	0.08	0.43	7.16	17.62	0.0012	18.36		-6.74	
212	304			0.92	0.57	0.42	-0.36	0.00	0.03	0.01	0.43	7.55	16.75	0.0012				
213	305		11/2 ⁺	0.93	0.57	-0.91	-0.49	0.00	0.00	0.02	0.45	8.56	18.05	0.0012				
Z = 93 (Np)																		
113	206	5/2 ⁻	11/2 ⁺	0.96	0.83								12.82	0.1958	-2.24	-2.48	9.89	10 ^{-5.17}
114	207	5/2 ⁻		0.96	0.82	11.39							10.96	0.2347	-2.21	-2.13	9.63	10 ^{-4.87}
115	208	5/2 ⁻	1/2 ⁻	0.99	0.81	9.90	21.29						12.15	0.3497	-1.84	-1.72	9.49	10 ^{-4.20}
116	209	5/2 ⁻		1.00	0.80	11.10	21.00						10.25	0.4004	-1.83	-1.34	9.43	10 ^{-4.42}
117	210	3/2 ⁺	3/2 ⁻	1.02	0.79	9.57	20.67						11.75	0.2311	-1.46	-1.00	9.35	10 ^{-3.85}
118	211	3/2 ⁺		1.04	0.79	11.01	20.58						9.84	0.3119	-1.52	-0.68	9.06	10 ^{-3.43}
119	212	5/2 ⁻	1/2 ⁻	1.03	0.85	9.43	20.44						11.11	0.5786	-1.20	-0.25	8.86	10 ^{-2.55}
120	213	5/2 ⁻		1.04	0.84	10.66	20.08						9.20	0.5525	-1.23	0.02	8.90	10 ^{-3.00}
121	214	5/2 ⁻	1/2 ⁻	1.05	0.80	9.10	19.75						10.42	0.9541	-0.89	0.39	8.79	10 ^{-2.35}
122	215	11/2 ⁺		1.08	0.77	10.36	19.46						8.62	0.6375	-0.84	0.80	8.82	10 ^{-2.78}
123	216	11/2 ⁺	3/2 ⁻	1.10	0.80	8.91	19.28						9.61	0.7551	-0.48	1.20	8.63	10 ^{-1.90}
124	217	3/2 ⁻		1.13	0.83	9.86	18.77						7.73	2.4347	-0.53	1.61	8.73	10 ^{-2.53}
125	218	1/2	1/2	1.17	0.82	8.28	18.14						8.95	1.7892	-0.23	1.84	8.96	10 ^{-2.79}
126	219	1/2		1.17	0.90	9.54	17.82						5.78	3.3353	-0.19	2.28	8.86	10 ^{-2.89}
127	220	7/2	1/2	1.11	0.81	6.97	16.51						7.06	2.4576	0.40	2.92	9.95	10 ^{-5.31}
128	221	7/2		1.04	0.75	8.41	15.37						5.42	7.5249	0.56	3.56	10.65	10 ^{-7.20}
129	222	7/2	3/2	0.96	0.75	7.21	15.61						6.48	2.6319	1.01	4.01	9.77	10 ^{-4.86}
130	223	7/2		0.93	0.75	8.35	15.56						4.80	4.4382	1.09	4.46	9.18	10 ^{-3.75}
131	224	7/2	5/2	0.91	0.74	7.03	15.38						5.84	5.4296	1.45	4.87	8.92	10 ^{-2.68}
132	225	7/2		0.89	0.75	8.10	15.14						4.23	29.3095	1.48	5.30	8.70	10 ^{-2.44}
133	226	1/2	5/2	0.88	0.75	6.95	15.05						5.17	> 100	1.93	5.80	8.38	10 ^{-1.16}
134	227	1/2		0.87	0.75	7.97	14.92						3.40	15.1973	2.03	6.31	8.08	10 ^{-0.54}
135	228	1/2	3/2	0.86	0.75	6.66	14.63						4.35	37.8045	2.48	6.86	7.87	10 ^{0.41}
136	229	5/2 ⁺		0.83	0.78	7.96	14.61						2.53	44.9517	2.82	7.71	7.37	10 ^{1.84}
137	230	5/2 ⁺	3/2 ⁺	0.83	0.76	6.56	14.51						3.50	45.7430	3.24	8.37	6.93	10 ^{3.87}
138	231	5/2 ⁺		0.83	0.74	7.62	14.18						1.73	> 100	3.34	9.00	6.41	10 ^{5.68}
139	232	5/2 ⁺	5/2 ⁻	0.84	0.75	6.30	13.92						2.74	> 100	3.78	9.50	6.01	10 ^{7.96}
140	233	5/2 ⁺		0.84	0.74	7.39	13.68						0.99	> 100	3.87	10.10	5.62	10 ^{9.65}
141	234	5/2 ⁺	5/2 ⁺	0.84	0.73	6.11	13.50						1.93	> 100	4.34	10.65	5.30	10 ^{11.82}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 93 (Np)																		
142	235	5/2 ⁺		0.84	0.73	7.08	13.19						0.15	> 100	4.37	11.07	5.01	10 ^{13.36}
143	236	5/2 ⁺	7/2 ⁻	0.87	0.72	5.67	12.75	1.00	0.00	0.00	0.00	0.00	±	±	4.73	11.49	4.91	10 ^{14.30}
144	237	5/2 ⁺		0.87	0.70	6.70	12.37						...	β-st	4.78	11.89	4.86	10 ^{14.29}
145	238	5/2 ⁺	1/2 ⁺	0.88	0.70	5.41	12.11	1.00	0.00	0.00	0.00	0.00	±	±	5.16	12.28	4.71	10 ^{15.75}
146	239	5/2 ⁺		0.88	0.69	6.43	11.83	1.00	0.00	0.00	0.00	0.00	0.52	> 100	5.20	12.70	4.58	10 ^{16.29}
147	240	5/2 ⁺	5/2 ⁺	0.90	0.68	5.25	11.68	1.00	0.00	0.00	0.00	0.00	2.11	> 100	5.55	13.14	4.34	10 ^{18.49}
148	241	5/2 ⁺		0.90	0.68	6.11	11.36	1.00	0.00	0.00	0.00	0.00	1.27	> 100	5.58	13.56	4.24	10 ^{18.97}
149	242	5/2 ⁺	7/2 ⁺	0.92	0.67	4.97	11.07	1.00	0.00	0.00	0.00	0.00	2.79	> 100	5.94	13.95	4.08	> 10 ²⁰
150	243	5/2 ⁺		0.93	0.67	5.82	10.79	1.00	0.00	0.00	0.00	0.00	1.99	73.7230	5.98	14.30	3.95	> 10 ²⁰
151	244	1/2 ⁺	9/2 ⁻	0.94	0.67	4.78	10.60	1.00	0.00	0.00	0.00	0.00	3.49	> 100	6.39	14.75	3.75	> 10 ²⁰
152	245	1/2 ⁺		0.95	0.68	5.50	10.28	1.00	0.00	0.00	0.00	0.00	2.78	> 100	6.36	15.11	3.73	> 10 ²⁰
153	246	1/2 ⁺	7/2 ⁺	0.96	0.68	4.14	9.64	1.00	0.00	0.00	0.00	0.00	4.51	31.0741	6.73	15.49	3.91	> 10 ²⁰
154	247	5/2 ⁺		0.96	0.68	5.14	9.28	1.00	0.00	0.00	0.00	0.00	3.54	11.0006	6.72	15.84	3.91	> 10 ²⁰
155	248	1/2 ⁺	1/2 ⁺	0.98	0.68	3.81	8.94	1.00	0.00	0.00	0.00	0.00	5.24	21.0557	7.09	16.30	3.87	> 10 ²⁰
156	249	1/2 ⁺		0.98	0.69	4.91	8.72	1.00	0.00	0.00	0.00	0.00	4.22	20.7811	7.12	16.67	3.75	> 10 ²⁰
157	250	5/2 ⁺	11/2 ⁻	0.99	0.68	3.72	8.63	1.00	0.00	0.00	0.00	0.00	5.77	3.7993	7.42	16.94	3.37	> 10 ²⁰
158	251	1/2 ⁺		1.00	0.68	4.80	8.52	0.96	0.04	0.00	0.23	0.04	4.72	8.7067	7.38	17.21	3.11	> 10 ²⁰
159	252	1/2 ⁺	11/2 ⁻	1.01	0.65	3.67	8.48	0.96	0.04	0.00	0.18	0.04	6.17	6.7348	7.68	17.52	2.88	> 10 ²⁰
160	253	1/2 ⁺		1.02	0.63	4.83	8.50	0.93	0.07	0.00	0.24	0.07	5.17	4.3281	7.63	17.99	2.58	> 10 ²⁰
161	254	1/2 ⁺	3/2 ⁺	1.04	0.63	3.71	8.54	0.92	0.08	0.00	0.27	0.08	6.60	3.0776	8.05	18.29	2.24	> 10 ²⁰
162	255	1/2 ⁺		1.04	0.63	4.58	8.29	0.80	0.20	0.00	0.33	0.20	5.65	2.3140	8.06	18.62	2.02	> 10 ²⁰
163	256	3/2 ⁺	13/2 ⁻	1.04	0.66	3.25	7.83	0.78	0.22	0.00	0.32	0.22	7.31	0.8156	8.38	19.00	2.17	> 10 ²⁰
164	257	3/2 ⁺		1.04	0.64	4.04	7.30	0.52	0.48	0.00	0.42	0.48	6.51	0.5867	8.36	19.20	2.38	> 10 ²⁰
165	258	3/2 ⁺	9/2 ⁺	1.03	0.65	3.08	7.12	0.52	0.48	0.00	0.37	0.48	7.87	0.4460	8.67	19.44	2.18	> 10 ²⁰
166	259	3/2 ⁺		1.02	0.65	4.09	7.17	0.38	0.62	0.00	0.48	0.62	6.73	0.4624	8.76	19.89	1.93	> 10 ²⁰
167	260	3/2 ⁺	11/2 ⁺	1.02	0.65	2.90	6.99	0.39	0.61	0.00	0.38	0.61	8.22	0.2408	9.01	20.19	1.87	> 10 ²⁰
168	261	1/2 ⁻		1.02	0.64	4.01	6.91	0.17	0.83	0.00	0.53	0.83	7.14	0.3738	8.94	20.28	1.50	> 10 ²⁰
169	262	1/2 ⁻	15/2 ⁻	1.02	0.64	3.05	7.06	0.18	0.82	0.00	0.52	0.82	8.33	0.4162	9.23	20.50	1.05	> 10 ²⁰
170	263	1/2 ⁺		0.99	0.61	3.98	7.03	0.32	0.68	0.00	0.55	0.68	7.37	0.2462	9.12	20.66	0.99	> 10 ²⁰
171	264	1/2 ⁺	3/2 ⁺	0.99	0.61	2.99	6.98	0.38	0.62	0.00	0.53	0.62	8.62	0.2182	9.48	21.03	0.83	> 10 ²⁰
172	265	1/2 ⁺		0.99	0.61	3.75	6.74	0.27	0.73	0.00	0.54	0.73	7.80	0.1805	9.49	21.44	0.89	> 10 ²⁰
173	266	7/2 ⁻	3/2 ⁺	1.01	0.62	2.62	6.37	0.24	0.74	0.02	0.55	0.78	9.26	0.1741	9.76	21.72	0.90	> 10 ²⁰
174	267	3/2 ⁻		1.01	0.61	3.54	6.16	0.14	0.86	0.00	0.56	0.86	8.37	0.1687	9.79	22.02	0.70	> 10 ²⁰
175	268	3/2 ⁻	5/2 ⁺	1.02	0.60	2.57	6.10	0.21	0.63	0.16	0.54	0.95	9.66	0.1396	10.06	22.26	0.47	> 10 ²⁰
176	269	11/2 ⁺		1.03	0.59	3.53	6.09	0.11	0.88	0.01	0.57	0.90	8.71	0.1158	10.12	22.70	0.18	> 10 ²⁰
177	270	11/2 ⁺	1/2 ⁺	1.03	0.61	2.36	5.89	0.11	0.69	0.20	0.53	1.09	10.21	0.0711	10.41	22.94	0.15	> 10 ²⁰
178	271	3/2 ⁻		1.03	0.62	3.14	5.50	0.09	0.84	0.07	0.57	0.98	9.46	0.0830	10.43	23.28	0.10	> 10 ²⁰
179	272	1/2 ⁻	1/2 ⁺	1.05	0.59	1.81	4.95	0.08	0.22	0.70	0.59	1.62	11.11	0.0641	10.69	23.53	0.41	> 10 ²⁰
180	273	1/2 ⁻		1.05	0.57	2.74	4.55	0.04	0.34	0.62	0.54	1.58	10.16	0.0656	10.80	23.95	0.47	> 10 ²⁰
181	274	13/2 ⁺	3/2 ⁺	1.07	0.56	1.78	4.52	0.03	0.24	0.73	0.60	1.70	11.28	0.0406	10.96	24.04	0.25	> 10 ²⁰
182	275	1/2		1.08	0.55	2.69	4.47	0.04	0.33	0.61	0.57	1.61	10.50	0.0425	10.80	24.28	-0.12	
183	276	1/2	1/2	1.08	0.58	1.81	4.50	0.04	0.24	0.71	0.61	1.69	11.79	0.0378	11.12	24.58	-0.25	
184	277	1/2		1.08	0.65	2.43	4.24	0.03	0.30	0.65	0.58	1.66	11.16	0.0283	11.11	24.89	-0.22	
185	278	1/2	1/2	1.07	0.66	0.44	2.87	0.07	0.10	0.61	0.57	1.98	13.46	0.0165	11.59	25.32	0.85	> 10 ²⁰
186	279	1/2		1.07	0.65	1.79	2.23	0.01	0.13	0.31	0.59	2.40	12.06	0.0233	11.53	25.61	1.19	> 10 ²⁰
187	280	9/2	3/2	1.02	0.61	0.81	2.60	0.03	0.07	0.21	0.57	2.86	13.36	0.0265	12.07	26.24	0.38	> 10 ²⁰
188	281	9/2		0.99	0.59	2.11	2.92	0.01	0.14	0.05	0.56	2.91	12.11	0.0263	12.14	26.78	-0.23	
189	282	9/2	5/2	0.96	0.59	1.14	3.24	0.02	0.04	0.17	0.52	3.30	13.38	0.0199	12.49	27.00	-1.19	
190	283	5/2 ⁺		0.87	0.63	1.75	2.89	0.01	0.17	0.21	0.49	2.52	12.76	0.0069	12.34	27.14	-1.37	
191	284	5/2 ⁺	3/2 ⁺	0.87	0.63	0.95	2.70	0.01	0.04	0.35	0.49	2.89	13.94	0.0072	12.70	27.51	-1.40	
192	285	5/2 ⁺		0.86	0.63	1.93	2.88	0.01	0.10	0.22	0.48	2.66	13.01	0.0066	13.16	28.14	-1.72	
193	286	5/2 ⁺	5/2 ⁺	0.86	0.63	0.84	2.77	0.02	0.03	0.25	0.48	3.06	14.34	0.0063	13.46	28.93	-1.98	
194	287	5/2 ⁺		0.87	0.62	1.64	2.48	0.01	0.08	0.17	0.46	2.92	13.55	0.0054	13.46	29.13	-2.31	
195	288	5/2 ⁺	1/2 ⁺	0.86	0.62	0.74	2.38	0.01	0.03	0.20	0.48	3.30	14.81	0.0052	13.77	29.54	-3.01	
196	289	5/2 ⁺		0.86	0.62	1.35	2.09	0.01	0.05	0.10	0.46	3.32	13.94	0.0047	13.62	29.64	-2.93	
197	290	5/2 ⁺	1/2 ⁻	0.86	0.63	0.47	1.82	0.02	0.01	0.16	0.47	3.63	15.45	0.0039	14.18	30.01	-3.06	
198	291	5/2 ⁺		0.86	0.63	1.57	2.04	0.01	0.06	0.06	0.45	3.63	14.60	0.0037	14.24	30.67	-3.37	

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 93 (Np)																		
199	292	3/2 ⁺	7/2 ⁻	0.90	0.62	0.20	1.77	0.02	0.02	0.07	0.47	4.13	16.11	0.0030	14.34	30.83	-3.49	
200	293	3/2 ⁺		0.90	0.61	1.43	1.63	0.01	0.05	0.03	0.46	4.13	15.08	0.0031	14.64	31.19	-4.00	
201	294	3/2 ⁺	9/2 ⁺	0.90	0.60	0.30	1.73	0.02	0.02	0.05	0.47	4.57	16.44	0.0029	14.90	31.76	-4.26	
202	295	3/2 ⁺		0.90	0.60	1.26	1.55	0.01	0.06	0.02	0.46	4.46	15.49	0.0027	14.94	32.14	-4.44	
203	296	5/2 ⁺	3/2 ⁺	0.88	0.62	0.34	1.59	0.00	0.01	0.05	0.47	5.12	16.86	0.0026	15.14	32.16	-5.05	
204	297	5/2 ⁺		0.88	0.61	1.24	1.58	0.00	0.04	0.02	0.45	5.00	15.76	0.0026	15.15	32.59	-5.42	
205	298	5/2 ⁺	3/2 ⁺	0.89	0.61	0.10	1.34	0.00	0.00	0.05	0.46	5.63	17.14	0.0024	15.43	32.82	-5.20	
206	299	5/2 ⁻		0.89	0.59	1.06	1.16	0.01	0.05	0.01	0.45	5.41	16.23	0.0022	15.39	33.16	-5.45	
207	300	5/2 ⁻	7/2 ⁻	0.89	0.58	0.05	1.11	0.04	0.01	0.05	0.45	5.80	17.47	0.0020	15.76	33.57	-5.62	
208	301	5/2 ⁻		0.90	0.58	0.83	0.88	0.00	0.06	0.01	0.44	5.98	16.67	0.0019	15.80	33.83	-5.74	
209	302	5/2 ⁻	9/2 ⁺	0.90	0.57	0.04	0.87	0.02	0.01	0.07	0.44	6.43	17.88	0.0019	16.05	34.36	-6.14	
210	303	5/2 ⁻		0.90	0.57	0.68	0.71	0.00	0.06	0.00	0.44	6.49	17.24	0.0016	16.05	34.40	-6.24	
211	304	5/2 ⁻	7/2 ⁻	0.91	0.58	-0.44	0.23	0.02	0.00	0.10	0.45	6.94	18.63	0.0014	16.39	34.75	-6.29	
212	305	5/2 ⁻		0.91	0.57	0.39	-0.06	0.00	0.05	0.00	0.45	7.35	17.85	0.0013	16.35		-6.04	
213	306	5/2 ⁻	11/2 ⁺	0.92	0.57	-0.63	-0.25	0.00	0.00	0.06	0.46	8.14	19.17	0.0012	16.63		-6.20	
214	307	5/2 ⁻		0.92	0.57	0.27	-0.37	0.00	0.02	0.01	0.47	8.25	18.34	0.0011				
215	308	1/2 ⁺	1/2 ⁻	0.93	0.57	-0.65	-0.39	0.00	0.00	0.01	0.49	8.93	19.55	0.0011				
Z = 94 (Pu)																		
115	209		1/2 ⁻	0.96	0.81								10.74	0.1771	-0.42	-2.27	9.67	10 ^{-4.36}
116	210			1.00	0.80	11.34							8.97	0.2113	-0.19	-2.02	9.70	10 ^{-5.50}
117	211		3/2 ⁻	1.01	0.79	9.68	21.02						10.30	0.1817	-0.07	-1.54	9.55	10 ^{-4.07}
118	212			1.03	0.79	11.25	20.93						8.48	0.3415	0.17	-1.35	9.39	10 ^{-4.72}
119	213		13/2	1.06	0.79	9.29	20.54						9.84	0.4168	0.03	-1.17	9.30	10 ^{-3.40}
120	214			1.05	0.84	11.17	20.46						7.77	0.5742	0.55	-0.69	9.19	10 ^{-4.18}
121	215		1/2 ⁻	1.06	0.80	9.12	20.29						9.02	0.4108	0.57	-0.32	9.18	10 ^{-3.11}
122	216			1.09	0.78	10.76	19.87						7.17	0.9243	0.96	0.12	9.11	10 ^{-3.99}
123	217		3/2 ⁻	1.11	0.80	8.94	19.69						8.09	0.7231	0.98	0.50	8.93	10 ^{-2.43}
124	218			1.14	0.83	10.27	19.21						6.10	1.3139	1.40	0.86	8.97	10 ^{-3.64}
125	219		1/2 ⁻	1.18	0.82	8.33	18.60						7.31	1.7437	1.45	1.22	9.20	10 ^{-3.14}
126	220			1.18	0.90	9.93	18.26						4.35	2.8594	1.84	1.64	9.17	10 ^{-4.15}
127	221		1/2	1.11	0.82	7.01	16.94						5.74	2.8966	1.88	2.28	10.14	10 ^{-5.48}
128	222			1.04	0.76	8.78	15.79						4.18	2.3402	2.25	2.82	10.87	10 ^{-8.13}
129	223		3/2	0.99	0.75	7.17	15.95						5.35	2.2947	2.22	3.23	10.06	10 ^{-5.29}
130	224			0.94	0.75	8.73	15.91						3.65	3.8257	2.60	3.69	9.58	10 ^{-5.18}
131	225		5/2	0.92	0.75	7.04	15.77						4.71	4.2557	2.61	4.06	9.30	10 ^{-3.40}
132	226			0.90	0.75	8.53	15.57						3.13	9.1791	3.03	4.52	9.04	10 ^{-3.80}
133	227		5/2	0.89	0.75	7.00	15.53						4.10	23.3245	3.09	5.02	8.71	10 ^{-1.78}
134	228			0.88	0.76	8.32	15.32						2.44	24.4801	3.44	5.46	8.46	10 ^{-2.14}
135	229		1/2 ⁻	0.82	0.81	6.80	15.12						3.60	80.1944	3.58	6.06	8.16	10 ^{-0.12}
136	230			0.82	0.79	8.41	15.21						1.74	> 100	4.04	6.86	7.62	10 ^{0.58}
137	231		3/2 ⁺	0.82	0.77	6.63	15.04						2.73	> 100	4.11	7.35	7.20	10 ^{3.15}
138	232			0.82	0.76	8.05	14.68						0.98	> 100	4.54	7.87	6.77	10 ^{3.84}
139	233		5/2 ⁻	0.82	0.75	6.40	14.45						1.96	> 100	4.64	8.42	6.50	10 ^{6.07}
140	234			0.82	0.75	7.87	14.28						0.20	> 100	5.13	9.00	6.15	10 ^{6.58}
141	235		5/2 ⁺	0.83	0.75	6.07	13.95						1.21	> 100	5.09	9.43	5.93	10 ^{8.74}
142	236			0.83	0.74	7.53	13.60						...	β -st	5.54	9.91	5.70	10 ^{8.94}
143	237		7/2 ⁻	0.83	0.72	5.78	13.31						0.27	> 100	5.65	10.38	5.56	10 ^{10.78}
144	238			0.86	0.71	7.08	12.86						...	β -st	6.03	10.81	5.53	10 ^{9.94}
145	239		1/2 ⁺	0.86	0.70	5.54	12.62						...	β -st	6.16	11.32	5.30	10 ^{12.30}
146	240			0.87	0.70	6.85	12.38						...	β -st	6.58	11.78	5.11	10 ^{12.48}
147	241		5/2 ⁺	0.87	0.69	5.27	12.11	1.00	0.00	0.00	0.00	0.00	...	β -st	6.59	12.14	4.87	10 ^{15.07}
148	242			0.89	0.68	6.49	11.75						...	β -st	6.97	12.55	4.77	10 ^{14.77}
149	243		7/2 ⁺	0.89	0.67	5.03	11.51	1.00	0.00	0.00	0.00	0.00	0.50	> 100	7.03	12.97	4.64	10 ^{16.71}
150	244			0.91	0.67	6.27	11.30						...	β -st	7.48	13.46	4.45	10 ^{17.09}
151	245		9/2 ⁻	0.92	0.67	4.79	11.06	1.00	0.00	0.00	0.00	0.00	1.12	> 100	7.49	13.89	4.27	10 ^{19.70}
152	246			0.93	0.68	5.87	10.66	1.00	0.00	0.00	0.00	0.00	0.40	> 100	7.87	14.23	4.18	10 ^{19.32}
153	247		7/2 ⁺	0.93	0.68	4.17	10.04	1.00	0.00	0.00	0.00	0.00	2.18	99.1557	7.89	14.62	4.38	10 ^{18.71}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 94 (Pu)																		
154	248			0.94	0.68	5.51	9.67	1.00	0.00	0.00	0.00	0.00	1.13	> 100	8.26	14.99	4.39	$10^{17.57}$
155	249		$1/2^+$	0.95	0.68	3.89	9.39	1.00	0.00	0.00	0.00	0.00	2.81	> 100	8.34	15.44	4.29	$10^{19.53}$
156	250			0.95	0.69	5.27	9.16	1.00	0.00	0.00	0.00	0.00	1.76	> 100	8.71	15.83	4.15	$10^{19.58}$
157	251		$1/2^+$	0.97	0.68	3.75	9.02	1.00	0.00	0.00	0.00	0.00	3.23	58.9530	8.74	16.16	3.84	$> 10^{20}$
158	252			0.97	0.68	5.12	8.87	1.00	0.00	0.00	0.00	0.00	2.28	40.5103	9.06	16.44	3.60	$> 10^{20}$
159	253		$1/2^+$	0.99	0.65	3.83	8.95	1.00	0.00	0.00	0.00	0.00	3.57	26.6874	9.21	16.90	3.19	$> 10^{20}$
160	254			1.01	0.63	5.14	8.97	1.00	0.00	0.00	0.00	0.00	2.57	17.2977	9.52	17.15	2.89	$> 10^{20}$
161	255		$3/2^+$	1.02	0.63	3.63	8.77	1.00	0.00	0.00	0.00	0.00	4.08	7.8784	9.44	17.49	2.64	$> 10^{20}$
162	256			1.03	0.63	4.92	8.55	1.00	0.00	0.00	0.00	0.00	3.14	6.9929	9.78	17.84	2.60	$> 10^{20}$
163	257		$13/2^-$	1.03	0.67	3.24	8.16	1.00	0.00	0.00	0.00	0.00	4.82	4.0790	9.77	18.15	2.65	$> 10^{20}$
164	258			1.03	0.65	4.44	7.68	1.00	0.00	0.00	0.00	0.00	3.97	3.1255	10.17	18.53	2.78	$> 10^{20}$
165	259		$9/2^+$	1.03	0.65	2.95	7.39	0.97	0.03	0.00	0.11	0.03	5.45	1.4571	10.04	18.71	2.76	$> 10^{20}$
166	260			1.03	0.65	4.40	7.35	0.96	0.04	0.00	0.18	0.04	4.31	1.8526	10.34	19.10	2.43	$> 10^{20}$
167	261		$11/2^+$	1.02	0.65	2.93	7.32	0.96	0.04	0.00	0.17	0.04	5.74	0.6281	10.37	19.38	2.26	$> 10^{20}$
168	262			1.02	0.64	4.24	7.17	0.94	0.06	0.00	0.20	0.06	4.78	0.7096	10.60	19.54	2.03	$> 10^{20}$
169	263		$15/2^-$	1.03	0.63	3.02	7.26	0.86	0.14	0.00	0.19	0.14	5.99	0.6520	10.57	19.80	1.66	$> 10^{20}$
170	264			1.04	0.62	4.25	7.26	0.87	0.13	0.00	0.17	0.13	5.01	0.6192	10.84	19.95	1.50	$> 10^{20}$
171	265		$3/2^+$	1.00	0.61	2.93	7.18	0.85	0.15	0.00	0.19	0.15	6.32	0.3330	10.77	20.25	1.32	$> 10^{20}$
172	266			1.00	0.61	4.08	7.01	0.80	0.20	0.00	0.19	0.20	5.41	0.3046	11.10	20.59	1.34	$> 10^{20}$
173	267		$3/2^+$	1.02	0.62	2.64	6.72	0.56	0.44	0.00	0.27	0.44	6.85	0.2863	11.12	20.88	1.33	$> 10^{20}$
174	268			1.02	0.61	3.86	6.50	0.46	0.54	0.00	0.32	0.54	5.93	0.2906	11.44	21.24	1.21	$> 10^{20}$
175	269		$5/2^+$	1.03	0.60	2.58	6.44	0.38	0.62	0.00	0.32	0.62	7.19	0.2309	11.46	21.52	0.98	$> 10^{20}$
176	270			1.04	0.59	3.85	6.43	0.33	0.67	0.00	0.32	0.67	6.24	0.2414	11.79	21.91	0.63	$> 10^{20}$
177	271		$1/2^+$	1.05	0.61	2.40	6.25	0.29	0.71	0.00	0.36	0.71	7.69	0.1687	11.82	22.23	0.53	$> 10^{20}$
178	272			1.04	0.62	3.46	5.86	0.25	0.75	0.00	0.42	0.75	6.95	0.1388	12.14	22.58	0.53	$> 10^{20}$
179	273		$1/2^+$	1.06	0.60	1.79	5.25	0.15	0.84	0.01	0.52	0.86	8.62	0.0977	12.12	22.81	0.81	$> 10^{20}$
180	274			1.08	0.56	2.90	4.69	0.08	0.92	0.00	0.54	0.92	7.79	0.0773	12.28	23.08	1.04	$> 10^{20}$
181	275		$3/2^+$	1.09	0.55	1.92	4.81	0.06	0.75	0.19	0.50	1.13	8.92	0.0684	12.41	23.38	0.68	$> 10^{20}$
182	276			1.10	0.55	3.10	5.02	0.07	0.93	0.00	0.54	0.93	7.84	0.0667	12.82	23.62	0.21	$> 10^{20}$
183	277		$1/2^+$	1.10	0.58	1.80	4.90	0.06	0.67	0.27	0.48	1.21	9.02	0.0637	12.81	23.93	0.02	$> 10^{20}$
184	278			1.09	0.65	2.73	4.53	0.07	0.92	0.01	0.54	0.94	8.40	0.0456	13.11	24.23	0.15	$> 10^{20}$
185	279		$1/2$	1.08	0.66	0.39	3.12	0.12	0.15	0.73	0.51	1.61	10.74	0.0288	13.07	24.65	1.25	$> 10^{20}$
186	280			1.09	0.67	2.11	2.50	0.05	0.17	0.77	0.49	1.74	9.53	0.0336	13.39	24.92	1.57	$> 10^{20}$
187	281		$3/2$	1.03	0.61	0.85	2.97	0.20	0.08	0.36	0.51	1.88	10.86	0.0475	13.43	25.50	0.68	$> 10^{20}$
188	282			0.99	0.60	2.41	3.26	0.13	0.12	0.28	0.45	2.09	9.80	0.0404	13.73	25.87	0.12	$> 10^{20}$
189	283		$5/2$	0.96	0.59	1.13	3.54	0.08	0.08	0.58	0.45	2.05	11.01	0.0284	13.72	26.22	-0.73	
190	284			0.87	0.64	2.14	3.27	0.06	0.43	0.41	0.41	1.55	10.23	0.0113	14.11	26.45	-0.84	
191	285		$3/2^+$	0.87	0.63	0.99	3.13	0.06	0.25	0.53	0.43	1.80	11.60	0.0105	14.16	26.85	-1.05	
192	286			0.86	0.63	2.17	3.16	0.05	0.39	0.39	0.40	1.68	10.68	0.0092	14.39	27.56	-1.32	
193	287		$5/2^+$	0.86	0.63	0.85	3.02	0.05	0.18	0.52	0.42	1.98	12.10	0.0083	14.40	27.87	-1.57	
194	288			0.86	0.62	2.00	2.85	0.04	0.32	0.33	0.41	1.92	11.22	0.0074	14.77	28.22	-2.10	
195	289		$1/2^+$	0.86	0.62	0.48	2.48	0.04	0.10	0.44	0.43	2.30	12.76	0.0061	14.51	28.28	-2.05	
196	290			0.86	0.62	1.98	2.46	0.03	0.24	0.25	0.41	2.20	11.76	0.0059	15.14	28.75	-2.39	
197	291		$1/2^-$	0.86	0.63	0.72	2.70	0.06	0.12	0.31	0.42	2.46	13.08	0.0054	15.39	29.56	-2.68	
198	292			0.88	0.65	1.72	2.44	0.03	0.10	0.20	0.42	2.60	12.24	0.0056	15.53	29.77	-2.89	
199	293		$7/2^-$	0.89	0.63	0.39	2.11	0.03	0.03	0.28	0.43	2.89	13.78	0.0041	15.72	30.06	-3.37	
200	294			0.89	0.61	1.67	2.06	0.02	0.09	0.15	0.43	2.77	12.83	0.0040	15.96	30.60	-3.53	
201	295		$9/2^+$	0.89	0.60	0.31	1.97	0.02	0.03	0.16	0.44	3.31	14.22	0.0037	15.97	30.86	-3.73	
202	296			0.89	0.60	1.70	2.01	0.02	0.06	0.09	0.43	3.15	13.12	0.0037	16.41	31.36	-4.31	
203	297		$5/2^+$	0.89	0.60	0.15	1.85	0.05	0.03	0.09	0.43	3.55	14.71	0.0030	16.22	31.36	-4.41	
204	298			0.88	0.62	1.48	1.63	0.02	0.06	0.05	0.41	3.59	13.73	0.0031	16.46	31.61	-4.68	
205	299		$3/2^+$	0.88	0.61	0.14	1.62	0.02	0.02	0.07	0.42	4.18	14.92	0.0032	16.50	31.94	-4.68	
206	300			0.89	0.61	1.29	1.43	0.01	0.05	0.03	0.40	4.17	13.94	0.0030	16.74	32.12	-4.75	
207	301		$3/2^+$	0.88	0.59	0.04	1.33	0.02	0.02	0.04	0.41	4.72	15.31	0.0028	16.72	32.48	-4.96	
208	302			0.88	0.58	1.24	1.28	0.02	0.06	0.02	0.40	4.49	14.40	0.0026	17.13	32.93	-5.10	
209	303		$9/2^+$	0.89	0.57	0.04	1.28	0.02	0.02	0.05	0.41	5.10	15.73	0.0024	17.13	33.18	-5.46	
210	304			0.90	0.57	0.95	0.99	0.01	0.06	0.02	0.40	4.98	14.95	0.0020	17.41	33.46	-5.62	

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 94 (Pu)																		
211	305		7/2 ⁻	0.90	0.58	-0.39	0.55	0.04	0.01	0.07	0.42	5.53	16.33	0.0018	17.46	33.84	-5.44	
212	306			0.91	0.57	0.69	0.29	0.00	0.06	0.02	0.41	5.74	15.54	0.0017	17.75	34.11	-5.45	
213	307		11/2 ⁺	0.91	0.57	-0.56	0.12	0.00	0.00	0.06	0.43	6.73	16.77	0.0017	17.83	34.46	-5.67	
214	308			0.91	0.57	0.55	-0.01	0.00	0.04	0.01	0.43	6.74	15.94	0.0016	18.11		-5.80	
215	309		1/2 ⁻	0.92	0.57	-0.63	-0.08	0.01	0.00	0.05	0.44	7.53	17.13	0.0014	18.13		-6.07	
216	310			0.93	0.56	0.50	-0.14	0.00	0.04	0.00	0.44	7.72	16.30	0.0013				
217	311		1/2 ⁻	0.93	0.55	-0.65	-0.15	0.01	0.00	0.03	0.45	8.49	17.46	0.0013				
218	312			0.94	0.54	0.52	-0.13	0.00	0.02	0.01	0.45	8.57	16.57	0.0012				
Z = 95 (Am)																		
117	212	5/2 ⁺	3/2 ⁻	0.99	0.79								12.58	0.1072	-2.11	-2.18	9.81	10 ^{-4.33}
118	213	5/2 ⁺		1.03	0.79	11.27							10.60	0.1666	-2.09	-1.93	9.65	10 ^{-4.27}
119	214	5/2 ⁺	13/2 ⁺	1.04	0.79	9.63	20.90						12.14	0.1590	-1.75	-1.72	9.59	10 ^{-3.78}
120	215	9/2 ⁺		1.05	0.85	10.93	20.56						10.33	0.1594	-2.00	-1.45	9.67	10 ^{-4.32}
121	216	9/2 ⁺	1/2 ⁻	1.06	0.81	9.43	20.35						11.67	0.2530	-1.69	-1.13	9.67	10 ^{-4.01}
122	217	3/2 ⁻		1.09	0.78	10.84	20.27						9.76	0.5025	-1.61	-0.65	9.49	10 ^{-3.87}
123	218	3/2 ⁻	3/2 ⁻	1.11	0.80	9.35	20.19						10.69	0.6032	-1.20	-0.22	9.24	10 ^{-2.88}
124	219	3/2 ⁻		1.13	0.84	10.32	19.67						8.70	0.7406	-1.15	0.25	9.28	10 ^{-3.33}
125	220	3/2	1/2	1.18	0.82	8.58	18.91						10.05	0.5631	-0.90	0.55	9.61	10 ^{-3.83}
126	221	3/2		1.16	0.90	9.97	18.55						7.09	0.8451	-0.86	0.98	9.50	10 ^{-3.90}
127	222	9/2	1/2	1.08	0.81	7.58	17.55						8.28	0.9275	-0.29	1.59	10.19	10 ^{-5.25}
128	223	9/2		1.04	0.76	8.86	16.44						6.60	1.9508	-0.20	2.05	10.88	10 ^{-7.07}
129	224	9/2	3/2	0.98	0.75	7.59	16.45						7.74	1.8643	0.21	2.43	10.26	10 ^{-5.38}
130	225	5/2		0.96	0.75	8.77	16.35						6.02	1.3824	0.24	2.84	9.90	10 ^{-4.89}
131	226	5/2	5/2	0.94	0.75	7.50	16.27						7.05	1.5429	0.70	3.31	9.61	10 ^{-3.83}
132	227	5/2		0.92	0.75	8.60	16.10						5.45	2.5011	0.77	3.81	9.36	10 ^{-3.51}
133	228	5/2	5/2	0.90	0.77	7.31	15.91						6.46	5.1289	1.08	4.17	9.08	10 ^{-2.45}
134	229	5/2 ⁻		0.83	0.84	8.60	15.92						4.66	21.0462	1.36	4.80	8.58	10 ^{-1.36}
135	230	5/2 ⁻	1/2 ⁻	0.83	0.81	7.31	15.92						5.76	40.3515	1.88	5.45	8.21	10 ^{0.11}
136	231	5/2 ⁻		0.83	0.79	8.45	15.77						3.93	49.1890	1.92	5.95	7.73	10 ^{1.33}
137	232	5/2 ⁻	3/2 ⁺	0.83	0.79	7.02	15.47						4.96	47.3247	2.31	6.41	7.37	10 ^{3.00}
138	233	5/2 ⁻		0.83	0.77	8.25	15.27						3.11	> 100	2.51	7.04	7.08	10 ^{3.78}
139	234	5/2 ⁻	5/2 ⁻	0.83	0.77	6.74	14.99						4.24	> 100	2.85	7.49	6.90	10 ^{4.85}
140	235	5/2 ⁻		0.81	0.76	7.93	14.67						2.39	> 100	2.90	8.03	6.58	10 ^{5.87}
141	236	5/2 ⁻	5/2 ⁺	0.81	0.75	6.49	14.42						3.43	> 100	3.32	8.41	6.39	10 ^{7.07}
142	237	5/2 ⁻		0.81	0.74	7.57	14.06						1.64	> 100	3.36	8.90	6.21	10 ^{7.63}
143	238	5/2 ⁻	7/2 ⁻	0.82	0.74	6.20	13.78						2.52	> 100	3.79	9.44	6.12	10 ^{8.41}
144	239	5/2 ⁻		0.82	0.72	7.17	13.37						0.88	> 100	3.87	9.90	6.03	10 ^{8.47}
145	240	5/2 ⁻	1/2 ⁺	0.83	0.71	5.96	13.13						1.77	> 100	4.29	10.46	5.74	10 ^{10.38}
146	241	5/2 ⁻		0.85	0.70	6.86	12.82						0.18		4.31	10.89	5.58	10 ^{10.87}
147	242	5/2 ⁻	5/2 ⁺	0.85	0.69	5.63	12.49	1.00	0.00	0.00	0.00	0.00	±	±	4.67	11.27	5.35	10 ^{12.50}
148	243	5/2 ⁻		0.86	0.68	6.56	12.19						...	β-st	4.75	11.72	5.22	10 ^{13.02}
149	244	5/2 ⁻	7/2 ⁺	0.88	0.67	5.38	11.94	1.00	0.00	0.00	0.00	0.00	±	±	5.10	12.13	5.10	10 ^{14.19}
150	245	5/2 ⁻		0.88	0.67	6.31	11.68	1.00	0.00	0.00	0.00	0.00	0.60	> 100	5.13	12.62	4.90	10 ^{15.12}
151	246	5/2 ⁻	9/2 ⁻	0.89	0.68	5.14	11.45	1.00	0.00	0.00	0.00	0.00	2.20	> 100	5.48	12.98	4.72	10 ^{16.66}
152	247	1/2 ⁺		0.91	0.69	5.95	11.09	1.00	0.00	0.00	0.00	0.00	1.43	> 100	5.56	13.43	4.59	10 ^{17.28}
153	248	1/2 ⁺	7/2 ⁺	0.90	0.68	4.46	10.42	1.00	0.00	0.00	0.00	0.00	3.34	> 100	5.86	13.75	4.91	10 ^{15.46}
154	249	1/2 ⁺		0.92	0.67	5.56	10.02	1.00	0.00	0.00	0.00	0.00	2.27	> 100	5.91	14.17	4.85	10 ^{15.47}
155	250	1/2 ⁺	1/2 ⁺	0.92	0.68	4.22	9.78	1.00	0.00	0.00	0.00	0.00	3.96	> 100	6.25	14.59	4.77	10 ^{16.37}
156	251	1/2 ⁺		0.93	0.69	5.23	9.45	1.00	0.00	0.00	0.00	0.00	3.00	> 100	6.20	14.91	4.68	10 ^{16.68}
157	252	1/2 ⁺	1/2 ⁺	0.94	0.68	4.17	9.40	1.00	0.00	0.00	0.00	0.00	4.46	56.1552	6.62	15.36	4.31	10 ^{19.93}
158	253	5/2 ⁺		0.95	0.68	5.12	9.29	1.00	0.00	0.00	0.00	0.00	3.56	12.5477	6.62	15.68	4.11	> 10 ²⁰
159	254	5/2 ⁺	1/2 ⁺	0.97	0.65	4.14	9.25	1.00	0.00	0.00	0.00	0.00	4.97	9.6047	6.93	16.14	3.69	> 10 ²⁰
160	255	5/2 ⁺		0.99	0.63	5.14	9.28	1.00	0.00	0.00	0.00	0.00	3.89	7.5904	6.93	16.45	3.34	> 10 ²⁰
161	256	5/2 ⁺	3/2 ⁺	1.00	0.63	3.97	9.12	1.00	0.00	0.00	0.00	0.00	5.44	4.1861	7.27	16.72	3.05	> 10 ²⁰
162	257	5/2 ⁺		1.00	0.64	4.92	8.89	1.00	0.00	0.00	0.00	0.00	4.50	3.4792	7.27	17.06	2.96	> 10 ²⁰
163	258	5/2 ⁺	13/2 ⁻	1.01	0.67	3.59	8.51	0.98	0.02	0.00	0.15	0.02	6.18	2.4999	7.63	17.39	3.08	> 10 ²⁰
164	259	5/2 ⁺		1.02	0.65	4.44	8.03	0.88	0.12	0.00	0.24	0.12	5.32	1.9802	7.62	17.79	3.22	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 95 (Am)																		
165	260	5/2 ⁺	9/2 ⁺	1.01	0.66	3.25	7.69	0.83	0.17	0.00	0.27	0.17	6.82	1.2235	7.92	17.96	3.22	> 10 ²⁰
166	261	5/2 ⁺		1.01	0.65	4.35	7.61	0.66	0.34	0.00	0.32	0.34	5.71	1.2048	7.88	18.22	2.90	> 10 ²⁰
167	262	5/2 ⁺	11/2 ⁺	1.01	0.65	3.28	7.64	0.72	0.28	0.00	0.23	0.28	7.07	0.6714	8.24	18.61	2.70	> 10 ²⁰
168	263	5/2 ⁺		1.01	0.65	4.23	7.51	0.58	0.42	0.00	0.32	0.42	6.23	0.7578	8.22	18.82	2.57	> 10 ²⁰
169	264	5/2 ⁺	15/2 ⁻	1.02	0.63	3.28	7.50	0.50	0.50	0.00	0.34	0.50	7.40	0.6336	8.48	19.05	2.19	> 10 ²⁰
170	265	5/2 ⁺		1.04	0.62	4.23	7.51	0.45	0.55	0.00	0.38	0.55	6.38	0.5633	8.46	19.30	1.97	> 10 ²⁰
171	266	5/2 ⁺	3/2 ⁺	1.04	0.61	3.18	7.41	0.46	0.54	0.00	0.33	0.54	7.74	0.4809	8.71	19.48	1.85	> 10 ²⁰
172	267	3/2 ⁻		1.00	0.61	4.08	7.26	0.51	0.49	0.00	0.48	0.49	6.87	0.4345	8.71	19.81	1.75	> 10 ²⁰
173	268	3/2 ⁻	3/2 ⁺	1.02	0.62	2.93	7.01	0.46	0.54	0.00	0.47	0.54	8.22	0.4904	9.00	20.12	1.81	> 10 ²⁰
174	269	7/2 ⁻		1.03	0.61	3.85	6.78	0.35	0.65	0.00	0.49	0.65	7.38	0.4563	8.99	20.44	1.71	> 10 ²⁰
175	270	7/2 ⁻	5/2 ⁺	1.04	0.60	2.90	6.75	0.41	0.58	0.01	0.49	0.60	8.58	0.4065	9.31	20.77	1.43	> 10 ²⁰
176	271	7/2 ⁻		1.05	0.59	3.85	6.75	0.31	0.69	0.00	0.50	0.69	7.63	0.4384	9.31	21.09	1.12	> 10 ²⁰
177	272	7/2 ⁻	1/2 ⁺	1.05	0.61	2.72	6.57	0.34	0.63	0.03	0.50	0.69	9.08	0.2904	9.63	21.45	0.97	> 10 ²⁰
178	273	7/2 ⁻		1.05	0.62	3.47	6.19	0.24	0.76	0.00	0.50	0.76	8.35	0.2306	9.63	21.78	1.02	> 10 ²⁰
179	274	11/2 ⁺	1/2 ⁺	1.07	0.60	2.06	5.53	0.10	0.66	0.24	0.49	1.14	10.07	0.1034	9.90	22.02	1.32	> 10 ²⁰
180	275	11/2 ⁺		1.08	0.57	3.04	5.11	0.06	0.78	0.16	0.49	1.10	9.10	0.1064	10.05	22.33	1.42	> 10 ²⁰
181	276	11/2 ⁺	3/2 ⁺	1.10	0.56	2.03	5.07	0.05	0.51	0.44	0.53	1.39	10.43	0.0727	10.16	22.57	1.21	> 10 ²⁰
182	277	3/2 ⁺		1.11	0.55	2.98	5.00	0.06	0.62	0.32	0.50	1.26	9.53	0.0800	10.04	22.86	0.97	> 10 ²⁰
183	278	11/2 ⁺	1/2 ⁺	1.11	0.58	2.11	5.09	0.06	0.48	0.46	0.52	1.40	10.76	0.0741	10.35	23.16	0.64	> 10 ²⁰
184	279	3/2		1.11	0.64	2.73	4.84	0.05	0.55	0.40	0.49	1.35	10.13	0.0492	10.35	23.46	0.60	> 10 ²⁰
185	280	3/2	1/2	1.09	0.65	0.91	3.64	0.10	0.22	0.66	0.51	1.60	12.26	0.0345	10.87	23.93	1.50	> 10 ²⁰
186	281	3/2		1.08	0.65	2.18	3.08	0.02	0.24	0.45	0.49	2.01	10.93	0.0469	10.93	24.32	1.76	> 10 ²⁰
187	282	3/2	3/2	1.01	0.61	1.35	3.53	0.10	0.12	0.42	0.50	2.07	12.11	0.0650	11.43	24.86	0.84	> 10 ²⁰
188	283	7/2		0.98	0.59	2.34	3.69	0.03	0.22	0.16	0.48	2.32	11.02	0.0534	11.36	25.09	0.29	> 10 ²⁰
189	284	1/2 ⁻	9/2 ⁺	0.87	0.64	1.36	3.70	0.05	0.11	0.53	0.44	2.17	12.39	0.0136	11.59	25.31	-0.26	
190	285	1/2 ⁻		0.87	0.64	2.36	3.72	0.04	0.32	0.31	0.42	1.93	11.41	0.0124	11.81	25.92	-0.51	
191	286	1/2 ⁻	3/2 ⁺	0.87	0.63	1.25	3.61	0.05	0.10	0.52	0.43	2.16	12.65	0.0121	12.07	26.22	-0.62	
192	287	1/2 ⁻		0.87	0.63	2.27	3.52	0.04	0.26	0.30	0.42	2.06	11.74	0.0105	12.17	26.56	-1.14	
193	288	1/2 ⁻	5/2 ⁺	0.87	0.63	1.12	3.39	0.04	0.08	0.45	0.44	2.34	13.06	0.0101	12.44	26.85	-1.31	
194	289	1/2 ⁻		0.86	0.62	2.02	3.14	0.03	0.18	0.29	0.43	2.28	12.16	0.0091	12.46	27.22	-1.40	
195	290	1/2 ⁻	1/2 ⁺	0.86	0.62	0.98	3.00	0.04	0.06	0.38	0.44	2.53	13.68	0.0076	12.96	27.47	-1.55	
196	291	1/2 ⁺		0.87	0.65	2.04	3.02	0.03	0.09	0.17	0.43	2.61	12.79	0.0081	13.02	28.15	-1.94	
197	292	1/2 ⁺	5/2 ⁻	0.88	0.65	0.88	2.92	0.05	0.03	0.24	0.44	2.86	14.29	0.0068	13.18	28.56	-2.08	
198	293	1/2 ⁺		0.87	0.64	1.93	2.81	0.03	0.08	0.13	0.44	2.74	13.30	0.0062	13.39	28.92	-2.66	
199	294	1/2 ⁺	7/2 ⁻	0.88	0.63	0.72	2.65	0.03	0.02	0.18	0.45	3.16	14.76	0.0050	13.72	29.44	-2.91	
200	295	7/2 ⁺		0.88	0.61	1.70	2.41	0.01	0.06	0.09	0.44	3.08	13.83	0.0045	13.75	29.70	-3.04	
201	296	7/2 ⁺	9/2 ⁺	0.88	0.60	0.60	2.29	0.01	0.02	0.11	0.46	3.55	15.23	0.0041	14.04	30.01	-3.43	
202	297	7/2 ⁺		0.88	0.60	1.74	2.34	0.01	0.06	0.05	0.44	3.47	14.14	0.0041	14.07	30.49	-3.74	
203	298	1/2 ⁺	5/2 ⁺	0.88	0.60	0.50	2.24	0.04	0.02	0.07	0.45	3.77	15.68	0.0037	14.43	30.65	-3.94	
204	299	1/2 ⁺		0.89	0.60	1.33	1.83	0.01	0.07	0.03	0.44	3.86	14.90	0.0033	14.28	30.74	-4.02	
205	300	1/2 ⁺	7/2 ⁺	0.88	0.62	0.31	1.64	0.02	0.03	0.06	0.45	4.34	16.21	0.0032	14.45	30.95	-3.99	
206	301	5/2 ⁺		0.88	0.61	1.41	1.71	0.00	0.03	0.02	0.43	4.47	15.15	0.0030	14.56	31.30	-4.15	
207	302	5/2 ⁺	3/2 ⁺	0.88	0.59	0.33	1.74	0.00	0.01	0.05	0.44	4.92	16.55	0.0028	14.86	31.58	-4.39	
208	303	5/2 ⁺		0.88	0.58	1.36	1.70	0.00	0.03	0.02	0.43	4.79	15.53	0.0027	14.98	32.11	-4.69	
209	304	5/2 ⁺	9/2 ⁺	0.88	0.57	0.18	1.54	0.00	0.00	0.05	0.44	5.40	16.86	0.0025	15.12	32.25	-4.82	
210	305	5/2 ⁺		0.89	0.57	0.98	1.16	0.00	0.02	0.02	0.43	5.41	16.04	0.0022	15.15	32.56	-4.97	
211	306	5/2 ⁺	7/2 ⁻	0.88	0.58	-0.10	0.88	0.00	0.01	0.07	0.44	5.81	17.46	0.0019	15.44	32.90	-4.83	
212	307	5/2 ⁺		0.89	0.57	0.67	0.56	0.00	0.01	0.01	0.44	6.12	16.69	0.0019	15.42	33.18	-4.82	
213	308	5/2 ⁺	11/2 ⁺	0.89	0.58	-0.27	0.39	0.00	0.00	0.02	0.46	6.88	17.96	0.0018	15.71	33.54	-4.99	
214	309	5/2 ⁺		0.90	0.57	0.55	0.28	0.00	0.01	0.00	0.46	6.95	17.14	0.0016	15.71	33.82	-5.15	
215	310	5/2 ⁺	1/2 ⁻	0.90	0.57	-0.32	0.23	0.00	0.00	0.02	0.47	7.68	18.34	0.0015	16.02	34.15	-5.47	
216	311	5/2 ⁺		0.91	0.56	0.51	0.18	0.00	0.00	0.00	0.46	8.01	17.51	0.0014	16.03		-5.71	
217	312	5/2 ⁺	1/2 ⁻	0.91	0.56	-0.36	0.14	0.00	0.00	0.01	0.47	8.61	18.70	0.0013	16.31		-5.99	
218	313	1/2 ⁺		0.92	0.55	0.54	0.17	0.00	0.04	0.01	0.47	8.18	17.82	0.0013	16.33			
219	314	1/2 ⁺	3/2 ⁻	0.93	0.55	-0.48	0.06	0.00	0.00	0.04	0.48	8.83	19.08	0.0012				
220	315	1/2 ⁺		0.93	0.54	0.32	-0.17	0.00	0.03	0.00	0.48	8.61	18.29	0.0011				

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 96 (Cm)																		
119	215		13/2 ⁺	1.04	0.79								10.53	0.1542	−0.39	−2.14	9.90	10 ^{−4.26}
120	216			1.06	0.85	11.16							8.79	0.1606	−0.15	−2.15	9.99	10 ^{−5.55}
121	217		1/2 [−]	1.07	0.81	9.47	20.63						10.17	0.2122	−0.11	−1.80	9.81	10 ^{−4.05}
122	218			1.10	0.78	11.23	20.70						8.28	0.3052	0.28	−1.32	9.75	10 ^{−4.96}
123	219		3/2 [−]	1.11	0.80	9.37	20.61						9.23	0.2810	0.31	−0.89	9.49	10 ^{−3.24}
124	220			1.14	0.84	10.72	20.09						7.09	0.4805	0.71	−0.44	9.53	10 ^{−4.41}
125	221		1/2	1.18	0.83	8.66	19.38						8.41	0.5854	0.78	−0.11	9.81	10 ^{−4.05}
126	222			1.18	0.90	10.34	19.00						5.64	0.7607	1.16	0.30	9.74	10 ^{−4.91}
127	223		1/2	1.09	0.82	7.59	17.93						6.91	0.8725	1.16	0.88	10.48	10 ^{−5.63}
128	224			1.06	0.77	9.21	16.80						5.29	0.7407	1.52	1.31	11.20	10 ^{−8.20}
129	225		3/2	1.01	0.75	7.56	16.77						6.50	0.9503	1.49	1.69	10.65	10 ^{−5.99}
130	226			0.98	0.75	9.13	16.68						4.87	1.1555	1.84	2.09	10.30	10 ^{−6.27}
131	227		5/2	0.96	0.75	7.46	16.59						6.01	1.2790	1.81	2.51	10.02	10 ^{−4.55}
132	228			0.91	0.79	8.95	16.41						4.37	3.0514	2.16	2.93	9.80	10 ^{−5.11}
133	229		5/2 [−]	0.82	0.86	7.45	16.40						5.53	7.8765	2.29	3.38	9.39	10 ^{−3.01}
134	230			0.83	0.84	9.20	16.65						3.64	8.8979	2.89	4.25	8.73	10 ^{−2.22}
135	231		1/2 [−]	0.83	0.83	7.34	16.54						4.75	15.7144	2.92	4.79	8.39	10 ^{−0.12}
136	232			0.82	0.82	8.82	16.17						2.95	17.3688	3.29	5.20	7.88	10 ^{0.44}
137	233		3/2 ⁺	0.82	0.80	7.06	15.89						4.14	16.9284	3.33	5.64	7.62	10 ^{2.41}
138	234			0.82	0.79	8.54	15.60						2.34	38.8515	3.62	6.13	7.49	10 ^{1.82}
139	235		5/2 [−]	0.80	0.78	6.84	15.38						3.43	> 100	3.72	6.56	7.28	10 ^{3.71}
140	236			0.80	0.77	8.31	15.15						1.61	> 100	4.10	7.00	7.02	10 ^{3.67}
141	237		5/2 ⁺	0.80	0.75	6.51	14.82						2.67	29.1143	4.12	7.44	6.91	10 ^{5.19}
142	238			0.80	0.75	8.06	14.57						0.81	> 100	4.61	7.97	6.72	10 ^{4.93}
143	239		7/2 [−]	0.80	0.74	6.25	14.31						1.73	> 100	4.66	8.44	6.55	10 ^{6.79}
144	240			0.80	0.73	7.57	13.82						0.12	> 100	5.06	8.93	6.50	10 ^{5.91}
145	241		1/2 ⁺	0.81	0.72	6.06	13.63						0.92	> 100	5.16	9.45	6.23	10 ^{8.29}
146	242			0.82	0.70	7.25	13.31						...	β -st	5.55	9.86	6.06	10 ^{8.02}
147	243		5/2 ⁺	0.83	0.69	5.71	12.96						0.15	> 100	5.63	10.30	5.89	10 ^{10.02}
148	244			0.84	0.69	6.96	12.67						...	β -st	6.03	10.77	5.77	10 ^{9.49}
149	245		7/2 ⁺	0.85	0.68	5.47	12.43						...	β -st	6.13	11.22	5.56	10 ^{11.78}
150	246			0.87	0.68	6.74	12.21						...	β -st	6.56	11.69	5.31	10 ^{12.15}
151	247		9/2 [−]	0.88	0.68	5.18	11.92						...	β -st	6.60	12.08	5.16	10 ^{14.22}
152	248			0.88	0.69	6.38	11.56						...	β -st	7.02	12.59	5.05	10 ^{13.87}
153	249		7/2 ⁺	0.88	0.68	4.48	10.86	1.00	0.00	0.00	0.00	0.00	1.05	> 100	7.04	12.90	5.36	10 ^{12.97}
154	250			0.89	0.67	5.92	10.40						...	β -st	7.40	13.31	5.31	10 ^{12.21}
155	251		11/2 [−]	0.90	0.68	4.26	10.18	1.00	0.00	0.00	0.00	0.00	1.66	> 100	7.44	13.69	5.22	10 ^{13.90}
156	252			0.91	0.67	5.63	9.89	1.00	0.00	0.00	0.00	0.00	0.64	> 100	7.85	14.05	5.09	10 ^{13.61}
157	253		1/2 ⁺	0.92	0.68	4.21	9.85	1.00	0.00	0.00	0.00	0.00	2.12	> 100	7.89	14.51	4.77	10 ^{16.88}
158	254			0.93	0.68	5.55	9.77	1.00	0.00	0.00	0.00	0.00	1.09	> 100	8.33	14.94	4.49	10 ^{17.94}
159	255		1/2 ⁺	0.95	0.66	4.06	9.61	1.00	0.00	0.00	0.00	0.00	2.62	> 100	8.25	15.18	4.18	> 10 ²⁰
160	256			0.96	0.64	5.52	9.58	1.00	0.00	0.00	0.00	0.00	1.45	> 100	8.63	15.56	3.78	> 10 ²⁰
161	257		3/2 ⁺	0.98	0.63	3.98	9.51	1.00	0.00	0.00	0.00	0.00	3.01	55.1074	8.64	15.91	3.62	> 10 ²⁰
162	258			0.98	0.64	5.27	9.25	1.00	0.00	0.00	0.00	0.00	2.07	42.3930	8.99	16.26	3.49	> 10 ²⁰
163	259		13/2 [−]	0.99	0.67	3.58	8.85	1.00	0.00	0.00	0.00	0.00	3.75	22.5131	8.98	16.61	3.54	> 10 ²⁰
164	260			1.00	0.65	4.75	8.33	1.00	0.00	0.00	0.00	0.00	2.92	16.3358	9.29	16.91	3.71	> 10 ²⁰
165	261		9/2 ⁺	1.01	0.65	3.24	7.99	1.00	0.00	0.00	0.00	0.00	4.42	5.5348	9.28	17.21	3.70	> 10 ²⁰
166	262			1.01	0.65	4.64	7.89	1.00	0.00	0.00	0.00	0.00	3.32	8.7464	9.57	17.45	3.50	> 10 ²⁰
167	263		11/2 ⁺	1.00	0.65	3.39	8.03	1.00	0.00	0.00	0.00	0.00	4.55	2.2578	9.68	17.91	3.06	> 10 ²⁰
168	264			1.00	0.65	4.44	7.83	1.00	0.00	0.00	0.00	0.00	3.80	3.6065	9.89	18.11	3.02	> 10 ²⁰
169	265		15/2 [−]	1.03	0.64	3.21	7.65	0.99	0.01	0.00	0.10	0.01	5.06	2.4592	9.83	18.31	2.73	> 10 ²⁰
170	266			1.04	0.62	4.54	7.75	0.99	0.01	0.00	0.08	0.01	3.97	2.4568	10.14	18.60	2.44	> 10 ²⁰
171	267		3/2 ⁺	1.04	0.61	3.20	7.74	0.99	0.01	0.00	0.11	0.01	5.31	1.8659	10.16	18.87	2.25	> 10 ²⁰
172	268			1.04	0.60	4.28	7.49	0.96	0.04	0.00	0.12	0.04	4.52	1.4829	10.37	19.08	2.21	> 10 ²⁰
173	269		5/2 ⁺	1.05	0.58	3.01	7.30	0.87	0.13	0.00	0.14	0.13	5.79	1.1583	10.45	19.45	2.13	> 10 ²⁰
174	270			1.05	0.57	4.10	7.11	0.86	0.14	0.00	0.21	0.14	5.03	0.9845	10.69	19.69	2.11	> 10 ²⁰
175	271		5/2 ⁺	1.05	0.60	2.90	7.00	0.67	0.33	0.00	0.19	0.33	6.25	0.5969	10.70	20.01	1.85	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 96 (Cm)																		
176	272			1.06	0.59	4.17	7.07	0.63	0.37	0.00	0.24	0.37	5.11	0.9068	11.02	20.32	1.54	$> 10^{20}$
177	273		1/2 ⁺	1.06	0.61	2.73	6.90	0.62	0.38	0.00	0.23	0.38	6.58	0.5202	11.03	20.66	1.39	$> 10^{20}$
178	274			1.06	0.62	3.79	6.52	0.50	0.50	0.00	0.28	0.50	5.88	0.3976	11.35	20.98	1.46	$> 10^{20}$
179	275		1/2 ⁺	1.08	0.60	2.08	5.86	0.27	0.73	0.00	0.39	0.73	7.56	0.2715	11.36	21.27	1.78	$> 10^{20}$
180	276			1.09	0.57	3.36	5.43	0.23	0.77	0.00	0.45	0.77	6.58	0.2943	11.68	21.73	1.89	$> 10^{20}$
181	277		3/2 ⁺	1.12	0.56	2.07	5.43	0.14	0.85	0.01	0.46	0.87	7.87	0.2156	11.72	21.89	1.60	$> 10^{20}$
182	278			1.13	0.55	3.35	5.42	0.14	0.86	0.00	0.46	0.86	6.90	0.1870	12.09	22.13	1.15	$> 10^{20}$
183	279		1/2 ⁺	1.13	0.58	2.10	5.44	0.13	0.83	0.04	0.47	0.91	8.02	0.1927	12.08	22.43	0.97	$> 10^{20}$
184	280			1.12	0.64	3.04	5.13	0.14	0.86	0.00	0.47	0.86	7.39	0.1275	12.38	22.73	1.04	$> 10^{20}$
185	281		1/2	1.09	0.65	0.85	3.89	0.23	0.32	0.45	0.42	1.22	9.58	0.0764	12.33	23.19	1.99	$> 10^{20}$
186	282			1.08	0.64	2.52	3.38	0.14	0.38	0.48	0.41	1.34	8.43	0.0927	12.68	23.60	2.19	$> 10^{20}$
187	283		3/2	1.01	0.60	1.25	3.78	0.33	0.12	0.53	0.48	1.24	9.77	0.1179	12.58	24.01	1.33	$> 10^{20}$
188	284			0.98	0.59	2.73	3.98	0.20	0.22	0.54	0.39	1.42	8.64	0.0993	12.97	24.33	0.71	$> 10^{20}$
189	285		5/2	0.96	0.59	1.38	4.11	0.11	0.24	0.62	0.41	1.57	9.87	0.0580	12.99	24.58	0.18	$> 10^{20}$
190	286			0.87	0.63	2.49	3.87	0.13	0.60	0.26	0.35	1.15	9.06	0.0194	13.12	24.93	0.10	$> 10^{20}$
191	287		3/2 ⁺	0.87	0.63	1.35	3.84	0.10	0.39	0.50	0.38	1.42	10.40	0.0181	13.22	25.29	-0.12	
192	288			0.87	0.63	2.45	3.80	0.08	0.60	0.31	0.37	1.25	9.60	0.0149	13.40	25.57	-0.43	
193	289		7/2 ⁺	0.87	0.67	1.11	3.56	0.04	0.18	0.76	0.41	1.76	11.12	0.0150	13.40	25.84	-0.55	
194	290			0.87	0.67	2.50	3.61	0.04	0.45	0.48	0.39	1.50	10.12	0.0132	13.88	26.34	-0.88	
195	291		1/2 ⁻	0.87	0.66	1.15	3.65	0.10	0.13	0.71	0.43	1.73	11.55	0.0113	14.05	27.00	-1.19	
196	292			0.87	0.66	2.38	3.53	0.04	0.35	0.53	0.40	1.65	10.57	0.0108	14.39	27.40	-1.56	
197	293		5/2 ⁺	0.87	0.65	0.94	3.32	0.04	0.09	0.69	0.43	2.02	11.98	0.0100	14.45	27.62	-2.02	
198	294			0.87	0.65	2.18	3.12	0.04	0.23	0.49	0.40	1.93	11.08	0.0084	14.69	28.09	-2.22	
199	295		7/2 ⁻	0.87	0.63	0.77	2.95	0.03	0.09	0.55	0.43	2.20	12.47	0.0069	14.75	28.47	-2.27	
200	296			0.87	0.61	1.99	2.76	0.04	0.17	0.36	0.40	2.19	11.62	0.0065	15.04	28.79	-2.55	
201	297		9/2 ⁺	0.87	0.60	0.65	2.64	0.03	0.05	0.37	0.43	2.54	12.97	0.0059	15.10	29.14	-2.81	
202	298			0.87	0.60	2.04	2.69	0.04	0.12	0.27	0.42	2.39	11.99	0.0056	15.40	29.47	-3.18	
203	299		5/2 ⁺	0.87	0.60	0.55	2.59	0.04	0.04	0.26	0.41	2.80	13.50	0.0048	15.45	29.88	-3.42	
204	300			0.87	0.61	1.62	2.18	0.03	0.08	0.17	0.40	2.69	12.66	0.0043	15.74	30.02	-3.34	
205	301		7/2 ⁺	0.87	0.61	0.34	1.96	0.02	0.03	0.15	0.40	3.28	14.01	0.0040	15.77	30.22	-3.54	
206	302			0.87	0.61	1.74	2.08	0.03	0.06	0.09	0.39	3.02	13.02	0.0037	16.10	30.66	-3.80	
207	303		9/2 ⁺	0.87	0.60	0.34	2.08	0.02	0.03	0.10	0.41	3.61	14.26	0.0037	16.11	30.97	-4.00	
208	304			0.87	0.59	1.51	1.85	0.02	0.06	0.07	0.39	3.49	13.28	0.0035	16.26	31.24	-4.22	
209	305		3/2 ⁺	0.87	0.58	0.16	1.67	0.01	0.03	0.07	0.41	4.04	14.61	0.0033	16.23	31.35	-4.34	
210	306			0.88	0.57	1.32	1.48	0.02	0.05	0.04	0.40	3.89	13.75	0.0029	16.58	31.73	-4.42	
211	307		7/2 ⁻	0.88	0.58	-0.11	1.21	0.04	0.03	0.05	0.41	4.39	15.12	0.0026	16.57	32.02	-4.27	
212	308			0.88	0.57	1.00	0.89	0.00	0.07	0.02	0.41	4.54	14.33	0.0025	16.91	32.33	-4.32	
213	309		11/2 ⁺	0.88	0.57	-0.27	0.73	0.00	0.02	0.06	0.42	5.27	15.64	0.0023	16.91	32.62	-4.44	
214	310			0.89	0.57	0.87	0.60	0.00	0.07	0.01	0.42	5.26	14.79	0.0021	17.23	32.94	-4.63	
215	311		1/2 ⁻	0.89	0.57	-0.32	0.55	0.02	0.01	0.08	0.43	5.84	16.02	0.0019	17.23	33.25	-4.87	
216	312			0.90	0.56	0.83	0.51	0.00	0.08	0.00	0.43	6.00	15.16	0.0018	17.55	33.58	-5.15	
217	313		1/2 ⁻	0.90	0.56	-0.35	0.48	0.01	0.00	0.09	0.43	6.72	16.36	0.0017	17.57	33.88	-5.43	
218	314			0.90	0.55	0.79	0.44	0.00	0.09	0.01	0.43	6.61	15.55	0.0016	17.82	34.15	-5.72	
219	315		3/2 ⁻	0.91	0.55	-0.48	0.31	0.01	0.00	0.09	0.44	7.39	16.80	0.0015	17.82		-5.89	
220	316			0.91	0.55	0.59	0.12	0.00	0.07	0.01	0.43	7.43	16.02	0.0014	18.10		-5.96	
221	317		13/2 ⁺	0.92	0.54	-0.76	-0.16	0.00	0.00	0.06	0.45	8.33	17.37	0.0013				
222	318			0.93	0.54	0.12	-0.64	0.00	0.02	0.00	0.45	8.30	16.58	0.0012				
Z = 97 (Bk)																		
121	218	3/2 ⁻	1/2 ⁻	1.08	0.81								12.71	0.1453	-2.26	-2.37	10.32	$10^{-4.87}$
122	219	9/2 ⁺		1.11	0.79	11.22							10.87	0.1395	-2.27	-1.99	10.02	$10^{-4.55}$
123	220	9/2 ⁺	3/2 ⁻	1.12	0.81	9.75	20.97						11.83	0.1506	-1.90	-1.59	9.70	$10^{-3.39}$
124	221	9/2 ⁺		1.13	0.86	10.75	20.50						9.74	0.1789	-1.87	-1.16	9.79	$10^{-3.96}$
125	222	5/2	1/2	1.16	0.83	9.02	19.78						11.06	0.2602	-1.50	-0.72	10.11	$10^{-4.40}$
126	223	5/2		1.15	0.90	10.37	19.39						8.28	0.3551	-1.47	-0.32	10.06	$10^{-4.64}$
127	224	5/2	1/2	1.09	0.82	8.07	18.44						9.42	0.7435	-0.99	0.17	10.58	$10^{-5.48}$
128	225	5/2		1.06	0.77	9.29	17.36						7.69	0.6595	-0.91	0.60	11.25	$10^{-7.24}$
129	226	5/2	3/2	1.00	0.75	7.93	17.22						8.88	0.4593	-0.54	0.95	10.91	$10^{-6.19}$

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 97 (Bk)																		
130	227	9/2		0.98	0.76	9.04	16.97						7.30	0.9001	-0.62	1.22	10.73	10 ^{-6.15}
131	228	9/2	5/2	0.97	0.75	8.17	17.21						8.08	1.2352	0.09	1.89	10.14	10 ^{-4.45}
132	229	3/2 ⁻		0.82	0.87	9.34	17.52						6.19	3.9574	0.48	2.64	9.57	10 ^{-3.38}
133	230	3/2 ⁻	5/2 ⁻	0.82	0.87	7.90	17.24						7.49	5.4460	0.93	3.22	9.16	10 ^{-2.00}
134	231	3/2 ⁻		0.82	0.86	8.96	16.86						5.86	5.2082	0.70	3.58	8.80	10 ^{-1.32}
135	232	3/2 ⁻	1/2 ⁻	0.82	0.85	7.64	16.61						7.04	8.0710	1.00	3.92	8.47	10 ^{0.05}
136	233	3/2 ⁻		0.82	0.83	8.90	16.55						5.21	9.5090	1.08	4.36	8.17	10 ^{0.66}
137	234	3/2 ⁻	3/2 ⁺	0.82	0.82	7.44	16.35						6.30	10.5923	1.46	4.79	8.04	10 ^{1.43}
138	235	3/2 ⁻		0.82	0.82	8.62	16.06						4.52	21.2984	1.54	5.16	7.87	10 ^{1.67}
139	236	3/2 ⁻	5/2 ⁻	0.82	0.80	7.23	15.85						5.60	49.2339	1.93	5.64	7.67	10 ^{2.71}
140	237	3/2 ⁻		0.81	0.78	8.40	15.63						3.72	71.4098	2.01	6.11	7.52	10 ^{2.92}
141	238	3/2 ⁻	1/2 ⁻	0.81	0.78	6.90	15.30						4.88	> 100	2.40	6.52	7.36	10 ^{3.86}
142	239	3/2 ⁻		0.81	0.75	8.15	15.05						2.98	> 100	2.49	7.10	7.14	10 ^{4.38}
143	240	3/2 ⁻	7/2 ⁻	0.81	0.75	6.73	14.88						3.83	> 100	2.96	7.62	6.90	10 ^{5.67}
144	241	3/2 ⁻		0.81	0.73	7.67	14.40						2.21	> 100	3.07	8.13	6.80	10 ^{5.79}
145	242	3/2 ⁻	1/2 ⁺	0.81	0.72	6.34	14.02						3.12	> 100	3.35	8.51	6.66	10 ^{6.75}
146	243	3/2 ⁻		0.82	0.71	7.32	13.67						1.51	> 100	3.42	8.97	6.51	10 ^{7.08}
147	244	3/2 ⁻	5/2 ⁺	0.82	0.70	6.08	13.40						2.39	> 100	3.79	9.42	6.39	10 ^{7.98}
148	245	7/2 ⁺		0.82	0.70	7.07	13.15						0.79	> 100	3.90	9.93	6.18	10 ^{8.71}
149	246	7/2 ⁺	7/2 ⁺	0.83	0.69	5.83	12.90						±	±	4.26	10.39	5.97	10 ^{10.07}
150	247	7/2 ⁺		0.83	0.68	6.82	12.66						0.05		4.35	10.90	5.72	10 ^{11.14}
151	248	7/2 ⁺	9/2 ⁻	0.85	0.68	5.56	12.38	1.00	0.00	0.00	0.00	0.00	±	±	4.72	11.32	5.53	10 ^{12.45}
152	249	7/2 ⁺		0.85	0.69	6.41	11.96	1.00	0.00	0.00	0.00	0.00	0.02	> 100	4.75	11.77	5.43	10 ^{12.76}
153	250	7/2 ⁺	7/2 ⁺	0.86	0.68	4.85	11.26	1.00	0.00	0.00	0.00	0.00	±	±	5.12	12.16	5.72	10 ^{11.42}
154	251	7/2 ⁺		0.86	0.67	5.93	10.79	1.00	0.00	0.00	0.00	0.00	0.98	> 100	5.14	12.54	5.74	10 ^{10.97}
155	252	7/2 ⁺	1/2 ⁺	0.88	0.67	4.61	10.55	1.00	0.00	0.00	0.00	0.00	2.61	> 100	5.49	12.93	5.59	10 ^{12.16}
156	253	3/2 ⁻		0.89	0.68	5.69	10.31	1.00	0.00	0.00	0.00	0.00	1.58	> 100	5.55	13.40	5.45	10 ^{12.64}
157	254	3/2 ⁻	1/2 ⁺	0.89	0.68	4.53	10.22	1.00	0.00	0.00	0.00	0.00	3.11	> 100	5.86	13.75	5.15	10 ^{14.93}
158	255	3/2 ⁻		0.90	0.67	5.58	10.11	1.00	0.00	0.00	0.00	0.00	2.10	> 100	5.90	14.22	4.79	10 ^{17.00}
159	256	3/2 ⁻	1/2 ⁺	0.92	0.66	4.35	9.94	1.00	0.00	0.00	0.00	0.00	3.69	> 100	6.19	14.44	4.61	10 ^{18.69}
160	257	3/2 ⁻		0.94	0.64	5.55	9.90	1.00	0.00	0.00	0.00	0.00	2.63	> 100	6.21	14.84	4.18	> 10 ²⁰
161	258	3/2 ⁻	3/2 ⁺	0.96	0.64	4.32	9.87	1.00	0.00	0.00	0.00	0.00	4.23	87.1694	6.55	15.19	3.99	> 10 ²⁰
162	259	3/2 ⁻		0.96	0.65	5.26	9.59	1.00	0.00	0.00	0.00	0.00	3.27	79.3615	6.55	15.54	3.87	> 10 ²⁰
163	260	3/2 ⁻	13/2 ⁻	0.97	0.66	3.92	9.18	1.00	0.00	0.00	0.00	0.00	4.98	33.5473	6.89	15.87	3.93	> 10 ²⁰
164	261	3/2 ⁻		0.97	0.66	4.74	8.66	1.00	0.00	0.00	0.00	0.00	4.19	22.2512	6.88	16.17	4.10	> 10 ²⁰
165	262	3/2 ⁻	9/2 ⁺	1.00	0.65	3.55	8.29	0.99	0.01	0.00	0.11	0.01	5.73	8.5168	7.18	16.47	4.14	> 10 ²⁰
166	263	3/2 ⁻		0.99	0.65	4.62	8.17	0.94	0.06	0.00	0.17	0.06	4.62	12.6687	7.16	16.73	3.96	> 10 ²⁰
167	264	3/2 ⁻	11/2 ⁺	0.99	0.65	3.69	8.30	0.98	0.02	0.00	0.12	0.02	5.86	3.7840	7.46	17.14	3.53	> 10 ²⁰
168	265	3/2 ⁻		0.99	0.65	4.48	8.17	0.89	0.11	0.00	0.24	0.11	5.06	6.0663	7.50	17.39	3.41	> 10 ²⁰
169	266	7/2 ⁻	15/2 ⁻	1.01	0.64	3.44	7.92	0.78	0.22	0.00	0.22	0.22	6.42	4.8664	7.72	17.55	3.25	> 10 ²⁰
170	267	7/2 ⁻		1.02	0.62	4.54	7.98	0.70	0.30	0.00	0.29	0.30	5.31	4.6239	7.73	17.86	2.93	> 10 ²⁰
171	268	7/2 ⁻	3/2 ⁺	1.04	0.61	3.50	8.04	0.71	0.29	0.00	0.24	0.29	6.67	3.5594	8.02	18.18	2.71	> 10 ²⁰
172	269	7/2 ⁻		1.04	0.60	4.29	7.78	0.59	0.41	0.00	0.34	0.41	5.90	2.5106	8.02	18.39	2.66	> 10 ²⁰
173	270	5/2 ⁺	5/2 ⁺	1.05	0.58	3.33	7.62	0.62	0.38	0.00	0.29	0.38	7.24	0.9103	8.34	18.79	2.50	> 10 ²⁰
174	271	5/2 ⁺		1.05	0.57	4.13	7.46	0.46	0.54	0.00	0.34	0.54	6.44	0.7866	8.37	19.07	2.45	> 10 ²⁰
175	272	5/2 ⁺	1/2 ⁺	1.05	0.61	3.03	7.16	0.41	0.59	0.00	0.34	0.59	7.86	0.5692	8.50	19.19	2.36	> 10 ²⁰
176	273	7/2 ⁻		1.07	0.60	4.20	7.23	0.58	0.42	0.00	0.42	0.42	6.59	1.4761	8.53	19.55	2.01	> 10 ²⁰
177	274	1/2 ⁻	1/2 ⁺	1.07	0.61	3.08	7.28	0.64	0.36	0.00	0.44	0.36	8.01	0.8911	8.88	19.91	1.82	> 10 ²⁰
178	275	1/2 ⁻		1.07	0.62	3.76	6.84	0.51	0.49	0.00	0.44	0.49	7.31	0.6811	8.85	20.20	1.91	> 10 ²⁰
179	276	7/2 ⁻	1/2 ⁺	1.09	0.60	2.38	6.14	0.37	0.58	0.05	0.44	0.68	9.04	0.4720	9.16	20.52	2.25	> 10 ²⁰
180	277	7/2 ⁻		1.10	0.57	3.35	5.74	0.27	0.71	0.02	0.44	0.75	8.07	0.5022	9.16	20.83	2.36	> 10 ²⁰
181	278	9/2 ⁺	3/2 ⁺	1.12	0.58	2.38	5.73	0.11	0.69	0.20	0.44	1.09	9.35	0.1848	9.46	21.18	2.04	> 10 ²⁰
182	279	9/2 ⁺		1.14	0.54	3.22	5.60	0.10	0.82	0.08	0.45	0.98	8.50	0.1688	9.34	21.43	1.87	> 10 ²⁰
183	280	5/2	3/2	1.14	0.58	2.40	5.62	0.10	0.69	0.21	0.45	1.11	9.75	0.1539	9.64	21.72	1.49	> 10 ²⁰
184	281	5/2		1.13	0.64	3.04	5.45	0.09	0.76	0.15	0.45	1.06	9.07	0.1074	9.65	22.03	1.43	> 10 ²⁰
185	282	5/2	1/2	1.07	0.63	1.38	4.42	0.13	0.45	0.42	0.45	1.29	11.03	0.0826	10.17	22.50	2.16	> 10 ²⁰
186	283	5/2		1.05	0.62	2.59	3.97	0.04	0.52	0.41	0.44	1.43	9.77	0.1103	10.24	22.92	2.30	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 97 (Bk)																		
187	284	5/2	3/2	1.01	0.60	1.60	4.19	0.16	0.20	0.55	0.46	1.57	11.06	0.1352	10.59	23.17	1.61	$> 10^{20}$
188	285	5/2		0.98	0.59	2.61	4.21	0.06	0.34	0.37	0.41	1.77	10.06	0.1020	10.47	23.44	1.17	$> 10^{20}$
189	286	5/2	5/2	0.98	0.60	1.67	4.29	0.06	0.13	0.70	0.44	1.87	11.23	0.0765	10.76	23.75	0.85	$> 10^{20}$
190	287	7/2 ⁺		0.86	0.68	2.70	4.37	0.02	0.37	0.54	0.40	1.66	10.25	0.0225	10.98	24.09	0.49	$> 10^{20}$
191	288	7/2 ⁺	1/2 ⁺	0.86	0.68	1.64	4.34	0.03	0.12	0.79	0.43	1.88	11.62	0.0221	11.26	24.48	0.21	$> 10^{20}$
192	289	7/2 ⁺		0.86	0.68	2.64	4.28	0.02	0.34	0.57	0.41	1.69	10.63	0.0187	11.46	24.86		-0.08
193	290	7/2 ⁺	7/2 ⁺	0.86	0.67	1.50	4.14	0.03	0.09	0.80	0.44	1.93	12.12	0.0171	11.84	25.23		-0.32
194	291	7/2 ⁺		0.86	0.67	2.57	4.07	0.02	0.27	0.57	0.41	1.83	11.11	0.0150	11.91	25.79		-0.63
195	292	7/2 ⁺	1/2 ⁻	0.86	0.66	1.41	3.98	0.03	0.13	0.67	0.43	1.98	12.49	0.0133	12.17	26.21		-0.91
196	293	7/2 ⁺		0.86	0.65	2.35	3.76	0.02	0.18	0.48	0.42	2.10	11.53	0.0124	12.14	26.53		-1.25
197	294	7/2 ⁺	5/2 ⁻	0.86	0.65	1.27	3.62	0.03	0.07	0.57	0.44	2.21	13.00	0.0103	12.47	26.92		-1.54
198	295	7/2 ⁺		0.86	0.65	2.16	3.44	0.01	0.15	0.35	0.42	2.32	12.12	0.0091	12.46	27.15		-1.66
199	296	7/2 ⁺	7/2 ⁻	0.86	0.63	1.14	3.30	0.02	0.04	0.48	0.44	2.44	13.49	0.0074	12.82	27.57		-1.92
200	297	1/2 ⁺		0.86	0.61	2.01	3.15	0.03	0.09	0.23	0.45	2.51	12.61	0.0075	12.84	27.88		-2.00
201	298	1/2 ⁺	9/2 ⁺	0.86	0.60	1.06	3.07	0.03	0.03	0.27	0.44	2.81	13.95	0.0070	13.25	28.35		-2.34
202	299	1/2 ⁺		0.86	0.60	2.06	3.12	0.03	0.08	0.17	0.45	2.63	13.09	0.0062	13.27	28.67		-2.70
203	300	7/2 ⁺	5/2 ⁺	0.86	0.60	0.79	2.84	0.02	0.03	0.21	0.44	3.06	14.57	0.0050	13.51	28.95		-2.89
204	301	7/2 ⁺		0.86	0.61	1.68	2.47	0.01	0.06	0.11	0.44	2.97	13.65	0.0047	13.56	29.30		-2.83
205	302	7/2 ⁺	7/2 ⁺	0.86	0.61	0.76	2.43	0.01	0.01	0.10	0.45	3.53	14.82	0.0048	13.98	29.75		-3.09
206	303	7/2 ⁺		0.86	0.60	1.58	2.33	0.01	0.05	0.04	0.42	3.41	14.01	0.0042	13.82	29.92		-3.33
207	304	7/2 ⁺	1/2 ⁺	0.86	0.61	0.54	2.11	0.01	0.02	0.07	0.43	3.90	15.31	0.0040	14.01	30.12		-3.56
208	305	7/2 ⁺		0.86	0.60	1.48	2.02	0.00	0.04	0.03	0.42	3.99	14.39	0.0037	13.98	30.24		-3.64
209	306	7/2 ⁺	3/2 ⁺	0.86	0.59	0.46	1.95	0.01	0.01	0.05	0.43	4.35	15.62	0.0036	14.29	30.53		-3.77
210	307	7/2 ⁺		0.86	0.58	1.26	1.72	0.00	0.04	0.02	0.43	4.32	14.82	0.0032	14.23	30.81		-3.66
211	308	7/2 ⁺	7/2 ⁻	0.87	0.58	0.21	1.47	0.01	0.03	0.05	0.44	4.75	16.15	0.0029	14.55	31.12		-3.70
212	309	7/2 ⁺		0.87	0.58	1.04	1.25	0.00	0.03	0.03	0.44	4.82	15.33	0.0028	14.59	31.49		-3.75
213	310	7/2 ⁺	11/2 ⁺	0.88	0.58	0.03	1.06	0.00	0.00	0.05	0.46	5.51	16.63	0.0026	14.89	31.79		-3.89
214	311	7/2 ⁺		0.88	0.57	0.90	0.93	0.00	0.02	0.03	0.45	5.51	15.79	0.0024	14.91	32.14		-4.12
215	312	7/2 ⁺	1/2 ⁻	0.87	0.58	-0.03	0.87	0.00	0.00	0.07	0.46	6.01	17.02	0.0022	15.21	32.44		-4.37
216	313	7/2 ⁺		0.88	0.56	0.85	0.82	0.00	0.02	0.00	0.46	6.18	16.20	0.0021	15.23	32.78		-4.66
217	314	7/2 ⁺	1/2 ⁻	0.88	0.56	-0.02	0.83	0.00	0.00	0.06	0.46	6.69	17.37	0.0020	15.56	33.13		-4.97
218	315	7/2 ⁺		0.88	0.55	0.77	0.75	0.00	0.01	0.00	0.46	6.84	16.58	0.0018	15.54	33.36		-5.23
219	316	7/2 ⁺	3/2 ⁻	0.89	0.55	-0.18	0.59	0.00	0.00	0.04	0.47	7.36	17.88	0.0016	15.83	33.66		-5.41
220	317	7/2 ⁺		0.89	0.55	0.59	0.41	0.00	0.01	0.00	0.46	7.40	17.10	0.0015	15.83	33.93		-5.46
221	318	7/2 ⁺	13/2 ⁺	0.90	0.54	-0.66	-0.07	0.00	0.00	0.01	0.48	8.26	18.63	0.0013	15.92			-5.28
222	319	7/2 ⁺		0.91	0.54	0.30	-0.36	0.00	0.00	0.00	0.48	8.24	17.91	0.0012	16.11			-5.27
223	320	7/2 ⁺	9/2 ⁻	0.91	0.54	-0.63	-0.32	0.00	0.00	0.02	0.50	8.64	18.92	0.0011				
224	321	7/2 ⁺		0.92	0.54	-0.07	-0.70	0.00	0.00	0.00	0.52	8.95	18.37	0.0010				
Z = 98 (Cf)																		
123	221		3/2 ⁻	1.12	0.81								10.34	0.2014	-0.37	-2.27	9.96	$10^{-3.79}$
124	222			1.15	0.85	11.15							8.21	0.1978	0.03	-1.84	10.04	$10^{-5.05}$
125	223		1/2	1.16	0.83	9.08	20.23						9.50	0.2277	0.09	-1.41	10.34	$10^{-4.67}$
126	224			1.15	0.91	10.77	19.85						6.81	0.2816	0.48	-0.99	10.29	$10^{-5.62}$
127	225		1/2	1.09	0.83	8.05	18.82						8.05	0.3299	0.46	-0.53	10.90	$10^{-5.90}$
128	226			1.06	0.78	9.63	17.68						6.35	0.2781	0.80	-0.12	11.61	$10^{-8.45}$
129	227		3/2	1.03	0.77	7.90	17.53						7.49	0.4050	0.77	0.22	11.30	$10^{-6.75}$
130	228			0.99	0.76	9.56	17.46						6.11	0.4028	1.28	0.66	10.96	$10^{-7.11}$
131	229		5/2 ⁻	0.83	0.84	8.15	17.71						7.30	1.5742	1.26	1.35	10.36	$10^{-4.72}$
132	230			0.81	0.87	9.81	17.97						5.38	1.9447	1.73	2.21	9.68	$10^{-4.12}$
133	231		5/2 ⁻	0.81	0.87	7.93	17.74						6.41	3.3554	1.77	2.70	9.20	$10^{-1.81}$
134	232			0.81	0.87	9.46	17.39						4.60	3.1099	2.26	2.96	8.70	$10^{-1.38}$
135	233		3/2 ⁺	0.81	0.86	7.55	17.01						5.95	3.3003	2.17	3.17	8.59	$10^{-0.01}$
136	234			0.81	0.85	9.12	16.67						4.27	4.0464	2.39	3.47	8.67	$10^{-1.32}$
137	235		3/2 ⁺	0.82	0.82	7.47	16.59						5.42	4.8557	2.42	3.87	8.54	$10^{0.15}$
138	236			0.81	0.83	9.02	16.49						3.63	8.9089	2.82	4.35	8.34	$10^{-0.29}$
139	237		5/2 ⁺	0.81	0.81	7.27	16.29						4.75	3.4478	2.86	4.79	8.14	$10^{1.46}$
140	238			0.81	0.80	8.80	16.07						2.86	21.6471	3.26	5.27	7.88	$10^{1.25}$

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	<i>S</i> _{1n} (MeV)	<i>S</i> _{2n} (MeV)	<i>P</i> _{0n}	<i>P</i> _{1n}	<i>P</i> _{2n}	\bar{E}_n (MeV)	\bar{n}	<i>Q</i> _β (MeV)	<i>T</i> _β (s)	<i>S</i> _{1p} (MeV)	<i>S</i> _{2p} (MeV)	<i>Q</i> _α (MeV)	<i>T</i> _α (s)
Z = 98 (Cf)																		
141	239		1/2 ⁻	0.80	0.78	7.09	15.89						3.91	52.7409	3.45	5.85	7.63	10 ^{3.21}
142	240			0.80	0.76	8.50	15.60						2.14	78.5988	3.81	6.29	7.43	10 ^{2.89}
143	241		7/2 ⁻	0.80	0.75	6.71	15.21						3.10	> 100	3.79	6.75	7.24	10 ^{4.69}
144	242			0.80	0.75	8.04	14.76						1.40	> 100	4.16	7.23	7.25	10 ^{3.59}
145	243		1/2 ⁺	0.80	0.73	6.41	14.46						2.31	> 100	4.23	7.58	7.09	10 ^{5.30}
146	244			0.80	0.73	7.73	14.15						0.65	> 100	4.64	8.06	6.93	10 ^{4.90}
147	245		5/2 ⁺	0.80	0.71	6.17	13.90						1.56	> 100	4.73	8.52	6.82	10 ^{6.43}
148	246			0.81	0.70	7.43	13.60						...	β-st	5.09	8.99	6.64	10 ^{6.16}
149	247		7/2 ⁺	0.81	0.69	5.94	13.37						0.84	> 100	5.20	9.46	6.41	10 ^{8.29}
150	248			0.82	0.69	7.18	13.12						...	β-st	5.56	9.91	6.18	10 ^{8.35}
151	249		9/2 ⁻	0.83	0.69	5.64	12.83						...	β-st	5.65	10.37	6.01	10 ^{10.24}
152	250			0.84	0.70	6.79	12.44						...	β-st	6.03	10.78	5.96	10 ^{9.49}
153	251		7/2 ⁺	0.84	0.69	4.95	11.75						...	β-st	6.14	11.26	6.19	10 ^{9.42}
154	252			0.85	0.67	6.24	11.19						...	β-st	6.44	11.57	6.33	10 ^{7.61}
155	253		11/2 ⁻	0.86	0.68	4.67	10.91	1.00	0.00	0.00	0.00	0.00	0.33	> 100	6.50	11.98	6.14	10 ^{9.62}
156	254			0.86	0.68	6.06	10.73						...	β-st	6.86	12.41	6.00	10 ^{9.28}
157	255		1/2 ⁺	0.88	0.67	4.57	10.63	1.00	0.00	0.00	0.00	0.00	0.80	> 100	6.91	12.77	5.68	10 ^{12.04}
158	256			0.88	0.67	5.94	10.52						...	β-st	7.27	13.16	5.37	10 ^{12.81}
159	257		1/2 ⁺	0.91	0.66	4.49	10.43	1.00	0.00	0.00	0.00	0.00	1.27	> 100	7.40	13.59	5.10	10 ^{15.68}
160	258			0.92	0.65	5.92	10.41	1.00	0.00	0.00	0.00	0.00	0.21	> 100	7.77	13.98	4.73	10 ^{17.23}
161	259		3/2 ⁺	0.93	0.65	4.30	10.22	1.00	0.00	0.00	0.00	0.00	1.85	> 100	7.75	14.30	4.49	> 10 ²⁰
162	260			0.95	0.65	5.63	9.93	1.00	0.00	0.00	0.00	0.00	0.87	> 100	8.11	14.66	4.39	10 ^{19.93}
163	261		13/2 ⁻	0.97	0.66	3.95	9.58	1.00	0.00	0.00	0.00	0.00	2.58	> 100	8.15	15.03	4.42	> 10 ²⁰
164	262			0.96	0.66	5.09	9.04	1.00	0.00	0.00	0.00	0.00	1.78	> 100	8.49	15.37	4.60	10 ^{18.23}
165	263		9/2 ⁺	0.97	0.65	3.52	8.60	1.00	0.00	0.00	0.00	0.00	3.36	24.5923	8.46	15.64	4.66	10 ^{18.83}
166	264			0.97	0.66	4.93	8.44	1.00	0.00	0.00	0.00	0.00	2.32	72.0546	8.77	15.93	4.49	10 ^{19.10}
167	265		11/2 ⁺	0.99	0.64	3.67	8.60	1.00	0.00	0.00	0.00	0.00	3.54	9.1005	8.75	16.21	4.06	> 10 ²⁰
168	266			0.97	0.65	4.81	8.48	1.00	0.00	0.00	0.00	0.00	2.69	23.2740	9.08	16.58	3.90	> 10 ²⁰
169	267		3/2 ⁺	1.01	0.64	3.43	8.24	1.00	0.00	0.00	0.00	0.00	4.22	9.4776	9.07	16.79	3.85	> 10 ²⁰
170	268			1.02	0.62	4.86	8.29	1.00	0.00	0.00	0.00	0.00	2.92	16.3339	9.39	17.11	3.44	> 10 ²⁰
171	269		3/2 ⁺	1.03	0.60	3.51	8.37	1.00	0.00	0.00	0.00	0.00	4.22	10.2969	9.40	17.42	3.14	> 10 ²⁰
172	270			1.04	0.59	4.67	8.18	1.00	0.00	0.00	0.00	0.00	3.37	8.5229	9.78	17.80	3.01	> 10 ²⁰
173	271		5/2 ⁺	1.04	0.58	3.33	8.00	1.00	0.00	0.00	0.00	0.00	4.72	4.9696	9.78	18.12	2.88	> 10 ²⁰
174	272			1.05	0.57	4.45	7.78	1.00	0.00	0.00	0.00	0.00	3.93	4.1317	10.10	18.48	2.72	> 10 ²⁰
175	273		1/2 ⁺	1.08	0.58	2.93	7.38	0.97	0.03	0.00	0.10	0.03	5.46	1.7911	10.01	18.50	2.80	> 10 ²⁰
176	274			1.07	0.59	4.50	7.43	0.94	0.06	0.00	0.15	0.06	4.32	2.4230	10.31	18.84	2.39	> 10 ²⁰
177	275		1/2 ⁺	1.07	0.61	3.06	7.57	0.90	0.10	0.00	0.15	0.10	5.48	1.8499	10.29	19.17	2.23	> 10 ²⁰
178	276			1.07	0.63	4.11	7.18	0.88	0.12	0.00	0.17	0.12	4.78	1.4288	10.64	19.49	2.29	> 10 ²⁰
179	277		1/2 ⁺	1.10	0.60	2.38	6.49	0.53	0.47	0.00	0.25	0.47	6.52	0.9149	10.64	19.80	2.64	> 10 ²⁰
180	278			1.11	0.57	3.66	6.04	0.49	0.51	0.00	0.37	0.51	5.53	1.0565	10.95	20.10	2.76	> 10 ²⁰
181	279		3/2 ⁺	1.14	0.56	2.37	6.03	0.31	0.69	0.00	0.39	0.69	6.82	0.8530	10.94	20.40	2.47	> 10 ²⁰
182	280			1.15	0.55	3.66	6.03	0.37	0.63	0.00	0.41	0.63	5.80	0.9125	11.37	20.71	2.17	> 10 ²⁰
183	281		1/2 ⁺	1.15	0.58	2.36	6.02	0.32	0.68	0.00	0.41	0.68	7.07	0.7162	11.33	20.97	1.88	> 10 ²⁰
184	282			1.15	0.64	3.33	5.69	0.29	0.71	0.00	0.42	0.71	6.44	0.4229	11.62	21.27	1.90	> 10 ²⁰
185	283		1/2	1.08	0.63	1.33	4.67	0.43	0.45	0.12	0.42	0.69	8.44	0.2445	11.58	21.75	2.66	> 10 ²⁰
186	284			1.05	0.62	2.90	4.23	0.32	0.58	0.10	0.41	0.78	7.30	0.3131	11.88	22.12	2.80	> 10 ²⁰
187	285		3/2	1.00	0.61	1.61	4.50	0.54	0.19	0.27	0.41	0.73	8.64	0.3211	11.89	22.47	2.05	> 10 ²⁰
188	286			0.98	0.60	2.85	4.46	0.35	0.41	0.24	0.36	0.89	7.72	0.2365	12.12	22.59	1.72	> 10 ²⁰
189	287		5/2	0.98	0.60	1.72	4.57	0.15	0.61	0.24	0.40	1.09	8.86	0.1183	12.17	22.93	1.26	> 10 ²⁰
190	288			0.86	0.69	3.01	4.73	0.09	0.87	0.04	0.38	0.95	7.90	0.0432	12.48	23.45	0.98	> 10 ²⁰
191	289		1/2 ⁺	0.86	0.68	1.66	4.67	0.09	0.60	0.31	0.37	1.22	9.40	0.0380	12.49	23.76	0.70	> 10 ²⁰
192	290			0.86	0.67	2.98	4.64	0.07	0.89	0.04	0.39	0.97	8.46	0.0302	12.83	24.29	0.21	> 10 ²⁰
193	291		7/2 ⁺	0.85	0.67	1.57	4.55	0.06	0.49	0.45	0.38	1.39	9.88	0.0287	12.91	24.74	-0.01	
194	292			0.85	0.67	2.79	4.36	0.06	0.77	0.17	0.39	1.11	8.93	0.0238	13.12	25.03	-0.34	
195	293		1/2 ⁻	0.85	0.66	1.39	4.17	0.15	0.29	0.56	0.41	1.41	10.37	0.0196	13.10	25.27	-0.62	
196	294			0.85	0.66	2.74	4.13	0.05	0.65	0.30	0.39	1.25	9.33	0.0193	13.49	25.64	-0.86	
197	295		5/2 ⁻	0.85	0.65	1.28	4.02	0.08	0.27	0.64	0.41	1.58	10.80	0.0157	13.50	25.97	-0.99	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 98 (Cf)																		
198	296			0.85	0.64	2.51	3.79	0.05	0.50	0.44	0.39	1.41	9.86	0.0142	13.85	26.30	−1.12	
199	297		7/2 [−]	0.85	0.63	1.13	3.64	0.04	0.22	0.71	0.44	1.73	11.22	0.0114	13.83	26.66	−1.31	
200	298			0.85	0.61	2.40	3.53	0.05	0.37	0.53	0.40	1.58	10.36	0.0106	14.23	27.07	−1.53	
201	299		9/2 ⁺	0.85	0.60	1.20	3.60	0.04	0.15	0.73	0.44	1.85	11.68	0.0098	14.37	27.61	−1.96	
202	300			0.85	0.60	2.26	3.46	0.05	0.32	0.53	0.42	1.68	10.84	0.0086	14.57	27.84	−2.23	
203	301		5/2 ⁺	0.85	0.60	0.77	3.03	0.04	0.08	0.63	0.42	2.10	12.32	0.0073	14.55	28.06	−2.34	
204	302			0.85	0.60	1.92	2.69	0.04	0.17	0.38	0.38	2.16	11.51	0.0065	14.79	28.35	−2.23	
205	303		7/2 ⁺	0.85	0.61	0.77	2.69	0.02	0.04	0.34	0.40	2.61	12.66	0.0069	14.81	28.78	−2.44	
206	304			0.85	0.60	1.84	2.60	0.04	0.10	0.22	0.39	2.49	11.85	0.0059	15.06	28.88	−2.66	
207	305		1/2 ⁺	0.85	0.61	0.56	2.40	0.02	0.04	0.21	0.39	3.00	13.16	0.0054	15.09	29.10	−2.88	
208	306			0.85	0.60	1.69	2.26	0.02	0.09	0.15	0.40	2.74	12.26	0.0049	15.30	29.28	−2.84	
209	307		3/2 ⁺	0.85	0.59	0.46	2.15	0.01	0.03	0.15	0.41	3.34	13.45	0.0049	15.30	29.59	−2.95	
210	308			0.85	0.58	1.54	2.00	0.02	0.07	0.09	0.41	3.07	12.61	0.0044	15.58	29.80	−2.98	
211	309		7/2 [−]	0.86	0.58	0.22	1.76	0.05	0.03	0.10	0.42	3.51	13.94	0.0039	15.58	30.13	−3.05	
212	310			0.86	0.58	1.32	1.54	0.02	0.06	0.06	0.41	3.57	13.13	0.0037	15.87	30.46	−3.05	
213	311		11/2 ⁺	0.86	0.58	0.07	1.39	0.01	0.04	0.06	0.43	4.12	14.41	0.0035	15.91	30.80	−3.22	
214	312			0.86	0.57	1.19	1.26	0.02	0.07	0.03	0.42	4.02	13.62	0.0031	16.20	31.12	−3.42	
215	313		9/2 [−]	0.87	0.57	0.03	1.22	0.02	0.04	0.05	0.43	4.54	14.79	0.0027	16.27	31.47	−3.72	
216	314			0.87	0.57	1.15	1.18	0.02	0.07	0.02	0.43	4.42	13.98	0.0026	16.56	31.79	−4.00	
217	315		1/2 [−]	0.87	0.56	−0.02	1.13	0.03	0.04	0.06	0.44	4.93	15.20	0.0025	16.57	32.12	−4.30	
218	316			0.88	0.55	1.12	1.10	0.02	0.08	0.02	0.43	4.82	14.33	0.0023	16.91	32.45	−4.59	
219	317		3/2 [−]	0.88	0.55	−0.20	0.92	0.02	0.04	0.07	0.44	5.35	15.65	0.0021	16.90	32.73	−4.74	
220	318			0.88	0.55	0.87	0.67	0.00	0.10	0.01	0.44	5.30	14.87	0.0019	17.18	33.01	−4.83	
221	319		13/2 ⁺	0.89	0.55	−0.42	0.45	0.00	0.00	0.11	0.46	6.05	16.20	0.0018	17.43	33.35	−4.89	
222	320			0.90	0.54	0.39	−0.03	0.00	0.08	0.00	0.46	6.05	15.67	0.0015	17.51	33.62	−4.68	
223	321		9/2 [−]	0.90	0.54	−0.62	−0.23	0.03	0.00	0.07	0.48	6.76	16.68	0.0014	17.52		−4.82	
224	322			0.92	0.53	0.30	−0.32	0.00	0.02	0.00	0.48	7.31	16.03	0.0013	17.89		−5.00	
225	323		11/2 [−]	0.93	0.54	−0.85	−0.54	0.00	0.00	0.02	0.50	8.12	17.20	0.0011				
226	324			0.93	0.54	0.40	−0.45	0.00	0.02	0.00	0.50	8.28	16.38	0.0011				
227	325		3/2 [−]	0.94	0.54	−0.81	−0.41	0.00	0.00	0.02	0.52	8.85	17.43	0.0011				
Z = 99 (Es)																		
125	224	7/2	1/2	1.15	0.85								12.20	0.1238	−2.22	−2.13	10.66	10 ^{−5.02}
126	225	7/2		1.13	0.91	10.87							9.38	0.1631	−2.11	−1.63	10.54	10 ^{−5.11}
127	226	7/2	1/2	1.09	0.84	8.45	19.32						10.56	0.2992	−1.71	−1.25	11.11	10 ^{−6.02}
128	227	11/2 ⁺		0.90	0.76	4.86	13.31						13.60	0.0736	−6.48	−5.68	16.62	10 ^{−14.90}
129	228	11/2 ⁺	1/2 ⁺	0.89	0.77	8.64	13.49						14.52	0.0802	−5.74	−4.98	16.06	10 ^{−13.88}
130	229	7/2 ⁺		0.81	0.85	14.25	22.89						8.42	0.3746	−1.05	0.23	11.09	10 ^{−6.34}
131	230	7/2 ⁺	13/2 ⁺	0.81	0.85	8.49	22.75						9.74	0.5442	−0.71	0.56	10.53	10 ^{−4.75}
132	231	7/2 ⁺		0.81	0.86	9.80	18.29						7.87	0.5520	−0.72	1.01	9.77	10 ^{−3.25}
133	232	3/2 [−]	5/2 ⁺	0.81	0.83	8.30	18.10						9.03	0.6213	−0.35	1.42	9.65	10 ^{−2.60}
134	233	3/2 [−]		0.80	0.83	9.54	17.84						7.05	2.3232	−0.28	1.99	9.45	10 ^{−2.44}
135	234	7/2 ⁺	3/2 [−]	0.80	0.87	8.02	17.55						8.15	1.5047	0.19	2.36	9.33	10 ^{−1.75}
136	235	7/2 ⁺		0.80	0.86	9.27	17.29						6.35	1.6144	0.34	2.73	9.02	10 ^{−1.22}
137	236	7/2 ⁺	5/2 [−]	0.80	0.86	7.80	17.08						7.56	2.2418	0.67	3.09	8.87	10 ^{−0.44}
138	237	7/2 ⁺		0.80	0.84	9.12	16.92						5.72	2.3809	0.77	3.59	8.65	10 ^{−0.12}
139	238	7/2 ⁺	5/2 ⁺	0.81	0.82	7.60	16.72						6.91	1.3386	1.10	3.96	8.49	10 ^{0.72}
140	239	7/2 ⁺		0.80	0.82	8.95	16.55						5.05	4.9146	1.26	4.52	8.16	10 ^{1.45}
141	240	7/2 ⁺	1/2 [−]	0.80	0.80	7.40	16.35						6.15	8.2753	1.57	5.02	7.98	10 ^{2.40}
142	241	7/2 ⁺		0.80	0.78	8.55	15.95						4.31	9.9236	1.62	5.42	7.83	10 ^{2.59}
143	242	7/2 ⁺	7/2 [−]	0.80	0.77	7.06	15.61						5.29	17.5537	1.97	5.76	7.67	10 ^{3.55}
144	243	7/2 ⁺		0.79	0.75	8.15	15.21						3.56	22.2168	2.07	6.23	7.67	10 ^{3.17}
145	244	3/2 [−]	1/2 ⁺	0.79	0.74	6.78	14.92						4.52	> 100	2.44	6.66	7.62	10 ^{3.73}
146	245	3/2 [−]		0.79	0.73	7.83	14.61						2.85	> 100	2.53	7.18	7.46	10 ^{3.95}
147	246	3/2 [−]	5/2 ⁺	0.79	0.71	6.58	14.41						3.70	> 100	2.95	7.68	7.22	10 ^{5.24}
148	247	3/2 [−]		0.79	0.70	7.47	14.05						2.17	> 100	2.99	8.08	7.07	10 ^{5.51}
149	248	3/2 [−]	7/2 ⁺	0.79	0.69	6.30	13.77						3.06	> 100	3.34	8.54	6.86	10 ^{6.74}
150	249	3/2 [−]		0.80	0.69	7.27	13.56						1.44	> 100	3.42	8.98	6.66	10 ^{7.29}

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 99 (Es)																		
151	250	3/2 ⁻	9/2 ⁻	0.81	0.69	5.99	13.26						2.24	> 100	3.78	9.42	6.50	10 ^{8.37}
152	251	3/2 ⁻		0.82	0.70	6.85	12.85						0.33	> 100	3.84	9.87	6.47	10 ^{8.17}
153	252	3/2 ⁻	7/2 ⁺	0.82	0.69	5.30	12.16	1.00	0.00	0.00	0.00	0.00	±	±	4.18	10.32	6.72	10 ^{7.36}
154	253	3/2 ⁻		0.83	0.67	6.27	11.58						...	β-st	4.22	10.66	6.86	10 ^{6.40}
155	254	3/2 ⁻	11/2 ⁻	0.84	0.68	5.02	11.30	1.00	0.00	0.00	0.00	0.00	±	±	4.57	11.07	6.68	10 ^{7.54}
156	255	3/2 ⁻		0.84	0.68	6.08	11.10	1.00	0.00	0.00	0.00	0.00	0.30	> 100	4.60	11.46	6.54	10 ^{7.89}
157	256	7/2 ⁺	1/2 ⁺	0.85	0.68	4.93	11.01	1.00	0.00	0.00	0.00	0.00	±	±	4.96	11.86	6.22	10 ^{9.73}
158	257	7/2 ⁺		0.85	0.68	5.96	10.90	1.00	0.00	0.00	0.00	0.00	0.81	> 100	4.98	12.24	5.94	10 ^{10.79}
159	258	7/2 ⁺	1/2 ⁺	0.88	0.66	4.85	10.82	1.00	0.00	0.00	0.00	0.00	2.33	> 100	5.34	12.74	5.62	10 ^{12.93}
160	259	7/2 ⁺		0.88	0.65	5.94	10.80	1.00	0.00	0.00	0.00	0.00	1.31	> 100	5.37	13.14	5.26	10 ^{14.79}
161	260	7/2 ⁺	3/2 ⁺	0.90	0.65	4.65	10.60	1.00	0.00	0.00	0.00	0.00	2.97	> 100	5.72	13.47	4.96	10 ^{17.23}
162	261	7/2 ⁺		0.93	0.65	5.66	10.31	1.00	0.00	0.00	0.00	0.00	2.01	> 100	5.75	13.86	4.85	10 ^{17.60}
163	262	7/2 ⁺	13/2 ⁻	0.94	0.66	4.29	9.95	1.00	0.00	0.00	0.00	0.00	3.81	56.2162	6.08	14.23	4.89	10 ^{17.73}
164	263	7/2 ⁺		0.94	0.66	5.09	9.38	1.00	0.00	0.00	0.00	0.00	3.01	41.0844	6.09	14.58	5.06	10 ^{16.19}
165	264	7/2 ⁺	9/2 ⁺	0.94	0.67	3.89	8.98	1.00	0.00	0.00	0.00	0.00	4.57	17.2805	6.46	14.92	5.09	10 ^{16.33}
166	265	7/2 ⁺		0.95	0.66	4.89	8.78	1.00	0.00	0.00	0.00	0.00	3.57	22.6075	6.43	15.19	4.94	10 ^{17.03}
167	266	7/2 ⁺	11/2 ⁺	0.97	0.64	3.96	8.85	1.00	0.00	0.00	0.00	0.00	4.79	10.1918	6.72	15.47	4.53	> 10 ²⁰
168	267	7/2 ⁺		0.95	0.64	4.96	8.92	1.00	0.00	0.00	0.00	0.00	3.78	14.2900	6.87	15.95	4.19	> 10 ²⁰
169	268	7/2 ⁺	3/2 ⁺	0.95	0.66	3.56	8.51	1.00	0.00	0.00	0.00	0.00	5.50	7.4003	6.99	16.06	4.32	> 10 ²⁰
170	269	7/2 ⁺		1.01	0.62	4.82	8.38	0.98	0.02	0.00	0.15	0.02	4.27	7.3054	6.95	16.34	3.98	> 10 ²⁰
171	270	7/2 ⁺	3/2 ⁺	1.02	0.60	3.81	8.63	0.99	0.01	0.00	0.11	0.01	5.59	5.7839	7.26	16.66	3.60	> 10 ²⁰
172	271	7/2 ⁺		1.03	0.59	4.68	8.50	0.96	0.04	0.00	0.14	0.04	4.73	4.7785	7.27	17.06	3.46	> 10 ²⁰
173	272	7/2 ⁺	5/2 ⁺	1.03	0.58	3.66	8.34	0.96	0.04	0.00	0.16	0.04	6.09	3.0413	7.60	17.38	3.30	> 10 ²⁰
174	273	7/2 ⁺		1.04	0.57	4.46	8.12	0.85	0.15	0.00	0.20	0.15	5.30	2.5719	7.61	17.71	3.13	> 10 ²⁰
175	274	7/2 ⁺	1/2 ⁺	1.04	0.61	3.36	7.82	0.79	0.21	0.00	0.20	0.21	6.74	1.7447	8.04	18.05	3.10	> 10 ²⁰
176	275	9/2 ⁺		1.06	0.59	4.22	7.58	0.71	0.29	0.00	0.23	0.29	5.88	1.1705	7.76	18.07	3.00	> 10 ²⁰
177	276	9/2 ⁺	1/2 ⁺	1.07	0.61	3.41	7.63	0.70	0.30	0.00	0.23	0.30	6.93	1.2905	8.11	18.40	2.62	> 10 ²⁰
178	277	9/2 ⁺		1.07	0.63	4.12	7.53	0.62	0.38	0.00	0.26	0.38	6.23	0.9811	8.11	18.76	2.70	> 10 ²⁰
179	278	9/2 ⁺	1/2 ⁺	1.10	0.60	2.67	6.79	0.38	0.62	0.00	0.31	0.62	7.99	0.6190	8.41	19.05	3.11	> 10 ²⁰
180	279	7/2 ⁻		1.11	0.57	3.66	6.33	0.55	0.45	0.00	0.34	0.45	7.04	1.4299	8.40	19.35	3.21	> 10 ²⁰
181	280	7/2 ⁻	3/2 ⁺	1.14	0.56	2.65	6.30	0.54	0.38	0.08	0.37	0.54	8.39	1.3692	8.68	19.62	2.95	> 10 ²⁰
182	281	5/2 ⁺		1.16	0.54	3.63	6.27	0.18	0.82	0.00	0.42	0.82	7.45	0.3816	8.65	20.02	2.68	> 10 ²⁰
183	282	13/2	1/2	1.15	0.58	2.70	6.33	0.16	0.80	0.04	0.36	0.88	8.67	0.3488	8.99	20.32	2.36	> 10 ²⁰
184	283	7/2		1.12	0.63	3.33	6.03	0.15	0.84	0.01	0.43	0.86	8.04	0.2455	8.99	20.61	2.24	> 10 ²⁰
185	284	7/2	1/2	1.06	0.63	1.75	5.08	0.23	0.67	0.10	0.45	0.87	9.93	0.2277	9.41	20.98	2.90	> 10 ²⁰
186	285	7/2		1.02	0.61	2.95	4.71	0.10	0.81	0.09	0.45	0.99	8.68	0.2447	9.46	21.34	2.98	> 10 ²⁰
187	286	7/2	3/2	1.00	0.61	1.93	4.88	0.25	0.28	0.47	0.43	1.22	9.97	0.2944	9.79	21.68	2.43	> 10 ²⁰
188	287	7/2		0.98	0.60	2.86	4.79	0.13	0.64	0.21	0.39	1.12	9.02	0.2220	9.80	21.92	2.17	> 10 ²⁰
189	288	3/2 ⁻	5/2 ⁺	0.85	0.70	2.04	4.90	0.05	0.23	0.72	0.43	1.67	10.14	0.0577	10.12	22.29	1.72	> 10 ²⁰
190	289	3/2 ⁻		0.85	0.69	3.16	5.21	0.04	0.64	0.32	0.40	1.28	8.92	0.0557	10.28	22.75	1.17	> 10 ²⁰
191	290	3/2 ⁻	1/2 ⁺	0.85	0.68	2.04	5.20	0.06	0.29	0.65	0.42	1.59	10.39	0.0502	10.66	23.16	0.80	> 10 ²⁰
192	291	3/2 ⁻		0.85	0.67	2.99	5.03	0.04	0.73	0.23	0.41	1.19	9.48	0.0390	10.67	23.50	0.51	> 10 ²⁰
193	292	3/2 ⁻	7/2 ⁺	0.85	0.68	1.83	4.82	0.04	0.22	0.74	0.44	1.70	10.97	0.0349	10.93	23.84	0.32	> 10 ²⁰
194	293	3/2 ⁻		0.85	0.67	2.83	4.66	0.03	0.50	0.47	0.41	1.44	9.99	0.0287	10.97	24.09	0.14	> 10 ²⁰
195	294	3/2 ⁻	1/2 ⁻	0.85	0.66	1.70	4.53	0.09	0.19	0.71	0.44	1.64	11.36	0.0245	11.29	24.39	-0.07	
196	295	3/2 ⁻		0.85	0.66	2.75	4.45	0.03	0.36	0.58	0.42	1.61	10.31	0.0242	11.30	24.79	-0.24	
197	296	3/2 ⁻	5/2 ⁻	0.85	0.65	1.57	4.32	0.04	0.15	0.76	0.45	1.82	11.73	0.0206	11.59	25.08	-0.41	
198	297	3/2 ⁻		0.85	0.64	2.48	4.05	0.03	0.28	0.57	0.43	1.78	10.89	0.0171	11.56	25.41	-0.54	
199	298	3/2 ⁻	7/2 ⁻	0.84	0.63	1.54	4.02	0.04	0.12	0.73	0.46	1.91	12.24	0.0135	11.97	25.81	-0.81	
200	299	3/2 ⁻		0.84	0.62	2.53	4.07	0.03	0.23	0.51	0.43	1.94	11.24	0.0143	12.10	26.33	-1.17	
201	300	3/2 ⁻	9/2 ⁺	0.84	0.60	1.42	3.95	0.04	0.08	0.67	0.46	2.05	12.73	0.0117	12.32	26.69	-1.46	
202	301	3/2 ⁻		0.84	0.59	2.25	3.67	0.03	0.20	0.42	0.44	2.09	11.98	0.0095	12.31	26.88	-1.70	
203	302	3/2 ⁻	5/2 ⁺	0.84	0.60	1.11	3.36	0.03	0.05	0.50	0.45	2.33	13.42	0.0083	12.65	27.20	-1.74	
204	303	3/2 ⁻		0.84	0.60	1.91	3.02	0.02	0.09	0.26	0.44	2.51	12.65	0.0068	12.64	27.43	-1.60	
205	304	3/2 ⁻	7/2 ⁺	0.84	0.61	1.03	2.95	0.02	0.03	0.23	0.43	2.84	13.87	0.0069	12.91	27.71	-1.85	
206	305	3/2 ⁻		0.84	0.60	1.87	2.90	0.02	0.07	0.12	0.44	2.79	12.85	0.0068	12.94	28.01	-2.04	
207	306	3/2 ⁻	1/2 ⁺	0.85	0.61	0.79	2.67	0.02	0.02	0.13	0.44	3.32	14.23	0.0060	13.17	28.26	-2.07	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 99 (Es)																		
208	307	3/2 ⁻		0.85	0.60	1.65	2.44	0.01	0.06	0.07	0.44	3.18	13.29	0.0057	13.13	28.43	-2.15	
209	308	3/2 ⁻	3/2 ⁺	0.85	0.60	0.71	2.35	0.02	0.01	0.10	0.45	3.62	14.57	0.0054	13.37	28.67	-2.31	
210	309	3/2 ⁻		0.85	0.59	1.55	2.26	0.01	0.06	0.04	0.44	3.54	13.62	0.0051	13.38	28.96	-2.38	
211	310	3/2 ⁻	7/2 ⁻	0.85	0.59	0.51	2.06	0.02	0.03	0.08	0.45	3.82	14.94	0.0045	13.68	29.26	-2.43	
212	311	3/2 ⁻		0.86	0.58	1.35	1.86	0.01	0.06	0.03	0.45	3.97	14.10	0.0043	13.70	29.57	-2.52	
213	312	3/2 ⁻	11/2 ⁺	0.86	0.58	0.40	1.75	0.01	0.02	0.07	0.46	4.35	15.36	0.0041	14.03	29.94	-2.71	
214	313	3/2 ⁻		0.85	0.58	1.21	1.61	0.01	0.07	0.03	0.46	4.23	14.58	0.0036	14.04	30.25	-2.88	
215	314	3/2 ⁻	9/2 ⁻	0.86	0.57	0.33	1.54	0.01	0.02	0.07	0.47	4.72	15.78	0.0031	14.34	30.61	-3.18	
216	315	3/2 ⁻		0.86	0.57	1.21	1.54	0.01	0.07	0.02	0.47	4.57	14.97	0.0030	14.40	30.97	-3.49	
217	316	3/2 ⁻	1/2 ⁻	0.86	0.56	0.24	1.45	0.01	0.02	0.09	0.48	5.03	16.20	0.0028	14.66	31.23	-3.76	
218	317	3/2 ⁻		0.86	0.55	1.13	1.37	0.01	0.06	0.03	0.47	4.93	15.42	0.0025	14.68	31.59	-4.04	
219	318	3/2 ⁻	3/2 ⁻	0.86	0.55	0.08	1.22	0.01	0.01	0.08	0.49	5.37	16.72	0.0023	14.95	31.86	-4.14	
220	319	3/2 ⁻		0.87	0.54	0.92	1.00	0.00	0.04	0.04	0.48	5.46	15.88	0.0022	15.00	32.18	-4.29	
221	320	3/2 ⁻	13/2 ⁺	0.87	0.54	-0.15	0.77	0.01	0.00	0.06	0.50	6.00	17.26	0.0020	15.28	32.70	-4.33	
222	321	3/2 ⁻		0.88	0.54	0.39	0.25	0.00	0.02	0.00	0.50	6.20	16.55	0.0018	15.28	32.79	-4.13	
223	322	3/2 ⁻	9/2 ⁻	0.88	0.54	-0.34	0.05	0.00	0.00	0.08	0.52	6.61	17.84	0.0015	15.55	33.08	-4.45	
224	323	3/2 ⁻		0.90	0.54	0.32	-0.02	0.00	0.02	0.00	0.52	7.01	17.21	0.0014	15.57	33.47	-4.47	
225	324	3/2 ⁻	11/2 ⁻	0.90	0.54	-0.42	-0.10	0.00	0.00	0.02	0.54	7.88	18.20	0.0014	16.00		-4.68	
226	325	7/2 ⁻		0.91	0.54	0.24	-0.18	0.00	0.05	0.00	0.54	7.71	17.53	0.0012	15.84		-4.98	
227	326	7/2 ⁻	3/2 ⁻	0.92	0.54	-0.53	-0.29	0.00	0.00	0.06	0.55	8.10	18.63	0.0011	16.11			
228	327	7/2 ⁺		0.92	0.53	0.16	-0.37	0.00	0.00	0.00	0.56	9.03	17.94	0.0011				
229	328	7/2 ⁺	15/2 ⁺	0.93	0.52	-0.66	-0.49	0.00	0.00	0.00	0.59	9.48	19.03	0.0011				
Z = 100 (Fm)																		
126	226			1.12	0.90								7.86	0.1233	-0.19	-2.31	10.76	10 ^{-6.07}
127	227		1/2	1.09	0.84	8.40							4.32	5.8319	-0.24	-1.95	11.44	10 ^{-6.46}
128	228			0.90	0.76	5.09	13.49						7.87	0.4289	-0.01	-6.49	17.12	10 ^{-16.03}
129	229		1/2 ⁺	0.89	0.77	8.72	13.81						13.40	0.0627	0.07	-5.67	16.45	10 ^{-14.20}
130	230			0.80	0.86	14.66	23.38						7.23	0.4554	0.48	-0.57	11.41	10 ^{-7.46}
131	231		3/2 ⁺	0.81	0.84	8.60	23.27						8.42	0.6151	0.59	-0.11	10.70	10 ^{-4.87}
132	232			0.81	0.82	10.20	18.80						6.53	0.8518	0.99	0.27	10.07	10 ^{-4.45}
133	233		5/2 ⁺	0.81	0.82	8.37	18.56						7.69	0.3958	1.06	0.71	9.85	10 ^{-2.84}
134	234			0.79	0.82	9.94	18.31						5.77	2.4436	1.46	1.19	9.73	10 ^{-3.57}
135	235		13/2 ⁺	0.79	0.81	8.11	18.05						6.94	3.9901	1.56	1.74	9.55	10 ^{-2.03}
136	236			0.80	0.84	9.49	17.60						5.25	2.2137	1.77	2.11	9.52	10 ^{-3.04}
137	237		3/2 ⁻	0.80	0.83	7.76	17.24						6.62	3.2740	1.72	2.40	9.32	10 ^{-1.40}
138	238			0.80	0.84	9.44	17.19						4.78	3.1681	2.04	2.81	9.00	10 ^{-1.58}
139	239		5/2 ⁻	0.80	0.83	7.62	17.06						6.11	4.6120	2.06	3.17	8.84	10 ^{-0.07}
140	240			0.79	0.82	9.26	16.88						4.25	5.3136	2.37	3.63	8.61	10 ^{-0.41}
141	241		1/2 ⁻	0.79	0.81	7.47	16.73						5.33	9.5226	2.44	4.01	8.40	10 ^{1.30}
142	242			0.80	0.78	8.91	16.38						3.49	9.7633	2.80	4.41	8.29	10 ^{0.62}
143	243		7/2 ⁻	0.79	0.77	7.14	16.04						4.50	17.0867	2.87	4.84	8.25	10 ^{1.82}
144	244			0.79	0.76	8.52	15.66						2.76	20.4145	3.24	5.31	8.23	10 ^{0.79}
145	245		1/2 ⁺	0.79	0.74	6.85	15.37						3.74	31.6434	3.31	5.74	8.10	10 ^{2.36}
146	246			0.79	0.73	8.24	15.09						2.08	45.7325	3.72	6.26	7.90	10 ^{1.96}
147	247		5/2 ⁺	0.79	0.72	6.55	14.80						3.00	55.5455	3.69	6.64	7.76	10 ^{3.53}
148	248			0.79	0.70	7.91	14.46						1.38	> 100	4.13	7.12	7.58	10 ^{3.13}
149	249		7/2 ⁺	0.79	0.69	6.36	14.27						2.29	37.0264	4.20	7.54	7.39	10 ^{4.93}
150	250			0.79	0.69	7.67	14.03						0.61	> 100	4.60	8.03	7.15	10 ^{4.83}
151	251		9/2 ⁻	0.79	0.69	6.08	13.76						1.38	> 100	4.69	8.47	7.00	10 ^{6.48}
152	252			0.80	0.70	7.24	13.33						...	β -st	5.08	8.92	6.95	10 ^{5.67}
153	253		7/2 ⁺	0.81	0.69	5.34	12.58						0.37	> 100	5.12	9.30	7.25	10 ^{5.48}
154	254			0.81	0.68	6.74	12.08						...	β -st	5.58	9.81	7.30	10 ^{4.22}
155	255		11/2 ⁻	0.82	0.68	5.04	11.78						...	β -st	5.60	10.17	7.22	10 ^{5.61}
156	256			0.83	0.68	6.44	11.48						...	β -st	5.96	10.55	7.02	10 ^{5.37}
157	257		1/2 ⁺	0.84	0.67	4.97	11.41						...	β -st	6.00	10.95	6.72	10 ^{7.79}
158	258			0.84	0.67	6.37	11.35						...	β -st	6.40	11.38	6.40	10 ^{8.19}
159	259		1/2 ⁺	0.85	0.67	4.92	11.29						0.02	> 100	6.47	11.81	6.06	10 ^{11.03}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 100 (Fm)																		
160	260			0.87	0.65	6.32	11.24						...	β -st	6.84	12.21	5.68	$10^{12.02}$
161	261		$3/2^+$	0.87	0.65	4.70	11.01	1.00	0.00	0.00	0.00	0.00	0.63	> 100	6.89	12.60	5.47	$10^{14.34}$
162	262			0.89	0.66	6.09	10.78						...	β -st	7.31	13.06	5.31	$10^{14.28}$
163	263		$13/2^-$	0.91	0.66	4.30	10.38	1.00	0.00	0.00	0.00	0.00	1.48	> 100	7.32	13.41	5.31	$10^{15.28}$
164	264			0.91	0.66	5.44	9.74	1.00	0.00	0.00	0.00	0.00	0.71	> 100	7.67	13.76	5.50	$10^{13.15}$
165	265		$9/2^+$	0.93	0.66	3.90	9.34	1.00	0.00	0.00	0.00	0.00	2.25	> 100	7.68	14.14	5.56	$10^{13.79}$
166	266			0.93	0.66	5.18	9.08	1.00	0.00	0.00	0.00	0.00	1.27	> 100	7.98	14.40	5.46	$10^{13.34}$
167	267		$11/2^+$	0.94	0.64	3.95	9.13	1.00	0.00	0.00	0.00	0.00	2.48	56.1267	7.96	14.67	5.03	$10^{17.23}$
168	268			0.94	0.64	5.27	9.21	1.00	0.00	0.00	0.00	0.00	1.42	> 100	8.27	15.14	4.68	$10^{18.74}$
169	269		$3/2^+$	0.95	0.65	3.60	8.87	1.00	0.00	0.00	0.00	0.00	3.08	84.9849	8.31	15.30	4.76	$10^{19.19}$
170	270			0.98	0.62	5.13	8.72	1.00	0.00	0.00	0.00	0.00	1.89	> 100	8.62	15.57	4.44	> 10^{20}
171	271		$15/2^-$	1.00	0.61	3.82	8.95	1.00	0.00	0.00	0.00	0.00	3.14	80.7493	8.63	15.88	4.05	> 10^{20}
172	272			1.02	0.59	5.02	8.84	1.00	0.00	0.00	0.00	0.00	2.26	70.6977	8.97	16.24	3.88	> 10^{20}
173	273		$5/2^+$	1.02	0.58	3.67	8.70	1.00	0.00	0.00	0.00	0.00	3.61	29.7200	8.98	16.58	3.72	> 10^{20}
174	274			1.03	0.58	4.80	8.47	1.00	0.00	0.00	0.00	0.00	2.81	24.7039	9.32	16.93	3.59	> 10^{20}
175	275		$1/2^+$	1.03	0.61	3.36	8.16	1.00	0.00	0.00	0.00	0.00	4.27	10.7182	9.32	17.37	3.56	> 10^{20}
176	276			1.07	0.59	4.46	7.83	1.00	0.00	0.00	0.00	0.00	3.50	7.0376	9.56	17.33	3.54	> 10^{20}
177	277		$1/2^+$	1.07	0.61	3.41	7.87	1.00	0.00	0.00	0.00	0.00	4.50	5.3601	9.56	17.67	3.06	> 10^{20}
178	278			1.07	0.63	4.44	7.85	1.00	0.00	0.00	0.00	0.00	3.72	5.0309	9.88	18.00	3.13	> 10^{20}
179	279		$1/2^+$	1.10	0.60	2.71	7.15	0.93	0.07	0.00	0.11	0.07	5.45	3.4110	9.92	18.33	3.48	> 10^{20}
180	280			1.11	0.57	3.99	6.70	0.88	0.12	0.00	0.24	0.12	4.48	3.9992	10.25	18.65	3.61	> 10^{20}
181	281		$3/2^+$	1.14	0.56	2.69	6.68	0.76	0.24	0.00	0.26	0.24	5.77	4.0710	10.30	18.98	3.29	> 10^{20}
182	282			1.16	0.54	3.92	6.62	0.83	0.17	0.00	0.30	0.17	4.83	3.5991	10.59	19.24	3.03	> 10^{20}
183	283		$1/2^+$	1.16	0.58	2.69	6.62	0.77	0.23	0.00	0.33	0.23	6.05	3.3273	10.59	19.57	2.71	> 10^{20}
184	284			1.15	0.63	3.65	6.34	0.70	0.30	0.00	0.37	0.30	5.41	1.7974	10.90	19.89	2.72	> 10^{20}
185	285		$1/2$	1.07	0.63	1.70	5.35	0.74	0.26	0.00	0.41	0.26	7.39	0.7572	10.85	20.26	3.38	> 10^{20}
186	286			1.05	0.63	3.22	4.92	0.62	0.38	0.00	0.40	0.38	6.26	0.9424	11.12	20.58	3.49	> 10^{20}
187	287		$3/2$	0.99	0.61	1.91	5.13	0.74	0.21	0.05	0.34	0.31	7.61	0.7689	11.09	20.88	2.92	> 10^{20}
188	288			0.99	0.62	3.16	5.07	0.63	0.36	0.01	0.36	0.38	6.70	0.6780	11.40	21.20	2.65	> 10^{20}
189	289		$5/2^+$	0.85	0.69	1.94	5.11	0.14	0.79	0.07	0.36	0.93	7.89	0.0931	11.30	21.42	2.31	> 10^{20}
190	290			0.85	0.68	3.51	5.46	0.22	0.78	0.00	0.35	0.78	6.66	0.0992	11.65	21.93	1.65	> 10^{20}
191	291		$1/2^+$	0.85	0.68	2.08	5.60	0.22	0.76	0.02	0.35	0.80	8.17	0.0823	11.69	22.35	1.28	> 10^{20}
192	292			0.85	0.67	3.32	5.40	0.18	0.82	0.00	0.37	0.82	7.22	0.0643	12.02	22.69	0.97	> 10^{20}
193	293		$7/2^+$	0.85	0.67	1.85	5.17	0.11	0.81	0.08	0.39	0.97	8.69	0.0563	12.04	22.97	0.78	> 10^{20}
194	294			0.85	0.67	3.07	4.92	0.11	0.89	0.00	0.39	0.89	7.79	0.0425	12.28	23.25	0.69	> 10^{20}
195	295		$1/2^-$	0.84	0.66	1.70	4.77	0.21	0.56	0.23	0.39	1.02	9.23	0.0330	12.28	23.57	0.56	> 10^{20}
196	296			0.84	0.66	2.99	4.69	0.11	0.86	0.03	0.41	0.92	8.21	0.0327	12.52	23.81	0.36	> 10^{20}
197	297		$5/2^-$	0.84	0.65	1.64	4.63	0.14	0.47	0.39	0.40	1.25	9.56	0.0277	12.59	24.18	0.10	> 10^{20}
198	298			0.84	0.64	2.90	4.54	0.11	0.82	0.07	0.42	0.96	8.70	0.0226	13.00	24.56	-0.05	
199	299		$7/2^-$	0.84	0.63	1.53	4.42	0.09	0.50	0.41	0.41	1.32	10.03	0.0180	12.99	24.96	-0.30	
200	300			0.84	0.61	2.91	4.44	0.08	0.76	0.16	0.41	1.08	9.07	0.0176	13.37	25.47	-0.70	
201	301		$9/2^+$	0.84	0.60	1.50	4.41	0.06	0.39	0.55	0.43	1.49	10.36	0.0167	13.45	25.77	-1.07	
202	302			0.84	0.59	2.54	4.04	0.05	0.61	0.34	0.40	1.29	9.56	0.0140	13.74	26.05	-1.21	
203	303		$5/2^+$	0.83	0.60	1.15	3.70	0.05	0.23	0.71	0.43	1.68	11.08	0.0118	13.79	26.43	-1.16	
204	304			0.83	0.60	2.24	3.40	0.05	0.37	0.55	0.39	1.56	10.26	0.0107	14.12	26.76	-1.14	
205	305		$7/2^+$	0.83	0.61	0.85	3.10	0.04	0.10	0.72	0.41	1.96	11.63	0.0094	13.94	26.84	-1.23	
206	306			0.84	0.60	2.18	3.03	0.04	0.21	0.49	0.39	1.97	10.65	0.0088	14.24	27.18	-1.49	
207	307		$1/2^+$	0.84	0.61	0.71	2.89	0.03	0.06	0.44	0.41	2.38	11.93	0.0087	14.16	27.33	-1.43	
208	308			0.84	0.61	1.98	2.69	0.04	0.14	0.31	0.40	2.30	11.07	0.0077	14.49	27.61	-1.57	
209	309		$3/2^+$	0.84	0.60	0.61	2.59	0.02	0.05	0.31	0.41	2.66	12.44	0.0068	14.39	27.76	-1.61	
210	310			0.84	0.59	1.83	2.44	0.03	0.11	0.23	0.41	2.49	11.52	0.0063	14.67	28.05	-1.75	
211	311		$7/2^-$	0.84	0.59	0.50	2.34	0.05	0.04	0.23	0.42	2.85	12.82	0.0056	14.66	28.34	-1.80	
212	312			0.84	0.59	1.66	2.17	0.04	0.08	0.13	0.43	2.73	11.95	0.0055	14.98	28.68	-1.92	
213	313		$11/2^+$	0.84	0.59	0.43	2.09	0.03	0.04	0.13	0.44	3.28	13.21	0.0053	15.00	29.03	-2.12	
214	314			0.85	0.58	1.53	1.96	0.04	0.07	0.09	0.44	2.99	12.39	0.0046	15.33	29.38	-2.34	
215	315		$9/2^-$	0.85	0.58	0.40	1.93	0.04	0.03	0.12	0.45	3.41	13.60	0.0040	15.40	29.74	-2.66	
216	316			0.85	0.57	1.48	1.87	0.04	0.06	0.06	0.43	3.27	12.80	0.0039	15.66	30.07	-2.95	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 100 (Fm)																		
217	317		1/2 ⁻	0.85	0.56	0.34	1.82	0.06	0.04	0.08	0.46	3.59	13.99	0.0036	15.77	30.43	-3.26	
218	318			0.85	0.55	1.38	1.73	0.05	0.06	0.05	0.44	3.48	13.22	0.0032	16.02	30.69	-3.49	
219	319		3/2 ⁻	0.85	0.55	0.08	1.46	0.04	0.05	0.08	0.46	3.87	14.55	0.0029	16.01	30.97	-3.59	
220	320			0.85	0.54	1.24	1.32	0.02	0.08	0.05	0.46	3.87	13.73	0.0027	16.34	31.34	-3.71	
221	321		13/2 ⁺	0.86	0.54	-0.33	0.92	0.01	0.05	0.06	0.48	4.50	15.26	0.0023	16.16	31.43	-3.59	
222	322			0.87	0.53	0.94	0.62	0.00	0.09	0.03	0.48	4.48	14.33	0.0022	16.71	31.99	-3.66	
223	323		9/2 ⁻	0.87	0.54	-0.30	0.64	0.04	0.01	0.10	0.50	4.97	15.57	0.0019	16.75	32.30	-3.77	
224	324			0.88	0.54	0.56	0.26	0.00	0.08	0.00	0.49	5.34	14.98	0.0017	16.99	32.57	-3.95	
225	325		11/2 ⁻	0.88	0.54	-0.42	0.14	0.00	0.00	0.09	0.51	6.13	15.95	0.0017	16.99	32.99	-4.15	
226	326			0.90	0.53	0.57	0.15	0.00	0.05	0.01	0.50	6.31	15.29	0.0015	17.32	33.16	-4.41	
227	327		3/2 ⁻	0.90	0.54	-0.53	0.04	0.02	0.00	0.06	0.52	6.95	16.32	0.0015	17.32	33.44	-4.73	
228	328			0.90	0.53	0.43	-0.09	0.00	0.04	0.00	0.51	7.26	15.63	0.0014	17.59		-4.76	
229	329		15/2 ⁺	0.91	0.52	-0.63	-0.19	0.00	0.00	0.03	0.53	8.19	16.69	0.0014	17.62		-4.94	
230	330			0.91	0.52	0.28	-0.34	0.00	0.02	0.00	0.53	8.19	16.05	0.0012				
231	331		5/2 ⁻	0.92	0.51	-0.81	-0.53	0.00	0.00	0.02	0.55	8.87	17.05	0.0012				
Z = 101 (Md)																		
128	229		3/2 ⁺	0.90	0.76								10.07	0.1904	-2.14	-2.15	17.14	10 ^{-15.07}
129	230		1/2 ⁺	0.89	0.77	9.03							15.70	0.0347	-1.82	-1.75	16.56	10 ^{-14.07}
130	231		1/2 ⁻	0.82	0.85	14.62	23.66						9.69	0.3495	-1.86	-1.38	6.79	10 ^{7.58}
131	232		5/2 ⁻	0.82	0.84	9.01	23.63						10.88	0.5394	-1.46	-0.87	6.42	10 ^{9.65}
132	233		1/2 ⁻	0.82	0.83	10.27	19.27						8.98	0.7137	-1.39	-0.40	10.41	10 ^{-4.19}
133	234		5/2 ⁺	0.82	0.82	8.74	19.01						10.17	0.2883	-1.02	0.04	10.16	10 ^{-3.24}
134	235		1/2 ⁻	0.82	0.82	9.99	18.73						8.29	1.1954	-0.97	0.49	9.97	10 ^{-3.11}
135	236		13/2 ⁺	0.82	0.81	8.52	18.50						9.27	2.5633	-0.56	0.99	9.76	10 ^{-2.23}
136	237		1/2 ⁻	0.82	0.82	9.47	17.98						7.56	2.8714	-0.58	1.18	9.82	10 ^{-2.72}
137	238		3/2 ⁻	0.81	0.83	8.13	17.59						8.87	2.5244	-0.21	1.51	9.72	10 ^{-2.12}
138	239		1/2 ⁻	0.81	0.83	9.38	17.50						7.11	3.2426	-0.27	1.77	9.61	10 ^{-2.17}
139	240		5/2 ⁻	0.81	0.84	7.95	17.32						8.42	3.2709	0.05	2.11	9.47	10 ^{-1.42}
140	241		7/2 ⁻	0.81	0.82	9.32	17.27						6.58	3.6124	0.11	2.48	9.27	10 ^{-1.24}
141	242		1/2 ⁻	0.81	0.81	7.82	17.14						7.67	5.8984	0.45	2.90	9.05	10 ^{-0.26}
142	243		7/2 ⁻	0.81	0.80	8.99	16.81						5.81	7.2210	0.54	3.34	9.01	10 ^{-0.49}
143	244		7/2 ⁻	0.81	0.78	7.47	16.46						6.86	10.3089	0.88	3.74	8.94	10 ^{0.06}
144	245		7/2 ⁻	0.81	0.76	8.56	16.03						5.15	11.8045	0.92	4.16	8.93	10 ^{-0.25}
145	246		1/2 ⁺	0.80	0.76	7.22	15.78						6.17	16.5664	1.29	4.60	8.78	10 ^{0.55}
146	247		7/2 ⁻	0.80	0.74	8.29	15.51						4.44	24.2739	1.33	5.05	8.64	10 ^{0.64}
147	248		5/2 ⁺	0.80	0.72	6.97	15.26						5.38	30.8172	1.75	5.45	8.44	10 ^{1.62}
148	249		7/2 ⁻	0.80	0.71	7.99	14.96						3.74	80.6987	1.83	5.97	8.28	10 ^{1.77}
149	250		7/2 ⁺	0.80	0.70	6.76	14.75						4.66	21.7959	2.23	6.43	8.11	10 ^{2.72}
150	251		7/2 ⁻	0.79	0.70	7.77	14.52						2.98	> 100	2.32	6.93	7.81	10 ^{3.44}
151	252		9/2 ⁻	0.79	0.70	6.45	14.22						3.77	> 100	2.69	7.39	7.65	10 ^{4.38}
152	253		7/2 ⁻	0.80	0.71	7.32	13.77						1.78	> 100	2.77	7.85	7.60	10 ^{4.23}
153	254		7/2 ⁺	0.80	0.69	5.73	13.05						2.80	> 100	3.16	8.28	7.87	10 ^{3.57}
154	255		7/2 ⁻	0.80	0.68	6.78	12.51						1.05	> 100	3.21	8.79	7.93	10 ^{3.01}
155	256		11/2 ⁻	0.81	0.68	5.48	12.26						2.01	> 100	3.64	9.24	7.76	10 ^{3.97}
156	257		7/2 ⁻	0.81	0.69	6.51	11.99						0.47	> 100	3.72	9.68	7.52	10 ^{4.53}
157	258		1/2 ⁺	0.82	0.68	5.38	11.89	1.00	0.00	0.00	0.00	0.00	±	±	4.12	10.12	7.17	10 ^{6.28}
158	259		7/2 ⁻	0.81	0.68	6.41	11.78						...	β-st	4.16	10.56	6.84	10 ^{7.35}
159	260		1/2 ⁺	0.84	0.66	5.30	11.71	1.00	0.00	0.00	0.00	0.00	±	±	4.54	11.01	6.48	10 ^{9.36}
160	261		7/2 ⁻	0.84	0.66	6.32	11.62						...	β-st	4.54	11.39	6.12	10 ^{10.84}
161	262		3/2 ⁺	0.86	0.66	5.14	11.46	1.00	0.00	0.00	0.00	0.00	±	±	4.98	11.87	5.83	10 ^{12.76}
162	263		7/2 ⁻	0.86	0.67	6.10	11.24	1.00	0.00	0.00	0.00	0.00	0.64	> 100	5.00	12.31	5.68	10 ^{13.34}
163	264		13/2 ⁻	0.88	0.67	4.67	10.77	1.00	0.00	0.00	0.00	0.00	2.47	> 100	5.37	12.69	5.66	10 ^{13.69}
164	265		7/2 ⁻	0.88	0.66	5.44	10.10	1.00	0.00	0.00	0.00	0.00	1.78	> 100	5.36	13.03	5.88	10 ^{12.14}
165	266		9/2 ⁺	0.90	0.66	4.21	9.65	1.00	0.00	0.00	0.00	0.00	3.39	> 100	5.67	13.36	5.97	10 ^{12.04}
166	267		7/2 ⁻	0.90	0.66	5.15	9.36	1.00	0.00	0.00	0.00	0.00	2.44	> 100	5.64	13.62	5.91	10 ^{12.03}
167	268		11/2 ⁺	0.92	0.66	4.21	9.36	1.00	0.00	0.00	0.00	0.00	3.82	63.2003	5.91	13.86	5.58	10 ^{14.22}
168	269		7/2 ⁻	0.92	0.64	5.26	9.47	1.00	0.00	0.00	0.00	0.00	2.69	> 100	5.90	14.17	5.21	10 ^{16.23}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 101 (Md)																		
169	270	7/2 ⁻	3/2 ⁺	0.92	0.65	3.93	9.19	1.00	0.00	0.00	0.00	0.00	4.35	75.4790	6.23	14.54	5.25	10 ^{16.31}
170	271	3/2 ⁻		0.96	0.62	5.08	9.01	1.00	0.00	0.00	0.00	0.00	3.24	86.3450	6.18	14.80	5.13	10 ^{16.84}
171	272	3/2 ⁻	15/2 ⁻	0.99	0.61	4.14	9.22	1.00	0.00	0.00	0.00	0.00	4.50	62.6294	6.50	15.12	4.54	> 10 ²⁰
172	273	3/2 ⁻		1.01	0.59	5.02	9.16	1.00	0.00	0.00	0.00	0.00	3.64	51.2118	6.50	15.47	4.34	> 10 ²⁰
173	274	3/2 ⁻	5/2 ⁺	1.01	0.58	4.00	9.03	1.00	0.00	0.00	0.00	0.00	4.97	32.2124	6.83	15.81	4.15	> 10 ²⁰
174	275	3/2 ⁻		1.01	0.58	4.82	8.83	1.00	0.00	0.00	0.00	0.00	4.19	23.3621	6.85	16.17	4.01	> 10 ²⁰
175	276	3/2 ⁻	1/2 ⁺	1.02	0.61	3.69	8.51	0.99	0.01	0.00	0.10	0.01	5.64	13.6575	7.18	16.50	3.98	> 10 ²⁰
176	277	3/2 ⁻		1.02	0.62	4.41	8.10	0.96	0.04	0.00	0.20	0.04	4.96	8.4899	7.12	16.69	4.03	> 10 ²⁰
177	278	7/2 ⁺	1/2 ⁺	1.07	0.61	3.66	8.07	0.96	0.04	0.00	0.12	0.04	6.02	2.5114	7.38	16.94	3.73	> 10 ²⁰
178	279	7/2 ⁺		1.06	0.63	4.44	8.10	0.93	0.07	0.00	0.18	0.07	5.16	2.1903	7.38	17.26	3.51	> 10 ²⁰
179	280	7/2 ⁺	1/2 ⁺	1.09	0.59	3.02	7.46	0.78	0.22	0.00	0.16	0.22	6.89	1.5564	7.69	17.60	3.91	> 10 ²⁰
180	281	7/2 ⁺		1.11	0.57	3.98	6.99	0.48	0.52	0.00	0.32	0.52	5.98	1.5839	7.68	17.93	4.04	> 10 ²⁰
181	282	7/2 ⁻	3/2 ⁺	1.14	0.56	2.99	6.96	0.86	0.14	0.00	0.27	0.14	7.21	3.9746	7.97	18.27	3.73	> 10 ²⁰
182	283	13/2		1.13	0.55	3.91	6.90	0.31	0.69	0.00	0.35	0.69	6.43	1.0160	7.96	18.55	3.48	> 10 ²⁰
183	284	9/2	3/2	1.13	0.58	3.01	6.93	0.31	0.69	0.00	0.33	0.69	7.63	1.0749	8.28	18.86	3.11	> 10 ²⁰
184	285	13/2		1.11	0.62	3.68	6.69	0.27	0.73	0.00	0.42	0.73	6.96	0.6387	8.30	19.21	3.06	> 10 ²⁰
185	286	13/2	1/2	1.04	0.63	2.10	5.77	0.37	0.62	0.01	0.44	0.64	8.83	0.5072	8.70	19.55	3.66	> 10 ²⁰
186	287	13/2		1.01	0.62	3.25	5.35	0.20	0.80	0.00	0.45	0.80	7.63	0.5261	8.73	19.85	3.74	> 10 ²⁰
187	288	13/2	3/2	0.99	0.61	2.25	5.50	0.41	0.33	0.26	0.40	0.85	8.93	0.6571	9.08	20.17	3.25	> 10 ²⁰
188	289	13/2		0.97	0.60	3.13	5.38	0.24	0.74	0.02	0.41	0.78	7.89	0.5142	9.05	20.45	3.07	> 10 ²⁰
189	290	7/2 ⁻	5/2 ⁺	0.85	0.70	2.29	5.42	0.06	0.52	0.42	0.41	1.36	9.10	0.1119	9.39	20.69	2.71	> 10 ²⁰
190	291	7/2 ⁻		0.85	0.68	3.59	5.88	0.06	0.91	0.03	0.43	0.97	7.73	0.1312	9.47	21.12	1.97	> 10 ²⁰
191	292	7/2 ⁻	1/2 ⁺	0.85	0.68	2.37	5.96	0.09	0.64	0.27	0.40	1.18	9.13	0.1223	9.76	21.45	1.65	> 10 ²⁰
192	293	7/2 ⁻		0.84	0.68	3.32	5.69	0.07	0.91	0.02	0.45	0.95	8.19	0.0945	9.76	21.78	1.49	> 10 ²⁰
193	294	7/2 ⁻	7/2 ⁺	0.84	0.67	2.17	5.49	0.07	0.56	0.37	0.42	1.30	9.69	0.0809	10.07	22.11	1.36	> 10 ²⁰
194	295	7/2 ⁻		0.84	0.67	3.15	5.31	0.05	0.87	0.08	0.45	1.03	8.73	0.0608	10.15	22.43	1.21	> 10 ²⁰
195	296	7/2 ⁻	1/2 ⁻	0.84	0.66	1.96	5.11	0.18	0.35	0.47	0.45	1.29	10.17	0.0456	10.42	22.69	1.08	> 10 ²⁰
196	297	7/2 ⁻		0.83	0.66	2.99	4.96	0.05	0.70	0.25	0.44	1.20	9.21	0.0425	10.42	22.94	0.91	> 10 ²⁰
197	298	7/2 ⁻	5/2 ⁻	0.83	0.65	2.04	5.03	0.07	0.34	0.59	0.46	1.52	10.53	0.0381	10.82	23.40	0.58	> 10 ²⁰
198	299	7/2 ⁻		0.83	0.64	2.86	4.90	0.04	0.60	0.36	0.44	1.32	9.60	0.0316	10.77	23.78	0.47	> 10 ²⁰
199	300	7/2 ⁻	7/2 ⁻	0.83	0.63	1.95	4.81	0.04	0.32	0.64	0.47	1.60	10.97	0.0240	11.20	24.19	0.09	> 10 ²⁰
200	301	7/2 ⁻		0.83	0.61	2.79	4.74	0.04	0.51	0.45	0.46	1.41	10.05	0.0241	11.08	24.45	-0.22	
201	302	7/2 ⁻	9/2 ⁺	0.83	0.60	1.74	4.53	0.04	0.20	0.76	0.49	1.72	11.46	0.0203	11.32	24.77	-0.42	
202	303	7/2 ⁻		0.82	0.59	2.68	4.41	0.03	0.40	0.55	0.47	1.56	10.51	0.0181	11.45	25.19	-0.56	
203	304	7/2 ⁻	5/2 ⁺	0.83	0.60	1.42	4.09	0.03	0.12	0.81	0.48	1.86	12.06	0.0147	11.72	25.51	-0.56	
204	305	7/2 ⁻		0.83	0.60	2.22	3.64	0.02	0.21	0.58	0.43	1.94	11.25	0.0127	11.70	25.81	-0.54	
205	306	7/2 ⁻	7/2 ⁺	0.83	0.61	1.20	3.43	0.03	0.05	0.58	0.44	2.23	12.59	0.0119	12.05	25.99	-0.63	
206	307	7/2 ⁻		0.83	0.61	1.99	3.19	0.02	0.12	0.30	0.44	2.40	11.76	0.0100	11.86	26.10	-0.70	
207	308	7/2 ⁻	1/2 ⁺	0.83	0.61	1.11	3.10	0.02	0.04	0.31	0.45	2.66	12.91	0.0104	12.26	26.42	-0.78	
208	309	7/2 ⁻		0.83	0.61	1.98	3.09	0.02	0.09	0.17	0.46	2.62	11.90	0.0100	12.26	26.75	-0.89	
209	310	7/2 ⁻	3/2 ⁺	0.84	0.60	0.92	2.90	0.03	0.03	0.20	0.45	2.99	13.24	0.0091	12.57	26.96	-1.02	
210	311	7/2 ⁻		0.84	0.60	1.80	2.72	0.02	0.08	0.11	0.46	2.84	12.30	0.0086	12.54	27.21	-1.17	
211	312	7/2 ⁻	7/2 ⁻	0.84	0.60	0.80	2.60	0.05	0.03	0.18	0.46	3.09	13.79	0.0067	12.83	27.50	-1.26	
212	313	7/2 ⁻		0.84	0.60	1.68	2.48	0.02	0.08	0.08	0.47	2.96	12.91	0.0064	12.85	27.83	-1.39	
213	314	7/2 ⁻	11/2 ⁺	0.85	0.58	0.71	2.39	0.04	0.03	0.11	0.48	3.39	14.06	0.0066	13.14	28.14	-1.59	
214	315	7/2 ⁻		0.84	0.59	1.61	2.32	0.03	0.08	0.05	0.47	3.21	13.18	0.0058	13.21	28.54	-1.85	
215	316	7/2 ⁻	9/2 ⁻	0.85	0.57	0.68	2.29	0.05	0.03	0.08	0.49	3.52	14.45	0.0049	13.49	28.89	-2.13	
216	317	7/2 ⁻		0.84	0.57	1.53	2.22	0.03	0.08	0.04	0.47	3.55	13.57	0.0048	13.55	29.22	-2.46	
217	318	7/2 ⁻	1/2 ⁻	0.84	0.56	0.61	2.15	0.06	0.03	0.10	0.49	3.68	14.84	0.0044	13.82	29.59	-2.74	
218	319	7/2 ⁻		0.84	0.55	1.41	2.03	0.04	0.08	0.04	0.48	3.65	14.02	0.0040	13.85	29.87	-2.94	
219	320	7/2 ⁻	3/2 ⁻	0.84	0.55	0.41	1.82	0.05	0.03	0.10	0.50	3.88	15.31	0.0036	14.19	30.20	-3.11	
220	321	7/2 ⁻		0.84	0.54	1.21	1.62	0.02	0.10	0.03	0.50	3.98	14.53	0.0033	14.15	30.49	-3.19	
221	322	7/2 ⁻	13/2 ⁺	0.84	0.54	0.01	1.22	0.03	0.04	0.08	0.51	4.41	16.03	0.0027	14.49	30.65	-3.12	
222	323	7/2 ⁻		0.85	0.53	0.94	0.95	0.02	0.09	0.04	0.52	4.35	15.36	0.0023	14.49	31.20	-3.14	
223	324	7/2 ⁻	9/2 ⁻	0.85	0.54	-0.03	0.91	0.05	0.03	0.10	0.53	4.74	16.60	0.0021	14.76	31.51	-3.26	
224	325	7/2 ⁻		0.85	0.54	0.55	0.52	0.00	0.08	0.03	0.53	5.17	15.94	0.0019	14.74	31.74	-3.42	
225	326	7/2 ⁻	11/2 ⁻	0.87	0.53	-0.10	0.45	0.04	0.01	0.09	0.55	5.50	17.08	0.0016	15.07	32.06	-3.66	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 101 (Md)																		
226	327	3/2 ⁻		0.88	0.53	0.50	0.41	0.00	0.02	0.00	0.55	6.20	16.39	0.0017	15.01	32.33	-3.84	
227	328	3/2 ⁻	3/2 ⁻	0.88	0.54	-0.25	0.25	0.00	0.00	0.06	0.57	6.71	17.56	0.0016	15.28	32.60	-4.01	
228	329	3/2 ⁻		0.88	0.53	0.44	0.18	0.00	0.02	0.00	0.56	7.04	16.86	0.0015	15.28	32.88	-4.21	
229	330	3/2 ⁻	15/2 ⁺	0.89	0.53	-0.36	0.08	0.00	0.00	0.02	0.58	7.86	18.01	0.0014	15.55	33.18	-4.38	
230	331	3/2 ⁻		0.89	0.52	0.18	-0.17	0.00	0.01	0.00	0.58	8.04	17.30	0.0013	15.46		-4.40	
231	332	3/2 ⁻	5/2 ⁻	0.89	0.51	-0.46	-0.28	0.00	0.00	0.02	0.59	8.60	18.40	0.0012	15.81		-4.60	
232	333	3/2 ⁻		0.90	0.51	0.20	-0.26	0.00	0.01	0.00	0.60	8.65	17.71	0.0011				
233	334	7/2 ⁺	1/2 ⁻	0.91	0.51	-0.55	-0.36	0.00	0.00	0.00	0.62	9.28	18.80	0.0011				
Z = 102 (No)																		
130	232			0.89	0.78								12.94	0.0537	-4.71	-6.58	11.49	10 ^{-7.05}
131	233		5/2 ⁻	0.82	0.83	13.22							9.99	0.3126	-0.50	-1.96	7.00	10 ^{7.37}
132	234			0.82	0.83	10.65	23.87						8.08	0.5074	-0.12	-1.51	11.01	10 ^{-6.02}
133	235		5/2 ⁺	0.82	0.82	8.78	19.43						9.29	0.2006	-0.09	-1.10	10.84	10 ^{-4.58}
134	236			0.82	0.80	10.37	19.15						7.43	0.5811	0.30	-0.67	10.66	10 ^{-5.23}
135	237		13/2 ⁺	0.81	0.81	8.51	18.88						8.39	0.9586	0.29	-0.27	10.52	10 ^{-3.84}
136	238			0.81	0.81	10.00	18.51						6.52	1.1947	0.82	0.24	10.46	10 ^{-4.79}
137	239		7/2 ⁻	0.81	0.80	8.09	18.09						7.81	1.7438	0.78	0.57	10.49	10 ^{-3.77}
138	240			0.80	0.83	9.70	17.79						6.06	1.6663	1.11	0.84	10.27	10 ^{-4.31}
139	241		5/2 ⁻	0.79	0.83	7.95	17.65						7.43	2.2273	1.11	1.16	10.08	10 ^{-2.77}
140	242			0.79	0.84	9.67	17.61						5.58	2.2480	1.46	1.57	9.85	10 ^{-3.25}
141	243		1/2 ⁻	0.79	0.82	7.84	17.50						6.74	2.6741	1.48	1.93	9.64	10 ^{-1.60}
142	244			0.80	0.80	9.35	17.19						4.85	2.9247	1.83	2.38	9.54	10 ^{-2.42}
143	245		7/2 ⁻	0.80	0.78	7.50	16.85						5.91	3.9078	1.86	2.74	9.52	10 ^{-1.27}
144	246			0.79	0.77	8.96	16.45						4.18	6.1497	2.26	3.18	9.47	10 ^{-2.23}
145	247		1/2 ⁺	0.79	0.76	7.26	16.22						5.20	6.3626	2.30	3.59	9.34	10 ^{-0.80}
146	248			0.79	0.74	8.66	15.92						3.52	7.9553	2.67	4.00	9.21	10 ^{-1.49}
147	249		5/2 ⁺	0.78	0.74	7.02	15.68						4.49	11.3795	2.72	4.47	9.03	10 ^{0.07}
148	250			0.78	0.72	8.39	15.41						2.86	18.6766	3.11	4.95	8.89	10 ^{-0.55}
149	251		7/2 ⁺	0.78	0.71	6.81	15.20						3.81	6.1252	3.17	5.40	8.63	10 ^{1.33}
150	252			0.78	0.70	8.17	14.98						2.10	82.3173	3.58	5.90	8.37	10 ^{1.10}
151	253		9/2 ⁻	0.78	0.71	6.51	14.68						2.90	> 100	3.64	6.33	8.22	10 ^{2.67}
152	254			0.78	0.71	7.72	14.23						0.91	> 100	4.04	6.81	8.17	10 ^{1.78}
153	255		7/2 ⁺	0.78	0.70	5.76	13.48						1.94	> 100	4.06	7.22	8.50	10 ^{1.77}
154	256			0.78	0.69	7.20	12.96						0.21	> 100	4.48	7.69	8.54	10 ^{0.58}
155	257		11/2 ⁻	0.78	0.68	5.53	12.74						1.19	> 100	4.54	8.18	8.34	10 ^{2.27}
156	258			0.79	0.68	6.87	12.41						...	β -st	4.90	8.62	8.21	10 ^{1.64}
157	259		9/2 ⁺	0.79	0.68	5.47	12.35						0.63	> 100	5.00	9.12	7.77	10 ^{4.28}
158	260			0.80	0.67	6.82	12.30						...	β -st	5.41	9.57	7.39	10 ^{4.72}
159	261		1/2 ⁺	0.81	0.67	5.33	12.16						0.09	> 100	5.44	9.98	7.03	10 ^{7.24}
160	262			0.82	0.65	6.79	12.12						...	β -st	5.92	10.46	6.61	10 ^{8.07}
161	263		3/2 ⁺	0.83	0.66	5.18	11.97						...	β -st	5.96	10.94	6.35	10 ^{10.41}
162	264			0.85	0.67	6.50	11.68						...	β -st	6.36	11.36	6.16	10 ^{10.32}
163	265		13/2 ⁻	0.86	0.66	4.74	11.24	1.00	0.00	0.00	0.00	0.00	0.27	> 100	6.43	11.80	6.12	10 ^{11.60}
164	266			0.86	0.66	5.82	10.56						...	β -st	6.82	12.18	6.38	10 ^{9.19}
165	267		9/2 ⁺	0.88	0.66	4.20	10.02	1.00	0.00	0.00	0.00	0.00	1.18	> 100	6.81	12.49	6.47	10 ^{9.81}
166	268			0.89	0.66	5.58	9.79						0.12	> 100	7.24	12.89	6.33	10 ^{9.40}
167	269		11/2 ⁺	0.89	0.66	4.14	9.72	1.00	0.00	0.00	0.00	0.00	1.54	> 100	7.17	13.08	6.09	10 ^{11.76}
168	270			0.91	0.64	5.59	9.72	1.00	0.00	0.00	0.00	0.00	0.41	> 100	7.50	13.40	5.69	10 ^{12.95}
169	271		3/2 ⁺	0.91	0.65	3.97	9.55	1.00	0.00	0.00	0.00	0.00	2.01	> 100	7.53	13.77	5.67	10 ^{14.13}
170	272			0.95	0.62	5.40	9.36	1.00	0.00	0.00	0.00	0.00	0.91	> 100	7.85	14.03	5.54	10 ^{13.79}
171	273		15/2 ⁻	0.97	0.61	4.16	9.56	1.00	0.00	0.00	0.00	0.00	2.10	> 100	7.88	14.38	4.97	10 ^{18.74}
172	274			1.00	0.59	5.34	9.50	1.00	0.00	0.00	0.00	0.00	1.22	> 100	8.19	14.69	4.76	10 ^{19.17}
173	275		5/2 ⁺	0.99	0.58	4.04	9.38	1.00	0.00	0.00	0.00	0.00	2.53	> 100	8.23	15.06	4.55	> 10 ²⁰
174	276			1.00	0.58	5.14	9.17	1.00	0.00	0.00	0.00	0.00	1.76	> 100	8.54	15.40	4.43	> 10 ²⁰
175	277		1/2 ⁺	1.00	0.61	3.74	8.87	1.00	0.00	0.00	0.00	0.00	3.18	72.1323	8.59	15.77	4.37	> 10 ²⁰
176	278			1.00	0.62	4.72	8.45	1.00	0.00	0.00	0.00	0.00	2.52	44.6891	8.90	16.02	4.45	> 10 ²⁰
177	279		1/2 ⁺	1.06	0.61	3.58	8.30	1.00	0.00	0.00	0.00	0.00	3.66	12.7214	8.82	16.19	4.23	> 10 ²⁰

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 102 (No)																		
178	280			1.06	0.63	4.74	8.33	1.00	0.00	0.00	0.00	0.00	2.66	19.9277	9.12	16.50	3.95	$> 10^{20}$
179	281		1/2 ⁺	1.09	0.60	3.07	7.81	1.00	0.00	0.00	0.00	0.00	4.36	11.2665	9.17	16.86	4.29	$> 10^{20}$
180	282			1.12	0.56	4.21	7.28	1.00	0.00	0.00	0.00	0.00	3.55	15.1846	9.41	17.09	4.52	$> 10^{20}$
181	283		3/2 ⁺	1.13	0.56	3.14	7.35	1.00	0.00	0.00	0.00	0.00	4.71	14.0023	9.56	17.53	4.09	$> 10^{20}$
182	284			1.15	0.52	4.21	7.35	1.00	0.00	0.00	0.00	0.00	3.85	10.5434	9.86	17.82	3.87	$> 10^{20}$
183	285		1/2 ⁺	1.15	0.57	3.01	7.22	1.00	0.00	0.00	0.00	0.00	5.04	9.9908	9.86	18.14	3.55	$> 10^{20}$
184	286			1.12	0.63	3.96	6.97	0.99	0.01	0.00	0.22	0.01	4.40	5.7160	10.14	18.45	3.51	$> 10^{20}$
185	287		1/2	1.05	0.63	2.06	6.02	0.96	0.04	0.00	0.23	0.04	6.34	1.9770	10.10	18.81	4.15	$> 10^{20}$
186	288			1.02	0.63	3.54	5.60	0.89	0.11	0.00	0.28	0.11	5.20	2.5347	10.40	19.13	4.25	$> 10^{20}$
187	289		3/2	0.97	0.61	2.10	5.64	0.89	0.11	0.00	0.24	0.11	6.69	1.5339	10.24	19.32	3.85	$> 10^{20}$
188	290			0.97	0.62	3.50	5.59	0.86	0.14	0.00	0.28	0.14	5.61	1.7414	10.61	19.66	3.58	$> 10^{20}$
189	291		5/2	0.96	0.62	2.22	5.71	0.80	0.20	0.00	0.31	0.20	6.88	1.2059	10.54	19.93	3.26	$> 10^{20}$
190	292			0.84	0.69	3.78	5.99	0.40	0.60	0.00	0.29	0.60	5.58	0.2383	10.72	20.19	2.65	$> 10^{20}$
191	293		1/2 ⁺	0.84	0.68	2.37	6.15	0.40	0.60	0.00	0.29	0.60	6.95	0.2318	10.72	20.48	2.22	$> 10^{20}$
192	294			0.84	0.67	3.67	6.05	0.44	0.56	0.00	0.32	0.56	6.01	0.1662	11.08	20.83	2.06	$> 10^{20}$
193	295		7/2 ⁺	0.84	0.67	2.18	5.85	0.29	0.71	0.00	0.33	0.71	7.46	0.1465	11.09	21.16	1.97	$> 10^{20}$
194	296			0.84	0.66	3.41	5.59	0.29	0.71	0.00	0.37	0.71	6.52	0.1085	11.35	21.50	1.87	$> 10^{20}$
195	297		5/2 ⁻	0.83	0.67	2.03	5.44	0.34	0.65	0.01	0.39	0.67	7.99	0.0784	11.42	21.83	1.70	$> 10^{20}$
196	298			0.83	0.66	3.36	5.39	0.21	0.79	0.00	0.39	0.79	6.96	0.0763	11.79	22.20	1.41	$> 10^{20}$
197	299		1/2 ⁻	0.83	0.65	1.93	5.29	0.28	0.66	0.06	0.40	0.78	8.42	0.0564	11.68	22.49	1.18	$> 10^{20}$
198	300			0.82	0.64	3.32	5.25	0.22	0.78	0.00	0.43	0.78	7.40	0.0519	12.14	22.92	0.85	$> 10^{20}$
199	301		7/2 ⁻	0.82	0.63	1.87	5.19	0.22	0.67	0.11	0.40	0.89	8.77	0.0384	12.06	23.26	0.62	$> 10^{20}$
200	302			0.82	0.60	3.15	5.02	0.18	0.81	0.01	0.43	0.83	7.86	0.0380	12.42	23.50	0.37	$> 10^{20}$
201	303		9/2 ⁺	0.82	0.60	1.72	4.87	0.13	0.65	0.22	0.42	1.09	9.33	0.0301	12.40	23.72	0.17	$> 10^{20}$
202	304			0.82	0.59	2.97	4.69	0.11	0.85	0.04	0.45	0.93	8.40	0.0263	12.70	24.15	0.11	$> 10^{20}$
203	305		5/2 ⁺	0.81	0.60	1.41	4.38	0.07	0.41	0.52	0.41	1.45	9.91	0.0228	12.69	24.41	0.19	$> 10^{20}$
204	306			0.81	0.60	2.54	3.95	0.06	0.65	0.29	0.38	1.23	9.15	0.0192	13.01	24.71	0.20	$> 10^{20}$
205	307		7/2 ⁺	0.82	0.61	1.16	3.70	0.05	0.23	0.72	0.42	1.67	10.52	0.0162	12.96	25.01	0.19	$> 10^{20}$
206	308			0.82	0.61	2.26	3.43	0.05	0.36	0.57	0.41	1.56	9.61	0.0151	13.24	25.10	0.17	$> 10^{20}$
207	309		7/2 ⁻	0.82	0.62	0.97	3.23	0.07	0.14	0.70	0.43	1.81	11.08	0.0117	13.10	25.36	0.05	$> 10^{20}$
208	310			0.82	0.62	2.25	3.22	0.04	0.27	0.54	0.41	1.80	10.04	0.0117	13.37	25.64	-0.03	
209	311		7/2 ⁻	0.82	0.62	0.86	3.12	0.06	0.10	0.59	0.43	2.04	11.39	0.0103	13.32	25.89	-0.18	
210	312			0.83	0.60	2.28	3.15	0.04	0.21	0.44	0.42	2.02	10.30	0.0108	13.80	26.34	-0.48	
211	313		7/2 ⁻	0.83	0.60	0.80	3.08	0.06	0.08	0.48	0.43	2.21	11.60	0.0095	13.81	26.64	-0.68	
212	314			0.83	0.61	1.86	2.66	0.04	0.14	0.34	0.42	2.26	10.82	0.0084	13.98	26.84	-0.70	
213	315		11/2 ⁺	0.84	0.60	0.73	2.59	0.04	0.04	0.35	0.44	2.53	12.17	0.0076	14.01	27.14	-0.93	
214	316			0.83	0.60	1.95	2.68	0.04	0.12	0.26	0.44	2.39	11.26	0.0068	14.35	27.56	-1.22	
215	317		9/2 ⁻	0.83	0.59	0.65	2.60	0.04	0.05	0.33	0.45	2.61	12.55	0.0058	14.32	27.81	-1.45	
216	318			0.84	0.57	1.89	2.54	0.05	0.09	0.20	0.46	2.49	11.66	0.0057	14.67	28.23	-1.80	
217	319		1/2 ⁻	0.84	0.57	0.59	2.48	0.05	0.06	0.19	0.46	2.81	12.96	0.0050	14.65	28.47	-1.99	
218	320			0.83	0.56	1.70	2.29	0.04	0.10	0.14	0.47	2.65	12.11	0.0047	14.94	28.79	-2.22	
219	321		3/2 ⁻	0.84	0.55	0.43	2.13	0.05	0.05	0.14	0.47	3.08	13.41	0.0041	14.95	29.14	-2.30	
220	322			0.83	0.54	1.52	1.94	0.04	0.09	0.08	0.48	2.93	12.57	0.0041	15.26	29.41	-2.43	
221	323		13/2 ⁺	0.84	0.54	0.27	1.78	0.03	0.05	0.10	0.49	3.45	13.88	0.0036	15.51	30.00	-2.62	
222	324			0.84	0.54	1.22	1.48	0.04	0.09	0.06	0.48	3.33	13.20	0.0032	15.79	30.27	-2.59	
223	325		9/2 ⁻	0.84	0.54	-0.11	1.11	0.03	0.05	0.08	0.51	3.87	14.53	0.0027	15.71	30.47	-2.81	
224	326			0.85	0.53	1.04	0.93	0.01	0.09	0.03	0.50	4.06	13.72	0.0026	16.20	30.94	-2.90	
225	327		11/2 ⁻	0.85	0.54	-0.19	0.85	0.01	0.03	0.07	0.52	4.64	14.94	0.0022	16.11	31.18	-3.02	
226	328			0.86	0.54	0.92	0.73	0.00	0.10	0.02	0.52	4.62	14.12	0.0022	16.52	31.53	-3.38	
227	329		3/2 ⁻	0.86	0.54	-0.26	0.66	0.03	0.01	0.11	0.53	5.16	15.30	0.0020	16.52	31.80	-3.54	
228	330			0.87	0.52	0.79	0.53	0.00	0.09	0.02	0.52	5.36	14.59	0.0019	16.87	32.15	-3.76	
229	331		15/2 ⁺	0.87	0.53	-0.52	0.26	0.00	0.00	0.09	0.54	6.23	15.72	0.0018	16.70	32.25	-3.76	
230	332			0.87	0.52	0.64	0.12	0.00	0.05	0.03	0.53	6.18	14.96	0.0017	17.16	32.61	-3.97	
231	333		5/2 ⁻	0.87	0.51	-0.50	0.14	0.01	0.00	0.06	0.55	6.86	16.11	0.0016	17.12	32.93	-4.10	
232	334			0.88	0.51	0.54	0.04	0.00	0.03	0.01	0.54	6.99	15.33	0.0016	17.46		-4.35	
233	335		1/2 ⁻	0.89	0.51	-0.67	-0.13	0.00	0.00	0.05	0.55	7.73	16.55	0.0014	17.35		-4.50	
234	336			1.01	0.52	0.13	-0.53	0.00	0.02	0.00	0.55	7.87	15.98	0.0010				

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	$\overline{E_n}$ (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 102 (No)																		
235	337		3/2 ⁻	0.99	0.53	-0.57	-0.44	0.00	0.00	0.03	0.57	8.52	16.93	0.0010				
236	338			0.99	0.52	0.49	-0.08	0.00	0.00	0.00	0.57	8.61	15.74	0.0012				
Z = 103 (Lr)																		
132	235	9/2 ⁺		0.81	0.84								10.23	0.1341	-2.23	-2.35	11.38	10 ^{-5.76}
133	236	9/2 ⁺	5/2 ⁻	0.81	0.83	9.17							11.43	0.1725	-1.84	-1.92	11.21	10 ^{-5.07}
134	237	9/2 ⁺		0.81	0.82	10.42	19.59						9.52	0.1892	-1.79	-1.50	11.07	10 ^{-5.06}
135	238	9/2 ⁺	13/2 ⁺	0.81	0.81	8.86	19.28						10.65	0.2342	-1.44	-1.15	10.95	10 ^{-4.45}
136	239	9/2 ⁺		0.80	0.81	10.04	18.91						8.69	0.2974	-1.39	-0.57	10.89	10 ^{-4.68}
137	240	9/2 ⁺	7/2 ⁻	0.80	0.81	8.48	18.52						9.92	0.3457	-1.00	-0.21	10.92	10 ^{-4.41}
138	241	9/2 ⁺		0.79	0.84	9.69	18.17						8.18	0.3467	-1.02	0.09	10.70	10 ^{-4.25}
139	242	7/2 ⁻	5/2 ⁻	0.79	0.84	8.31	17.99						9.54	1.2251	-0.66	0.45	10.52	10 ^{-3.48}
140	243	9/2 ⁺		0.79	0.85	9.60	17.90						7.78	0.3936	-0.73	0.73	10.30	10 ^{-3.29}
141	244	1/2 ⁻	1/2 ⁻	0.80	0.82	8.17	17.76						8.97	1.6522	-0.40	1.08	10.08	10 ^{-2.42}
142	245	9/2 ⁺		0.79	0.81	9.48	17.65						6.99	0.6026	-0.27	1.56	9.92	10 ^{-2.33}
143	246	9/2 ⁺	7/2 ⁻	0.79	0.80	7.86	17.34						8.08	0.7690	0.09	1.95	9.88	10 ^{-1.88}
144	247	9/2 ⁺		0.78	0.80	9.00	16.86						6.35	0.8461	0.13	2.39	9.88	10 ^{-2.23}
145	248	9/2 ⁺	1/2 ⁺	0.78	0.78	7.61	16.61						7.39	1.1916	0.48	2.79	9.74	10 ^{-1.51}
146	249	1/2 ⁻		0.78	0.76	8.76	16.37						5.65	5.1472	0.58	3.25	9.54	10 ^{-1.31}
147	250	1/2 ⁻	5/2 ⁺	0.78	0.74	7.40	16.15						6.65	7.2948	0.96	3.68	9.36	10 ^{-0.49}
148	251	9/2 ⁺		0.77	0.73	8.48	15.88						4.98	2.7300	1.05	4.17	9.17	10 ^{-0.23}
149	252	9/2 ⁺	7/2 ⁺	0.77	0.71	7.19	15.68						5.95	1.9799	1.44	4.61	8.95	10 ^{0.74}
150	253	9/2 ⁺		0.76	0.71	8.26	15.45						4.21	7.5307	1.52	5.10	8.68	10 ^{1.24}
151	254	9/2 ⁺	9/2 ⁻	0.76	0.71	6.89	15.14						5.04	19.6416	1.90	5.53	8.55	10 ^{2.00}
152	255	9/2 ⁺		0.76	0.72	7.82	14.70						2.98	24.9983	1.99	6.03	8.50	10 ^{1.78}
153	256	9/2 ⁺	7/2 ⁺	0.76	0.70	6.14	13.96						4.04	40.5865	2.38	6.44	8.81	10 ^{1.14}
154	257	9/2 ⁺		0.76	0.68	7.29	13.44						2.28	74.7196	2.47	6.95	8.84	10 ^{0.73}
155	258	9/2 ⁺	11/2 ⁻	0.77	0.69	5.91	13.21						3.24	> 100	2.85	7.39	8.65	10 ^{1.67}
156	259	9/2 ⁺		0.77	0.69	6.94	12.85						1.78	> 100	2.92	7.81	8.50	10 ^{1.82}
157	260	9/2 ⁺	1/2 ⁺	0.78	0.68	5.88	12.82						2.72	> 100	3.32	8.32	8.09	10 ^{3.56}
158	261	9/2 ⁺		0.78	0.68	6.88	12.76						1.17	> 100	3.38	8.79	7.73	10 ^{4.57}
159	262	9/2 ⁺	1/2 ⁺	0.79	0.66	5.72	12.60						2.25	> 100	3.76	9.21	7.38	10 ^{6.20}
160	263	9/2 ⁺		0.79	0.65	6.85	12.57						0.57	> 100	3.82	9.74	6.94	10 ^{7.77}
161	264	9/2 ⁺	3/2 ⁺	0.79	0.66	5.52	12.37	1.00	0.00	0.00	0.00	0.00	±	±	4.16	10.12	6.72	10 ^{9.11}
162	265	9/2 ⁺		0.82	0.67	6.56	12.08						...	β-st	4.23	10.59	6.47	10 ^{9.97}
163	266	9/2 ⁺	13/2 ⁻	0.83	0.67	5.09	11.65	1.00	0.00	0.00	0.00	0.00	±	±	4.57	11.01	6.53	10 ^{10.02}
164	267	9/2 ⁺		0.83	0.66	5.85	10.93	1.00	0.00	0.00	0.00	0.00	0.47	> 100	4.60	11.41	6.78	10 ^{8.49}
165	268	9/2 ⁺	9/2 ⁺	0.84	0.66	4.52	10.37	1.00	0.00	0.00	0.00	0.00	2.15	> 100	4.92	11.73	6.93	10 ^{8.20}
166	269	9/2 ⁺		0.85	0.66	5.56	10.09	1.00	0.00	0.00	0.00	0.00	1.11	> 100	4.90	12.14	6.80	10 ^{8.40}
167	270	9/2 ⁺	11/2 ⁺	0.87	0.66	4.45	10.01	1.00	0.00	0.00	0.00	0.00	2.54	> 100	5.21	12.38	6.56	10 ^{9.87}
168	271	9/2 ⁺		0.89	0.65	5.57	10.02	1.00	0.00	0.00	0.00	0.00	1.45	> 100	5.19	12.69	6.14	10 ^{11.61}
169	272	9/2 ⁺	3/2 ⁺	0.88	0.65	4.30	9.86	1.00	0.00	0.00	0.00	0.00	3.06	> 100	5.52	13.05	6.06	10 ^{12.44}
170	273	9/2 ⁺		0.91	0.64	5.35	9.65	1.00	0.00	0.00	0.00	0.00	2.01	> 100	5.48	13.33	5.96	10 ^{12.60}
171	274	9/2 ⁺	15/2 ⁻	0.95	0.60	4.46	9.82	1.00	0.00	0.00	0.00	0.00	3.29	> 100	5.78	13.66	5.43	10 ^{16.23}
172	275	9/2 ⁺		0.98	0.59	5.34	9.81	1.00	0.00	0.00	0.00	0.00	2.44	> 100	5.78	13.98	5.16	10 ^{17.63}
173	276	9/2 ⁺	5/2 ⁺	0.98	0.58	4.37	9.71	1.00	0.00	0.00	0.00	0.00	3.78	88.2551	6.11	14.34	4.93	10 ^{19.55}
174	277	9/2 ⁺		0.98	0.58	5.16	9.53	1.00	0.00	0.00	0.00	0.00	3.00	64.1737	6.14	14.68	4.80	> 10 ²⁰
175	278	9/2 ⁺	1/2 ⁺	0.98	0.61	4.06	9.22	1.00	0.00	0.00	0.00	0.00	4.47	33.3592	6.46	15.05	4.74	> 10 ²⁰
176	279	9/2 ⁺		0.98	0.62	4.72	8.78	1.00	0.00	0.00	0.00	0.00	3.82	21.6993	6.47	15.36	4.84	10 ^{19.96}
177	280	5/2 ⁻	1/2 ⁺	1.05	0.61	3.74	8.47	1.00	0.00	0.00	0.00	0.00	5.13	15.6901	6.62	15.44	4.79	> 10 ²⁰
178	281	5/2 ⁻		1.05	0.63	4.76	8.50	1.00	0.00	0.00	0.00	0.00	4.08	21.8566	6.64	15.76	4.43	> 10 ²⁰
179	282	5/2 ⁻	1/2 ⁺	1.08	0.60	3.41	8.17	1.00	0.00	0.00	0.00	0.00	5.76	11.2653	6.98	16.16	4.69	> 10 ²⁰
180	283	5/2 ⁻		1.09	0.57	4.30	7.71	0.98	0.02	0.00	0.21	0.02	4.90	9.9439	7.07	16.48	4.83	> 10 ²⁰
181	284	5/2 ⁺	3/2 ⁺	1.12	0.56	3.35	7.65	0.77	0.23	0.00	0.19	0.23	6.16	4.3750	7.28	16.84	4.50	> 10 ²⁰
182	285	3/2		1.12	0.55	4.20	7.55	0.95	0.05	0.00	0.25	0.05	5.42	6.2056	7.27	17.13	4.27	> 10 ²⁰
183	286	11/2	1/2	1.12	0.56	3.32	7.52	0.54	0.46	0.00	0.25	0.46	6.62	3.1978	7.58	17.43	3.94	> 10 ²⁰
184	287	11/2		1.06	0.62	3.99	7.31	0.48	0.52	0.00	0.36	0.52	5.96	1.9632	7.61	17.75	3.86	> 10 ²⁰
185	288	11/2	1/2	1.00	0.63	2.41	6.41	0.52	0.48	0.00	0.42	0.48	7.80	1.1838	7.97	18.07	4.46	> 10 ²⁰

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 103 (Lr)																		
186	289	11/2		1.00	0.63	3.59	6.00	0.40	0.60	0.00	0.44	0.60	6.55	1.4897	8.01	18.41	4.55	> 10 ²⁰
187	290	11/2	3/2	0.95	0.63	2.41	6.00	0.65	0.30	0.05	0.35	0.40	8.03	1.4386	8.32	18.57	4.23	> 10 ²⁰
188	291	11/2		0.94	0.62	3.49	5.90	0.41	0.59	0.00	0.40	0.59	6.86	1.2693	8.32	18.93	3.99	> 10 ²⁰
189	292	9/2	5/2	0.95	0.62	2.48	5.97	0.66	0.32	0.02	0.33	0.36	8.17	1.3925	8.58	19.12	3.77	> 10 ²⁰
190	293	9/2 ⁺		0.84	0.69	3.74	6.21	0.15	0.85	0.00	0.41	0.85	6.86	0.1815	8.54	19.26	3.16	> 10 ²⁰
191	294	9/2 ⁺	1/2 ⁺	0.84	0.68	2.73	6.47	0.22	0.75	0.03	0.38	0.81	7.94	0.2622	8.90	19.62	2.71	> 10 ²⁰
192	295	9/2 ⁺		0.84	0.67	3.64	6.37	0.19	0.81	0.00	0.42	0.81	6.97	0.2013	8.86	19.94	2.67	> 10 ²⁰
193	296	9/2 ⁺	7/2 ⁺	0.83	0.68	2.47	6.11	0.18	0.79	0.03	0.41	0.85	8.48	0.1689	9.15	20.24	2.57	> 10 ²⁰
194	297	9/2 ⁺		0.83	0.67	3.50	5.97	0.11	0.89	0.00	0.46	0.89	7.50	0.1293	9.24	20.59	2.39	> 10 ²⁰
195	298	9/2 ⁺	5/2 ⁻	0.83	0.67	2.33	5.83	0.17	0.71	0.12	0.42	0.95	8.96	0.0939	9.54	20.96	2.23	> 10 ²⁰
196	299	9/2 ⁺		0.83	0.66	3.39	5.72	0.09	0.90	0.01	0.47	0.92	7.93	0.0881	9.57	21.35	1.99	> 10 ²⁰
197	300	9/2 ⁺	1/2 ⁻	0.82	0.65	2.30	5.69	0.21	0.56	0.23	0.44	1.02	9.33	0.0697	9.94	21.61	1.65	> 10 ²⁰
198	301	9/2 ⁺		0.82	0.64	3.24	5.54	0.07	0.91	0.02	0.49	0.95	8.41	0.0594	9.86	22.00	1.41	> 10 ²⁰
199	302	9/2 ⁺	7/2 ⁻	0.82	0.62	2.23	5.47	0.08	0.63	0.29	0.46	1.21	9.76	0.0425	10.22	22.28	1.21	> 10 ²⁰
200	303	9/2 ⁺		0.81	0.61	3.20	5.44	0.06	0.85	0.09	0.50	1.03	8.74	0.0472	10.28	22.69	0.87	> 10 ²⁰
201	304	9/2 ⁺	9/2 ⁺	0.81	0.61	2.03	5.24	0.05	0.46	0.49	0.48	1.44	10.26	0.0358	10.58	22.99	0.78	> 10 ²⁰
202	305	1/2 ⁻		0.81	0.59	2.93	4.96	0.07	0.74	0.19	0.50	1.12	9.41	0.0300	10.54	23.24	0.65	> 10 ²⁰
203	306	1/2 ⁻	5/2 ⁺	0.81	0.60	1.78	4.70	0.07	0.28	0.65	0.50	1.58	10.86	0.0272	10.90	23.59	0.61	> 10 ²⁰
204	307	1/2 ⁻		0.81	0.60	2.53	4.31	0.05	0.42	0.52	0.44	1.49	9.99	0.0247	10.90	23.91	0.75	> 10 ²⁰
205	308	9/2 ⁺	7/2 ⁺	0.81	0.61	1.35	3.88	0.02	0.13	0.82	0.46	1.86	11.47	0.0180	11.09	24.05	0.82	> 10 ²⁰
206	309	9/2 ⁺		0.81	0.61	2.44	3.79	0.01	0.28	0.55	0.44	1.86	10.44	0.0183	11.26	24.51	0.61	> 10 ²⁰
207	310	9/2 ⁺	7/2 ⁻	0.81	0.62	1.22	3.66	0.04	0.08	0.67	0.46	2.05	11.88	0.0143	11.51	24.61	0.59	> 10 ²⁰
208	311	9/2 ⁺		0.81	0.62	2.22	3.43	0.01	0.19	0.42	0.45	2.17	10.99	0.0135	11.47	24.85	0.36	> 10 ²⁰
209	312	9/2 ⁺	11/2 ⁺	0.81	0.63	1.19	3.41	0.02	0.05	0.51	0.47	2.35	12.38	0.0123	11.80	25.12	0.28	> 10 ²⁰
210	313	9/2 ⁺		0.81	0.62	2.10	3.29	0.01	0.13	0.32	0.46	2.39	11.43	0.0109	11.62	25.42	0.16	> 10 ²⁰
211	314	9/2 ⁺	3/2 ⁺	0.82	0.62	1.08	3.18	0.02	0.04	0.39	0.47	2.53	12.85	0.0097	11.90	25.70	0.00	> 10 ²⁰
212	315	9/2 ⁺		0.82	0.62	2.08	3.16	0.01	0.10	0.22	0.48	2.56	11.80	0.0092	12.12	26.10	-0.28	
213	316	9/2 ⁺	3/2 ⁺	0.82	0.61	1.04	3.12	0.01	0.04	0.27	0.48	2.85	13.01	0.0094	12.43	26.43	-0.53	
214	317	9/2 ⁺		0.82	0.60	1.94	2.98	0.01	0.09	0.16	0.49	2.66	12.16	0.0079	12.42	26.77	-0.78	
215	318	9/2 ⁺	3/2 ⁺	0.82	0.60	1.00	2.94	0.01	0.04	0.21	0.49	3.03	13.47	0.0074	12.76	27.08	-1.07	
216	319	9/2 ⁺		0.82	0.58	1.90	2.89	0.01	0.09	0.14	0.50	2.73	12.55	0.0066	12.77	27.45	-1.36	
217	320	9/2 ⁺	1/2 ⁻	0.82	0.57	0.85	2.75	0.02	0.04	0.18	0.49	3.09	13.88	0.0057	13.03	27.68	-1.53	
218	321	9/2 ⁺		0.81	0.56	1.73	2.58	0.01	0.08	0.10	0.51	2.90	13.04	0.0052	13.06	28.00	-1.72	
219	322	9/2 ⁺	3/2 ⁻	0.82	0.55	0.67	2.40	0.02	0.04	0.14	0.51	3.30	14.38	0.0046	13.30	28.25	-1.78	
220	323	9/2 ⁺		0.81	0.54	1.58	2.25	0.01	0.07	0.08	0.52	3.21	13.51	0.0045	13.36	28.62	-1.95	
221	324	9/2 ⁺	13/2 ⁺	0.82	0.54	0.54	2.11	0.01	0.02	0.10	0.54	3.67	14.78	0.0041	13.64	29.15	-2.07	
222	325	9/2 ⁺		0.82	0.54	1.22	1.76	0.00	0.07	0.05	0.52	3.69	14.10	0.0036	13.64	29.43	-2.08	
223	326	9/2 ⁺	9/2 ⁻	0.82	0.54	0.23	1.45	0.00	0.03	0.09	0.54	4.06	15.47	0.0030	13.98	29.68	-2.29	
224	327	9/2 ⁺		0.83	0.53	1.04	1.27	0.00	0.05	0.04	0.55	4.30	14.63	0.0030	13.97	30.17	-2.39	
225	328	9/2 ⁺	11/2 ⁻	0.84	0.54	0.09	1.13	0.00	0.00	0.07	0.56	4.84	15.88	0.0025	14.25	30.36	-2.51	
226	329	9/2 ⁺		0.85	0.54	0.92	1.01	0.00	0.03	0.03	0.56	4.85	15.11	0.0024	14.26	30.78	-2.89	
227	330	9/2 ⁺	3/2 ⁻	0.85	0.53	0.08	1.00	0.00	0.01	0.08	0.57	5.32	16.24	0.0023	14.60	31.11	-3.06	
228	331	9/2 ⁺		0.85	0.52	0.60	0.68	0.00	0.01	0.02	0.57	5.67	15.52	0.0022	14.42	31.28	-3.17	
229	332	9/2 ⁺	15/2 ⁺	0.85	0.52	-0.12	0.48	0.00	0.00	0.03	0.59	6.28	16.71	0.0021	14.82	31.52	-3.30	
230	333	9/2 ⁺		0.85	0.52	0.65	0.53	0.00	0.01	0.00	0.58	6.32	16.01	0.0019	14.83	31.99	-3.51	
231	334	9/2 ⁺	5/2 ⁻	0.85	0.52	-0.24	0.42	0.00	0.00	0.03	0.59	6.93	17.13	0.0018	15.09	32.21	-3.63	
232	335	9/2 ⁺		0.86	0.51	0.55	0.31	0.00	0.01	0.00	0.58	7.01	16.42	0.0017	15.10	32.56	-4.00	
233	336	9/2 ⁺	1/2 ⁻	0.87	0.52	-0.43	0.12	0.00	0.00	0.02	0.60	7.63	17.63	0.0015	15.34	32.69	-4.03	
234	337	9/2 ⁺		0.86	0.52	0.38	-0.05	0.00	0.00	0.00	0.60	7.77	16.96	0.0014	15.58		-4.21	
235	338	3/2 ⁻	3/2 ⁻	0.98	0.53	-0.70	-0.32	0.00	0.00	0.02	0.62	8.43	18.20	0.0011	15.45		-4.07	
236	339	3/2 ⁻		0.98	0.52	0.39	-0.31	0.00	0.01	0.00	0.62	8.48	17.15	0.0012	15.35			
Z = 104 (Rf)																		
134	238			0.81	0.81								8.60	0.5439	-0.52	-2.31	11.46	10 ^{-6.41}
135	239		7/2 ⁻	0.81	0.80	8.87							9.77	0.3572	-0.51	-1.95	11.37	10 ^{-5.15}
136	240			0.81	0.80	10.42	19.29						7.83	0.3704	-0.14	-1.53	11.32	10 ^{-6.11}
137	241		7/2 ⁻	0.80	0.81	8.59	19.01						8.93	0.5661	-0.02	-1.02	11.24	10 ^{-4.87}
138	242			0.79	0.84	9.96	18.56						7.27	0.4732	0.26	-0.76	11.27	10 ^{-6.00}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 104 (Rf)																		
139	243		5/2 ⁻	0.79	0.84	8.33	18.30						8.53	0.6989	0.28	-0.38	11.02	10 ^{-4.41}
140	244			0.79	0.85	9.93	18.26						6.77	0.6784	0.61	-0.11	10.80	10 ^{-4.95}
141	245		1/2 ⁻	0.79	0.83	8.16	18.09						8.09	0.8465	0.61	0.21	10.59	10 ^{-3.39}
142	246			0.79	0.82	9.86	18.02						6.09	1.2569	0.99	0.72	10.39	10 ^{-3.97}
143	247		7/2 ⁻	0.80	0.80	7.88	17.74						7.20	1.2369	1.01	1.10	10.35	10 ^{-2.81}
144	248			0.78	0.80	9.38	17.26						5.44	1.4552	1.39	1.52	10.33	10 ^{-3.82}
145	249		1/2 ⁺	0.78	0.79	7.64	17.02						6.56	1.8022	1.42	1.90	10.18	10 ^{-2.41}
146	250			0.77	0.78	9.12	16.76						4.83	2.3214	1.78	2.36	10.02	10 ^{-3.04}
147	251		5/2 ⁺	0.77	0.76	7.45	16.57						5.87	3.3075	1.83	2.79	9.83	10 ^{-1.47}
148	252			0.76	0.75	8.88	16.33						4.18	4.6690	2.23	3.28	9.61	10 ^{-1.94}
149	253		7/2 ⁺	0.76	0.73	7.23	16.11						5.21	1.5984	2.26	3.70	9.40	10 ^{-0.29}
150	254			0.75	0.72	8.66	15.89						3.44	16.0647	2.67	4.19	9.13	10 ^{-0.57}
151	255		9/2 ⁻	0.75	0.72	6.96	15.62						4.29	35.4459	2.74	4.64	8.98	10 ^{0.95}
152	256			0.75	0.72	8.18	15.14						2.25	40.2853	3.11	5.10	8.97	10 ^{-0.08}
153	257		11/2 ⁻	0.75	0.70	6.27	14.45						3.28	> 100	3.23	5.61	9.21	10 ^{0.26}
154	258			0.75	0.69	7.65	13.93						1.54	> 100	3.59	6.06	9.28	10 ^{-1.01}
155	259		7/2 ⁺	0.75	0.69	5.97	13.62						2.51	> 100	3.65	6.50	9.07	10 ^{0.68}
156	260			0.75	0.68	7.39	13.36						1.00	> 100	4.10	7.02	8.88	10 ^{0.19}
157	261		9/2 ⁺	0.75	0.68	5.92	13.31						1.96	> 100	4.14	7.46	8.49	10 ^{2.51}
158	262			0.77	0.68	7.26	13.18						0.42	> 100	4.52	7.90	8.10	10 ^{2.79}
159	263		1/2 ⁺	0.77	0.67	5.88	13.14						1.39	> 100	4.68	8.44	7.70	10 ^{5.30}
160	264			0.77	0.65	7.17	13.05						...	β -st	5.00	8.82	7.35	10 ^{5.66}
161	265		3/2 ⁺	0.77	0.66	5.62	12.79						0.69	> 100	5.10	9.26	7.07	10 ^{7.91}
162	266			0.79	0.67	6.96	12.57						...	β -st	5.49	9.71	6.90	10 ^{7.61}
163	267		13/2 ⁻	0.79	0.67	5.14	12.09						...	β -st	5.54	10.11	6.95	10 ^{8.45}
164	268			0.80	0.67	6.20	11.34						...	β -st	5.90	10.49	7.25	10 ^{6.08}
165	269		9/2 ⁺	0.81	0.66	4.52	10.73						0.07	> 100	5.89	10.81	7.47	10 ^{6.24}
166	270			0.83	0.66	5.88	10.40						...	β -st	6.21	11.11	7.41	10 ^{5.41}
167	271		11/2 ⁺	0.84	0.66	4.48	10.36	1.00	0.00	0.00	0.00	0.00	0.43	> 100	6.24	11.45	7.13	10 ^{7.66}
168	272			0.86	0.65	5.90	10.38						...	β -st	6.58	11.77	6.81	10 ^{8.02}
169	273		3/2 ⁺	0.86	0.65	4.30	10.21	1.00	0.00	0.00	0.00	0.00	0.85	> 100	6.58	12.10	6.65	10 ^{9.84}
170	274			0.91	0.63	5.75	10.05						...	β -st	6.98	12.46	6.48	10 ^{9.60}
171	275		15/2 ⁻	0.93	0.60	4.49	10.24	1.00	0.00	0.00	0.00	0.00	0.99	> 100	7.00	12.78	5.96	10 ^{13.42}
172	276			0.95	0.59	5.70	10.19						0.13	> 100	7.36	13.15	5.65	10 ^{14.18}
173	277		5/2 ⁺	0.95	0.58	4.39	10.09	1.00	0.00	0.00	0.00	0.00	1.47	> 100	7.38	13.49	5.43	10 ^{16.63}
174	278			0.96	0.59	5.53	9.91	1.00	0.00	0.00	0.00	0.00	0.65	> 100	7.75	13.89	5.24	10 ^{16.83}
175	279		1/2 ⁺	0.96	0.61	4.07	9.59	1.00	0.00	0.00	0.00	0.00	2.13	> 100	7.76	14.22	5.21	10 ^{18.10}
176	280			0.96	0.62	5.06	9.12	1.00	0.00	0.00	0.00	0.00	1.47	> 100	8.09	14.56	5.29	10 ^{16.43}
177	281		1/2 ⁺	1.04	0.61	3.70	8.76	1.00	0.00	0.00	0.00	0.00	2.84	35.6825	8.05	14.68	5.32	10 ^{17.36}
178	282			1.05	0.61	5.09	8.80	1.00	0.00	0.00	0.00	0.00	1.51	> 100	8.39	15.03	4.95	10 ^{18.91}
179	283		1/2 ⁺	1.06	0.60	3.44	8.53	1.00	0.00	0.00	0.00	0.00	3.26	42.4497	8.42	15.40	5.09	10 ^{18.95}
180	284			1.10	0.56	4.61	8.05	1.00	0.00	0.00	0.00	0.00	2.43	72.8077	8.73	15.80	5.22	10 ^{16.97}
181	285		3/2 ⁺	1.11	0.56	3.46	8.07	1.00	0.00	0.00	0.00	0.00	3.62	50.7668	8.84	16.12	4.83	> 10 ²⁰
182	286			1.12	0.52	4.52	7.98	1.00	0.00	0.00	0.00	0.00	2.86	35.3855	9.16	16.43	4.52	> 10 ²⁰
183	287		1/2 ⁺	1.12	0.56	3.33	7.85	1.00	0.00	0.00	0.00	0.00	4.03	29.7608	9.17	16.75	4.33	> 10 ²⁰
184	288			1.10	0.61	4.25	7.58	1.00	0.00	0.00	0.00	0.00	3.38	17.0121	9.43	17.04	4.29	> 10 ²⁰
185	289		1/2	0.98	0.63	2.34	6.59	1.00	0.00	0.00	0.00	0.00	5.31	4.7875	9.35	17.32	4.96	10 ^{19.82}
186	290			0.98	0.63	3.90	6.24	0.98	0.02	0.00	0.16	0.02	4.10	7.1519	9.66	17.67	5.03	10 ^{18.39}
187	291		3/2	0.96	0.63	2.32	6.22	0.97	0.03	0.00	0.19	0.03	5.70	3.4741	9.57	17.89	4.76	> 10 ²⁰
188	292			0.94	0.64	3.78	6.10						...	β -st	9.86	18.18	4.53	> 10 ²⁰
189	293		5/2	0.93	0.63	2.44	6.22	1.00	0.00	0.00	0.00	0.00	5.95	2.6670	9.82	18.40	4.19	> 10 ²⁰
190	294			0.84	0.68	3.81	6.25	0.67	0.33	0.00	0.22	0.33	4.84	0.4279	9.89	18.43	3.88	> 10 ²⁰
191	295		1/2 ⁺	0.84	0.68	2.67	6.47	0.65	0.35	0.00	0.25	0.35	5.87	0.6423	9.82	18.72	3.43	> 10 ²⁰
192	296			0.83	0.68	3.98	6.65	0.75	0.25	0.00	0.24	0.25	4.85	0.5171	10.17	19.03	3.22	> 10 ²⁰
193	297		7/2 ⁺	0.83	0.68	2.51	6.50	0.61	0.39	0.00	0.24	0.39	6.35	0.4109	10.21	19.36	3.08	> 10 ²⁰
194	298			0.83	0.67	3.80	6.31	0.57	0.43	0.00	0.31	0.43	5.35	0.3029	10.51	19.75	2.96	> 10 ²⁰
195	299		5/2 ⁻	0.83	0.67	2.35	6.15	0.58	0.42	0.00	0.31	0.42	6.82	0.1906	10.53	20.07	2.79	> 10 ²⁰

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 104 (Rf)																		
196	300			0.82	0.67	3.71	6.05	0.45	0.55	0.00	0.33	0.55	5.80	0.1861	10.85	20.42	2.49	$> 10^{20}$
197	301		$1/2^-$	0.82	0.65	2.32	6.02	0.50	0.50	0.00	0.37	0.50	7.24	0.1290	10.87	20.81	2.20	$> 10^{20}$
198	302			0.81	0.64	3.58	5.90	0.40	0.60	0.00	0.40	0.60	6.26	0.1151	11.21	21.07	1.98	$> 10^{20}$
199	303		$7/2^-$	0.81	0.62	2.18	5.76	0.43	0.57	0.00	0.39	0.57	7.68	0.0783	11.16	21.38	1.73	$> 10^{20}$
200	304			0.81	0.61	3.55	5.73	0.35	0.65	0.00	0.41	0.65	6.63	0.0876	11.51	21.78	1.50	$> 10^{20}$
201	305		$9/2^+$	0.81	0.60	2.08	5.64	0.30	0.69	0.01	0.44	0.71	8.06	0.0695	11.56	22.14	1.29	$> 10^{20}$
202	306			0.81	0.59	3.23	5.31	0.29	0.71	0.00	0.45	0.71	7.24	0.0509	11.86	22.40	1.21	$> 10^{20}$
203	307		$5/2^+$	0.80	0.60	1.66	4.89	0.15	0.71	0.14	0.40	0.99	8.82	0.0448	11.74	22.65	1.27	$> 10^{20}$
204	308			0.80	0.60	2.82	4.48	0.11	0.86	0.03	0.42	0.92	7.99	0.0366	12.03	22.93	1.42	$> 10^{20}$
205	309		$11/2^+$	0.80	0.60	1.41	4.24	0.08	0.43	0.49	0.40	1.41	9.41	0.0304	12.10	23.18	1.42	$> 10^{20}$
206	310			0.80	0.62	2.66	4.07	0.07	0.68	0.25	0.40	1.18	8.51	0.0268	12.31	23.58	1.30	$> 10^{20}$
207	311		$7/2^-$	0.80	0.62	1.32	3.98	0.10	0.30	0.60	0.43	1.50	9.83	0.0234	12.42	23.93	1.13	$> 10^{20}$
208	312			0.80	0.63	2.58	3.90	0.06	0.52	0.42	0.41	1.36	8.87	0.0218	12.78	24.26	0.82	$> 10^{20}$
209	313		$7/2^-$	0.80	0.63	1.16	3.74	0.08	0.23	0.68	0.45	1.62	10.25	0.0182	12.75	24.55	0.63	$> 10^{20}$
210	314			0.81	0.63	2.49	3.65	0.06	0.39	0.54	0.42	1.50	9.28	0.0172	13.14	24.76	0.40	$> 10^{20}$
211	315		$9/2^-$	0.81	0.63	1.03	3.53	0.05	0.20	0.72	0.45	1.73	10.70	0.0124	13.10	24.99	0.22	$> 10^{20}$
212	316			0.80	0.63	2.25	3.29	0.05	0.33	0.58	0.44	1.61	9.95	0.0112	13.27	25.39	0.25	$> 10^{20}$
213	317		$9/2^-$	0.81	0.62	1.09	3.35	0.04	0.14	0.72	0.47	1.88	11.07	0.0105	13.32	25.75	-0.04	
214	318			0.81	0.61	2.31	3.40	0.05	0.22	0.59	0.45	1.82	10.15	0.0106	13.68	26.10	-0.49	
215	319		$3/2^+$	0.81	0.60	0.98	3.28	0.05	0.09	0.59	0.47	2.08	11.42	0.0102	13.67	26.43	-0.73	
216	320			0.81	0.59	2.18	3.15	0.05	0.19	0.49	0.45	1.98	10.43	0.0095	13.95	26.72	-0.96	
217	321		$3/2^+$	0.81	0.57	0.89	3.06	0.05	0.07	0.49	0.47	2.23	11.76	0.0086	13.98	27.01	-1.19	
218	322			0.81	0.56	2.01	2.90	0.05	0.17	0.36	0.45	2.15	10.94	0.0074	14.27	27.32	-1.32	
219	323		$3/2^-$	0.81	0.55	0.71	2.72	0.05	0.09	0.38	0.47	2.34	12.26	0.0063	14.30	27.60	-1.43	
220	324			0.81	0.54	1.81	2.51	0.05	0.13	0.24	0.47	2.36	11.45	0.0060	14.53	27.90	-1.54	
221	325		$13/2^+$	0.81	0.54	0.55	2.35	0.04	0.06	0.24	0.49	2.70	12.73	0.0053	14.54	28.18	-1.66	
222	326			0.81	0.54	1.60	2.14	0.05	0.11	0.13	0.50	2.59	11.99	0.0049	14.92	28.56	-1.74	
223	327		$9/2^-$	0.81	0.54	0.20	1.79	0.06	0.05	0.14	0.51	3.07	13.35	0.0040	14.89	28.86	-1.67	
224	328			0.82	0.53	1.34	1.53	0.03	0.09	0.07	0.51	3.07	12.49	0.0039	15.19	29.16	-1.79	
225	329		$11/2^-$	0.82	0.53	0.15	1.49	0.02	0.04	0.09	0.52	3.61	13.73	0.0032	15.25	29.50	-2.05	
226	330			0.83	0.53	1.21	1.37	0.02	0.09	0.03	0.51	3.64	12.97	0.0030	15.54	29.80	-2.23	
227	331		$3/2^-$	0.83	0.53	-0.12	1.09	0.02	0.06	0.09	0.53	4.12	14.13	0.0028	15.34	29.94	-2.29	
228	332			0.83	0.52	1.07	0.96	0.01	0.10	0.03	0.53	4.17	13.40	0.0027	15.81	30.23	-2.45	
229	333		$15/2^+$	0.83	0.52	-0.05	1.02	0.01	0.03	0.09	0.54	4.78	14.52	0.0026	15.88	30.70	-2.66	
230	334			0.83	0.51	0.89	0.83	0.00	0.10	0.03	0.53	4.62	13.84	0.0023	16.11	30.94	-2.76	
231	335		$5/2^-$	0.84	0.50	-0.16	0.72	0.01	0.03	0.11	0.55	5.11	14.94	0.0022	16.19	31.28	-3.12	
232	336			0.84	0.51	0.79	0.62	0.00	0.09	0.04	0.54	5.11	14.26	0.0021	16.43	31.52	-3.26	
233	337		$1/2^-$	0.84	0.52	-0.30	0.49	0.00	0.01	0.11	0.55	5.77	15.33	0.0019	16.56	31.89	-3.47	
234	338			0.85	0.52	0.54	0.24	0.00	0.07	0.01	0.55	5.66	14.80	0.0017	16.72	32.30	-3.46	
235	339		$3/2^-$	0.98	0.52	-0.66	-0.12	0.01	0.00	0.08	0.57	6.49	15.98	0.0013	16.75	32.21	-3.47	
Z = 105 (Db)																		
136	241		$7/2^-$		0.79	0.81							9.97	0.2966	-2.16	-2.29	11.69	$10^{-5.83}$
137	242		$7/2^-$	$7/2^-$	0.79	0.81	8.93						11.01	0.3608	-1.83	-1.85	11.62	$10^{-5.37}$
138	243		$7/2^-$		0.77	0.83	10.07	19.00					9.27	0.3880	-1.72	-1.46	11.60	$10^{-5.64}$
139	244		$7/2^-$	$3/2^-$	0.77	0.84	8.64	18.71					10.56	0.5852	-1.41	-1.13	11.44	$10^{-4.96}$
140	245		$1/2^-$		0.77	0.86	10.04	18.67					8.68	0.6005	-1.31	-0.69	11.09	$10^{-4.54}$
141	246		$1/2^-$	$7/2^-$	0.77	0.85	8.57	18.61					9.97	0.6103	-0.90	-0.29	10.82	$10^{-3.58}$
142	247		$1/2^-$		0.77	0.84	9.74	18.31					8.11	0.6746	-1.01	-0.02	10.68	$10^{-3.59}$
143	248		$1/2^-$	$7/2^-$	0.79	0.81	8.23	17.97					9.25	1.0186	-0.66	0.35	10.61	$10^{-3.08}$
144	249		$1/2^-$		0.77	0.82	9.41	17.65					7.48	0.9783	-0.62	0.76	10.68	$10^{-3.59}$
145	250		$1/2^-$	$1/2^+$	0.77	0.80	8.03	17.45					8.57	1.6121	-0.23	1.19	10.51	$10^{-2.84}$
146	251		$1/2^-$		0.77	0.79	9.20	17.23					6.82	1.9601	-0.15	1.63	10.30	$10^{-2.66}$
147	252		$1/2^-$	$5/2^+$	0.76	0.77	7.84	17.04					7.86	2.5482	0.24	2.07	10.07	$10^{-1.73}$
148	253		$1/2^-$		0.76	0.75	8.94	16.78					6.15	3.3541	0.30	2.53	9.89	$10^{-1.63}$
149	254		$1/2^-$	$7/2^+$	0.75	0.74	7.59	16.53					7.22	1.1566	0.66	2.92	9.70	$10^{-0.74}$
150	255		$1/2^-$		0.75	0.73	8.78	16.37					5.40	10.9220	0.78	3.44	9.41	$10^{-0.27}$
151	256		$1/2^-$	$9/2^-$	0.75	0.72	7.31	16.08					6.27	21.2863	1.13	3.86	9.29	$10^{0.42}$

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 105 (Db)																		
152	257	1/2 ⁻		0.74	0.72	8.29	15.59						4.26	29.2341	1.23	4.33	9.26	10 ^{0.17}
153	258	1/2 ⁻	11/2 ⁻	0.74	0.70	6.64	14.92						5.28	56.6033	1.59	4.83	9.52	10 ^{-0.24}
154	259	1/2 ⁻		0.73	0.69	7.74	14.37						3.51	81.1776	1.68	5.27	9.59	10 ^{-0.78}
155	260	1/2 ⁻	7/2 ⁺	0.74	0.69	6.39	14.13						4.51	84.7904	2.10	5.75	9.34	10 ^{0.27}
156	261	1/2 ⁻		0.74	0.69	7.43	13.82						3.00	> 100	2.14	6.24	9.21	10 ^{0.31}
157	262	1/2 ⁻	9/2 ⁺	0.75	0.68	6.27	13.70						3.99	63.1986	2.49	6.63	8.85	10 ^{1.76}
158	263	1/2 ⁻		0.75	0.68	7.38	13.65						2.49	> 100	2.61	7.13	8.41	10 ^{2.86}
159	264	1/2 ⁻	1/2 ⁺	0.75	0.67	6.23	13.61						3.43	> 100	2.96	7.64	8.06	10 ^{4.43}
160	265	1/2 ⁻		0.76	0.65	7.24	13.47						1.80	> 100	3.03	8.03	7.70	10 ^{5.44}
161	266	1/2 ⁻	3/2 ⁺	0.76	0.66	5.96	13.20						2.80	> 100	3.38	8.47	7.46	10 ^{6.77}
162	267	1/2 ⁻		0.76	0.68	7.03	12.99						0.90	> 100	3.45	8.94	7.28	10 ^{7.14}
163	268	1/2 ⁻	13/2 ⁻	0.76	0.68	5.47	12.51						1.63	> 100	3.79	9.33	7.32	10 ^{7.31}
164	269	1/2 ⁻		0.77	0.67	6.22	11.69						...	β -st	3.81	9.70	7.67	10 ^{5.55}
165	270	5/2 ⁻	3/2 ⁺	0.79	0.66	4.83	11.05	1.00	0.00	0.00	0.00	0.00	\pm	\pm	4.12	10.01	7.92	10 ^{4.94}
166	271	5/2 ⁻		0.79	0.66	5.89	10.72						...	β -st	4.13	10.34	7.88	10 ^{4.75}
167	272	5/2 ⁻	11/2 ⁺	0.81	0.66	4.75	10.64	1.00	0.00	0.00	0.00	0.00	\pm	\pm	4.40	10.64	7.65	10 ^{5.97}
168	273	5/2 ⁻		0.83	0.65	5.88	10.63	1.00	0.00	0.00	0.00	0.00	0.21	> 100	4.37	10.95	7.33	10 ^{6.93}
169	274	5/2 ⁻	3/2 ⁺	0.83	0.65	4.64	10.52	1.00	0.00	0.00	0.00	0.00	\pm	\pm	4.71	11.29	7.15	10 ^{8.04}
170	275	5/2 ⁻		0.88	0.63	5.74	10.38	1.00	0.00	0.00	0.00	0.00	0.69	> 100	4.70	11.68	6.97	10 ^{8.49}
171	276	5/2 ⁻	5/2 ⁺	0.90	0.62	4.84	10.58	1.00	0.00	0.00	0.00	0.00	2.01	> 100	5.05	12.05	6.43	10 ^{11.42}
172	277	5/2 ⁻		0.92	0.60	5.72	10.56	1.00	0.00	0.00	0.00	0.00	1.18	> 100	5.07	12.43	6.06	10 ^{13.05}
173	278	5/2 ⁻	15/2 ⁻	0.93	0.59	4.72	10.44	1.00	0.00	0.00	0.00	0.00	2.58	> 100	5.40	12.78	5.81	10 ^{14.82}
174	279	5/2 ⁻		0.93	0.59	5.55	10.26	1.00	0.00	0.00	0.00	0.00	1.80	> 100	5.42	13.17	5.61	10 ^{15.70}
175	280	5/2 ⁻	1/2 ⁺	0.93	0.60	4.39	9.94	1.00	0.00	0.00	0.00	0.00	3.27	> 100	5.74	13.50	5.58	10 ^{16.23}
176	281	5/2 ⁻		0.93	0.62	5.08	9.47	1.00	0.00	0.00	0.00	0.00	2.66	> 100	5.77	13.86	5.66	10 ^{15.39}
177	282	9/2 ⁻	5/2 ⁺	1.00	0.58	3.75	8.84	1.00	0.00	0.00	0.00	0.00	4.21	81.1257	5.82	13.87	5.96	10 ^{13.95}
178	283	5/2		1.03	0.62	5.20	8.95	1.00	0.00	0.00	0.00	0.00	2.95	31.1779	5.93	14.31	5.49	10 ^{16.46}
179	284	5/2 ⁻	1/2 ⁺	1.06	0.58	3.78	8.98	1.00	0.00	0.00	0.00	0.00	4.67	41.4059	6.26	14.68	5.45	10 ^{17.06}
180	285	3/2 ⁺		1.08	0.56	4.65	8.42	1.00	0.00	0.00	0.00	0.00	3.85	18.7443	6.30	15.02	5.57	10 ^{16.01}
181	286	3/2 ⁺	3/2 ⁺	1.08	0.56	3.76	8.41	1.00	0.00	0.00	0.00	0.00	5.10	16.4892	6.60	15.44	5.21	10 ^{18.68}
182	287	1/2 ⁺		1.09	0.54	4.50	8.26	0.98	0.02	0.00	0.14	0.02	4.39	14.6096	6.58	15.74	5.02	10 ^{19.70}
183	288	13/2 ⁺	3/2 ⁺	1.10	0.57	3.60	8.09	0.96	0.04	0.00	0.17	0.04	5.65	13.0789	6.84	16.02	4.77	> 10 ²⁰
184	289	9/2		1.07	0.61	4.27	7.87	0.85	0.15	0.00	0.30	0.15	5.01	7.1201	6.86	16.29	4.70	> 10 ²⁰
185	290	9/2	1/2	0.96	0.63	2.69	6.96	0.81	0.19	0.00	0.39	0.19	6.87	3.4014	7.21	16.56	5.33	10 ^{17.86}
186	291	9/2		0.94	0.63	3.92	6.60	0.72	0.28	0.00	0.37	0.28	5.50	4.7610	7.23	16.90	5.40	10 ^{16.98}
187	292	13/2 ⁻	7/2 ⁺	0.83	0.68	-5.25	-1.33	0.13	0.45	0.42	0.51	1.29	\pm	\pm	-0.33	9.23	13.07	10 ^{-8.12}
188	293	9/2		0.92	0.64	11.72	6.47	0.70	0.30	0.00	0.35	0.30	5.81	3.5314	7.60	17.46	4.93	> 10 ²⁰
189	294	9/2	5/2	0.91	0.63	2.70	14.42	0.81	0.19	0.00	0.28	0.19	7.07	3.2349	7.86	17.69	4.65	> 10 ²⁰
190	295	1/2 ⁻		0.83	0.69	3.70	6.40	0.22	0.78	0.00	0.42	0.78	6.14	0.4205	7.75	17.64	4.44	> 10 ²⁰
191	296	1/2 ⁻	1/2 ⁺	0.83	0.69	2.97	6.66	0.31	0.69	0.00	0.38	0.69	7.12	0.7200	8.05	17.88	3.95	> 10 ²⁰
192	297	1/2 ⁻		0.83	0.67	4.01	6.98	0.26	0.74	0.00	0.41	0.74	5.78	0.9274	8.08	18.25	3.68	> 10 ²⁰
193	298	1/2 ⁻	7/2 ⁺	0.83	0.68	2.80	6.81	0.37	0.63	0.00	0.37	0.63	7.29	0.6873	8.37	18.58	3.61	> 10 ²⁰
194	299	1/2 ⁻		0.82	0.68	3.82	6.62	0.25	0.75	0.00	0.45	0.75	6.30	0.4724	8.39	18.90	3.43	> 10 ²⁰
195	300	1/2 ⁻	5/2 ⁻	0.82	0.67	2.69	6.50	0.41	0.59	0.00	0.40	0.59	7.74	0.3006	8.73	19.26	3.22	> 10 ²⁰
196	301	1/2 ⁻		0.82	0.67	3.76	6.44	0.23	0.77	0.00	0.47	0.77	6.66	0.3083	8.78	19.63	2.96	> 10 ²⁰
197	302	1/2 ⁻	7/2 ⁻	0.81	0.66	2.60	6.36	0.32	0.67	0.01	0.42	0.69	8.15	0.1622	9.06	19.93	2.69	> 10 ²⁰
198	303	1/2 ⁻		0.81	0.64	3.60	6.20	0.17	0.83	0.00	0.48	0.83	7.16	0.1758	9.08	20.29	2.47	> 10 ²⁰
199	304	1/2 ⁻	1/2 ⁻	0.80	0.63	2.51	6.11	0.30	0.65	0.05	0.46	0.75	8.61	0.1236	9.41	20.56	2.27	> 10 ²⁰
200	305	1/2 ⁻		0.80	0.61	3.51	6.02	0.16	0.84	0.00	0.51	0.84	7.62	0.1142	9.36	20.87	1.99	> 10 ²⁰
201	306	1/2 ⁻	9/2 ⁺	0.80	0.60	2.41	5.92	0.16	0.70	0.14	0.47	0.98	9.03	0.0923	9.69	21.25	1.82	> 10 ²⁰
202	307	1/2 ⁻		0.80	0.60	3.23	5.64	0.14	0.85	0.01	0.54	0.87	8.15	0.0708	9.70	21.55	1.79	> 10 ²⁰
203	308	1/2 ⁻	5/2 ⁺	0.80	0.60	1.99	5.23	0.13	0.49	0.38	0.47	1.25	9.72	0.0605	10.03	21.77	1.83	> 10 ²⁰
204	309	1/2 ⁻		0.80	0.60	2.84	4.83	0.10	0.71	0.19	0.45	1.09	8.91	0.0472	10.04	22.07	1.92	> 10 ²⁰
205	310	1/2 ⁻	11/2 ⁺	0.80	0.60	1.75	4.59	0.10	0.28	0.62	0.46	1.52	10.34	0.0387	10.38	22.48	1.94	> 10 ²⁰
206	311	1/2 ⁻		0.80	0.62	2.65	4.40	0.08	0.46	0.46	0.45	1.38	9.45	0.0321	10.37	22.68	1.83	> 10 ²⁰
207	312	1/2 ⁻	7/2 ⁻	0.80	0.62	1.61	4.26	0.09	0.20	0.70	0.48	1.63	10.72	0.0293	10.66	23.08	1.56	> 10 ²⁰
208	313	1/2 ⁻		0.79	0.62	2.54	4.16	0.08	0.33	0.55	0.47	1.55	9.83	0.0253	10.63	23.41	1.46	> 10 ²⁰

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 105 (Db)																		
209	314	1/2 ⁻	9/2 ⁻	0.79	0.62	1.51	4.06	0.08	0.16	0.71	0.48	1.73	11.16	0.0191	10.99	23.74	1.16	> 10 ²⁰
210	315	1/2 ⁻		0.79	0.63	2.46	3.98	0.07	0.26	0.58	0.47	1.69	10.29	0.0184	10.96	24.10	0.91	> 10 ²⁰
211	316	1/2 ⁻	1/2 ⁻	0.79	0.62	1.50	3.97	0.10	0.15	0.63	0.49	1.77	11.56	0.0167	11.42	24.52	0.60	> 10 ²⁰
212	317	1/2 ⁻		0.79	0.62	2.21	3.71	0.06	0.22	0.53	0.47	1.85	10.91	0.0124	11.38	24.65	0.49	> 10 ²⁰
213	318	1/2 ⁻	7/2 ⁺	0.79	0.61	1.38	3.59	0.08	0.08	0.61	0.50	1.99	12.18	0.0118	11.67	24.99	0.19	> 10 ²⁰
214	319	1/2 ⁻		0.79	0.60	2.25	3.63	0.05	0.18	0.41	0.48	2.08	11.21	0.0106	11.61	25.30	0.02	> 10 ²⁰
215	320	1/2 ⁻	3/2 ⁻	0.79	0.60	1.19	3.43	0.07	0.09	0.42	0.50	2.20	12.50	0.0095	11.82	25.49	-0.13	
216	321	1/2 ⁻		0.80	0.59	2.22	3.40	0.05	0.13	0.27	0.50	2.32	11.48	0.0097	11.86	25.81	-0.40	
217	322	1/2 ⁻	3/2 ⁺	0.80	0.57	1.19	3.41	0.07	0.05	0.32	0.51	2.45	12.64	0.0099	12.17	26.15	-0.60	
218	323	1/2 ⁻		0.80	0.56	2.03	3.21	0.05	0.13	0.20	0.51	2.40	11.81	0.0083	12.18	26.45	-0.72	
219	324	1/2 ⁻	3/2 ⁺	0.80	0.55	1.00	3.03	0.07	0.05	0.26	0.51	2.60	13.11	0.0076	12.48	26.78	-0.88	
220	325	1/2 ⁻		0.80	0.54	1.83	2.83	0.05	0.13	0.15	0.53	2.48	12.27	0.0070	12.50	27.03	-0.98	
221	326	1/2 ⁻	13/2 ⁺	0.80	0.54	0.85	2.68	0.07	0.04	0.18	0.52	2.85	13.52	0.0063	12.80	27.35	-1.16	
222	327	1/2 ⁻		0.80	0.54	1.56	2.41	0.04	0.11	0.10	0.54	2.75	12.82	0.0056	12.76	27.68	-1.14	
223	328	1/2 ⁻	9/2 ⁻	0.80	0.54	0.48	2.04	0.05	0.06	0.13	0.55	3.19	14.18	0.0046	13.05	27.94	-1.09	
224	329	1/2 ⁻		0.81	0.53	1.39	1.87	0.03	0.10	0.06	0.55	3.21	13.36	0.0044	13.10	28.29	-1.26	
225	330	1/2 ⁻	11/2 ⁻	0.81	0.53	0.45	1.84	0.03	0.04	0.09	0.56	3.61	14.59	0.0036	13.40	28.64	-1.47	
226	331	1/2 ⁻		0.81	0.53	1.05	1.49	0.01	0.10	0.04	0.56	3.84	13.80	0.0036	13.23	28.77	-1.48	
227	332	1/2 ⁻	3/2 ⁻	0.81	0.53	0.34	1.39	0.03	0.04	0.12	0.57	4.10	14.99	0.0033	13.69	29.03	-1.73	
228	333	1/2 ⁻		0.81	0.52	1.07	1.41	0.01	0.10	0.03	0.57	4.20	14.27	0.0031	13.69	29.50	-1.88	
229	334	1/2 ⁻	15/2 ⁺	0.81	0.52	0.21	1.28	0.01	0.03	0.10	0.58	4.76	15.45	0.0029	13.95	29.83	-2.01	
230	335	5/2 ⁻		0.82	0.50	0.93	1.14	0.00	0.04	0.05	0.58	4.80	14.72	0.0027	13.99	30.10	-2.34	
231	336	5/2 ⁻	5/2 ⁻	0.82	0.50	0.10	1.03	0.01	0.01	0.09	0.59	5.15	15.86	0.0025	14.26	30.44	-2.56	
232	337	5/2 ⁻		0.82	0.51	0.78	0.88	0.00	0.03	0.03	0.58	5.25	15.18	0.0024	14.25	30.68	-2.69	
233	338	5/2 ⁻	1/2 ⁻	0.82	0.52	0.01	0.79	0.01	0.01	0.07	0.60	5.58	16.33	0.0022	14.55	31.11	-2.93	
234	339	5/2 ⁻		0.83	0.52	0.52	0.53	0.00	0.03	0.00	0.59	5.73	15.73	0.0020	14.54	31.26	-2.91	
Z = 106 (Sg)																		
138	244			0.78	0.82								8.29	0.2333	-0.43	-2.15	11.90	10 ^{-6.76}
139	245		3/2 ⁻	0.76	0.85	8.65							9.68	0.2820	-0.42	-1.84	11.84	10 ^{-5.57}
140	246			0.77	0.86	10.33	18.98						7.92	0.2639	-0.13	-1.43	11.47	10 ^{-5.85}
141	247		7/2 ⁻	0.78	0.85	8.51	18.84						9.15	0.3782	-0.19	-1.09	11.30	10 ^{-4.42}
142	248			0.77	0.85	10.18	18.69						7.21	0.4351	0.24	-0.77	11.05	10 ^{-4.92}
143	249		7/2 ⁻	0.77	0.83	8.25	18.43						8.36	0.5628	0.27	-0.40	10.95	10 ^{-3.62}
144	250			0.77	0.82	9.80	18.06						6.59	0.6383	0.66	0.03	11.01	10 ^{-4.83}
145	251		1/2 ⁺	0.77	0.81	8.07	17.88						7.72	0.8973	0.70	0.47	10.82	10 ^{-3.32}
146	252			0.76	0.80	9.58	17.65						5.98	1.0143	1.08	0.93	10.61	10 ^{-3.89}
147	253		5/2 ⁺	0.76	0.77	7.87	17.44						7.05	1.8611	1.10	1.34	10.39	10 ^{-2.28}
148	254			0.75	0.76	9.35	17.22						5.29	2.0032	1.52	1.82	10.16	10 ^{-2.76}
149	255		7/2 ⁺	0.75	0.74	7.63	16.98						6.44	0.6390	1.55	2.21	9.98	10 ^{-1.22}
150	256			0.74	0.74	9.17	16.79						4.58	4.8761	1.94	2.72	9.69	10 ^{-1.50}
151	257		9/2 ⁻	0.74	0.73	7.38	16.54						5.49	10.0977	2.01	3.14	9.55	10 ^{-0.01}
152	258			0.74	0.72	8.64	16.01						3.49	12.2675	2.36	3.59	9.57	10 ^{-1.16}
153	259		11/2 ⁻	0.73	0.71	6.73	15.36						4.50	18.6922	2.45	4.05	9.80	10 ^{-0.74}
154	260			0.73	0.70	8.09	14.82						2.81	21.7411	2.80	4.48	9.89	10 ^{-2.05}
155	261		7/2 ⁺	0.74	0.69	6.44	14.53						3.79	27.8813	2.85	4.96	9.72	10 ^{-0.52}
156	262			0.73	0.69	7.82	14.26						2.25	48.6060	3.25	5.38	9.56	10 ^{-1.11}
157	263		9/2 ⁺	0.73	0.68	6.33	14.16						3.29	17.8945	3.31	5.80	9.19	10 ^{1.01}
158	264			0.74	0.69	7.74	14.08						1.78	> 100	3.67	6.28	8.84	10 ^{1.03}
159	265		1/2 ⁺	0.74	0.67	6.31	14.05						2.71	> 100	3.75	6.71	8.45	10 ^{3.38}
160	266			0.74	0.66	7.59	13.90						1.08	> 100	4.10	7.13	8.12	10 ^{3.48}
161	267		3/2 ⁺	0.74	0.66	6.06	13.65						2.05	> 100	4.20	7.58	7.93	10 ^{5.24}
162	268			0.74	0.68	7.36	13.42						0.16	> 100	4.53	7.98	7.75	10 ^{4.86}
163	269		13/2 ⁻	0.74	0.68	5.50	12.86						0.88	> 100	4.56	8.35	7.86	10 ^{5.51}
164	270			0.75	0.66	6.60	12.10						...	β -st	4.93	8.74	8.22	10 ^{3.08}
165	271		3/2 ⁺	0.75	0.66	4.88	11.48						0.12	> 100	4.98	9.10	8.48	10 ^{3.28}
166	272			0.76	0.67	6.20	11.08						...	β -st	5.29	9.42	8.48	10 ^{2.21}
167	273		3/2 ⁺	0.77	0.66	4.77	10.97						...	β -st	5.31	9.71	8.24	10 ^{4.15}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 106 (Sg)																		
168	274			0.81	0.65	6.17	10.94						...	β -st	5.60	9.97	7.94	$10^{4.14}$
169	275		$3/2^+$	0.81	0.65	4.69	10.85						...	β -st	5.64	10.36	7.74	$10^{5.97}$
170	276			0.85	0.64	6.16	10.84						...	β -st	6.06	10.76	7.49	$10^{5.94}$
171	277		$5/2^+$	0.87	0.62	4.89	11.05						...	β -st	6.12	11.17	6.89	$10^{9.58}$
172	278			0.89	0.60	6.12	11.02						...	β -st	6.52	11.59	6.52	$10^{10.30}$
173	279		$15/2^-$	0.89	0.59	4.76	10.88	1.00	0.00	0.00	0.00	0.00	0.35	> 100	6.56	11.96	6.25	$10^{12.77}$
174	280			0.90	0.59	5.87	10.63						...	β -st	6.89	12.30	6.08	$10^{12.63}$
175	281		$1/2^+$	0.90	0.60	4.47	10.34	1.00	0.00	0.00	0.00	0.00	0.99	> 100	6.96	12.70	6.00	$10^{14.10}$
176	282			0.94	0.60	5.30	9.77	1.00	0.00	0.00	0.00	0.00	0.47	> 100	7.18	12.95	6.23	$10^{11.86}$
177	283		$5/2^+$	0.96	0.58	3.94	9.25	1.00	0.00	0.00	0.00	0.00	1.94	> 100	7.37	13.19	6.35	$10^{12.24}$
178	284			1.01	0.62	5.49	9.43	1.00	0.00	0.00	0.00	0.00	0.63	> 100	7.66	13.58	5.92	$10^{13.55}$
179	285		$1/2^+$	1.04	0.58	3.83	9.32	1.00	0.00	0.00	0.00	0.00	2.18	> 100	7.71	13.97	5.80	$10^{15.32}$
180	286			1.05	0.56	5.02	8.85	1.00	0.00	0.00	0.00	0.00	1.36	> 100	8.09	14.38	5.87	$10^{13.84}$
181	287		$3/2^+$	1.06	0.55	3.78	8.80	1.00	0.00	0.00	0.00	0.00	2.63	> 100	8.10	14.70	5.53	$10^{17.00}$
182	288			1.07	0.52	4.87	8.64	1.00	0.00	0.00	0.00	0.00	1.83	> 100	8.47	15.05	5.27	$10^{17.60}$
183	289		$1/2^+$	1.07	0.56	3.63	8.50	1.00	0.00	0.00	0.00	0.00	3.12	97.9192	8.50	15.34	5.10	$10^{19.87}$
184	290			1.07	0.61	4.54	8.17	1.00	0.00	0.00	0.00	0.00	2.52	55.1493	8.77	15.64	5.09	$10^{18.95}$
185	291		$1/2$	0.96	0.63	2.55	7.09	1.00	0.00	0.00	0.00	0.00	4.51	11.3878	8.64	15.85	5.87	$10^{14.90}$
186	292			0.94	0.63	4.19	6.74	1.00	0.00	0.00	0.00	0.00	3.16	20.0239	8.91	16.14	5.92	$10^{13.55}$
187	293		$3/2$	0.91	0.65	2.59	6.78	1.00	0.00	0.00	0.00	0.00	4.79	8.2747	16.75	16.42	5.67	$10^{16.11}$
188	294			0.90	0.65	3.96	6.55	1.00	0.00	0.00	0.00	0.00	3.70	9.9662	8.99	16.59	5.61	$10^{15.42}$
189	295		$5/2$	0.88	0.64	2.76	6.72	0.99	0.01	0.00	0.11	0.01	4.90	7.4317	9.05	16.91	5.17	$10^{19.44}$
190	296			0.90	0.63	3.95	6.71						...	β -st	9.30	17.06	5.00	$10^{19.69}$
191	297		$1/2^+$	0.83	0.68	2.67	6.62	1.00	0.00	0.00	0.00	0.00	5.22	1.1720	9.00	17.06	4.77	> 10^{20}
192	298			0.83	0.67	4.32	6.98	0.94	0.06	0.00	0.13	0.06	3.78	1.9182	9.31	17.39	4.26	> 10^{20}
193	299		$7/2^+$	0.82	0.68	2.82	7.14	0.94	0.06	0.00	0.15	0.06	5.16	1.6519	9.33	17.70	4.10	> 10^{20}
194	300			0.82	0.68	4.13	6.95	0.93	0.07	0.00	0.14	0.07	4.18	1.0876	9.64	18.03	3.95	> 10^{20}
195	301		$5/2^-$	0.82	0.67	2.68	6.80	0.88	0.12	0.00	0.18	0.12	5.62	0.5716	9.63	18.36	3.80	> 10^{20}
196	302			0.81	0.67	4.09	6.77	0.83	0.17	0.00	0.20	0.17	4.52	0.6621	9.97	18.75	3.50	> 10^{20}
197	303		$7/2^-$	0.81	0.65	2.61	6.70	0.84	0.16	0.00	0.22	0.16	5.96	0.3118	9.98	19.04	3.24	> 10^{20}
198	304			0.81	0.65	3.95	6.57	0.72	0.28	0.00	0.25	0.28	4.98	0.3217	10.33	19.41	2.99	> 10^{20}
199	305		$1/2^-$	0.80	0.63	2.52	6.47	0.68	0.32	0.00	0.31	0.32	6.39	0.2296	10.34	19.75	2.79	> 10^{20}
200	306			0.80	0.61	3.82	6.34	0.64	0.36	0.00	0.35	0.36	5.42	0.2140	10.66	20.02	2.54	> 10^{20}
201	307		$9/2^+$	0.81	0.60	2.35	6.17	0.53	0.47	0.00	0.37	0.47	6.90	0.1524	10.60	20.29	2.38	> 10^{20}
202	308			0.80	0.59	3.56	5.91	0.51	0.49	0.00	0.39	0.49	6.03	0.1090	10.93	20.63	2.37	> 10^{20}
203	309		$5/2^+$	0.81	0.60	2.02	5.59	0.38	0.62	0.00	0.39	0.62	7.56	0.0932	10.96	20.99	2.42	> 10^{20}
204	310			0.80	0.60	3.19	5.21	0.29	0.71	0.00	0.41	0.71	6.60	0.0841	11.31	21.35	2.47	> 10^{20}
205	311		$5/2^+$	0.80	0.60	1.76	4.95	0.22	0.68	0.10	0.39	0.88	8.05	0.0695	11.32	21.70	2.36	> 10^{20}
206	312			0.80	0.61	2.88	4.64	0.16	0.84	0.00	0.43	0.84	7.25	0.0535	11.55	21.92	2.30	> 10^{20}
207	313		$7/2^-$	0.80	0.62	1.66	4.54	0.18	0.53	0.29	0.39	1.11	8.56	0.0441	11.59	22.26	2.06	> 10^{20}
208	314			0.80	0.62	2.84	4.50	0.12	0.84	0.04	0.43	0.92	7.71	0.0387	11.89	22.52	1.88	> 10^{20}
209	315		$5/2^+$	0.79	0.61	1.59	4.44	0.13	0.44	0.43	0.40	1.30	9.02	0.0363	11.97	22.96	1.61	> 10^{20}
210	316			0.79	0.60	2.77	4.36	0.14	0.73	0.13	0.42	0.99	8.13	0.0292	12.28	23.23	1.42	> 10^{20}
211	317		$3/2^-$	0.78	0.59	1.56	4.33	0.20	0.34	0.46	0.43	1.26	9.43	0.0240	12.33	23.76	1.01	> 10^{20}
212	318			0.78	0.58	2.66	4.21	0.15	0.61	0.24	0.42	1.09	8.53	0.0226	12.78	24.16	0.85	> 10^{20}
213	319		$5/2^+$	0.78	0.57	1.28	3.93	0.10	0.31	0.59	0.45	1.49	9.95	0.0186	12.67	24.35	0.61	> 10^{20}
214	320			0.79	0.58	2.48	3.76	0.10	0.51	0.39	0.43	1.29	9.14	0.0151	12.91	24.52	0.38	> 10^{20}
215	321		$7/2^+$	0.78	0.58	1.19	3.67	0.05	0.23	0.71	0.48	1.68	10.37	0.0149	12.91	24.73	0.28	> 10^{20}
216	322			0.79	0.58	2.35	3.54	0.05	0.36	0.57	0.45	1.56	9.40	0.0138	13.05	24.91	0.24	> 10^{20}
217	323		$3/2^-$	0.79	0.58	1.20	3.55	0.09	0.14	0.72	0.48	1.73	10.62	0.0123	13.06	25.22	0.01	> 10^{20}
218	324			0.79	0.56	2.30	3.50	0.05	0.32	0.55	0.45	1.66	9.65	0.0123	13.33	25.51	-0.11	
219	325		$3/2^+$	0.79	0.55	0.99	3.29	0.04	0.14	0.68	0.49	1.92	10.89	0.0116	13.32	25.79	-0.21	
220	326			0.79	0.54	2.10	3.09	0.05	0.26	0.48	0.46	1.85	10.09	0.0104	13.59	26.08	-0.30	
221	327		$13/2^+$	0.79	0.54	0.86	2.96	0.04	0.11	0.57	0.49	2.10	11.41	0.0090	13.60	26.40	-0.46	
222	328			0.79	0.54	1.84	2.70	0.05	0.19	0.40	0.48	2.07	10.72	0.0078	13.88	26.64	-0.49	
223	329		$9/2^-$	0.79	0.54	0.58	2.42	0.06	0.09	0.34	0.50	2.35	11.99	0.0067	13.97	27.02	-0.52	
224	330			0.79	0.54	1.67	2.24	0.05	0.12	0.19	0.51	2.43	11.27	0.0062	14.25	27.35	-0.59	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 106 (Sg)																		
225	331		11/2 ⁻	0.79	0.53	0.27	1.93	0.02	0.06	0.19	0.51	2.94	12.51	0.0049	14.07	27.47	-0.66	
226	332			0.80	0.53	1.52	1.79	0.04	0.09	0.09	0.52	2.81	11.71	0.0049	14.55	27.78	-0.84	
227	333		3/2 ⁻	0.80	0.53	0.34	1.87	0.05	0.08	0.10	0.53	3.19	12.93	0.0044	14.55	28.24	-1.04	
228	334			0.80	0.52	1.39	1.73	0.03	0.11	0.06	0.51	3.15	12.19	0.0042	14.87	28.56	-1.21	
229	335		15/2 ⁺	0.80	0.52	0.20	1.59	0.02	0.07	0.10	0.54	3.56	13.38	0.0038	14.87	28.82	-1.54	
230	336			0.80	0.51	1.24	1.45	0.02	0.12	0.05	0.52	3.45	12.66	0.0035	15.18	29.17	-1.71	
231	337		5/2 ⁻	0.80	0.51	0.10	1.34	0.02	0.06	0.11	0.55	3.83	13.81	0.0032	15.18	29.43	-1.86	
232	338			0.80	0.50	1.16	1.25	0.01	0.12	0.05	0.54	3.83	13.01	0.0032	15.55	29.81	-2.13	
233	339		1/2 ⁻	0.80	0.52	-0.07	1.08	0.02	0.04	0.12	0.56	4.27	14.29	0.0027	15.47	30.03	-2.22	
Z = 107 (Bh)																		
140	247	5/2 ⁻		0.77	0.87								9.89	0.2477	-2.17	-2.30	11.93	10 ^{-5.74}
141	248	5/2 ⁻	7/2 ⁻	0.77	0.87	8.85							11.22	0.2937	-1.82	-2.02	11.71	10 ^{-4.97}
142	249	5/2 ⁻		0.77	0.85	10.15	19.01						9.32	0.3215	-1.85	-1.60	11.59	10 ^{-5.07}
143	250	5/2 ⁻	1/2 ⁻	0.77	0.84	8.71	18.86						10.41	0.4246	-1.39	-1.12	11.45	10 ^{-4.43}
144	251	5/2 ⁻		0.77	0.84	9.86	18.57						8.63	0.4395	-1.34	-0.68	11.34	10 ^{-4.51}
145	252	5/2 ⁻	1/2 ⁺	0.77	0.82	8.40	18.26						9.80	0.7160	-1.01	-0.31	11.16	10 ^{-3.78}
146	253	5/2 ⁻		0.76	0.81	9.63	18.03						8.04	0.8599	-0.96	0.12	10.95	10 ^{-3.62}
147	254	5/2 ⁻	5/2 ⁺	0.76	0.79	8.22	17.85						9.17	1.0801	-0.60	0.50	10.76	10 ^{-2.83}
148	255	5/2 ⁻		0.75	0.78	9.42	17.64						7.38	1.5489	-0.53	0.98	10.54	10 ^{-2.63}
149	256	5/2 ⁻	5/2 ⁺	0.75	0.75	8.00	17.42						8.55	1.8477	-0.16	1.39	10.38	10 ^{-1.89}
150	257	5/2 ⁻		0.75	0.74	9.24	17.23						6.69	2.9069	-0.09	1.85	10.08	10 ^{-1.46}
151	258	5/2 ⁻	9/2 ⁻	0.75	0.73	7.71	16.95						7.61	6.3205	0.24	2.25	9.96	10 ^{-0.80}
152	259	5/2 ⁻		0.75	0.73	8.73	16.45						5.60	7.5681	0.34	2.70	10.00	10 ^{-1.24}
153	260	5/2 ⁻	11/2 ⁻	0.74	0.71	7.06	15.80						6.63	10.6223	0.68	3.13	10.25	10 ^{-1.56}
154	261	5/2 ⁻		0.74	0.70	8.20	15.27						4.87	13.0074	0.79	3.60	10.33	10 ^{-2.11}
155	262	5/2 ⁻	7/2 ⁺	0.73	0.69	6.85	15.05						5.84	16.5396	1.20	4.05	10.12	10 ^{-1.19}
156	263	5/2 ⁻		0.73	0.69	7.85	14.70						4.32	24.5044	1.23	4.48	10.00	10 ^{-1.24}
157	264	5/2 ⁻	9/2 ⁺	0.73	0.69	6.78	14.63						5.28	11.5153	1.68	4.98	9.61	10 ^{0.17}
158	265	5/2 ⁻		0.73	0.69	7.80	14.58						3.79	65.6632	1.74	5.41	9.24	10 ^{0.91}
159	266	5/2 ⁻	1/2 ⁺	0.73	0.67	6.65	14.45						4.73	> 100	2.08	5.83	8.86	10 ^{2.44}
160	267	5/2 ⁻		0.73	0.66	7.70	14.35						3.10	> 100	2.19	6.29	8.54	10 ^{3.12}
161	268	5/2 ⁻	3/2 ⁺	0.72	0.66	6.43	14.12						4.03	> 100	2.55	6.75	8.35	10 ^{4.15}
162	269	5/2 ⁻		0.72	0.68	7.35	13.77						2.18	> 100	2.54	7.07	8.24	10 ^{4.20}
163	270	5/2 ⁻	13/2 ⁻	0.73	0.68	5.88	13.22						2.90	> 100	2.91	7.47	8.33	10 ^{4.22}
164	271	1/2 ⁻		0.73	0.67	6.64	12.52						1.14	> 100	2.96	7.89	8.71	10 ^{2.55}
165	272	1/2 ⁻	3/2 ⁺	0.73	0.66	5.21	11.86						2.13	> 100	3.29	8.27	8.98	10 ^{2.06}
166	273	1/2 ⁻		0.74	0.66	6.20	11.42						0.69	> 100	3.29	8.59	8.99	10 ^{1.68}
167	274	1/2 ⁻	3/2 ⁺	0.75	0.66	5.07	11.28						±	±	3.60	8.91	8.75	10 ^{2.79}
168	275	11/2 ⁺		0.78	0.65	6.02	11.09						0.45	> 100	3.45	9.05	8.62	10 ^{2.85}
169	276	11/2 ⁺	3/2 ⁺	0.78	0.66	5.12	11.14	1.00	0.00	0.00	0.00	0.00	±	±	3.89	9.53	8.25	10 ^{4.50}
170	277	11/2 ⁺		0.82	0.64	6.23	11.35						0.16	> 100	3.96	10.02	7.90	10 ^{5.41}
171	278	11/2 ⁺	15/2 ⁻	0.86	0.61	5.25	11.48	1.00	0.00	0.00	0.00	0.00	±	±	4.32	10.43	7.29	10 ^{8.31}
172	279	11/2 ⁺		0.86	0.60	6.14	11.39						...	β -st	4.33	10.85	6.89	10 ^{9.72}
173	280	11/2 ⁺	15/2 ⁻	0.86	0.59	5.09	11.23	1.00	0.00	0.00	0.00	0.00	±	±	4.66	11.22	6.64	10 ^{11.26}
174	281	11/2 ⁺		0.86	0.59	5.88	10.97	1.00	0.00	0.00	0.00	0.00	0.60	> 100	4.67	11.56	6.48	10 ^{11.73}
175	282	11/2 ⁺	1/2 ⁺	0.87	0.61	4.79	10.67	1.00	0.00	0.00	0.00	0.00	2.05	> 100	5.00	11.96	6.41	10 ^{12.43}
176	283	11/2 ⁺		0.87	0.63	5.41	10.20	1.00	0.00	0.00	0.00	0.00	1.42	> 100	5.10	12.28	6.54	10 ^{11.42}
177	284	5/2 ⁻	5/2 ⁺	0.93	0.58	4.17	9.58	1.00	0.00	0.00	0.00	0.00	3.08	> 100	5.33	12.70	6.76	10 ^{10.68}
178	285	3/2 ⁺		1.00	0.60	5.39	9.56	1.00	0.00	0.00	0.00	0.00	2.04	> 100	5.24	12.89	6.45	10 ^{11.88}
179	286	3/2 ⁺	1/2 ⁺	1.01	0.58	4.20	9.59	1.00	0.00	0.00	0.00	0.00	3.51	73.7903	5.60	13.32	6.01	10 ^{14.62}
180	287	1/2 ⁺		1.02	0.56	5.05	9.24	1.00	0.00	0.00	0.00	0.00	2.69	74.2974	5.63	13.71	6.16	10 ^{13.43}
181	288	7/2 ⁻	3/2 ⁺	1.04	0.53	4.06	9.11	1.00	0.00	0.00	0.00	0.00	4.06	88.4596	5.91	14.01	5.88	10 ^{15.38}
182	289	7/2 ⁻		1.04	0.52	4.93	8.99	1.00	0.00	0.00	0.00	0.00	3.27	67.2574	5.97	14.44	5.60	10 ^{16.76}
183	290	7/2 ⁻	1/2 ⁺	1.03	0.56	3.93	8.86	1.00	0.00	0.00	0.00	0.00	4.53	47.5339	6.27	14.78	5.43	10 ^{18.21}
184	291	7/2 ⁻		1.03	0.61	4.54	8.48	1.00	0.00	0.00	0.00	0.00	3.91	27.3389	6.28	15.05	5.38	10 ^{18.21}
185	292	7/2	1/2	0.94	0.63	2.84	7.39	0.99	0.01	0.00	0.20	0.01	5.91	9.2524	6.57	15.21	6.14	10 ^{13.88}
186	293	7/2		0.90	0.64	4.22	7.06	0.93	0.07	0.00	0.28	0.07	4.37	15.4500	6.60	15.51	6.19	10 ^{13.27}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 107 (Bh)																		
187	294	7/2	3/2	0.89	0.65	2.87	7.09	0.98	0.02	0.00	0.22	0.02	5.99	8.4939	6.88	23.63	6.00	10 ^{14.68}
188	295	7/2		0.89	0.67	3.96	6.82	0.90	0.10	0.00	0.26	0.10	4.80	9.3212	6.87	15.86	5.97	10 ^{14.51}
189	296	9/2 ⁺	5/2 ⁺	0.82	0.69	−4.80	−0.85	0.24	0.49	0.27	0.51	1.03	±	±	−0.69	8.36	5.52	10 ^{17.62}
190	297	7/2		0.87	0.66	11.75	6.94						...	β -st	7.11	16.41	5.49	10 ^{17.47}
191	298	7/2	7/2	0.87	0.64	2.88	14.62						...	β -st	7.32	16.32	5.32	10 ^{18.96}
192	299	5/2 [−]		0.82	0.69	4.21	7.08	1.00	0.00	0.00	0.00	0.00	4.98	2.0336	7.21	16.52	4.81	> 10 ²⁰
193	300	5/2 [−]	7/2 ⁺	0.82	0.68	3.14	7.35	0.67	0.33	0.00	0.26	0.33	6.08	3.1634	7.52	16.86	4.63	> 10 ²⁰
194	301	5/2 [−]		0.81	0.68	4.12	7.26	0.63	0.37	0.00	0.36	0.37	5.12	1.8581	7.51	17.16	4.53	> 10 ²⁰
195	302	5/2 [−]	5/2 [−]	0.81	0.68	2.99	7.11	0.78	0.22	0.00	0.31	0.22	6.56	0.8356	7.83	17.46	4.33	> 10 ²⁰
196	303	5/2 [−]		0.81	0.67	4.06	7.05	0.51	0.49	0.00	0.39	0.49	5.51	1.0360	7.79	17.76	4.09	> 10 ²⁰
197	304	5/2 [−]	7/2 [−]	0.81	0.65	2.97	7.03	0.66	0.34	0.00	0.31	0.34	6.93	0.4651	8.15	18.13	3.81	> 10 ²⁰
198	305	5/2 [−]		0.80	0.65	3.93	6.90	0.40	0.60	0.00	0.45	0.60	5.93	0.5741	8.12	18.46	3.64	> 10 ²⁰
199	306	5/2 [−]	1/2 [−]	0.81	0.63	2.86	6.78	0.56	0.44	0.00	0.42	0.44	7.30	0.3723	8.46	18.81	3.38	> 10 ²⁰
200	307	5/2 [−]		0.81	0.61	3.83	6.69	0.36	0.64	0.00	0.48	0.64	6.30	0.3646	8.47	19.13	3.15	> 10 ²⁰
201	308	5/2 [−]	9/2 ⁺	0.80	0.60	2.69	6.52	0.38	0.62	0.00	0.43	0.62	7.78	0.2506	8.81	19.41	2.97	> 10 ²⁰
202	309	5/2 [−]		0.81	0.59	3.56	6.25	0.36	0.64	0.00	0.50	0.64	6.89	0.1752	8.80	19.74	2.92	> 10 ²⁰
203	310	5/2 [−]	11/2 ⁺	0.80	0.60	2.22	5.78	0.19	0.77	0.04	0.43	0.85	8.54	0.1381	9.00	19.96	3.11	> 10 ²⁰
204	311	5/2 [−]		0.80	0.60	3.22	5.44	0.10	0.90	0.00	0.46	0.90	7.57	0.1155	9.03	20.34	3.13	> 10 ²⁰
205	312	5/2 [−]	7/2 [−]	0.79	0.60	2.08	5.29	0.17	0.54	0.29	0.41	1.12	8.96	0.0825	9.35	20.67	3.04	> 10 ²⁰
206	313	5/2 [−]		0.79	0.61	2.97	5.05	0.08	0.83	0.09	0.46	1.01	8.07	0.0792	9.44	20.99	2.91	> 10 ²⁰
207	314	5/2 [−]	9/2 [−]	0.79	0.61	1.99	4.96	0.09	0.51	0.40	0.43	1.31	9.35	0.0514	9.77	21.36	2.68	> 10 ²⁰
208	315	5/2 [−]		0.79	0.60	2.90	4.89	0.07	0.71	0.22	0.45	1.15	8.46	0.0560	9.83	21.72	2.42	> 10 ²⁰
209	316	5/2 [−]	1/2 [−]	0.79	0.60	1.89	4.79	0.18	0.33	0.49	0.46	1.31	9.76	0.0451	10.12	22.09	2.15	> 10 ²⁰
210	317	5/2 [−]		0.78	0.59	2.85	4.74	0.06	0.62	0.32	0.45	1.26	8.79	0.0420	10.21	22.48	1.84	> 10 ²⁰
211	318	5/2 [−]	3/2 [−]	0.78	0.58	1.76	4.62	0.16	0.30	0.54	0.47	1.38	10.12	0.0327	10.41	22.74	1.59	> 10 ²⁰
212	319	5/2 [−]		0.78	0.57	2.70	4.46	0.06	0.54	0.40	0.46	1.34	9.29	0.0287	10.45	23.23	1.36	> 10 ²⁰
213	320	5/2 [−]	5/2 ⁺	0.78	0.57	1.67	4.37	0.06	0.30	0.64	0.49	1.58	10.57	0.0253	10.84	23.52	1.19	> 10 ²⁰
214	321	5/2 [−]		0.78	0.57	2.42	4.09	0.04	0.43	0.52	0.49	1.50	9.87	0.0201	10.78	23.69	0.98	> 10 ²⁰
215	322	5/2 [−]	7/2 ⁺	0.78	0.58	1.38	3.80	0.04	0.20	0.72	0.52	1.76	11.18	0.0180	10.97	23.89	0.98	> 10 ²⁰
216	323	5/2 [−]		0.78	0.57	2.42	3.80	0.03	0.29	0.55	0.50	1.78	10.15	0.0179	11.04	24.09	0.81	> 10 ²⁰
217	324	5/2 [−]	1/2 ⁺	0.79	0.58	1.32	3.74	0.03	0.11	0.67	0.51	2.02	11.51	0.0160	11.17	24.22	0.67	> 10 ²⁰
218	325	5/2 [−]		0.78	0.57	2.23	3.56	0.02	0.22	0.45	0.49	2.05	10.67	0.0139	11.10	24.43	0.66	> 10 ²⁰
219	326	5/2 [−]	3/2 ⁺	0.78	0.56	1.30	3.53	0.03	0.09	0.56	0.52	2.18	11.83	0.0138	11.41	24.72	0.55	> 10 ²⁰
220	327	5/2 [−]		0.79	0.54	2.19	3.48	0.02	0.19	0.34	0.51	2.22	10.94	0.0130	11.50	25.08	0.39	> 10 ²⁰
221	328	5/2 [−]	13/2 ⁺	0.79	0.54	1.14	3.33	0.03	0.07	0.43	0.52	2.37	12.18	0.0117	11.78	25.37	0.25	> 10 ²⁰
222	329	5/2 [−]		0.78	0.54	1.85	3.00	0.02	0.16	0.23	0.53	2.39	11.50	0.0099	11.79	25.67	0.22	> 10 ²⁰
223	330	5/2 [−]	9/2 [−]	0.78	0.54	0.94	2.79	0.04	0.06	0.30	0.53	2.58	12.79	0.0084	12.16	26.13	0.13	> 10 ²⁰
224	331	5/2 [−]		0.78	0.54	1.51	2.45	0.01	0.11	0.13	0.56	2.67	12.06	0.0076	11.99	26.24	0.18	> 10 ²⁰
225	332	5/2 [−]	11/2 [−]	0.78	0.53	0.72	2.23	0.02	0.03	0.19	0.55	3.10	13.27	0.0062	12.45	26.52	−0.06	
226	333	5/2 [−]		0.79	0.53	1.56	2.29	0.01	0.10	0.07	0.56	2.99	12.54	0.0059	12.49	27.03	−0.23	
227	334	5/2 [−]	3/2 [−]	0.78	0.53	0.66	2.22	0.03	0.05	0.14	0.57	3.34	13.74	0.0053	12.80	27.35	−0.44	
228	335	5/2 [−]		0.78	0.52	1.39	2.05	0.01	0.10	0.07	0.56	3.28	13.07	0.0048	12.80	27.68	−0.79	
229	336	1/2 [−]	15/2 ⁺	0.78	0.51	0.52	1.91	0.07	0.04	0.10	0.57	3.32	14.76	0.0031	13.12	27.99	−0.96	
230	337	1/2 [−]		0.78	0.51	1.25	1.77	0.01	0.14	0.05	0.57	3.35	13.90	0.0031	13.12	28.30	−1.14	
231	338	1/2 [−]	5/2 [−]	0.78	0.51	0.36	1.61	0.02	0.05	0.14	0.59	3.66	15.11	0.0027	13.39	28.56	−1.30	
232	339	1/2 [−]		0.78	0.50	1.20	1.57	0.00	0.11	0.05	0.59	3.83	14.08	0.0030	13.43	28.99	−1.57	
Z = 108 (Hs)																		
142	250			0.77	0.87								8.57	0.1973	−0.64	−2.49	12.11	10 ^{−6.63}
143	251		1/2 [−]	0.77	0.85	8.63							9.80	0.2810	−0.72	−2.12	11.98	10 ^{−5.30}
144	252			0.77	0.84	10.25	18.88						7.95	0.2782	−0.33	−1.67	11.91	10 ^{−6.22}
145	253		1/2 ⁺	0.77	0.82	8.50	18.76						9.08	0.3982	−0.23	−1.24	11.66	10 ^{−4.64}
146	254			0.76	0.82	10.00	18.50						7.29	0.4986	0.14	−0.82	11.46	10 ^{−5.28}
147	255		1/2 ⁺	0.76	0.80	8.25	18.25						8.47	0.6634	0.17	−0.43	11.29	10 ^{−3.81}
148	256			0.75	0.79	9.81	18.06						6.66	0.7962	0.56	0.02	11.06	10 ^{−4.35}
149	257		1/2 [−]	0.75	0.77	8.01	17.82						7.88	1.0772	0.57	0.41	10.91	10 ^{−2.93}
150	258			0.75	0.75	9.58	17.59						6.01	1.3243	0.92	0.82	10.69	10 ^{−3.44}
151	259		9/2 [−]	0.75	0.74	7.74	17.32						7.01	1.9859	0.94	1.19	10.57	10 ^{−2.13}

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Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 108 (Hs)																		
152	260			0.75	0.73	9.08	16.82						4.99	2.8044	1.29	1.63	10.65	10 ^{-3.37}
153	261	11/2 ⁻		0.74	0.71	7.18	16.27						6.01	3.2846	1.41	2.09	10.85	10 ^{-2.79}
154	262			0.74	0.71	8.59	15.77						4.27	3.6860	1.79	2.59	10.90	10 ^{-3.97}
155	263	7/2 ⁺		0.73	0.70	6.89	15.48						5.24	5.3501	1.84	3.04	10.74	10 ^{-2.52}
156	264			0.73	0.70	8.31	15.20						3.71	6.7353	2.29	3.52	10.52	10 ^{-3.05}
157	265	9/2 ⁺		0.73	0.69	6.81	15.12						4.70	3.1717	2.32	4.00	10.15	10 ^{-1.03}
158	266			0.72	0.69	8.19	15.00						3.16	15.7204	2.71	4.45	9.78	10 ^{-1.09}
159	267	1/2 ⁺		0.72	0.67	6.71	14.90						4.15	36.8040	2.77	4.84	9.40	10 ^{1.07}
160	268			0.72	0.66	8.11	14.82						2.47	57.4695	3.18	5.36	9.04	10 ^{1.11}
161	269	3/2 ⁺		0.72	0.66	6.40	14.51						3.42	> 100	3.15	5.70	8.95	10 ^{2.46}
162	270			0.72	0.68	7.75	14.15						1.54	> 100	3.55	6.09	8.79	10 ^{1.91}
163	271	13/2 ⁻		0.72	0.67	6.00	13.75						2.18	> 100	3.68	6.59	8.85	10 ^{2.78}
164	272			0.72	0.67	6.99	13.00						0.40	> 100	4.03	6.99	9.22	10 ^{0.55}
165	273	3/2 ⁺		0.72	0.66	5.24	12.23						1.37	> 100	4.05	7.35	9.48	10 ^{0.84}
166	274			0.73	0.66	6.53	11.77						...	β -st	4.38	7.67	9.55	10 ^{-0.41}
167	275	9/2 ⁺		0.74	0.67	5.08	11.61						0.85	> 100	4.38	7.98	9.35	10 ^{1.22}
168	276			0.76	0.65	6.36	11.44						...	β -st	4.72	8.17	9.19	10 ^{0.64}
169	277	3/2 ⁺		0.76	0.65	5.21	11.56						0.64	> 100	4.81	8.69	8.75	10 ^{3.07}
170	278			0.81	0.63	6.66	11.86						...	β -st	5.24	9.19	8.26	10 ^{3.69}
171	279	15/2 ⁻		0.81	0.62	5.33	11.99						0.04	> 100	5.31	9.63	7.62	10 ^{7.24}
172	280			0.83	0.61	6.49	11.82						...	β -st	5.67	10.00	7.28	10 ^{7.56}
173	281	15/2 ⁻		0.83	0.59	5.12	11.61						...	β -st	5.70	10.36	7.06	10 ^{9.65}
174	282			0.83	0.59	6.24	11.36						...	β -st	6.05	10.73	6.94	10 ^{9.14}
175	283	1/2 ⁺		0.86	0.59	4.78	11.02						...	β -st	6.05	11.04	6.92	10 ^{10.30}
176	284			0.89	0.59	5.84	10.62						...	β -st	6.47	11.57	6.95	10 ^{9.05}
177	285	5/2 ⁺		0.91	0.58	4.35	10.18	1.00	0.00	0.00	0.00	0.00	0.64	> 100	6.65	11.98	7.08	10 ^{9.61}
178	286			0.96	0.61	5.67	10.01						...	β -st	6.92	12.16	6.71	10 ^{10.24}
179	287	1/2 ⁺		0.98	0.57	4.23	9.89	1.00	0.00	0.00	0.00	0.00	1.14	> 100	6.95	12.55	6.43	10 ^{12.73}
180	288			0.99	0.56	5.43	9.66	1.00	0.00	0.00	0.00	0.00	0.26	> 100	7.34	12.96	6.48	10 ^{11.40}
181	289	3/2 ⁺		0.99	0.55	4.14	9.57	1.00	0.00	0.00	0.00	0.00	1.58	> 100	7.42	13.33	6.17	10 ^{14.14}
182	290			0.99	0.52	5.19	9.33	1.00	0.00	0.00	0.00	0.00	0.89	> 100	7.68	13.65	6.01	10 ^{13.98}
183	291	1/2 ⁺		0.99	0.56	3.93	9.11	1.00	0.00	0.00	0.00	0.00	2.19	> 100	7.67	13.95	5.86	10 ^{15.93}
184	292			0.99	0.61	4.84	8.77	1.00	0.00	0.00	0.00	0.00	1.57	> 100	7.97	14.25	5.88	10 ^{14.75}
185	293	1/2		0.95	0.64	2.68	7.52	1.00	0.00	0.00	0.00	0.00	3.74	30.0722	7.81	14.38	6.83	10 ^{10.73}
186	294			0.94	0.65	4.49	7.17	1.00	0.00	0.00	0.00	0.00	2.22	84.4664	8.07	14.67	6.89	10 ^{9.38}
187	295	3/2		0.88	0.66	2.77	7.26	1.00	0.00	0.00	0.00	0.00	3.94	22.8448	7.97	14.85	6.67	10 ^{11.51}
188	296			0.86	0.67	4.22	6.99	1.00	0.00	0.00	0.00	0.00	2.72	34.3817	8.24	15.11	6.64	10 ^{10.59}
189	297	5/2 ⁺		0.82	0.69	-4.91	-0.69	0.35	0.62	0.03	0.45	0.68	±	±	8.13	7.44	14.14	10 ^{-9.23}
190	298			0.82	0.70	4.37	-0.54	0.41	0.58	0.01	0.47	0.60	±	±	0.75	7.86	13.73	10 ^{-9.62}
191	299	7/2		0.87	0.65	10.53	14.90	1.00	0.00	0.00	0.00	0.00	4.19	16.4653	8.41	15.72	5.96	10 ^{15.34}
192	300			0.83	0.69	4.24	14.77	1.00	0.00	0.00	0.00	0.00	3.13	3.8552	8.44	15.65	5.67	10 ^{16.04}
193	301	7/2 ⁺		0.83	0.68	3.16	7.40	1.00	0.00	0.00	0.00	0.00	4.09	7.5840	8.46	15.98	5.18	> 10 ²⁰
194	302			0.83	0.67	4.43	7.59	1.00	0.00	0.00	0.00	0.00	2.99	6.8062	8.77	16.28	5.06	> 10 ²⁰
195	303	5/2 ⁻		0.81	0.67	3.00	7.44	1.00	0.00	0.00	0.00	0.00	4.44	2.0796	8.78	16.61	4.88	> 10 ²⁰
196	304			0.82	0.67	4.39	7.39	1.00	0.00	0.00	0.00	0.00	3.42	2.7346	9.12	16.91	4.62	> 10 ²⁰
197	305	7/2 ⁻		0.82	0.65	2.93	7.32	1.00	0.00	0.00	0.00	0.00	4.83	0.9651	9.07	17.22	4.37	> 10 ²⁰
198	306			0.81	0.64	4.23	7.16	0.99	0.01	0.00	0.16	0.01	3.81	1.3229	9.38	17.50	4.23	> 10 ²⁰
199	307	1/2 ⁻		0.81	0.62	2.83	7.06	0.97	0.03	0.00	0.16	0.03	5.24	0.7143	9.35	17.81	4.02	> 10 ²⁰
200	308			0.82	0.60	4.17	7.00	0.95	0.05	0.00	0.22	0.05	4.18	0.7656	9.68	18.16	3.80	> 10 ²⁰
201	309	9/2 ⁺		0.82	0.59	2.67	6.84	0.88	0.12	0.00	0.20	0.12	5.66	0.5075	9.67	18.48	3.65	> 10 ²⁰
202	310			0.81	0.59	3.87	6.54	0.85	0.15	0.00	0.30	0.15	4.78	0.3547	9.98	18.78	3.60	> 10 ²⁰
203	311	11/2 ⁺		0.81	0.60	2.25	6.12	0.71	0.29	0.00	0.33	0.29	6.37	0.3022	10.01	19.01	3.70	> 10 ²⁰
204	312			0.80	0.60	3.46	5.71	0.55	0.45	0.00	0.33	0.45	5.46	0.2272	10.26	19.29	3.80	> 10 ²⁰
205	313	7/2 ⁻		0.80	0.60	2.08	5.55	0.54	0.46	0.00	0.39	0.46	6.82	0.1592	10.26	19.61	3.74	> 10 ²⁰
206	314			0.79	0.60	3.27	5.35	0.41	0.59	0.00	0.38	0.59	5.87	0.1712	10.56	20.00	3.66	> 10 ²⁰
207	315	9/2 ⁻		0.79	0.61	2.01	5.28	0.44	0.55	0.01	0.39	0.57	7.19	0.0960	10.58	20.35	3.41	> 10 ²⁰
208	316			0.79	0.60	3.19	5.20	0.35	0.65	0.00	0.40	0.65	6.31	0.1082	10.87	20.69	3.11	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 108 (Hs)																		
209	317		1/2 ⁻	0.78	0.60	1.88	5.07	0.41	0.55	0.04	0.41	0.63	7.68	0.0733	10.86	20.98	2.88	> 10 ²⁰
210	318			0.78	0.59	3.09	4.97	0.32	0.68	0.00	0.44	0.68	6.77	0.0688	11.10	21.30	2.64	> 10 ²⁰
211	319		3/2 ⁻	0.78	0.58	1.87	4.96	0.38	0.51	0.11	0.41	0.73	8.05	0.0509	11.21	21.61	2.36	> 10 ²⁰
212	320			0.78	0.57	2.95	4.82	0.30	0.69	0.01	0.45	0.71	7.24	0.0460	11.46	21.91	2.18	> 10 ²⁰
213	321		5/2 ⁺	0.78	0.56	1.72	4.67	0.26	0.50	0.24	0.41	0.98	8.47	0.0415	11.51	22.35	2.02	> 10 ²⁰
214	322			0.78	0.57	2.70	4.42	0.22	0.73	0.05	0.46	0.83	7.72	0.0338	11.79	22.57	1.97	> 10 ²⁰
215	323		7/2 ⁺	0.78	0.59	1.39	4.09	0.12	0.40	0.48	0.44	1.36	9.00	0.0317	11.79	22.77	1.86	> 10 ²⁰
216	324			0.78	0.58	2.68	4.07	0.14	0.64	0.22	0.44	1.08	8.09	0.0272	12.05	23.09	1.67	> 10 ²⁰
217	325		1/2 ⁺	0.78	0.58	1.39	4.07	0.10	0.31	0.59	0.46	1.49	9.29	0.0275	12.12	23.28	1.46	> 10 ²⁰
218	326			0.78	0.57	2.46	3.85	0.10	0.52	0.38	0.43	1.28	8.45	0.0236	12.35	23.45	1.35	> 10 ²⁰
219	327		3/2 ⁺	0.78	0.56	1.29	3.76	0.09	0.24	0.67	0.48	1.58	9.73	0.0212	12.34	23.75	1.26	> 10 ²⁰
220	328			0.78	0.56	2.39	3.68	0.08	0.45	0.47	0.44	1.39	8.97	0.0175	12.55	24.04	1.17	> 10 ²⁰
221	329		13/2 ⁺	0.78	0.55	1.17	3.55	0.06	0.19	0.74	0.50	1.70	10.27	0.0154	12.57	24.34	1.00	> 10 ²⁰
222	330			0.78	0.54	2.24	3.40	0.06	0.34	0.57	0.47	1.57	9.48	0.0137	12.95	24.74	0.86	> 10 ²⁰
223	331		9/2 ⁻	0.78	0.55	0.78	3.02	0.06	0.14	0.68	0.52	1.86	10.78	0.0113	12.79	24.94	0.94	> 10 ²⁰
224	332			0.78	0.54	1.93	2.71	0.06	0.18	0.51	0.49	1.95	10.06	0.0100	13.21	25.21	0.85	> 10 ²⁰
225	333		11/2 ⁻	0.78	0.54	0.83	2.76	0.05	0.09	0.49	0.50	2.19	11.27	0.0080	13.32	25.77	0.60	> 10 ²⁰
226	334			0.78	0.53	1.86	2.69	0.06	0.15	0.36	0.49	2.16	10.58	0.0073	13.61	26.10	0.41	> 10 ²⁰
227	335		3/2 ⁻	0.77	0.53	0.72	2.58	0.07	0.10	0.31	0.51	2.34	11.78	0.0068	13.68	26.48	-0.05	
228	336			0.94	0.55	2.21	2.93	0.01	0.06	0.64	0.48	2.21	10.54	0.0043	14.49	27.29	-0.73	
229	337		7/2 ⁻	0.94	0.57	0.39	2.60	0.09	0.03	0.45	0.50	2.24	12.84	0.0029	14.36	27.48	-0.77	
230	338			0.94	0.53	1.58	1.97	0.02	0.13	0.16	0.53	2.53	11.89	0.0040	14.70	27.82	-0.96	
231	339		3/2 ⁻	0.94	0.53	0.17	1.75	0.09	0.06	0.13	0.55	2.75	13.29	0.0033	14.50	27.89	-0.93	
Z = 109 (Mt)																		
144	253	11/2 ⁺		0.79	0.85								10.05	0.1211	-2.33	-2.66	12.39	10 ^{-6.12}
145	254	11/2 ⁺	5/2 ⁺	0.79	0.84	8.80							11.24	0.1393	-2.03	-2.26	12.30	10 ^{-5.60}
146	255	11/2 ⁺		0.77	0.83	10.15	18.96						9.34	0.1683	-1.87	-1.73	12.00	10 ^{-5.35}
147	256	11/2 ⁺	5/2 ⁺	0.77	0.81	8.57	18.72						10.57	0.1994	-1.55	-1.38	11.83	10 ^{-4.66}
148	257	11/2 ⁺		0.77	0.79	9.84	18.41						8.75	0.2361	-1.52	-0.96	11.62	10 ^{-4.55}
149	258	11/2 ⁺	1/2 ⁺	0.76	0.78	8.34	18.18						9.99	0.2546	-1.19	-0.62	11.50	10 ^{-3.94}
150	259	11/2 ⁺		0.76	0.76	9.64	17.99						8.08	0.3078	-1.13	-0.21	11.28	10 ^{-3.79}
151	260	11/2 ⁺	9/2 ⁻	0.76	0.75	8.10	17.74						9.07	0.3842	-0.76	0.18	11.17	10 ^{-3.22}
152	261	11/2 ⁺		0.76	0.74	9.13	17.23						7.12	0.4149	-0.72	0.57	11.28	10 ^{-3.79}
153	262	11/2 ⁺	11/2 ⁻	0.76	0.73	7.55	16.68						8.15	0.5527	-0.35	1.06	11.44	10 ^{-3.81}
154	263	11/2 ⁺		0.75	0.71	8.66	16.21						6.39	0.6440	-0.28	1.52	11.52	10 ^{-4.33}
155	264	11/2 ⁺	7/2 ⁺	0.75	0.71	7.30	15.96						7.39	0.9390	0.14	1.97	11.28	10 ^{-3.45}
156	265	11/2 ⁺		0.75	0.70	8.36	15.67						5.84	1.1026	0.19	2.48	11.12	10 ^{-3.42}
157	266	11/2 ⁺	9/2 ⁺	0.74	0.71	7.21	15.57						6.82	0.8625	0.59	2.91	10.76	10 ^{-2.22}
158	267	11/2 ⁺		0.74	0.69	8.25	15.46						5.28	2.2859	0.65	3.36	10.36	10 ^{-1.55}
159	268	11/2 ⁺	1/2 ⁺	0.74	0.67	7.11	15.36						6.27	4.9138	1.05	3.82	10.03	10 ^{-0.34}
160	269	11/2 ⁺		0.74	0.66	8.11	15.23						4.56	6.0875	1.05	4.23	9.72	10 ^{0.18}
161	270	11/2 ⁺	3/2 ⁺	0.74	0.66	6.80	14.91						5.51	17.8564	1.46	4.60	9.57	10 ^{0.96}
162	271	11/2 ⁺		0.73	0.68	7.87	14.67						3.64	31.2038	1.58	5.13	9.40	10 ^{1.15}
163	272	11/2 ⁺	13/2 ⁻	0.73	0.68	6.37	14.24						4.27	95.4965	1.94	5.62	9.46	10 ^{1.28}
164	273	11/2 ⁺		0.73	0.67	7.03	13.39						2.48	> 100	1.98	6.01	9.78	10 ^{0.01}
165	274	11/2 ⁺	3/2 ⁺	0.73	0.66	5.64	12.67						3.37	> 100	2.38	6.44	10.01	10 ^{-0.28}
166	275	11/2 ⁺		0.73	0.67	6.54	12.18						1.91	> 100	2.39	6.77	10.11	10 ^{-0.90}
167	276	11/2 ⁺	9/2 ⁺	0.73	0.67	5.40	11.94						2.87	> 100	2.71	7.09	9.93	10 ^{-0.06}
168	277	1/2 ⁻		0.75	0.66	6.37	11.77						1.70	> 100	2.72	7.45	9.76	10 ^{0.07}
169	278	9/2 ⁻	3/2 ⁺	0.77	0.65	5.60	11.97						2.76	> 100	3.11	7.92	9.24	10 ^{1.94}
170	279	9/2 ⁻		0.79	0.63	6.73	12.33						1.36	> 100	3.19	8.43	8.52	10 ^{3.95}
171	280	9/2 ⁻	15/2 ⁻	0.79	0.62	5.68	12.41						2.18	> 100	3.53	8.85	7.97	10 ^{6.26}
172	281	9/2 ⁻		0.78	0.61	6.52	12.19						0.78	> 100	3.56	9.22	7.68	10 ^{7.10}
173	282	9/2 ⁻	15/2 ⁻	0.79	0.60	5.43	11.94						±	±	3.86	9.56	7.51	10 ^{8.10}
174	283	9/2 ⁻		0.81	0.59	6.27	11.70						0.11	> 100	3.89	9.95	7.38	10 ^{8.36}
175	284	9/2 ⁻	1/2 ⁺	0.83	0.60	5.12	11.39	1.00	0.00	0.00	0.00	0.00	±	±	4.23	10.27	7.36	10 ^{8.83}
176	285	9/2 ⁻		0.83	0.60	5.82	10.93	1.00	0.00	0.00	0.00	0.00	0.28	> 100	4.21	10.68	7.42	10 ^{8.19}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 109 (Mt)																		
177	286	5/2 ⁻	5/2 ⁺	0.87	0.58	4.62	10.44	1.00	0.00	0.00	0.00	0.00	±	±	4.49	11.13	7.59	10 ^{7.81}
178	287	1/2 ⁺		0.92	0.60	5.76	10.39	1.00	0.00	0.00	0.00	0.00	0.84	> 100	4.58	11.51	7.23	10 ^{9.01}
179	288	5/2 ⁻	1/2 ⁺	0.94	0.57	4.55	10.31	1.00	0.00	0.00	0.00	0.00	2.40	> 100	4.91	11.86	6.86	10 ^{11.11}
180	289	5/2 ⁻		0.94	0.56	5.46	10.01	1.00	0.00	0.00	0.00	0.00	1.61	> 100	4.94	12.27	6.78	10 ^{11.11}
181	290	5/2 ⁻	3/2 ⁺	0.95	0.53	4.50	9.96	1.00	0.00	0.00	0.00	0.00	2.95	> 100	5.29	12.71	6.48	10 ^{12.92}
182	291	1/2 ⁻		0.95	0.52	5.23	9.73	1.00	0.00	0.00	0.00	0.00	2.20	> 100	5.33	13.01	6.30	10 ^{13.59}
183	292	1/2 ⁻	1/2 ⁺	0.94	0.56	4.23	9.46	1.00	0.00	0.00	0.00	0.00	3.50	> 100	5.63	13.31	6.13	10 ^{14.88}
184	293	1/2 ⁻		0.94	0.61	4.84	9.07	1.00	0.00	0.00	0.00	0.00	2.89	> 100	5.64	13.61	6.22	10 ^{14.03}
185	294	5/2	1/2	0.94	0.66	2.96	7.81	1.00	0.00	0.00	0.00	0.00	5.07	21.4873	5.92	13.73	7.19	10 ^{9.53}
186	295	5/2		0.92	0.66	4.50	7.46	1.00	0.00	0.00	0.00	0.00	3.54	40.5345	5.93	14.00	7.23	10 ^{8.97}
187	296	5/2	3/2	0.87	0.67	3.00	7.49	1.00	0.00	0.00	0.00	0.00	5.30	16.2542	6.16	14.13	7.08	10 ^{10.03}
188	297	5/2		0.85	0.68	4.21	7.21	0.98	0.02	0.00	0.23	0.02	3.86	25.6578	6.15	14.39	7.09	10 ^{9.64}
189	298	5/2	5/2	0.85	0.68	3.08	7.29	1.00	0.00	0.00	0.00	0.00	5.26	16.9271	14.14	22.27	6.88	10 ^{10.97}
190	299	5/2		0.84	0.68	4.17	7.25	0.98	0.02	0.00	0.22	0.02	4.03	20.4995	13.94	14.69	6.66	10 ^{11.70}
191	300	5/2	7/2	0.86	0.68	3.18	7.35	0.99	0.01	0.00	0.18	0.01	5.28	16.4674	6.59	15.00	-1.32	
192	301	5/2		0.85	0.67	4.12	7.30	0.98	0.02	0.00	0.22	0.02	4.33	13.9860	6.47	14.91	6.31	10 ^{13.53}
193	302	1/2 ⁺	7/2 ⁺	0.83	0.68	3.33	7.45	0.90	0.10	0.00	0.17	0.10	5.38	7.2139	6.64	15.09	5.86	10 ^{16.47}
194	303	1/2 ⁺		0.84	0.67	4.46	7.78	0.92	0.08	0.00	0.18	0.08	4.08	8.6942	6.66	15.44	5.61	10 ^{17.69}
195	304	1/2 ⁺	5/2 ⁻	0.82	0.67	3.37	7.83	0.99	0.01	0.00	0.14	0.01	5.44	2.9707	7.03	15.81	5.38	10 ^{19.58}
196	305	1/2 ⁺		0.82	0.66	4.33	7.70	0.90	0.10	0.00	0.22	0.10	4.43	4.4957	6.97	16.09	5.16	> 10 ²⁰
197	306	1/2 ⁺	7/2 ⁻	0.83	0.65	3.22	7.55	0.94	0.06	0.00	0.18	0.06	5.81	1.4887	7.26	16.33	4.94	> 10 ²⁰
198	307	1/2 ⁺		0.83	0.64	4.26	7.48	0.86	0.14	0.00	0.27	0.14	4.77	2.1843	7.29	16.66	4.74	> 10 ²⁰
199	308	1/2 ⁺	1/2 ⁻	0.82	0.62	3.11	7.37	0.88	0.12	0.00	0.29	0.12	6.22	1.1192	7.57	16.91	4.60	> 10 ²⁰
200	309	1/2 ⁺		0.83	0.60	4.16	7.26	0.75	0.25	0.00	0.38	0.25	5.23	1.1856	7.55	17.24	4.37	> 10 ²⁰
201	310	1/2 ⁺	9/2 ⁺	0.83	0.59	2.99	7.15	0.72	0.28	0.00	0.31	0.28	6.65	0.8544	7.87	17.54	4.24	> 10 ²⁰
202	311	1/2 ⁺		0.82	0.59	3.84	6.83	0.73	0.27	0.00	0.44	0.27	5.77	0.5526	7.84	17.82	4.24	> 10 ²⁰
203	312	1/2 ⁺	11/2 ⁺	0.82	0.59	2.56	6.39	0.51	0.49	0.00	0.37	0.49	7.31	0.5040	8.15	18.15	4.37	> 10 ²⁰
204	313	1/2 ⁺		0.82	0.59	3.44	5.99	0.26	0.74	0.00	0.39	0.74	6.47	0.3484	8.12	18.38	4.49	> 10 ²⁰
205	314	11/2 ⁺	7/2 ⁻	0.80	0.60	2.32	5.76	0.41	0.57	0.02	0.42	0.61	7.88	0.1696	8.36	18.62	4.39	> 10 ²⁰
206	315	11/2 ⁺		0.79	0.61	3.33	5.65	0.26	0.74	0.00	0.45	0.74	6.92	0.1664	8.42	18.98	4.27	> 10 ²⁰
207	316	11/2 ⁺	9/2 ⁻	0.79	0.60	2.31	5.64	0.27	0.64	0.09	0.41	0.82	8.11	0.1173	8.72	19.30	4.04	> 10 ²⁰
208	317	11/2 ⁺		0.79	0.60	3.25	5.56	0.25	0.75	0.00	0.47	0.75	7.20	0.1221	8.78	19.65	3.76	> 10 ²⁰
209	318	11/2 ⁺	1/2 ⁻	0.79	0.60	2.18	5.43	0.37	0.47	0.16	0.43	0.79	8.54	0.0895	9.08	19.94	3.57	> 10 ²⁰
210	319	11/2 ⁺		0.78	0.58	3.15	5.33	0.21	0.77	0.02	0.46	0.81	7.58	0.0823	9.14	20.24	3.32	> 10 ²⁰
211	320	11/2 ⁺	3/2 ⁻	0.78	0.58	2.14	5.29	0.32	0.42	0.26	0.43	0.94	8.86	0.0644	9.41	20.61	3.07	> 10 ²⁰
212	321	11/2 ⁺		0.78	0.57	2.95	5.09	0.15	0.79	0.06	0.45	0.91	8.05	0.0578	9.41	20.87	2.97	> 10 ²⁰
213	322	11/2 ⁺	5/2 ⁺	0.78	0.57	1.94	4.89	0.15	0.45	0.40	0.44	1.25	9.34	0.0502	9.63	21.14	2.79	> 10 ²⁰
214	323	11/2 ⁺		0.78	0.57	2.67	4.61	0.06	0.72	0.22	0.44	1.16	8.62	0.0373	9.60	21.39	2.82	> 10 ²⁰
215	324	11/2 ⁺	7/2 ⁺	0.78	0.58	1.78	4.44	0.05	0.35	0.60	0.48	1.55	9.83	0.0384	9.99	21.78	2.72	> 10 ²⁰
216	325	11/2 ⁺		0.78	0.59	2.59	4.36	0.03	0.52	0.45	0.47	1.42	9.09	0.0293	9.90	21.95	2.55	> 10 ²⁰
217	326	11/2 ⁺	1/2 ⁺	0.79	0.59	1.62	4.21	0.03	0.25	0.72	0.51	1.69	10.29	0.0302	10.13	22.25	2.31	> 10 ²⁰
218	327	11/2 ⁺		0.79	0.58	2.57	4.19	0.03	0.39	0.57	0.50	1.56	9.39	0.0268	10.24	22.59	2.16	> 10 ²⁰
219	328	11/2 ⁺	3/2 ⁺	0.78	0.57	1.63	4.21	0.03	0.19	0.76	0.53	1.77	10.67	0.0239	10.58	22.92	1.85	> 10 ²⁰
220	329	11/2 ⁺		0.78	0.56	2.46	4.09	0.02	0.36	0.59	0.51	1.63	9.83	0.0206	10.65	23.20	1.62	> 10 ²⁰
221	330	11/2 ⁺	13/2 ⁺	0.78	0.55	1.45	3.91	0.02	0.15	0.78	0.54	1.86	11.09	0.0187	10.93	23.50	1.47	> 10 ²⁰
222	331	11/2 ⁺		0.78	0.54	2.08	3.52	0.01	0.23	0.55	0.52	1.96	10.32	0.0162	10.77	23.72	1.58	> 10 ²⁰
223	332	11/2 ⁺	9/2 ⁻	0.77	0.55	1.21	3.29	0.03	0.10	0.60	0.54	2.11	11.61	0.0135	11.21	23.99	1.51	> 10 ²⁰
224	333	11/2 ⁺		0.77	0.54	2.04	3.25	0.01	0.17	0.34	0.52	2.29	10.89	0.0117	11.32	24.53	1.32	> 10 ²⁰
225	334	11/2 ⁺	11/2 ⁻	0.77	0.54	1.16	3.20	0.02	0.07	0.49	0.54	2.33	12.13	0.0092	11.65	24.97	1.10	> 10 ²⁰
226	335	11/2 ⁺		0.77	0.53	1.92	3.09	0.01	0.15	0.26	0.54	2.41	11.33	0.0088	11.72	25.33	0.68	> 10 ²⁰
227	336	11/2 ⁺	3/2 ⁻	0.77	0.53	0.96	2.89	0.03	0.08	0.28	0.55	2.57	12.57	0.0081	11.96	25.64	0.44	> 10 ²⁰
228	337	7/2 ⁻		0.90	0.55	2.69	3.66	0.01	0.06	0.39	0.50	2.46	11.70	0.0051	12.44	26.94	-0.68	
229	338	5/2 ⁻	7/2 ⁻	0.89	0.57	0.64	3.33	0.07	0.05	0.48	0.54	2.22	14.06	0.0032	12.69	27.05	-0.66	
230	339	3/2 ⁻		0.89	0.53	1.56	2.20	0.01	0.13	0.15	0.61	2.57	13.11	0.0045	12.67	27.37	-0.83	
Z = 110 (Ds)																		
146	256			0.78	0.83								8.67	0.1868	-0.88	-2.76	12.55	10 ^{-6.96}
147	257		5/2 ⁺	0.78	0.81	8.59							9.92	0.2762	-0.86	-2.41	12.46	10 ^{-5.72}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 110 (Ds)																		
148	258			0.78	0.79	10.31	18.90						7.95	0.3220	-0.39	-1.91	12.15	$10^{-6.16}$
149	259		1/2 ⁺	0.77	0.79	8.38	18.69						9.21	0.3340	-0.35	-1.54	12.02	$10^{-4.82}$
150	260			0.77	0.76	9.94	18.32						7.38	0.4207	-0.06	-1.18	11.89	$10^{-5.62}$
151	261		9/2 ⁻	0.77	0.75	8.13	18.07						8.37	0.5797	-0.03	-0.79	11.77	$10^{-4.29}$
152	262			0.77	0.74	9.48	17.61						6.44	0.6308	0.33	-0.39	11.87	$10^{-5.57}$
153	263		11/2 ⁻	0.76	0.73	7.59	17.07						7.51	0.9524	0.36	0.01	12.02	$10^{-4.82}$
154	264			0.77	0.71	9.03	16.62						5.79	0.9244	0.73	0.46	12.07	$10^{-6.01}$
155	265		7/2 ⁺	0.75	0.71	7.35	16.39						6.80	1.3181	0.78	0.92	11.90	$10^{-4.57}$
156	266			0.75	0.72	8.78	16.13						5.23	1.6353	1.20	1.39	11.71	$10^{-5.23}$
157	267		9/2 ⁺	0.75	0.71	7.21	15.99						6.26	0.7160	1.20	1.79	11.39	$10^{-3.45}$
158	268			0.74	0.70	8.67	15.89						4.70	3.1502	1.63	2.28	11.02	$10^{-3.66}$
159	269		1/2 ⁺	0.74	0.68	7.15	15.82						5.67	7.1874	1.66	2.71	10.69	$10^{-1.79}$
160	270			0.74	0.67	8.47	15.61						4.00	9.5919	2.02	3.07	10.41	$10^{-2.14}$
161	271		3/2 ⁺	0.74	0.68	6.92	15.39						4.95	28.7663	2.14	3.60	10.20	$10^{-0.52}$
162	272			0.74	0.68	8.24	15.16						3.08	66.0006	2.50	4.09	10.07	$10^{-1.21}$
163	273		13/2 ⁻	0.74	0.68	6.39	14.63						3.71	> 100	2.53	4.48	10.07	$10^{-0.17}$
164	274			0.74	0.68	7.44	13.84						1.91	> 100	2.95	4.92	10.38	$10^{-2.07}$
165	275		3/2 ⁺	0.73	0.67	5.60	13.05						2.85	> 100	2.91	5.29	10.78	$10^{-2.01}$
166	276			0.73	0.67	6.98	12.58						1.27	> 100	3.35	5.74	10.80	$10^{-3.10}$
167	277		9/2 ⁺	0.72	0.67	5.46	12.44						2.18	> 100	3.41	6.12	10.57	$10^{-1.49}$
168	278			0.74	0.66	6.79	12.26						0.98	> 100	3.83	6.56	10.31	$10^{-1.88}$
169	279		3/2 ⁺	0.76	0.65	5.80	12.60						1.91	> 100	4.04	7.15	9.58	$10^{1.21}$
170	280			0.76	0.63	7.11	12.92						0.47	> 100	4.42	7.61	8.83	$10^{2.49}$
171	281		15/2 ⁻	0.76	0.62	5.68	12.79						1.31	> 100	4.43	7.96	8.35	$10^{5.22}$
172	282			0.76	0.61	6.85	12.52						...	β -st	4.76	8.31	8.16	$10^{4.85}$
173	283		5/2 ⁺	0.79	0.60	5.49	12.33						0.67	> 100	4.82	8.68	8.01	$10^{6.49}$
174	284			0.81	0.60	6.67	12.15						...	β -st	5.21	9.10	7.84	$10^{6.08}$
175	285		1/2 ⁺	0.81	0.60	5.22	11.89						...	β -st	5.32	9.55	7.73	$10^{7.59}$
176	286			0.81	0.60	6.22	11.44						...	β -st	5.72	9.93	7.75	$10^{6.44}$
177	287		5/2 ⁺	0.83	0.57	4.72	10.94						...	β -st	5.82	10.31	7.81	$10^{7.27}$
178	288			0.88	0.59	6.11	10.83						...	β -st	6.17	10.75	7.54	$10^{7.31}$
179	289		1/2 ⁺	0.89	0.57	4.68	10.78						0.05	> 100	6.29	11.20	7.21	$10^{9.81}$
180	290			0.89	0.56	5.83	10.51						...	β -st	6.66	11.60	7.05	$10^{9.48}$
181	291		3/2 ⁺	0.89	0.53	4.48	10.31	1.00	0.00	0.00	0.00	0.00	0.66	> 100	6.64	11.94	6.79	$10^{11.79}$
182	292			0.89	0.52	5.53	10.01						...	β -st	6.95	12.28	6.69	$10^{11.22}$
183	293		1/2 ⁺	0.89	0.56	4.23	9.76	1.00	0.00	0.00	0.00	0.00	1.24	> 100	6.95	12.58	6.60	$10^{12.74}$
184	294			0.89	0.61	5.15	9.37	1.00	0.00	0.00	0.00	0.00	0.59	> 100	7.25	12.89	6.64	$10^{11.47}$
185	295		1/2	0.89	0.66	2.96	8.10	1.00	0.00	0.00	0.00	0.00	2.79	> 100	7.25	13.17	7.61	$10^{8.08}$
186	296			0.89	0.67	4.77	7.73	1.00	0.00	0.00	0.00	0.00	1.32	> 100	7.52	13.45	7.69	$10^{6.69}$
187	297		3/2	0.85	0.68	2.77	7.54	1.00	0.00	0.00	0.00	0.00	3.32	53.0417	7.29	13.45	7.60	$10^{8.12}$
188	298			0.85	0.70	4.48	7.25	1.00	0.00	0.00	0.00	0.00	1.88	> 100	7.56	13.71	7.61	$10^{7.06}$
189	299		5/2	0.83	0.69	2.95	7.42	1.00	0.00	0.00	0.00	0.00	3.41	46.3998	7.42	21.56	7.43	$10^{8.84}$
190	300			0.83	0.69	4.43	7.37	1.00	0.00	0.00	0.00	0.00	2.12	89.1339	7.68	21.61	7.22	$10^{8.70}$
191	301		7/2	0.86	0.66	3.17	7.59	1.00	0.00	0.00	0.00	0.00	3.33	51.3064	7.67	14.25	-0.85	
192	302			0.86	0.64	4.38	7.55	1.00	0.00	0.00	0.00	0.00	2.22	72.4208	7.93	14.40	-0.87	
193	303		5/2 ⁺	0.89	0.66	3.15	7.54	1.00	0.00	0.00	0.00	0.00	3.43	10.7911	7.75	14.39	6.51	$10^{13.21}$
194	304			0.84	0.67	4.73	7.88	1.00	0.00	0.00	0.00	0.00	2.23	24.7637	8.03	14.69	6.02	$10^{14.81}$
195	305		5/2 ⁻	0.85	0.66	3.32	8.05	1.00	0.00	0.00	0.00	0.00	3.40	6.1599	7.98	15.01	5.86	$10^{16.90}$
196	306			0.83	0.66	4.59	7.92	1.00	0.00	0.00	0.00	0.00	2.42	14.1131	8.24	15.21	5.70	$10^{16.90}$
197	307		7/2 ⁻	0.83	0.65	3.22	7.81	1.00	0.00	0.00	0.00	0.00	3.79	3.3148	8.24	15.50	5.48	$10^{19.29}$
198	308			0.84	0.64	4.56	7.78	1.00	0.00	0.00	0.00	0.00	2.71	5.3563	8.54	15.83	5.31	$10^{19.47}$
199	309		1/2 ⁻	0.84	0.62	3.17	7.73	1.00	0.00	0.00	0.00	0.00	4.08	2.2296	8.60	16.17	5.07	> 10^{20}
200	310			0.84	0.60	4.41	7.57	1.00	0.00	0.00	0.00	0.00	3.14	2.7213	8.86	16.41	4.89	> 10^{20}
201	311		9/2 ⁺	0.84	0.59	2.96	7.37	1.00	0.00	0.00	0.00	0.00	4.60	1.6853	8.83	16.70	4.76	> 10^{20}
202	312			0.83	0.59	4.10	7.06	1.00	0.00	0.00	0.00	0.00	3.77	1.0667	9.09	16.93	4.83	> 10^{20}
203	313		11/2 ⁺	0.83	0.59	2.60	6.69	0.96	0.04	0.00	0.22	0.04	5.26	0.9410	9.13	17.27	4.91	> 10^{20}
204	314			0.83	0.59	3.73	6.33	0.89	0.11	0.00	0.20	0.11	4.35	0.7225	9.42	17.54	5.05	> 10^{20}

(continued on next page)

Table 1 (continued)

<i>N</i>	<i>A</i>	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)	
Z = 110 (Ds)																			
205	315		7/2 ⁻	0.82	0.59	2.37	6.10	0.86	0.14	0.00	0.30	0.14	5.73	0.3943	9.46	17.82	4.93	> 10 ²⁰	
206	316			0.81	0.60	3.51	5.87	0.71	0.29	0.00	0.28	0.29	4.90	0.3939	9.64	18.06	4.89	> 10 ²⁰	
207	317		9/2 ⁻	0.80	0.60	2.34	5.84	0.71	0.29	0.00	0.31	0.29	6.05	0.2390	9.67	18.39	4.64	> 10 ²⁰	
208	318			0.79	0.60	3.52	5.86	0.65	0.35	0.00	0.32	0.35	5.14	0.2778	9.94	18.72	4.38	> 10 ²⁰	
209	319		1/2 ⁻	0.80	0.60	2.19	5.71	0.67	0.33	0.00	0.37	0.33	6.44	0.1821	9.94	19.03	4.21	> 10 ²⁰	
210	320			0.79	0.58	3.42	5.61	0.59	0.41	0.00	0.35	0.41	5.55	0.1631	10.21	19.36	3.97	> 10 ²⁰	
211	321		3/2 ⁻	0.79	0.58	2.14	5.56	0.61	0.39	0.00	0.39	0.39	6.73	0.1289	10.22	19.63	3.71	> 10 ²⁰	
212	322			0.79	0.57	3.23	5.38	0.53	0.47	0.00	0.38	0.47	5.90	0.1217	10.50	19.91	3.57	> 10 ²⁰	
213	323		5/2 ⁺	0.79	0.57	1.95	5.18	0.46	0.53	0.01	0.42	0.55	7.17	0.1051	10.51	20.14	3.49	> 10 ²⁰	
214	324			0.79	0.57	2.99	4.94	0.41	0.59	0.00	0.43	0.59	6.45	0.0753	10.83	20.43	3.46	> 10 ²⁰	
215	325		7/2 ⁺	0.79	0.58	1.85	4.84	0.28	0.63	0.09	0.43	0.81	7.55	0.0873	10.90	20.89	3.32	> 10 ²⁰	
216	326			0.80	0.60	2.81	4.66	0.18	0.81	0.01	0.46	0.83	6.83	0.0677	11.13	21.03	3.21	> 10 ²⁰	
217	327		1/2 ⁻	0.80	0.59	1.68	4.49	0.24	0.57	0.19	0.44	0.95	8.25	0.0494	11.18	21.31	2.92	> 10 ²⁰	
218	328			0.79	0.59	2.91	4.59	0.15	0.84	0.01	0.50	0.86	7.37	0.0469	11.52	21.76	2.68	> 10 ²⁰	
219	329		3/2 ⁻	0.79	0.57	1.62	4.53	0.21	0.43	0.36	0.43	1.15	8.61	0.0380	11.51	22.09	2.45	> 10 ²⁰	
220	330			0.79	0.56	2.70	4.32	0.16	0.75	0.09	0.49	0.93	7.77	0.0349	11.75	22.40	2.22	> 10 ²⁰	
221	331		13/2 ⁺	0.79	0.55	1.31	4.01	0.11	0.32	0.57	0.47	1.46	9.03	0.0311	11.62	22.55	2.20	> 10 ²⁰	
222	332			0.78	0.55	2.50	3.81	0.13	0.53	0.34	0.45	1.21	8.27	0.0262	12.04	22.81	2.09	> 10 ²⁰	
223	333		9/2 ⁻	0.78	0.55	1.32	3.82	0.11	0.23	0.66	0.48	1.55	9.58	0.0207	12.15	23.35	1.93	> 10 ²⁰	
224	334			0.78	0.54	2.41	3.73	0.10	0.46	0.44	0.45	1.34	8.83	0.0181	12.51	23.83	1.76	> 10 ²⁰	
225	335		11/2 ⁻	0.78	0.54	1.12	3.53	0.05	0.20	0.72	0.53	1.73	9.54	0.0213	12.47	24.12	1.42	> 10 ²⁰	
226	336			0.78	0.53	2.21	3.33	0.11	0.24	0.62	0.48	1.57	9.20	0.0143	12.75	24.47	1.14	> 10 ²⁰	
227	337		17/2 ⁺	0.85	0.49	1.82	4.03	0.04	0.25	0.71	0.44	1.67	10.46	0.0086	13.61	25.57	0.15	> 10 ²⁰	
228	338			0.85	0.55	2.99	4.81	0.04	0.95	0.01	0.56	0.97	9.49	0.0065	13.91	26.35	-0.98		
229	339		7/2 ⁻	0.85	0.57	0.62	3.61	0.11	0.10	0.79	0.49	1.68	11.92	0.0040	13.89	26.58	-0.88		
Z = 111 (Rg)																			
148	259		9/2 ⁻	0.79	0.80								10.04	0.2061	-2.44	-2.83	12.73	10 ^{-6.26}	
149	260		9/2 ⁻	1/2 ⁺	0.79	0.78	8.72						11.26	0.2846	-2.10	-2.45	12.57	10 ^{-5.62}	
150	261		9/2 ⁻	0.78	0.78	9.90	18.62						9.49	0.3620	-2.14	-2.20	12.52	10 ^{-5.86}	
151	262		9/2 ⁻	9/2 ⁻	0.80	0.75	8.51	18.41					10.46	0.4884	-1.76	-1.79	12.35	10 ^{-5.18}	
152	263		9/2 ⁻	0.79	0.75	9.41	17.93						8.64	0.4513	-1.83	-1.51	12.58	10 ^{-5.96}	
153	264		9/2 ⁻	7/2 ⁺	0.77	0.75	7.94	17.35					9.73	0.6021	-1.48	-1.12	12.74	10 ^{-5.95}	
154	265		9/2 ⁻	0.77	0.74	9.14	17.07						7.95	0.7329	-1.38	-0.64	12.73	10 ^{-6.28}	
155	266		9/2 ⁻	11/2 ⁻	0.77	0.74	7.77	16.90					8.96	1.0891	-0.96	-0.18	12.52	10 ^{-5.52}	
156	267		9/2 ⁻	0.76	0.73	8.83	16.60						7.34	1.3176	-0.91	0.29	12.34	10 ^{-5.52}	
157	268		9/2 ⁻	11/2 ⁻	0.76	0.72	7.62	16.45					8.39	2.4424	-0.50	0.70	12.03	10 ^{-4.52}	
158	269		9/2 ⁻	0.76	0.71	8.71	16.33						6.83	2.6864	-0.46	1.16	11.68	10 ^{-4.11}	
159	270		9/2 ⁻	1/2 ⁺	0.75	0.69	7.51	16.22					7.79	6.0162	-0.10	1.56	11.38	10 ^{-3.09}	
160	271		9/2 ⁻	0.75	0.68	8.52	16.03						6.19	7.9106	-0.05	1.97	11.11	10 ^{-2.80}	
161	272		9/2 ⁻	3/2 ⁺	0.75	0.68	7.23	15.75					7.20	15.8898	0.25	2.40	11.00	10 ^{-2.20}	
162	273		9/2 ⁻	0.75	0.69	8.26	15.49						5.33	33.6369	0.28	2.79	10.84	10 ^{-2.15}	
163	274		3/2 ⁻	13/2 ⁻	0.74	0.69	6.81	15.07					5.96	69.1165	0.70	3.23	10.83	10 ^{-1.78}	
164	275		3/2 ⁻	0.74	0.68	7.41	14.22						4.16	> 100	0.67	3.61	11.29	10 ^{-3.25}	
165	276		9/2 ⁻	3/2 ⁺	0.74	0.67	6.09	13.50					5.04	> 100	1.15	4.06	11.57	10 ^{-3.50}	
166	277		9/2 ⁻	0.74	0.66	7.10	13.20						3.40	> 100	1.28	4.63	11.49	10 ^{-3.68}	
167	278		9/2 ⁻	11/2 ⁺	0.74	0.66	5.87	12.97					4.32	61.5725	1.69	5.10	11.26	10 ^{-2.82}	
168	279		9/2 ⁻	0.74	0.66	7.01	12.88						3.11	> 100	1.91	5.74	10.79	10 ^{-2.03}	
169	280		1/2 ⁻	15/2 ⁻	0.77	0.65	6.21	13.22					4.02	> 100	2.31	6.35	9.98	10 ^{0.47}	
170	281		1/2 ⁻	0.77	0.64	7.13	13.34						2.56	> 100	2.33	6.76	9.22	10 ^{2.35}	
171	282		13/2 ⁺	3/2 ⁺	0.78	0.62	6.03	13.16					3.38	> 100	2.68	7.11	8.79	10 ^{4.10}	
172	283		13/2 ⁺	0.78	0.61	6.94	12.96						1.93	> 100	2.77	7.53	8.58	10 ^{4.48}	
173	284		13/2 ⁺	5/2 ⁺	0.78	0.60	5.84	12.78					2.76	> 100	3.13	7.94	8.42	10 ^{5.42}	
174	285		13/2 ⁺	0.78	0.60	6.71	12.55						1.27	> 100	3.17	8.38	8.22	10 ^{5.78}	
175	286		13/2 ⁺	1/2 ⁺	0.78	0.59	5.56	12.27					1.93	> 100	3.51	8.82	8.09	10 ^{6.61}	
176	287		13/2 ⁺	0.78	0.59	6.21	11.76						0.45	> 100	3.49	9.22	8.15	10 ^{6.04}	
177	288		13/2 ⁺	5/2 ⁺	0.78	0.57	5.17	11.38	1.00	0.00	0.00	0.00	0.00	±	±	3.94	9.76	8.10	10 ^{6.57}
178	289		3/2 ⁻	0.82	0.59	6.11	11.28						...	β-st	3.94	10.11	7.81	10 ^{7.41}	

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 111 (Rg)																		
179	290	3/2 ⁻	1/2 ⁺	0.82	0.58	5.10	11.21	1.00	0.00	0.00	0.00	0.00	±	±	4.37	10.66	7.33	10 ^{9.74}
180	291	3/2 ⁻		0.84	0.56	5.82	10.92	1.00	0.00	0.00	0.00	0.00	0.47	> 100	4.36	11.02	7.27	10 ^{9.66}
181	292	3/2 ⁻	3/2 ⁺	0.84	0.55	4.81	10.63	1.00	0.00	0.00	0.00	0.00	±	±	4.69	11.33	7.01	10 ^{11.16}
182	293	3/2 ⁻		0.84	0.55	5.53	10.34	1.00	0.00	0.00	0.00	0.00	1.18	> 100	4.69	11.64	6.94	10 ^{11.20}
183	294	3/2 ⁻	1/2 ⁺	0.84	0.58	4.50	10.03	1.00	0.00	0.00	0.00	0.00	2.52	> 100	4.95	11.90	6.94	10 ^{11.54}
184	295	3/2 ⁻		0.84	0.62	5.16	9.65	1.00	0.00	0.00	0.00	0.00	1.86	> 100	4.97	12.21	7.01	10 ^{10.86}
185	296	3/2	1/2	0.83	0.65	3.30	8.46	1.00	0.00	0.00	0.00	0.00	4.02	73.8661	5.31	12.56	7.94	10 ^{7.19}
186	297	3/2 ⁻		0.83	0.67	4.77	8.07	1.00	0.00	0.00	0.00	0.00	2.54	> 100	5.31	12.83	8.02	10 ^{6.54}
187	298	3/2	3/2	0.81	0.68	3.03	7.80	1.00	0.00	0.00	0.00	0.00	4.60	33.8497	5.57	12.86	7.95	10 ^{7.15}
188	299	3/2		0.82	0.73	4.48	7.52	1.00	0.00	0.00	0.00	0.00	3.01	78.2480	5.58	13.14	7.96	10 ^{6.81}
189	300	3/2	5/2	0.81	0.71	3.13	7.61	1.00	0.00	0.00	0.00	0.00	4.76	27.3211	5.76	13.19	7.82	10 ^{7.67}
190	301	3/2		0.81	0.73	4.38	7.51	1.00	0.00	0.00	0.00	0.00	3.28	51.0925	5.72	13.39	7.65	10 ^{7.98}
191	302	5/2	7/2	0.83	0.68	3.27	7.65	1.00	0.00	0.00	0.00	0.00	4.70	27.3756	5.82	13.49	7.46	10 ^{9.17}
192	303	5/2		0.83	0.69	4.36	7.64	1.00	0.00	0.00	0.00	0.00	3.41	39.9412	5.80	13.73	7.27	10 ^{9.66}
193	304	3/2	9/2	0.84	0.67	3.52	7.89	1.00	0.00	0.00	0.00	0.00	4.53	34.7458	6.17	13.93	6.92	10 ^{11.59}
194	305	5/2 ⁻		0.89	0.65	4.50	8.02	1.00	0.00	0.00	0.00	0.00	3.21	10.2897	5.94	13.97	6.55	10 ^{13.16}
195	306	11/2 ⁺	5/2 ⁻	0.86	0.66	3.61	8.11	1.00	0.00	0.00	0.00	0.00	4.18	10.8061	6.23	14.21	6.27	10 ^{15.07}
196	307	11/2 ⁺		0.85	0.66	4.59	8.20	1.00	0.00	0.00	0.00	0.00	5.84	0.1842	6.22	14.46	6.13	10 ^{15.47}
197	308	11/2 ⁺	7/2 ⁻	0.85	0.65	3.49	8.08	0.56	0.44	0.00	0.31	0.44	4.94	2.8956	6.49	14.74	6.02	10 ^{16.52}
198	309	11/2 ⁺		0.85	0.63	4.53	8.02	1.00	0.00	0.00	0.00	0.00	3.92	3.2970	6.47	15.01	5.81	10 ^{17.34}
199	310	3/2 ⁺	15/2 ⁻	0.86	0.62	3.47	8.00	1.00	0.00	0.00	0.00	0.00	5.26	5.2979	6.77	15.37	5.56	10 ^{19.37}
200	311	11/2 ⁺		0.85	0.60	4.42	7.89	0.98	0.02	0.00	0.17	0.02	4.28	2.2613	6.78	15.64	5.40	> 10 ²⁰
201	312	11/2 ⁺	9/2 ⁺	0.85	0.59	3.26	7.68	0.96	0.04	0.00	0.17	0.04	5.70	1.6337	7.08	15.91	5.24	> 10 ²⁰
202	313	11/2 ⁺		0.84	0.59	4.08	7.35	0.96	0.04	0.00	0.31	0.04	4.87	1.0238	7.07	16.16	5.32	> 10 ²⁰
203	314	11/2 ⁺	11/2 ⁺	0.84	0.59	2.82	6.91	0.87	0.13	0.00	0.30	0.13	6.43	0.8448	7.30	16.43	5.48	10 ^{19.91}
204	315	11/2 ⁺		0.84	0.59	3.74	6.57	0.63	0.37	0.00	0.33	0.37	5.48	0.7146	7.31	16.73	5.58	10 ^{18.96}
205	316	11/2 ⁺	7/2 ⁻	0.83	0.59	2.68	6.43	0.74	0.26	0.00	0.36	0.26	6.80	0.4391	7.63	17.09	5.45	> 10 ²⁰
206	317	1/2 ⁺		0.82	0.60	3.48	6.16	0.37	0.63	0.00	0.37	0.63	5.92	0.6269	7.60	17.24	5.41	> 10 ²⁰
207	318	1/2 ⁺	9/2 ⁻	0.82	0.59	2.61	6.09	0.55	0.45	0.00	0.38	0.45	7.14	0.3176	7.88	17.54	5.12	> 10 ²⁰
208	319	1/2 ⁺		0.81	0.58	3.49	6.10	0.38	0.62	0.00	0.41	0.62	6.20	0.3943	7.84	17.78	4.96	> 10 ²⁰
209	320	1/2 ⁺	1/2 ⁻	0.81	0.58	2.53	6.01	0.59	0.40	0.01	0.42	0.42	7.43	0.2653	8.18	18.13	4.74	> 10 ²⁰
210	321	1/2 ⁺		0.81	0.57	3.33	5.86	0.37	0.63	0.00	0.43	0.63	6.63	0.2241	8.09	18.31	4.66	> 10 ²⁰
211	322	1/2 ⁺	3/2 ⁻	0.81	0.56	2.40	5.73	0.49	0.47	0.04	0.43	0.55	7.84	0.1685	8.35	18.57	4.44	> 10 ²⁰
212	323	1/2 ⁺		0.81	0.56	3.22	5.62	0.33	0.67	0.00	0.44	0.67	7.03	0.1551	8.34	18.84	4.37	> 10 ²⁰
213	324	3/2 ⁺	5/2 ⁺	0.80	0.57	2.27	5.49	0.28	0.58	0.14	0.42	0.86	8.23	0.1457	8.66	19.16	4.24	> 10 ²⁰
214	325	9/2 ⁻		0.81	0.62	2.95	5.22	0.11	0.87	0.02	0.51	0.91	7.43	0.1322	8.62	19.45	4.24	> 10 ²⁰
215	326	9/2 ⁻	3/2 ⁺	0.81	0.62	2.09	5.04	0.14	0.47	0.39	0.46	1.25	8.76	0.1182	8.86	19.76	4.09	> 10 ²⁰
216	327	11/2 ⁺		0.81	0.60	3.10	5.19	0.08	0.87	0.05	0.51	0.97	7.80	0.0919	9.15	20.28	3.66	> 10 ²⁰
217	328	11/2 ⁺	1/2 ⁻	0.80	0.60	2.02	5.12	0.18	0.38	0.44	0.47	1.26	9.19	0.0690	9.49	20.68	3.41	> 10 ²⁰
218	329	11/2 ⁺		0.80	0.59	2.87	4.90	0.06	0.78	0.16	0.50	1.10	8.30	0.0626	9.46	20.98	3.13	> 10 ²⁰
219	330	11/2 ⁺	3/2 ⁻	0.80	0.58	1.86	4.73	0.15	0.27	0.58	0.49	1.43	9.66	0.0484	9.69	21.20	2.89	> 10 ²⁰
220	331	9/2 ⁻		0.79	0.58	2.57	4.43	0.06	0.51	0.43	0.50	1.37	8.79	0.0431	9.56	21.31	2.89	> 10 ²⁰
221	332	9/2 ⁻	3/2 ⁻	0.79	0.56	1.74	4.31	0.13	0.18	0.69	0.53	1.56	10.04	0.0377	9.99	21.60	2.79	> 10 ²⁰
222	333	9/2 ⁻		0.79	0.56	2.63	4.37	0.06	0.41	0.52	0.50	1.48	9.18	0.0320	10.12	22.16	2.62	> 10 ²⁰
223	334	9/2 ⁻	9/2 ⁻	0.78	0.55	1.65	4.28	0.08	0.20	0.72	0.54	1.64	10.41	0.0275	10.45	22.60	2.41	> 10 ²⁰
224	335	13/2 ⁺		0.81	0.61	1.83	3.48	0.01	0.11	0.85	0.54	1.90	9.97	0.0137	9.88	22.39	2.66	> 10 ²⁰
225	336	13/2 ⁺	11/2 ⁻	0.81	0.57	1.86	3.70	0.03	0.05	0.91	0.57	1.90	11.32	0.0123	10.62	23.09	2.00	> 10 ²⁰
226	337	3/2 ⁻		0.81	0.51	3.09	4.95	0.02	0.51	0.47	0.49	1.45	10.14	0.0096	11.50	24.26	0.96	> 10 ²⁰
227	338	5/2 ⁻	17/2 ⁺	0.81	0.49	2.02	5.11	0.03	0.07	0.90	0.52	1.87	11.65	0.0088	11.70	25.31	0.10	> 10 ²⁰
228	339	3/2 ⁻		0.81	0.56	3.04	5.06	0.02	0.73	0.25	0.53	1.23	10.64	0.0072	11.76	25.67	-1.02	
Z = 112 (Cn)																		
150	262			0.81	0.76								8.53	0.2018	-0.80	-2.95	12.93	10 ^{-7.17}
151	263		9/2 ⁻	0.80	0.76	8.50							9.44	0.2574	-0.81	-2.58	12.81	10 ^{-5.88}
152	264			0.82	0.74	9.77	18.27						7.61	0.2902	-0.46	-2.29	12.98	10 ^{-7.27}
153	265		7/2 ⁺	0.79	0.75	7.97	17.73						8.78	0.3825	-0.43	-1.91	13.14	10 ^{-6.52}
154	266			0.79	0.74	9.49	17.46						7.05	0.4285	-0.07	-1.45	13.13	10 ^{-7.55}
155	267		9/2 ⁺	0.77	0.74	7.80	17.30						8.08	0.2841	-0.03	-1.00	12.91	10 ^{-6.07}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 112 (Cn)																		
156	268			0.76	0.74	9.20	17.00						6.50	0.8771	0.33	-0.58	12.75	10 ^{-6.80}
157	269		11/2 ⁻	0.76	0.73	7.65	16.85						7.56	1.4790	0.37	-0.13	12.45	10 ^{-5.16}
158	270			0.75	0.72	9.07	16.72						6.00	1.5584	0.72	0.26	12.15	10 ^{-5.61}
159	271		1/2 ⁺	0.75	0.70	7.45	16.52						7.06	2.8586	0.67	0.57	11.91	10 ^{-4.03}
160	272			0.75	0.69	8.92	16.37						5.38	4.6806	1.07	1.02	11.67	10 ^{-4.57}
161	273		3/2 ⁺	0.75	0.68	7.25	16.17						6.39	7.9535	1.09	1.34	11.57	10 ^{-3.28}
162	274			0.73	0.69	8.62	15.87						4.59	14.2978	1.44	1.72	11.41	10 ^{-4.01}
163	275		13/2 ⁻	0.73	0.69	6.78	15.40						5.22	57.2867	1.41	2.11	11.56	10 ^{-3.26}
164	276			0.73	0.69	7.89	14.67						3.42	85.4152	1.89	2.56	11.91	10 ^{-5.10}
165	277		3/2 ⁺	0.73	0.67	6.17	14.06						4.35	42.4764	1.97	3.12	12.13	10 ^{-4.50}
166	278			0.73	0.66	7.41	13.58						2.82	37.7827	2.27	3.55	12.17	10 ^{-5.65}
167	279		11/2 ⁺	0.74	0.66	6.11	13.52						3.71	15.4065	2.52	4.21	11.66	10 ^{-3.46}
168	280			0.74	0.67	7.55	13.66						2.37	76.7256	3.06	4.96	11.08	10 ^{-3.23}
169	281		3/2 ⁺	0.74	0.65	6.30	13.85						3.21	> 100	3.15	5.46	10.25	10 ^{-0.02}
170	282			0.74	0.64	7.61	13.91						1.62	> 100	3.62	5.95	9.43	10 ^{1.27}
171	283		3/2 ⁺	0.74	0.63	6.10	13.71						2.46	> 100	3.69	6.38	9.13	10 ^{3.28}
172	284			0.75	0.62	7.29	13.39						1.01	> 100	4.05	6.82	8.96	10 ^{2.77}
173	285		5/2 ⁺	0.75	0.61	5.85	13.14						1.88	> 100	4.05	7.18	8.79	10 ^{4.41}
174	286			0.75	0.61	7.02	12.87						0.42	> 100	4.36	7.53	8.62	10 ^{3.93}
175	287		1/2 ⁺	0.75	0.59	5.57	12.59						1.05	> 100	4.37	7.88	8.53	10 ^{5.31}
176	288			0.73	0.58	6.61	12.18						...	β -st	4.77	8.26	8.59	10 ^{4.03}
177	289		7/2 ⁺	0.74	0.59	5.33	11.93						0.40	> 100	4.93	8.87	8.49	10 ^{5.46}
178	290			0.75	0.60	6.64	11.97						...	β -st	5.46	9.40	8.07	10 ^{5.96}
179	291		1/2 ⁺	0.75	0.58	5.15	11.79						...	β -st	5.51	9.87	7.64	10 ^{8.72}
180	292			0.77	0.56	6.17	11.32						...	β -st	5.86	10.22	7.58	10 ^{7.99}
181	293		3/2 ⁺	0.79	0.55	4.88	11.05						...	β -st	5.93	10.61	7.38	10 ^{9.88}
182	294			0.79	0.55	5.84	10.72						...	β -st	6.24	10.92	7.36	10 ^{8.86}
183	295		1/2 ⁺	0.79	0.58	4.49	10.34						0.09	> 100	6.24	11.19	7.35	10 ^{10.01}
184	296			0.79	0.62	5.46	9.95						...	β -st	6.54	11.50	7.42	10 ^{8.59}
185	297		1/2	0.78	0.65	3.29	8.75	1.00	0.00	0.00	0.00	0.00	1.58	> 100	6.53	11.84	8.36	10 ^{5.93}
186	298			0.78	0.67	5.09	8.39						0.10	> 100	6.85	12.16	8.41	10 ^{4.68}
187	299		3/2	0.78	0.70	2.89	7.98	1.00	0.00	0.00	0.00	0.00	2.32	> 100	6.71	12.28	8.48	10 ^{5.49}
188	300			0.78	0.74	4.89	7.78	1.00	0.00	0.00	0.00	0.00	0.64	> 100	7.11	12.69	8.36	10 ^{4.86}
189	301		5/2	0.78	0.75	2.90	7.78	1.00	0.00	0.00	0.00	0.00	2.65	> 100	6.88	12.64	8.24	10 ^{6.41}
190	302			0.78	0.81	4.69	7.59	1.00	0.00	0.00	0.00	0.00	1.14	> 100	7.19	12.91	8.02	10 ^{6.15}
191	303		7/2	0.80	0.70	3.07	7.77	1.00	0.00	0.00	0.00	0.00	2.79	> 100	6.99	12.82	7.89	10 ^{7.73}
192	304			0.80	0.71	4.64	7.72	1.00	0.00	0.00	0.00	0.00	1.38	> 100	7.27	13.07	7.68	10 ^{7.52}
193	305		9/2	0.82	0.67	3.18	7.82	1.00	0.00	0.00	0.00	0.00	2.83	96.2933	6.93	13.10	7.66	10 ^{8.67}
194	306			0.78	0.73	4.58	7.76	1.00	0.00	0.00	0.00	0.00	1.74	> 100	7.01	12.95	7.47	10 ^{8.42}
195	307		9/2 ⁺	0.86	0.62	6.24	10.82	1.00	0.00	0.00	0.00	0.00	0.21	> 100	9.64	15.87	4.38	> 10 ²⁰
196	308			0.87	0.65	2.59	8.83	1.00	0.00	0.00	0.00	0.00	1.12	> 100	7.64	13.86	6.52	10 ^{12.99}
197	309		1/2 ⁻	0.86	0.64	3.52	6.10	1.00	0.00	0.00	0.00	0.00	2.28	23.0546	7.67	14.16	6.33	10 ^{15.15}
198	310			0.86	0.63	4.81	8.32	1.00	0.00	0.00	0.00	0.00	4.23	0.2695	7.94	14.41	6.12	10 ^{15.23}
199	311		9/2 ⁺	0.87	0.61	3.44	8.25	0.96	0.04	0.00	0.14	0.04	3.11	16.5449	7.92	14.69	5.89	10 ^{17.74}
200	312			0.87	0.60	4.69	8.13	1.00	0.00	0.00	0.00	0.00	2.16	11.4450	8.18	14.96	5.76	10 ^{17.44}
201	313		9/2 ⁺	0.87	0.59	3.25	7.94	1.00	0.00	0.00	0.00	0.00	3.58	7.0187	8.17	15.25	5.68	10 ^{19.02}
202	314			0.87	0.59	4.38	7.64	1.00	0.00	0.00	0.00	0.00	2.71	4.3067	8.47	15.54	5.70	10 ^{17.76}
203	315		11/2 ⁺	0.86	0.59	2.79	7.18	1.00	0.00	0.00	0.00	0.00	4.33	2.7444	8.44	15.74	5.87	10 ^{17.81}
204	316			0.86	0.59	4.00	6.79	1.00	0.00	0.00	0.00	0.00	3.39	2.3415	8.70	16.01	5.97	10 ^{16.12}
205	317		7/2 ⁻	0.85	0.59	2.61	6.61	0.99	0.01	0.00	0.17	0.01	4.79	0.9546	8.62	16.25	5.95	10 ^{17.31}
206	318			0.85	0.59	3.83	6.43	0.97	0.03	0.00	0.17	0.03	3.85	1.2842	8.97	16.57	5.86	10 ^{16.87}
207	319		9/2 ⁻	0.83	0.59	2.55	6.38	0.97	0.03	0.00	0.22	0.03	5.09	0.5513	8.90	16.78	5.68	10 ^{19.02}
208	320			0.83	0.58	3.76	6.30	0.93	0.07	0.00	0.20	0.07	4.15	0.7380	9.17	17.01	5.43	10 ^{19.65}
209	321		1/2 ⁻	0.83	0.58	2.53	6.29	0.95	0.05	0.00	0.28	0.05	5.35	0.4419	9.18	17.36	5.23	> 10 ²⁰
210	322			0.82	0.57	3.61	6.15	0.88	0.12	0.00	0.25	0.12	4.54	0.3897	9.46	17.55	5.14	> 10 ²⁰
211	323		3/2 ⁻	0.82	0.56	2.41	6.02	0.88	0.12	0.00	0.31	0.12	5.67	0.2954	9.47	17.82	4.92	> 10 ²⁰
212	324			0.82	0.56	3.46	5.87	0.82	0.18	0.00	0.30	0.18	4.93	0.2653	9.71	18.05	4.88	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 112 (Cn)																		
213	325		1/2 ⁺	0.81	0.63	2.16	5.61	0.47	0.53	0.00	0.38	0.53	6.37	0.2517	9.60	18.25	4.86	> 10 ²⁰
214	326			0.81	0.62	3.42	5.57	0.39	0.61	0.00	0.37	0.61	5.42	0.1837	10.06	18.69	4.68	> 10 ²⁰
215	327		3/2 ⁺	0.81	0.62	2.14	5.56	0.33	0.67	0.00	0.41	0.67	6.70	0.1702	10.11	18.98	4.48	> 10 ²⁰
216	328			0.81	0.60	3.42	5.56	0.32	0.68	0.00	0.40	0.68	5.66	0.1533	10.44	19.59	4.05	> 10 ²⁰
217	329		13/2 ⁺	0.81	0.61	1.98	5.40	0.27	0.73	0.00	0.44	0.73	7.04	0.1397	10.39	19.88	3.92	> 10 ²⁰
218	330			0.80	0.60	3.22	5.19	0.23	0.77	0.00	0.43	0.77	6.10	0.1054	10.73	20.19	3.52	> 10 ²⁰
219	331		1/2 ⁻	0.80	0.59	1.70	4.92	0.26	0.71	0.03	0.47	0.77	7.58	0.0672	10.58	20.27	3.50	> 10 ²⁰
220	332			0.80	0.58	2.99	4.69	0.17	0.83	0.00	0.49	0.83	6.69	0.0633	10.99	20.56	3.42	> 10 ²⁰
221	333		3/2 ⁻	0.80	0.58	1.77	4.76	0.22	0.64	0.14	0.46	0.92	7.96	0.0493	11.03	21.02	3.27	> 10 ²⁰
222	334			0.80	0.56	2.88	4.66	0.16	0.84	0.00	0.51	0.84	7.10	0.0446	11.28	21.40	3.09	> 10 ²⁰
223	335		13/2 ⁻	0.78	0.64	1.39	4.27	0.07	0.56	0.37	0.45	1.30	8.75	0.0273	11.02	21.47	3.01	> 10 ²⁰
224	336			0.78	0.61	3.22	4.61	0.07	0.93	0.00	0.55	0.93	7.84	0.0237	12.40	22.28	2.29	> 10 ²⁰
225	337		15/2 ⁺	0.78	0.56	1.91	5.13	0.05	0.85	0.10	0.51	1.05	9.17	0.0169	12.45	23.07	1.70	> 10 ²⁰
226	338			0.77	0.51	3.53	5.44	0.03	0.97	0.00	0.51	0.97	7.84	0.0121	12.89	24.39	0.58	> 10 ²⁰
227	339		17/2 ⁺	0.77	0.49	2.03	5.56	0.06	0.89	0.05	0.52	0.99	9.32	0.0141	12.90	24.60	-0.33	
Z = 113 (Nh)																		
153	266		7/2 ⁺	0.81	0.76								10.95	0.3217	-2.24	-2.67	13.62	10 ^{-7.08}
154	267		7/2 ⁻	0.79	0.76	9.54							9.22	0.3363	-2.20	-2.27	13.49	10 ^{-7.20}
155	268		3/2 ⁻	0.79	0.76	8.13	17.67						10.29	0.5595	-1.87	-1.91	13.30	10 ^{-6.50}
156	269		3/2 ⁻	0.78	0.76	9.32	17.45						8.62	0.6278	-1.75	-1.42	13.12	10 ^{-6.50}
157	270		3/2 ⁻	0.78	0.75	8.02	17.34						9.67	1.1183	-1.38	-1.01	12.86	10 ^{-5.66}
158	271		3/2 ⁻	0.76	0.73	9.09	17.11						8.03	1.4085	-1.36	-0.63	12.60	10 ^{-5.49}
159	272		3/2 ⁻	0.76	0.72	7.86	16.95						9.08	2.6724	-0.95	-0.28	12.36	10 ^{-4.66}
160	273		3/2 ⁻	0.76	0.69	8.91	16.78						7.42	3.1398	-0.95	0.12	12.16	10 ^{-4.57}
161	274		3/2 ⁻	0.75	0.69	7.59	16.51						8.44	5.1424	-0.61	0.48	12.07	10 ^{-4.05}
162	275		3/2 ⁻	0.75	0.69	8.64	16.24						6.58	9.5190	-0.58	0.86	11.95	10 ^{-4.14}
163	276		9/2 ⁻	0.74	0.69	7.21	15.86						7.26	25.8781	-0.15	1.26	11.96	10 ^{-3.82}
164	277		3/2 ⁻	0.74	0.69	7.99	15.21						5.43	25.9142	-0.05	1.84	12.24	10 ^{-4.75}
165	278		3/2 ⁻	0.73	0.67	6.53	14.52						6.31	45.2543	0.31	2.28	12.52	10 ^{-4.99}
166	279		7/2 ⁻	0.60	0.70	8.06	14.58						4.37	> 100	0.96	3.23	11.87	10 ^{-3.94}
167	280		7/2 ⁻	0.69	0.69	6.52	14.57						5.41	> 100	1.36	3.88	11.45	10 ^{-2.67}
168	281		7/2 ⁻	0.71	0.68	7.80	14.31						3.91	> 100	1.61	4.66	10.76	10 ^{-1.34}
169	282		7/2 ⁻	0.71	0.66	6.61	14.41						4.91	> 100	1.92	5.06	10.02	10 ^{0.98}
170	283		7/2 ⁻	0.71	0.65	7.57	14.18						3.44	> 100	1.88	5.50	9.46	10 ^{2.29}
171	284		7/2 ⁻	0.72	0.64	6.40	13.97						4.33	> 100	2.18	5.87	9.27	10 ^{3.23}
172	285		7/2 ⁻	0.72	0.63	7.28	13.68						2.90	> 100	2.17	6.22	9.12	10 ^{3.33}
173	286		7/2 ⁻	0.72	0.62	6.17	13.45						3.74	> 100	2.50	6.55	8.98	10 ^{4.20}
174	287		7/2 ⁻	0.72	0.61	7.02	13.20						2.29	> 100	2.50	6.86	8.89	10 ^{4.13}
175	288		7/2 ⁻	0.71	0.61	5.89	12.91						3.00	> 100	2.82	7.19	8.84	10 ^{4.64}
176	289		7/2 ⁻	0.71	0.61	6.74	12.63						1.59	> 100	2.96	7.73	8.81	10 ^{4.40}
177	290		7/2 ⁻	0.71	0.60	5.76	12.50						2.47	> 100	3.39	8.32	8.61	10 ^{5.48}
178	291		1/2 ⁻	0.72	0.60	6.60	12.36						1.02	> 100	3.35	8.80	8.22	10 ^{6.53}
179	292		7/2 ⁻	0.73	0.58	5.43	12.02						±	±	3.62	9.13	7.96	10 ^{7.89}
180	293		7/2 ⁻	0.73	0.56	6.14	11.56						0.51	> 100	3.59	9.45	7.93	10 ^{7.62}
181	294		7/2 ⁻	0.75	0.55	5.11	11.25	1.00	0.00	0.00	0.00	0.00	±	±	3.82	9.75	7.92	10 ^{8.05}
182	295		7/2 ⁻	0.76	0.55	5.83	10.94						...	β-st	3.80	10.04	7.92	10 ^{7.70}
183	296		7/2 ⁻	0.77	0.58	4.79	10.61	1.00	0.00	0.00	0.00	0.00	±	±	4.09	10.33	7.94	10 ^{7.97}
184	297		5/2 ⁻	0.77	0.62	5.46	10.24	1.00	0.00	0.00	0.00	0.00	0.61	> 100	4.09	10.63	8.01	10 ^{7.31}
185	298		1/2	0.76	0.65	3.61	9.06	1.00	0.00	0.00	0.00	0.00	2.77	> 100	4.41	10.93	8.90	10 ^{4.44}
186	299		5/2 ⁻	0.76	0.67	5.12	8.72	1.00	0.00	0.00	0.00	0.00	1.26	> 100	4.43	11.28	8.95	10 ^{3.93}
187	300		7/2	0.76	0.70	3.21	8.32	1.00	0.00	0.00	0.00	0.00	3.49	> 100	4.74	11.46	9.04	10 ^{3.97}
188	301		7/2 ⁻	0.76	0.74	4.90	8.11	1.00	0.00	0.00	0.00	0.00	1.75	> 100	4.76	11.87	8.91	10 ^{4.06}
189	302		7/2	0.76	0.77	3.19	8.09	1.00	0.00	0.00	0.00	0.00	3.82	81.0374	5.05	11.93	8.75	10 ^{4.95}
190	303		7/2 ⁻	0.76	0.81	4.72	7.91	1.00	0.00	0.00	0.00	0.00	2.23	> 100	5.08	12.28	8.51	10 ^{5.42}
191	304		7/2	0.76	0.79	3.23	7.95	1.00	0.00	0.00	0.00	0.00	4.08	57.4452	5.24	12.23	8.42	10 ^{6.13}
192	305		5/2	0.76	0.74	4.64	7.86	1.00	0.00	0.00	0.00	0.00	2.56	> 100	5.23	12.50	8.16	10 ^{6.76}
193	306		7/2	0.75	0.73	3.49	8.13	1.00	0.00	0.00	0.00	0.00	4.03	60.8882	5.54	12.47	7.94	10 ^{7.93}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	$\overline{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 113 (Nh)																		
194	307	7/2 ⁻		0.75	0.73	4.70	8.19	1.00	0.00	0.00	0.00	0.00	2.50	> 100	5.67	12.68	7.60	10 ^{9.03}
195	308	7/2 ⁻	3/2 ⁻	0.75	0.72	3.50	8.20	1.00	0.00	0.00	0.00	0.00	4.14	26.3215	2.93	12.57	7.63	10 ^{9.25}
196	309	7/2 ⁻		0.76	0.72	4.67	8.17	1.00	0.00	0.00	0.00	0.00	2.93	71.9633	5.01	12.65	7.45	10 ^{9.64}
197	310	1/2 ⁻	5/2 ⁻	0.86	0.61	6.76	11.43	1.00	0.00	0.00	0.00	0.00	1.12	> 100	8.25	15.92	4.31	> 10 ²⁰
198	311	3/2 ⁺		0.87	0.63	2.33	9.09	1.00	0.00	0.00	0.00	0.00	5.50	0.3864	5.77	13.72	6.56	10 ^{14.00}
199	312	1/2 ⁻	9/2 ⁺	0.87	0.61	3.73	6.06	0.90	0.10	0.00	0.31	0.10	6.73	0.2218	6.06	13.98	6.32	10 ^{15.66}
200	313	1/2 ⁻		0.88	0.59	4.67	8.41	0.76	0.24	0.00	0.49	0.24	3.31	5.2416	6.05	14.23	6.18	10 ^{16.12}
201	314	11/2 ⁺	9/2 ⁺	0.88	0.59	3.52	8.19	1.00	0.00	0.00	0.00	0.00	4.73	5.1346	6.32	14.49	6.13	10 ^{16.75}
202	315	11/2 ⁺		0.87	0.59	4.41	7.92	1.00	0.00	0.00	0.00	0.00	3.86	3.5657	6.34	14.81	6.15	10 ^{16.29}
203	316	11/2 ⁺	11/2 ⁺	0.87	0.59	3.07	7.47	1.00	0.00	0.00	0.00	0.00	5.46	2.3478	6.61	15.05	6.34	10 ^{15.54}
204	317	11/2 ⁺		0.87	0.58	4.00	7.07	0.90	0.10	0.00	0.21	0.10	4.53	2.0708	6.61	15.31	6.42	10 ^{14.76}
205	318	3/2 ⁺	7/2 ⁻	0.87	0.59	2.88	6.89	0.94	0.06	0.00	0.26	0.06	5.89	1.5926	6.89	15.51	6.37	10 ^{15.38}
206	319	3/2 ⁺		0.86	0.59	3.80	6.68	0.70	0.30	0.00	0.26	0.30	4.98	1.9170	6.86	15.83	6.31	10 ^{15.37}
207	320	3/2 ⁺	9/2 ⁻	0.85	0.59	2.81	6.61	0.80	0.20	0.00	0.32	0.20	6.21	0.8113	7.12	16.03	6.18	10 ^{16.46}
208	321	3/2 ⁺		0.85	0.59	3.74	6.55	0.64	0.36	0.00	0.31	0.36	5.27	1.1440	7.10	16.28	5.92	10 ^{17.62}
209	322	3/2 ⁺	1/2 ⁻	0.85	0.58	2.80	6.54	0.83	0.17	0.00	0.34	0.17	6.47	0.6445	7.37	16.55	5.74	10 ^{19.17}
210	323	3/2 ⁺		0.85	0.57	3.53	6.34	0.61	0.39	0.00	0.34	0.39	5.67	0.6387	7.30	16.75	5.69	10 ^{19.22}
211	324	3/2 ⁺	3/2 ⁻	0.84	0.56	2.72	6.25	0.76	0.24	0.00	0.37	0.24	6.82	0.4239	7.60	17.07	5.50	> 10 ²⁰
212	325	3/2 ⁺		0.84	0.55	3.60	6.32	0.60	0.40	0.00	0.36	0.40	5.90	0.4579	7.75	17.46	5.23	> 10 ²⁰
213	326	13/2 ⁺	11/2 ⁺	0.81	0.63	2.47	6.07	0.31	0.69	0.00	0.46	0.69	7.29	0.4601	8.06	17.65	5.16	> 10 ²⁰
214	327	13/2 ⁺		0.80	0.63	3.43	5.89	0.16	0.84	0.00	0.49	0.84	6.41	0.2783	8.06	18.13	4.95	> 10 ²⁰
215	328	13/2 ⁺	1/2 ⁻	0.80	0.63	2.38	5.80	0.23	0.74	0.03	0.49	0.80	7.73	0.2458	8.30	18.41	4.84	> 10 ²⁰
216	329	13/2 ⁺		0.80	0.62	3.36	5.74	0.13	0.87	0.00	0.52	0.87	6.77	0.1949	8.24	18.67	4.44	> 10 ²⁰
217	330	13/2 ⁺	13/2 ⁺	0.80	0.61	2.28	5.64	0.16	0.72	0.12	0.48	0.96	8.17	0.1694	8.54	18.93	4.25	> 10 ²⁰
218	331	13/2 ⁺		0.80	0.60	3.18	5.46	0.11	0.89	0.00	0.54	0.89	7.27	0.1285	8.50	19.24	4.17	> 10 ²⁰
219	332	13/2 ⁺	1/2 ⁻	0.80	0.60	2.09	5.27	0.22	0.50	0.28	0.47	1.06	8.64	0.0926	8.89	19.47	4.10	> 10 ²⁰
220	333	13/2 ⁺		0.79	0.60	3.05	5.14	0.08	0.89	0.03	0.54	0.95	7.69	0.0875	8.95	19.95	3.92	> 10 ²⁰
221	334	13/2 ⁺	9/2 ⁻	0.79	0.59	2.02	5.07	0.11	0.43	0.46	0.47	1.35	9.11	0.0623	9.20	20.23	3.76	> 10 ²⁰
222	335	7/2 ⁻		0.75	0.62	3.04	5.06	0.06	0.91	0.03	0.57	0.97	8.25	0.0438	9.36	20.64	3.29	> 10 ²⁰
223	336	7/2 ⁻	13/2 ⁻	0.76	0.64	2.30	5.35	0.06	0.37	0.57	0.47	1.51	9.41	0.0404	10.27	21.29	2.72	> 10 ²⁰
224	337	7/2 ⁻		0.76	0.61	3.24	5.54	0.05	0.94	0.01	0.58	0.96	8.60	0.0307	10.30	22.70	2.12	> 10 ²⁰
225	338	7/2 ⁻	15/2 ⁺	0.76	0.56	2.20	5.44	0.05	0.48	0.47	0.47	1.42	10.05	0.0209	10.59	23.04	1.57	> 10 ²⁰
226	339	7/2 ⁻		0.76	0.51	3.51	5.71	0.03	0.97	0.00	0.59	0.97	8.82	0.0174	10.57	23.46	-0.11	
Z = 114 (Fl)																		
155	269		7/2 ⁺	0.80	0.75								9.22	0.3156	-0.68	-2.55	13.55	10 ^{-6.75}
156	270			0.78	0.77	9.65							7.59	0.3822	-0.35	-2.10	13.40	10 ^{-7.54}
157	271		11/2 ⁻	0.78	0.75	8.01	17.67						8.67	0.6334	-0.36	-1.74	13.19	10 ^{-6.09}
158	272			0.77	0.74	9.43	17.44						7.10	0.7483	-0.02	-1.38	12.96	10 ^{-6.71}
159	273		1/2 ⁺	0.78	0.72	7.85	17.27						8.17	1.2681	-0.04	-0.99	12.76	10 ^{-5.25}
160	274			0.76	0.71	9.23	17.07						6.54	2.6115	0.27	-0.68	12.61	10 ^{-6.02}
161	275		3/2 ⁺	0.76	0.69	7.63	16.86						7.55	2.1623	0.31	-0.30	12.43	10 ^{-4.58}
162	276			0.76	0.69	8.92	16.55						5.84	3.9013	0.59	0.01	12.43	10 ^{-5.65}
163	277		13/2 ⁻	0.75	0.69	7.29	16.22						6.54	6.8917	0.67	0.52	12.38	10 ^{-4.48}
164	278			0.69	0.73	9.24	16.53						3.83	> 100	1.92	1.87	11.76	10 ^{-4.21}
165	279		5/2 ⁺	0.69	0.71	6.94	16.18						4.94	> 100	2.33	2.64	11.60	10 ^{-2.78}
166	280			0.69	0.70	8.44	15.38						3.02	> 100	2.71	3.67	11.05	10 ^{-2.54}
167	281		1/2 ⁺	0.69	0.70	6.65	15.08						4.17	> 100	2.84	4.20	10.57	10 ^{-0.28}
168	282			0.69	0.70	8.02	14.67						2.76	> 100	3.07	4.68	9.96	10 ^{0.36}
169	283		3/2 ⁺	0.69	0.66	6.25	14.27						4.08	> 100	2.71	4.63	9.82	10 ^{1.80}
170	284			0.69	0.65	7.85	14.10						2.62	> 100	2.99	4.87	9.52	10 ^{1.67}
171	285		3/2 ⁺	0.70	0.65	6.38	14.23						3.52	> 100	2.97	5.15	9.44	10 ^{2.98}
172	286			0.70	0.64	7.57	13.96						2.12	> 100	3.27	5.44	9.47	10 ^{1.83}
173	287		5/2 ⁺	0.70	0.63	6.17	13.75						2.97	> 100	3.27	5.76	9.40	10 ^{3.11}
174	288			0.67	0.66	7.51	13.69						1.35	> 100	3.76	6.26	9.18	10 ^{2.78}
175	289		3/2 ⁺	0.68	0.64	5.96	13.47						2.13	> 100	3.83	6.65	9.06	10 ^{4.21}
176	290			0.68	0.63	7.24	13.20						0.65	> 100	4.33	7.28	8.84	10 ^{3.88}
177	291		7/2 ⁺	0.69	0.61	5.65	12.89						1.60	> 100	4.22	7.61	8.76	10 ^{5.19}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 114 (Fl)																		
178	292			0.69	0.60	7.05	12.70						...	β -st	4.67	8.01	8.32	$10^{5.76}$
179	293		1/2 ⁺	0.74	0.58	5.38	12.43						0.74	> 100	4.62	8.24	8.27	$10^{7.01}$
180	294			0.74	0.56	6.47	11.85						...	β -st	4.95	8.54	8.44	$10^{5.31}$
181	295		3/2 ⁺	0.74	0.55	5.15	11.62						0.05	> 100	4.99	8.81	8.44	$10^{6.38}$
182	296			0.74	0.55	6.15	11.29						...	β -st	5.31	9.11	8.47	$10^{5.20}$
183	297		1/2 ⁺	0.77	0.58	4.77	10.92						...	β -st	5.29	9.39	8.58	$10^{5.86}$
184	298			0.76	0.62	5.76	10.53						...	β -st	5.59	9.69	8.66	$10^{4.51}$
185	299		1/2	0.76	0.65	3.61	9.37						...	β -st	5.60	10.00	9.54	$10^{2.64}$
186	300			0.76	0.67	5.43	9.04						...	β -st	5.91	10.34	9.57	$10^{1.52}$
187	301		3/2	0.76	0.70	3.16	8.59	1.00	0.00	0.00	0.00	0.00	0.73	> 100	5.87	10.61	9.70	$10^{2.16}$
188	302			0.76	0.74	5.26	8.42						...	β -st	6.23	10.99	9.53	$10^{1.61}$
189	303		1/2	0.76	0.77	3.13	8.39	1.00	0.00	0.00	0.00	0.00	1.08	> 100	6.17	11.22	9.30	$10^{3.43}$
190	304			0.76	0.81	5.08	8.21						...	β -st	6.53	11.61	9.10	$10^{3.01}$
191	305		1/2	0.75	0.82	3.11	8.19	1.00	0.00	0.00	0.00	0.00	1.47	> 100	6.41	11.65	8.88	$10^{4.78}$
192	306			0.76	0.87	4.96	8.07						0.08	> 100	6.74	11.97	8.62	$10^{4.66}$
193	307		11/2 ⁻	0.75	0.81	3.18	8.14	1.00	0.00	0.00	0.00	0.00	1.93	> 100	6.42	11.97	8.51	$10^{6.12}$
194	308			0.73	0.74	5.14	8.31	1.00	0.00	0.00	0.00	0.00	0.57	> 100	6.86	12.52	8.02	$10^{6.96}$
195	309		3/2 ⁻	0.73	0.72	3.46	8.60	1.00	0.00	0.00	0.00	0.00	2.09	> 100	6.82	9.75	7.73	$10^{9.17}$
196	310			0.74	0.71	4.95	8.41	1.00	0.00	0.00	0.00	0.00	0.91	> 100	7.10	12.11	7.37	$10^{9.68}$
197	311		5/2 ⁻	0.86	0.61	6.71	11.66						...	β -st	7.05	15.30	6.90	$10^{12.98}$
198	312			0.86	0.60	4.96	11.66	1.00	0.00	0.00	0.00	0.00	1.09	88.5903	9.68	15.45	4.53	> 10^{20}
199	313		15/2 ⁻	0.88	0.61	1.26	6.21	1.00	0.00	0.00	0.00	0.00	4.76	0.5717	7.20	13.26	6.79	$10^{13.53}$
200	314			0.88	0.59	4.93	6.19	1.00	0.00	0.00	0.00	0.00	1.29	> 100	7.46	13.51	6.66	$10^{13.14}$
201	315		9/2 ⁺	0.88	0.59	3.54	8.47	1.00	0.00	0.00	0.00	0.00	2.67	45.9807	7.48	13.79	6.57	$10^{14.68}$
202	316			0.88	0.58	4.67	8.21	1.00	0.00	0.00	0.00	0.00	1.76	29.6317	7.74	14.08	6.58	$10^{13.56}$
203	317		11/2 ⁺	0.88	0.59	3.07	7.74	1.00	0.00	0.00	0.00	0.00	3.36	14.7678	7.75	14.36	6.76	$10^{13.69}$
204	318			0.88	0.58	4.24	7.32	1.00	0.00	0.00	0.00	0.00	2.44	11.2828	7.99	14.60	6.90	$10^{11.91}$
205	319		7/2 ⁻	0.88	0.58	2.89	7.13	1.00	0.00	0.00	0.00	0.00	3.80	3.1660	8.00	14.89	6.81	$10^{13.43}$
206	320			0.87	0.59	4.04	6.93	1.00	0.00	0.00	0.00	0.00	2.90	4.6845	8.24	15.10	6.76	$10^{12.62}$
207	321		9/2 ⁻	0.87	0.58	2.80	6.84	1.00	0.00	0.00	0.00	0.00	4.13	1.5237	8.23	15.35	6.57	$10^{14.68}$
208	322			0.87	0.58	4.00	6.79	1.00	0.00	0.00	0.00	0.00	3.25	2.1955	8.49	15.59	6.40	$10^{14.49}$
209	323		1/2 ⁻	0.87	0.57	2.73	6.73	1.00	0.00	0.00	0.00	0.00	4.46	0.9491	8.42	15.79	6.22	$10^{16.64}$
210	324			0.87	0.57	3.87	6.60	1.00	0.00	0.00	0.00	0.00	3.53	1.2079	8.75	16.05	6.11	$10^{16.23}$
211	325		3/2 ⁻	0.87	0.55	2.69	6.56	1.00	0.00	0.00	0.00	0.00	4.75	0.6608	8.72	16.33	5.95	$10^{18.27}$
212	326			0.77	0.65	3.85	6.54	0.90	0.10	0.00	0.15	0.10	3.85	2.0033	8.98	16.72	5.71	$10^{18.75}$
213	327		9/2 ⁻	0.81	0.63	2.55	6.40	0.95	0.05	0.00	0.24	0.05	5.24	0.6211	9.06	17.11	5.57	> 10^{20}
214	328			0.77	0.63	3.69	6.24	0.67	0.33	0.00	0.20	0.33	4.38	0.8165	9.32	17.39	5.34	> 10^{20}
215	329		1/2 ⁻	0.77	0.64	2.40	6.09	0.66	0.34	0.00	0.32	0.34	5.84	0.4942	9.35	17.65	5.09	> 10^{20}
216	330			0.80	0.61	3.68	6.08	0.57	0.43	0.00	0.31	0.43	4.87	0.3462	9.67	17.90	4.83	> 10^{20}
217	331		13/2 ⁺	0.80	0.61	2.29	5.96	0.50	0.50	0.00	0.38	0.50	6.27	0.2800	9.67	18.21	4.69	> 10^{20}
218	332			0.80	0.60	3.46	5.75	0.39	0.61	0.00	0.36	0.61	5.38	0.2051	9.95	18.45	4.65	> 10^{20}
219	333		9/2 ⁻	0.80	0.60	2.09	5.55	0.41	0.59	0.00	0.42	0.59	6.89	0.1196	9.96	18.85	4.54	> 10^{20}
220	334			0.74	0.61	3.45	5.54	0.16	0.84	0.00	0.44	0.84	5.90	0.1208	10.35	19.31	4.31	> 10^{20}
221	335		15/2 ⁺	0.73	0.62	2.18	5.63	0.16	0.84	0.00	0.49	0.84	7.27	0.0974	10.51	19.71	3.83	> 10^{20}
222	336			0.76	0.73	3.46	5.64	0.07	0.93	0.00	0.33	0.93	6.23	0.0291	10.93	20.29	3.35	> 10^{20}
223	337		13/2 ⁻	0.74	0.64	2.43	5.89	0.25	0.75	0.00	0.47	0.75	7.38	0.0573	11.06	21.33	2.70	> 10^{20}
224	338			0.76	0.62	3.65	6.08	0.11	0.89	0.00	0.28	0.89	6.32	0.0258	11.47	21.76	1.93	> 10^{20}
225	339		15/2 ⁺	0.76	0.56	2.29	5.94	0.09	0.91	0.00	0.44	0.91	7.55	0.0363	11.55	22.14	1.03	> 10^{20}
Z = 115 (Mc)																		
157	272	13/2 ⁺	11/2 ⁻	0.75	0.78								10.67	0.1665	-2.03	-2.38	13.34	$10^{-6.07}$
158	273	13/2 ⁺		0.75	0.77	9.43							9.09	0.1639	-2.03	-2.05	13.23	$10^{-6.20}$
159	274	1/2 ⁻	1/2 ⁺	0.77	0.74	8.15	17.57						10.17	0.9065	-1.72	-1.76	13.11	$10^{-5.63}$
160	275	1/2 ⁻		0.78	0.71	9.26	17.41						8.54	1.7896	-1.69	-1.42	12.94	$10^{-5.64}$
161	276	1/2 ⁻	3/2 ⁺	0.77	0.70	7.97	17.23						9.49	1.7359	-1.35	-1.04	12.84	$10^{-5.10}$
162	277	1/2 ⁻		0.77	0.69	9.01	16.97						7.78	2.7260	-1.27	-0.68	12.74	$10^{-5.26}$
163	278	1/2 ⁻	15/2 ⁻	0.73	0.74	7.89	16.90						9.13	13.0901	-0.67	0.00	12.44	$10^{-4.31}$
164	279	5/2 ⁻		0.72	0.73	9.18	17.07						6.89	35.0701	-0.73	1.18	11.91	$10^{-3.49}$

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	$\bar{\pi}$	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 115 (Mc)																		
165	280	1/2 ⁻	1/2 ⁺	0.72	0.71	7.26	16.44						8.07	74.7665	-0.41	1.92	11.86	10 ^{-3.04}
166	281	1/2 ⁻		0.73	0.70	8.37	15.64						6.34	78.4887	-0.48	2.24	11.48	10 ^{-2.51}
167	282	1/2 ⁻	1/2 ⁺	0.72	0.68	7.06	15.43						7.30	71.1564	-0.06	2.78	10.95	10 ^{-0.88}
168	283	1/2 ⁻		0.72	0.67	8.18	15.24						5.37	> 100	0.09	3.16	10.83	10 ^{-0.92}
169	284	1/2 ⁻	3/2 ⁺	0.72	0.66	6.97	15.15						6.26	> 100	0.81	3.52	10.37	10 ^{0.62}
170	285	1/2 ⁻		0.72	0.65	7.87	14.84						4.77	> 100	0.83	3.82	10.30	10 ^{0.49}
171	286	1/2 ⁻	3/2 ⁺	0.71	0.64	6.70	14.57						5.64	> 100	1.15	4.12	10.21	10 ^{1.09}
172	287	1/2 ⁻		0.71	0.64	7.56	14.26						4.25	> 100	1.14	4.41	10.22	10 ^{0.72}
173	288	1/2 ⁻	5/2 ⁺	0.71	0.63	6.47	14.04						5.29	> 100	1.44	4.71	10.14	10 ^{1.28}
174	289	1/2 ⁻		0.71	0.62	7.33	13.80						3.93	> 100	1.25	5.01	10.09	10 ^{1.08}
175	290	1/2 ⁻	5/2 ⁺	0.71	0.61	6.23	13.55						4.94	> 100	1.52	5.35	10.04	10 ^{1.57}
176	291	5/2 ⁻		0.72	0.62	7.33	13.55						3.26	> 100	1.60	5.93	9.73	10 ^{2.11}
177	292	5/2 ⁻	1/2 ⁺	0.72	0.60	6.03	13.36						4.28	> 100	1.99	6.21	9.59	10 ^{2.87}
178	293	5/2 ⁻		0.71	0.60	6.89	12.93						2.76	> 100	1.83	6.50	9.44	10 ^{3.03}
179	294	5/2 ⁻	1/2 ⁺	0.71	0.58	5.76	12.65						3.47	> 100	2.22	6.83	9.44	10 ^{3.34}
180	295	5/2 ⁻		0.71	0.56	6.46	12.22						2.16	> 100	2.21	7.16	9.58	10 ^{2.59}
181	296	5/2 ⁻	3/2 ⁺	0.71	0.55	5.42	11.88						2.89	> 100	2.47	7.46	9.59	10 ^{2.90}
182	297	5/2 ⁻		0.71	0.55	6.14	11.55						1.52	> 100	2.47	7.77	9.59	10 ^{2.56}
183	298	5/2 ⁻	1/2 ⁺	0.71	0.58	5.09	11.23						2.19	> 100	2.79	8.08	9.61	10 ^{2.87}
184	299	5/2 ⁻		0.71	0.62	5.75	10.84						0.05	> 100	2.78	8.37	9.69	10 ^{2.26}
185	300	5/2	1/2	0.71	0.65	3.93	9.68	1.00	0.00	0.00	0.00	0.00	±	±	3.10	8.69	10.54	10 ^{0.19}
186	301	5/2 ⁻		0.71	0.67	5.45	9.38						...	β-st	3.11	9.02	10.56	10 ^{-0.21}
187	302	1/2	3/2	0.71	0.70	3.51	8.96	1.00	0.00	0.00	0.00	0.00	±	±	3.46	9.33	10.65	10 ^{-0.11}
188	303	1/2 ⁻		0.71	0.74	5.23	8.74						...	β-st	3.43	9.66	10.53	10 ^{-0.13}
189	304	1/2	1/2	0.71	0.77	3.51	8.74	1.00	0.00	0.00	0.00	0.00	±	±	3.81	9.98	10.23	10 ^{1.00}
190	305	5/2 ⁻		0.70	0.81	5.07	8.58						0.10	> 100	3.80	10.33	10.06	10 ^{1.17}
191	306	1/2	7/2	0.72	0.73	3.56	8.64	1.00	0.00	0.00	0.00	0.00	1.94	> 100	4.25	10.67	9.68	10 ^{2.63}
192	307	1/2		0.72	0.73	5.03	8.60	1.00	0.00	0.00	0.00	0.00	0.51	> 100	4.33	11.06	9.37	10 ^{3.25}
193	308	1/2	1/2	0.73	0.71	3.77	8.81	1.00	0.00	0.00	0.00	0.00	2.38	> 100	4.92	11.35	8.83	10 ^{5.39}
194	309	1/2		0.73	0.72	4.98	8.75	1.00	0.00	0.00	0.00	0.00	1.28	> 100	4.77	11.63	8.48	10 ^{6.30}
195	310	1/2 ⁻	3/2 ⁻	0.73	0.72	3.77	8.75	1.00	0.00	0.00	0.00	0.00	2.79	> 100	5.08	11.90	8.20	10 ^{7.71}
196	311	1/2 ⁻		0.73	0.71	4.94	8.71	1.00	0.00	0.00	0.00	0.00	±	±	5.07	12.17	7.96	10 ^{8.28}
197	312	1/2 ⁺	5/2 ⁻	0.86	0.61	6.90	11.84						...	β-st	5.26	12.31	4.56	> 10 ²⁰
198	313	1/2 ⁺		0.87	0.60	4.93	11.84						...	β-st	5.24	14.92	4.30	> 10 ²⁰
199	314	3/2 ⁻	9/2 ⁺	0.87	0.62	1.46	6.40	1.00	0.00	0.00	0.00	0.00	2.49	> 100	5.44	12.64	9.59	10 ^{2.90}
200	315	3/2 ⁻		0.88	0.59	4.92	6.38	1.00	0.00	0.00	0.00	0.00	4.92	0.3775	5.43	12.89	7.01	10 ^{12.56}
201	316	11/2 ⁺	9/2 ⁺	0.89	0.59	3.75	8.67	0.93	0.07	0.00	0.27	0.07	3.81	20.9739	5.64	13.12	6.99	10 ^{13.01}
202	317	11/2 ⁺		0.88	0.58	4.68	8.43	1.00	0.00	0.00	0.00	0.00	2.92	12.9488	5.65	13.39	6.99	10 ^{12.71}
203	318	1/2 ⁻	11/2 ⁺	0.89	0.59	3.32	8.00	1.00	0.00	0.00	0.00	0.00	4.55	5.8298	5.90	13.65	7.18	10 ^{12.09}
204	319	1/2 ⁻		0.89	0.58	4.25	7.57	1.00	0.00	0.00	0.00	0.00	3.65	4.1895	5.91	13.90	7.34	10 ^{11.04}
205	320	1/2 ⁻	7/2 ⁻	0.89	0.58	3.14	7.39	1.00	0.00	0.00	0.00	0.00	4.99	2.5226	6.16	14.16	7.26	10 ^{11.71}
206	321	1/2 ⁻		0.88	0.59	4.03	7.18	0.96	0.04	0.00	0.16	0.04	4.05	2.6975	6.15	14.39	7.23	10 ^{11.51}
207	322	1/2 ⁻	9/2 ⁻	0.88	0.59	3.11	7.14	0.99	0.01	0.00	0.21	0.01	5.27	1.6938	6.46	14.69	7.00	10 ^{12.95}
208	323	1/2 ⁻		0.88	0.58	3.94	7.05	0.92	0.08	0.00	0.18	0.08	4.42	1.5657	6.41	14.90	6.86	10 ^{13.31}
209	324	1/2 ⁻	1/2 ⁻	0.88	0.58	2.94	6.88	0.97	0.03	0.00	0.26	0.03	5.69	0.6719	6.61	15.03	6.73	10 ^{14.33}
210	325	7/2 ⁻		0.77	0.66	3.91	6.85	0.65	0.35	0.00	0.29	0.35	4.74	2.5785	6.65	15.41	6.56	10 ^{14.89}
211	326	7/2 ⁻	9/2 ⁻	0.77	0.66	2.96	6.86	0.83	0.17	0.00	0.30	0.17	5.94	1.3669	6.92	15.64	6.41	10 ^{16.12}
212	327	7/2 ⁻		0.77	0.65	3.94	6.89	0.57	0.43	0.00	0.32	0.43	4.96	2.0152	7.00	15.98	6.00	10 ^{18.14}
213	328	7/2 ⁻	11/2 ⁺	0.77	0.64	2.83	6.77	0.70	0.30	0.00	0.37	0.30	6.23	2.0063	7.29	16.35	5.89	10 ^{19.24}
214	329	7/2 ⁻		0.77	0.63	3.86	6.70	0.45	0.55	0.00	0.37	0.55	5.20	1.4957	7.46	16.78	5.63	> 10 ²⁰
215	330	7/2 ⁻	1/2 ⁻	0.77	0.63	2.71	6.57	0.64	0.36	0.00	0.42	0.36	6.70	0.8636	7.77	17.11	5.38	> 10 ²⁰
216	331	7/2 ⁻		0.73	0.66	3.68	6.39	0.26	0.74	0.00	0.48	0.74	5.75	0.6403	7.77	17.44	5.12	> 10 ²⁰
217	332	7/2 ⁻	9/2 ⁻	0.73	0.65	2.57	6.26	0.39	0.61	0.00	0.50	0.61	7.20	0.4165	8.06	17.73	4.93	> 10 ²⁰
218	333	7/2 ⁻		0.73	0.63	3.61	6.18	0.19	0.81	0.00	0.53	0.81	6.19	0.3394	8.20	18.16	4.69	> 10 ²⁰
219	334	7/2 ⁻	11/2 ⁻	0.73	0.62	2.46	6.06	0.28	0.72	0.00	0.48	0.72	7.60	0.1794	8.57	18.52	4.50	> 10 ²⁰
220	335	1/2 ⁻		0.71	0.61	3.55	6.00	0.15	0.85	0.00	0.56	0.85	6.53	0.2045	8.67	19.02	4.14	> 10 ²⁰
221	336	1/2 ⁻	15/2 ⁺	0.71	0.62	2.42	5.97	0.18	0.80	0.02	0.54	0.84	7.98	0.1450	8.91	19.42	3.81	> 10 ²⁰

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 115 (Mc)																		
222	337	1/2 ⁻		0.71	0.68	3.58	6.00	0.07	0.93	0.00	0.56	0.93	6.84	0.0851	9.02	19.95	3.28	> 10 ²⁰
223	338	1/2 ⁻	13/2 ⁻	0.71	0.64	2.59	6.17	0.15	0.82	0.03	0.50	0.88	7.98	0.0917	9.19	20.25	2.71	> 10 ²⁰
224	339	5/2 ⁻		0.72	0.62	3.52	6.11	0.03	0.97	0.00	0.53	0.97	7.07	0.0360	9.06	20.52	2.23	> 10 ²⁰
Z = 116 (Lv)																		
159	275		1/2 ⁺	0.77	0.75								9.28	0.3809	-0.81	-2.53	13.56	10 ^{-6.25}
160	276			0.79	0.72	9.61							7.64	0.5189	-0.45	-2.14	13.37	10 ^{-6.98}
161	277		3/2 ⁺	0.77	0.71	7.98	17.60						8.66	0.7368	-0.44	-1.79	13.24	10 ^{-5.67}
162	278			0.67	0.76	9.73	17.71						6.83	4.5977	0.28	-0.99	12.74	10 ^{-5.75}
163	279		15/2 ⁻	0.68	0.74	7.73	17.46						8.27	15.9661	0.12	-0.55	12.64	10 ^{-4.48}
164	280			0.67	0.73	9.49	17.22						6.04	15.2088	0.44	-0.30	12.06	10 ^{-4.32}
165	281		1/2 ⁺	0.68	0.71	7.27	16.76						7.15	44.9136	0.44	0.03	12.09	10 ^{-3.32}
166	282			0.69	0.70	8.72	15.98						5.50	48.8680	0.78	0.30	12.61	10 ^{-5.51}
167	283		1/2 ⁺	0.70	0.69	7.26	15.98						6.41	52.0554	0.98	0.92	12.30	10 ^{-3.75}
168	284			0.70	0.67	8.51	15.78						4.87	98.7739	1.32	1.41	12.22	10 ^{-4.66}
169	285		3/2 ⁺	0.70	0.66	7.01	15.53						5.72	> 100	1.36	2.18	11.85	10 ^{-2.78}
170	286			0.70	0.64	8.20	15.21						4.23	> 100	1.69	2.52	11.68	10 ^{-3.46}
171	287		3/2 ⁺	0.69	0.64	6.72	14.92						5.07	> 100	1.71	2.86	11.21	10 ^{-1.25}
172	288			0.69	0.62	7.86	14.58						3.68	> 100	2.01	3.15	11.20	10 ^{-2.32}
173	289		5/2 ⁺	0.69	0.62	6.48	14.34						4.53	> 100	2.01	3.45	11.10	10 ^{-1.00}
174	290			0.67	0.62	7.61	14.09						3.15	> 100	2.30	3.55	11.07	10 ^{-2.00}
175	291		5/2 ⁺	0.67	0.60	6.22	13.83						4.26	> 100	2.29	3.81	11.02	10 ^{-0.80}
176	292			0.69	0.60	7.71	13.93						2.57	> 100	2.68	4.28	10.82	10 ^{-1.36}
177	293		1/2 ⁺	0.68	0.60	6.00	13.71						3.47	> 100	2.64	4.63	10.78	10 ^{-0.19}
178	294			0.67	0.59	7.11	13.11						2.11	> 100	2.86	4.70	10.91	10 ^{-1.59}
179	295		1/2 ⁺	0.66	0.58	5.68	12.80						2.89	> 100	2.79	5.00	10.87	10 ^{-0.42}
180	296			0.66	0.56	6.74	12.42						1.57	> 100	3.07	5.27	11.18	10 ^{-2.27}
181	297		3/2 ⁺	0.66	0.55	5.44	12.18						2.27	> 100	3.09	5.56	11.12	10 ^{-1.05}
182	298			0.66	0.55	6.45	11.89						0.91	> 100	3.40	5.87	11.14	10 ^{-2.17}
183	299		1/2 ⁺	0.66	0.58	5.10	11.55						1.55	> 100	3.41	6.20	11.19	10 ^{-1.20}
184	300			0.66	0.62	6.07	11.17						...	β -st	3.73	6.51	11.26	10 ^{-2.46}
185	301		1/2	0.66	0.65	3.96	10.03						0.90	> 100	3.77	6.86	12.07	10 ^{-3.25}
186	302			0.66	0.67	5.75	9.71						...	β -st	4.07	7.18	12.08	10 ^{-4.36}
187	303		3/2	0.66	0.70	3.51	9.26						0.38	> 100	4.07	7.53	12.18	10 ^{-3.51}
188	304			0.66	0.74	5.58	9.09						...	β -st	4.42	7.85	12.03	10 ^{-4.25}
189	305		5/2	0.67	0.75	3.48	9.06						...	β -st	4.39	8.19	11.71	10 ^{-2.46}
190	306			0.70	0.71	5.41	8.89						...	β -st	4.72	8.52	11.57	10 ^{-3.18}
191	307		11/2 ⁻	0.67	0.81	3.61	9.02						...	β -st	4.76	9.02	11.09	10 ^{-0.98}
192	308			0.72	0.69	5.64	9.25						...	β -st	5.37	9.70	10.53	10 ^{-0.59}
193	309		1/2	0.73	0.69	3.88	9.52	1.00	0.00	0.00	0.00	0.00	0.44	> 100	5.48	10.40	9.76	10 ^{2.67}
194	310			0.73	0.70	5.28	9.16						...	β -st	5.78	10.54	9.44	10 ^{2.60}
195	311		3/2 ⁻	0.72	0.72	3.66	8.94	1.00	0.00	0.00	0.00	0.00	0.75	> 100	5.66	10.74	8.96	10 ^{5.25}
196	312			0.73	0.71	5.27	8.93						0.13	> 100	5.99	11.06	8.83	10 ^{4.63}
197	313		5/2 ⁻	0.74	0.70	3.81	9.08	1.00	0.00	0.00	0.00	0.00	\pm	\pm	2.90	8.16	8.48	10 ^{6.97}
198	314			0.74	0.71	5.20	9.01	1.00	0.00	0.00	0.00	0.00	3.58	0.3613	3.17	8.41	8.23	10 ^{6.85}
199	315		7/2 ⁻	0.87	0.61	7.35	12.55	1.00	0.00	0.00	0.00	0.00	1.46	37.4548	9.05	14.49	7.59	10 ^{10.57}
200	316			0.88	0.59	2.65	9.99	1.00	0.00	0.00	0.00	0.00	2.93	1.3587	6.78	12.21	9.90	10 ^{1.16}
201	317		9/2 ⁺	0.88	0.59	3.78	6.43	1.00	0.00	0.00	0.00	0.00	1.78	> 100	6.81	12.45	7.38	10 ^{11.52}
202	318			0.88	0.59	4.96	8.74	1.00	0.00	0.00	0.00	0.00	0.79	> 100	7.09	12.74	7.35	10 ^{10.59}
203	319		11/2 ⁺	0.89	0.59	3.35	8.31	1.00	0.00	0.00	0.00	0.00	2.41	> 100	7.12	13.02	7.54	10 ^{10.79}
204	320			0.89	0.59	4.49	7.84	1.00	0.00	0.00	0.00	0.00	1.52	> 100	7.35	13.26	7.72	10 ^{8.90}
205	321		7/2 ⁻	0.90	0.58	3.09	7.58	1.00	0.00	0.00	0.00	0.00	2.95	9.8553	7.30	13.46	7.71	10 ^{10.05}
206	322			0.90	0.59	4.32	7.41	1.00	0.00	0.00	0.00	0.00	1.98	31.0763	7.59	13.74	7.62	10 ^{9.37}
207	323		9/2 ⁻	0.89	0.59	3.09	7.42	1.00	0.00	0.00	0.00	0.00	1.91	> 100	7.57	14.04	7.42	10 ^{11.33}
208	324			0.89	0.58	4.21	7.30	1.00	0.00	0.00	0.00	0.00	2.31	8.6821	7.84	14.25	7.26	10 ^{11.01}
209	325		1/2 ⁻	0.89	0.58	2.96	7.17	1.00	0.00	0.00	0.00	0.00	3.56	2.8523	7.87	14.48	7.09	10 ^{12.84}
210	326			0.90	0.62	4.15	7.11	1.00	0.00	0.00	0.00	0.00	2.66	6.6775	8.11	14.76	6.94	10 ^{12.57}
211	327		9/2 ⁻	0.76	0.66	2.96	7.11	1.00	0.00	0.00	0.00	0.00	3.86	3.9446	8.12	15.04	6.71	10 ^{14.82}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 116 (Lv)																		
212	328			0.75	0.66	4.11	7.07	1.00	0.00	0.00	0.00	0.00	2.95	7.5789	8.28	15.29	6.47	$10^{15.06}$
213	329		11/2 ⁺	0.75	0.65	2.82	6.93	1.00	0.00	0.00	0.00	0.00	4.41	4.2361	8.27	15.56	6.33	$10^{16.87}$
214	330			0.73	0.67	4.21	7.03	1.00	0.00	0.00	0.00	0.00	3.26	4.2997	8.62	16.08	5.98	$10^{17.97}$
215	331		13/2 ⁺	0.72	0.67	2.74	6.95	1.00	0.00	0.00	0.00	0.00	5.01	1.5109	8.66	16.42	5.78	$> 10^{20}$
216	332			0.72	0.66	4.02	6.76	0.79	0.21	0.00	0.16	0.21	3.75	1.8939	8.99	16.77	5.45	$> 10^{20}$
217	333		9/2 ⁻	0.73	0.65	2.59	6.61	0.89	0.11	0.00	0.24	0.11	5.19	1.0450	9.01	17.07	5.27	$> 10^{20}$
218	334			0.72	0.63	3.88	6.46	0.65	0.35	0.00	0.18	0.35	4.23	0.8980	9.28	17.49	5.07	$> 10^{20}$
219	335		11/2 ⁻	0.72	0.62	2.47	6.35	0.77	0.23	0.00	0.31	0.23	5.65	0.3730	9.29	17.86	4.88	$> 10^{20}$
220	336			0.70	0.61	3.87	6.34	0.42	0.58	0.00	0.27	0.58	4.58	0.5555	9.62	18.28	4.47	$> 10^{20}$
221	337		15/2 ⁺	0.70	0.62	2.44	6.31	0.52	0.48	0.00	0.32	0.48	6.05	0.3239	9.63	18.54	4.13	$> 10^{20}$
222	338			0.68	0.68	3.73	6.17	0.25	0.75	0.00	0.24	0.75	5.08	0.1462	9.79	18.81	3.85	$> 10^{20}$
223	339		13/2 ⁻	0.68	0.64	2.61	6.34	0.48	0.52	0.00	0.39	0.52	6.13	0.1802	9.80	19.00	3.41	$> 10^{20}$
Z = 117 (Ts)																		
161	278	3/2 ⁻	13/2 ⁻	0.69	0.79								10.77	1.5561	-1.83	-2.26	13.34	$10^{-5.56}$
162	279	3/2 ⁻		0.67	0.76	9.62							8.88	3.2422	-1.93	-1.65	12.97	$10^{-5.18}$
163	280	3/2 ⁻	15/2 ⁻	0.67	0.74	8.15	17.77						10.22	5.5614	-1.51	-1.39	12.79	$10^{-4.46}$
164	281	1/2 ⁻		0.66	0.73	9.48	17.63						8.00	9.8665	-1.52	-1.08	12.32	$10^{-3.82}$
165	282	3/2 ⁻	1/2 ⁺	0.67	0.71	7.62	17.10						9.10	30.9878	-1.17	-0.73	12.59	$10^{-4.07}$
166	283	3/2 ⁻		0.68	0.70	8.80	16.42						7.57	15.4863	-1.09	-0.31	12.97	$10^{-5.18}$
167	284	3/2 ⁻	1/2 ⁺	0.69	0.68	7.58	16.38						8.50	22.8590	-0.76	0.22	12.65	$10^{-4.19}$
168	285	3/2 ⁻		0.69	0.67	8.57	16.15						6.94	37.8146	-0.71	0.61	12.45	$10^{-4.11}$
169	286	3/2 ⁻	3/2 ⁺	0.69	0.66	7.33	15.90						7.80	54.0868	-0.39	0.97	12.18	$10^{-3.19}$
170	287	3/2 ⁻		0.69	0.65	8.25	15.58						6.28	> 100	-0.34	1.35	12.11	$10^{-3.38}$
171	288	3/2 ⁻	3/2 ⁺	0.69	0.63	7.07	15.32						7.07	> 100	0.01	1.72	12.01	$10^{-2.82}$
172	289	3/2 ⁻		0.68	0.62	7.90	14.97						5.65	> 100	0.05	2.06	11.98	$10^{-3.09}$
173	290	3/2 ⁻	5/2 ⁺	0.67	0.62	6.83	14.73						6.43	> 100	0.40	2.41	11.85	$10^{-2.45}$
174	291	3/2 ⁻		0.67	0.61	7.66	14.49						4.99	> 100	0.45	2.74	11.76	$10^{-2.57}$
175	292	3/2 ⁻	1/2 ⁺	0.67	0.60	6.52	14.18						6.18	> 100	0.75	3.04	11.71	$10^{-2.13}$
176	293	3/2 ⁻		0.68	0.60	7.64	14.16						4.55	> 100	0.67	3.34	11.40	$10^{-1.74}$
177	294	3/2 ⁻	1/2 ⁺	0.68	0.60	6.33	13.97						5.33	> 100	1.01	3.65	11.29	$10^{-1.15}$
178	295	3/2 ⁻		0.67	0.59	7.07	13.41						3.94	> 100	0.97	3.83	11.55	$10^{-2.08}$
179	296	3/2 ⁻	1/2 ⁺	0.66	0.58	5.94	13.01						4.74	> 100	1.22	4.01	11.64	$10^{-1.97}$
180	297	3/2 ⁻		0.66	0.57	6.77	12.71						3.41	> 100	1.25	4.32	11.77	$10^{-2.61}$
181	298	1/2 ⁻	3/2 ⁺	0.65	0.55	5.66	12.43						4.20	> 100	1.47	4.56	11.87	$10^{-2.48}$
182	299	1/2 ⁻		0.65	0.55	6.46	12.12						2.84	> 100	1.48	4.88	11.87	$10^{-2.82}$
183	300	1/2 ⁻	1/2 ⁺	0.65	0.58	5.40	11.86						3.51	> 100	1.78	5.19	11.88	$10^{-2.52}$
184	301	1/2 ⁻		0.65	0.62	6.08	11.48						1.39	> 100	1.79	5.52	11.94	$10^{-3.00}$
185	302	1/2	1/2	0.65	0.65	4.29	10.37						2.85	> 100	2.11	5.88	12.75	$10^{-4.39}$
186	303	1/2 ⁻		0.65	0.67	5.76	10.04						0.61	> 100	2.12	6.19	12.74	$10^{-4.70}$
187	304	3/2	3/2	0.66	0.70	3.85	9.61						±	±	2.46	6.53	12.82	$10^{-4.54}$
188	305	1/2 ⁻		0.65	0.74	5.57	9.42						0.25	> 100	2.45	6.86	12.69	$10^{-4.61}$
189	306	3/2 ⁻	17/2 ⁺	0.65	0.76	3.80	9.37	1.00	0.00	0.00	0.00	0.00	±	±	2.77	7.16	12.40	$10^{-3.69}$
190	307	1/2 ⁻		0.65	0.81	5.40	9.20						0.06	> 100	2.77	7.49	12.23	$10^{-3.66}$
191	308	9/2 ⁺	3/2 ⁻	0.73	0.65	4.25	9.65	1.00	0.00	0.00	0.00	0.00	±	±	3.40	8.17	11.49	$10^{-1.61}$
192	309	3/2		0.72	0.67	5.77	10.01						...	β-st	3.53	8.90	10.80	$10^{-0.20}$
193	310	9/2 ⁺	5/2 ⁻	0.74	0.66	3.99	9.76	1.00	0.00	0.00	0.00	0.00	±	±	3.65	9.12	10.37	$10^{1.27}$
194	311	9/2 ⁺		0.75	0.67	5.26	9.25	1.00	0.00	0.00	0.00	0.00	0.68	> 100	3.62	9.40	10.15	$10^{1.55}$
195	312	9/2 ⁺	1/2 ⁻	0.75	0.68	4.14	9.40	1.00	0.00	0.00	0.00	0.00	±	±	4.10	9.77	9.78	$10^{2.99}$
196	313	9/2 ⁺		0.75	0.68	5.21	9.35	1.00	0.00	0.00	0.00	0.00	1.10	> 100	4.05	10.04	9.55	$10^{3.39}$
197	314	3/2 ⁺	5/2 ⁻	0.86	0.61	7.76	12.97						...	β-st	8.00	10.90	5.56	$> 10^{20}$
198	315	3/2 ⁺		0.87	0.60	5.23	12.99	1.00	0.00	0.00	0.00	0.00	1.23	> 100	8.02	11.19	5.28	$> 10^{20}$
199	316	3/2 ⁺	7/2 ⁻	0.87	0.61	4.12	9.34	1.00	0.00	0.00	0.00	0.00	2.62	> 100	4.79	13.84	8.06	$10^{9.02}$
200	317	11/2 ⁺		0.86	0.60	2.63	6.75	1.00	0.00	0.00	0.00	0.00	4.12	1.0764	4.78	11.56	10.36	$10^{0.96}$
201	318	11/2 ⁺	9/2 ⁺	0.88	0.59	3.96	6.59	1.00	0.00	0.00	0.00	0.00	2.88	> 100	4.96	11.77	7.86	$10^{9.85}$
202	319	11/2 ⁺		0.88	0.59	4.97	8.93	1.00	0.00	0.00	0.00	0.00	1.87	> 100	4.98	12.07	7.80	$10^{9.76}$
203	320	3/2 ⁻	11/2 ⁺	0.89	0.59	3.60	8.57	1.00	0.00	0.00	0.00	0.00	3.54	28.3210	5.23	12.34	7.95	$10^{9.48}$
204	321	3/2 ⁻		0.89	0.59	4.51	8.11	1.00	0.00	0.00	0.00	0.00	2.62	21.9696	5.25	12.61	8.12	$10^{8.44}$

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 117 (Ts)																		
205	322	3/2 ⁻	7/2 ⁻	0.89	0.59	3.35	7.87	1.00	0.00	0.00	0.00	0.00	4.08	8.6635	5.52	12.82	8.09	10 ^{8.90}
206	323	1/2		0.78	0.70	3.02	6.38	0.94	0.06	0.00	0.16	0.06	3.07	22.3382	4.22	11.81	9.31	10 ^{4.09}
207	324	3/2	9/2	0.89	0.59	4.61	7.63	1.00	0.00	0.00	0.00	0.00	3.22	48.5969	5.73	13.31	7.85	10 ^{9.89}
208	325	3/2 ⁻		0.90	0.58	4.21	8.82	1.00	0.00	0.00	0.00	0.00	2.44	24.2132	5.74	13.58	7.67	10 ^{10.33}
209	326	3/2 ⁻	1/2 ⁻	0.90	0.58	3.25	7.47	1.00	0.00	0.00	0.00	0.00	3.76	7.8822	6.03	13.90	7.52	10 ^{11.33}
210	327	3/2 ⁻		0.90	0.56	4.16	7.41	1.00	0.00	0.00	0.00	0.00	3.83	2.3992	6.04	14.15	7.31	10 ^{11.96}
211	328	3/2 ⁻	3/2 ⁻	0.90	0.56	3.20	7.36	1.00	0.00	0.00	0.00	0.00	4.94	1.4184	6.27	14.39	7.04	10 ^{13.56}
212	329	3/2 ⁻		0.72	0.68	4.28	7.48	0.92	0.08	0.00	0.15	0.08	3.94	7.4255	6.45	14.73	6.68	10 ^{15.18}
213	330	3/2 ⁻	11/2 ⁺	0.72	0.68	3.07	7.34	0.97	0.03	0.00	0.24	0.03	5.32	6.2348	6.69	14.96	6.56	10 ^{16.07}
214	331	7/2 ⁻		0.78	0.64	4.49	7.55	1.00	0.00	0.00	0.00	0.00	5.00	1.3125	6.97	15.59	6.02	10 ^{18.97}
215	332	3/2 ⁻	13/2 ⁺	0.72	0.66	2.77	7.26	0.51	0.49	0.00	0.40	0.49	6.43	0.6411	6.99	15.65	6.08	10 ^{18.94}
216	333	3/2 ⁻		0.72	0.65	4.03	6.80	0.26	0.74	0.00	0.41	0.74	5.17	0.7954	7.00	15.99	5.91	10 ^{19.61}
217	334	3/2 ⁻	9/2 ⁻	0.72	0.64	2.91	6.94	0.58	0.42	0.00	0.44	0.42	6.25	0.9642	7.32	16.33	5.71	> 10 ²⁰
218	335	3/2 ⁻		0.72	0.63	3.89	6.80	0.44	0.56	0.00	0.43	0.56	4.91	1.9424	7.34	16.62	5.51	> 10 ²⁰
219	336	3/2 ⁻	9/2 ⁻	0.71	0.62	2.80	6.69	0.70	0.30	0.00	0.43	0.30	6.28	1.1621	7.66	16.96	5.28	> 10 ²⁰
220	337	3/2 ⁻		0.70	0.61	3.92	6.71	0.36	0.64	0.00	0.45	0.64	5.28	0.9945	7.71	17.32	4.97	> 10 ²⁰
221	338	3/2 ⁻	15/2 ⁺	0.70	0.61	2.76	6.68	0.50	0.50	0.00	0.46	0.50	6.71	0.5755	8.03	17.66	4.67	> 10 ²⁰
222	339	3/2 ⁻		0.68	0.61	3.66	6.42	0.18	0.82	0.00	0.51	0.82	5.80	0.3444	7.96	17.75	4.55	> 10 ²⁰
Z = 118 (Og)																		
163	281		15/2 ⁻	0.67	0.75								9.50	5.9972	-0.80	-2.31	13.15	10 ^{-5.01}
164	282			0.67	0.73	9.76							7.36	15.5304	-0.52	-2.04	13.12	10 ^{-5.99}
165	283		1/2 ⁺	0.67	0.71	7.65	17.41						8.51	11.2614	-0.49	-1.66	13.20	10 ^{-5.08}
166	284			0.68	0.70	9.13	16.78						6.96	9.4976	-0.16	-1.24	13.56	10 ^{-6.86}
167	285		1/2 ⁺	0.69	0.68	7.59	16.73						7.93	10.5775	-0.15	-0.91	13.23	10 ^{-5.14}
168	286			0.69	0.67	8.89	16.49						6.37	17.5034	0.18	-0.53	13.06	10 ^{-5.85}
169	287		3/2 ⁺	0.68	0.66	7.36	16.26						7.26	19.9364	0.21	-0.18	12.95	10 ^{-4.61}
170	288			0.69	0.65	8.61	15.98						5.71	26.7331	0.57	0.23	12.86	10 ^{-5.47}
171	289		3/2 ⁺	0.69	0.63	7.11	15.72						6.50	42.2508	0.62	0.62	12.76	10 ^{-4.20}
172	290			0.68	0.62	8.28	15.39						5.05	80.4867	0.99	1.04	12.68	10 ^{-5.08}
173	291		5/2 ⁺	0.68	0.62	6.85	15.13						5.86	> 100	1.02	1.42	12.55	10 ^{-3.76}
174	292			0.67	0.61	8.02	14.87						4.36	> 100	1.38	1.82	12.39	10 ^{-4.49}
175	293		1/2 ⁺	0.67	0.60	6.53	14.55						5.47	> 100	1.39	2.13	12.34	10 ^{-3.31}
176	294			0.66	0.59	7.57	14.11						4.23	> 100	1.33	1.99	12.37	10 ^{-4.45}
177	295		1/2 ⁺	0.69	0.61	6.67	14.24						4.63	96.3772	1.66	2.67	11.92	10 ^{-2.40}
178	296			0.68	0.60	7.35	14.02						3.22	> 100	1.94	2.91	12.28	10 ^{-4.25}
179	297		1/2 ⁺	0.67	0.58	5.90	13.25						4.09	> 100	1.90	3.12	12.39	10 ^{-3.42}
180	298			0.67	0.57	7.01	12.91						2.74	> 100	2.14	3.39	12.49	10 ^{-4.70}
181	299		3/2 ⁺	0.66	0.55	5.66	12.67						3.54	> 100	2.14	3.61	12.52	10 ^{-3.68}
182	300			0.66	0.56	6.74	12.40						2.20	> 100	2.42	3.90	12.51	10 ^{-4.74}
183	301		1/2 ⁺	0.66	0.59	5.39	12.14						2.88	> 100	2.41	4.19	12.56	10 ^{-3.78}
184	302			0.66	0.63	6.39	11.78						0.78	> 100	2.72	4.51	12.62	10 ^{-4.98}
185	303		1/2	0.66	0.65	4.34	10.73						2.20	> 100	2.77	4.89	13.38	10 ^{-5.43}
186	304			0.66	0.67	6.06	10.40						...	β -st	3.08	5.20	13.39	10 ^{-6.54}
187	305		11/2 ⁻	0.66	0.70	3.91	9.97						1.65	> 100	3.13	5.59	13.45	10 ^{-5.57}
188	306			0.66	0.74	5.85	9.75						...	β -st	3.41	5.86	13.35	10 ^{-6.42}
189	307		11/2 ⁺	0.71	0.63	4.33	10.18						0.68	> 100	3.94	6.71	12.53	10 ^{-3.72}
190	308			0.70	0.64	6.01	10.33						...	β -st	4.54	7.31	12.11	10 ^{-3.85}
191	309		11/2 ⁺	0.70	0.64	4.51	10.52						0.17	> 100	4.81	8.22	11.07	10 ^{-0.34}
192	310			0.71	0.65	5.73	10.25						...	β -st	4.78	8.31	10.74	10 ^{-0.57}
193	311		5/2 ⁻	0.70	0.66	4.38	10.11						...	β -st	5.16	8.81	9.97	10 ^{2.69}
194	312			0.72	0.66	5.57	9.94						...	β -st	5.47	9.09	10.05	10 ^{1.42}
195	313		1/2 ⁻	0.73	0.67	4.20	9.77						0.11	> 100	5.53	9.63	9.73	10 ^{3.42}
196	314			0.73	0.68	5.47	9.67						1.19	> 100	5.78	9.83	9.54	10 ^{2.95}
197	315		5/2 ⁻	0.85	0.62	7.65	13.12						...	β -st	5.68	13.67	5.55	> 10 ²⁰
198	316			0.86	0.60	5.51	13.16						...	β -st	5.96	13.98	5.31	> 10 ²⁰
199	317		7/2 ⁻	0.87	0.61	4.14	9.65						...	β -st	5.98	10.77	4.98	> 10 ²⁰
200	318			0.86	0.60	2.72	6.86						...	β -st	6.06	10.84	7.46	10 ^{10.90}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 118 (Og)																		
201	319		9/2 ⁺	0.87	0.59	3.96	6.68						...	β -st	6.06	11.02	10.85	10 ^{0.23}
202	320			0.87	0.59	5.27	9.23						...	β -st	6.36	11.34	8.23	10 ^{7.65}
203	321		11/2 ⁺	0.89	0.59	3.60	8.87						0.02	> 100	6.36	11.58	8.41	10 ^{7.97}
204	322			0.89	0.59	4.81	8.40						...	β -st	6.65	11.90	8.56	10 ^{6.33}
205	323		15/2 ⁺	0.75	0.70	2.01	6.82	1.00	0.00	0.00	0.00	0.00	2.07	> 100	5.31	10.82	9.90	10 ^{2.90}
206	324			0.76	0.69	4.76	6.78	1.00	0.00	0.00	0.00	0.00	1.10	> 100	7.05	11.27	9.62	10 ^{2.70}
207	325		7/2 ⁺	0.76	0.69	3.44	8.20	1.00	0.00	0.00	0.00	0.00	2.43	> 100	5.87	11.61	9.27	10 ^{4.90}
208	326			0.77	0.67	4.57	8.01	1.00	0.00	0.00	0.00	0.00	1.57	> 100	6.23	11.97	9.03	10 ^{4.64}
209	327		1/2 ⁻	0.91	0.58	4.22	8.80	1.00	0.00	0.00	0.00	0.00	1.93	46.2281	7.20	13.24	7.90	10 ^{10.02}
210	328			0.91	0.62	4.31	8.53	1.00	0.00	0.00	0.00	0.00	0.98	> 100	7.36	13.39	7.79	10 ^{9.43}
211	329		7/2 ⁻	0.82	0.62	3.28	7.59	1.00	0.00	0.00	0.00	0.00	2.91	14.8637	7.44	13.71	7.47	10 ^{11.92}
212	330			0.92	0.55	4.45	7.73	1.00	0.00	0.00	0.00	0.00	1.91	10.1150	7.61	14.05	7.18	10 ^{12.27}
213	331		5/2 ⁻	0.78	0.64	4.17	8.61	1.00	0.00	0.00	0.00	0.00	3.66	6.1128	8.71	15.40	5.97	> 10 ²⁰
214	332			0.78	0.64	4.20	8.36	1.00	0.00	0.00	0.00	0.00	2.73	5.0805	8.42	15.38	5.88	10 ^{19.58}
215	333		1/2 ⁻	0.78	0.64	2.76	6.96	1.00	0.00	0.00	0.00	0.00	4.14	2.4829	8.41	15.40	5.94	> 10 ²⁰
216	334			0.78	0.64	4.00	6.76	1.00	0.00	0.00	0.00	0.00	3.22	2.3372	8.38	15.38	6.16	10 ^{17.80}
217	335		9/2 ⁻	0.72	0.64	2.55	6.55	0.98	0.02	0.00	0.17	0.02	4.70	1.1949	8.02	15.34	6.35	10 ^{17.73}
218	336			0.72	0.63	4.17	6.72	0.95	0.05	0.00	0.08	0.05	3.46	2.2362	8.30	15.64	6.20	10 ^{17.55}
219	337		9/2 ⁻	0.69	0.60	2.91	7.08	0.98	0.02	0.00	0.16	0.02	4.47	2.5664	8.41	16.08	5.88	> 10 ²⁰
220	338			0.70	0.58	4.20	7.11	0.99	0.01	0.00	0.07	0.01	3.32	4.0857	8.69	16.40	5.56	> 10 ²⁰
221	339		15/2 ⁺	0.70	0.61	2.74	6.94	0.99	0.01	0.00	0.16	0.01	4.78	1.8377	8.68	16.71	5.28	> 10 ²⁰
Z = 119																		
165	284	5/2 ⁻	1/2 ⁺	0.68	0.71								10.33	8.0238	-1.98	-2.47	13.67	10 ^{-5.68}
166	285	1/2 ⁻		0.69	0.71	9.10							8.82	6.2709	-2.01	-2.17	14.05	10 ^{-6.74}
167	286	1/2 ⁻	1/2 ⁺	0.69	0.69	7.92	17.02						9.80	8.7986	-1.69	-1.84	13.76	10 ^{-5.83}
168	287	1/2 ⁻		0.70	0.69	9.19	17.11						7.98	10.4703	-1.39	-1.22	13.37	10 ^{-5.45}
169	288	1/2 ⁻	3/2 ⁺	0.69	0.66	7.38	16.57						9.21	11.2644	-1.38	-1.17	13.57	10 ^{-5.49}
170	289	1/2 ⁻		0.70	0.65	8.67	16.05						7.65	16.1400	-1.32	-0.75	13.47	10 ^{-5.65}
171	290	1/2 ⁻	3/2 ⁺	0.69	0.64	7.49	16.15						8.44	27.6018	-0.94	-0.33	13.32	10 ^{-5.00}
172	291	1/2 ⁻		0.69	0.62	8.33	15.81						6.97	37.5327	-0.90	0.10	13.24	10 ^{-5.20}
173	292	1/2 ⁻	5/2 ⁺	0.69	0.62	7.22	15.55						7.76	30.3126	-0.53	0.49	13.08	10 ^{-4.54}
174	293	1/2 ⁻		0.69	0.62	8.06	15.28						6.24	> 100	-0.49	0.89	12.92	10 ^{-4.56}
175	294	1/2 ⁻	1/2 ⁺	0.69	0.60	6.90	14.96						6.91	> 100	-0.12	1.27	12.85	10 ^{-4.07}
176	295	1/2 ⁻		0.69	0.59	7.57	14.47						6.00	76.1404	-0.12	1.21	12.93	10 ^{-4.60}
177	296	1/2 ⁻	5/2 ⁺	0.68	0.58	6.48	14.05						6.88	> 100	-0.30	1.35	12.97	10 ^{-4.34}
178	297	1/2 ⁻		0.69	0.61	7.71	14.19						5.07	> 100	0.05	1.99	12.91	10 ^{-4.52}
179	298	1/2 ⁻	1/2 ⁺	0.68	0.58	6.15	13.86						5.93	> 100	0.30	2.20	13.09	10 ^{-4.56}
180	299	1/2 ⁻		0.68	0.57	7.09	13.24						4.49	> 100	0.38	2.52	13.07	10 ^{-4.88}
181	300	1/2 ⁻	3/2 ⁺	0.67	0.56	5.97	13.06						5.26	> 100	0.70	2.84	13.04	10 ^{-4.44}
182	301	3/2 ⁻		0.67	0.56	6.72	12.70						3.93	> 100	0.68	3.10	13.08	10 ^{-4.88}
183	302	3/2 ⁻	1/2 ⁺	0.67	0.59	5.69	12.42						4.63	> 100	0.98	3.39	13.05	10 ^{-4.48}
184	303	3/2 ⁻		0.67	0.63	6.40	12.09						2.57	> 100	0.99	3.71	13.11	10 ^{-4.94}
185	304	3/2	1/2	0.67	0.65	4.66	11.06						3.97	> 100	1.31	4.08	13.85	10 ^{-6.03}
186	305	3/2 ⁻		0.67	0.67	6.07	10.73						1.81	> 100	1.32	4.40	13.86	10 ^{-6.38}
187	306	3/2 ⁻	13/2 ⁻	0.67	0.70	4.22	10.29						3.43	> 100	1.63	4.77	13.93	10 ^{-6.16}
188	307	13/2 ⁻		0.71	0.63	6.30	10.52						1.46	> 100	2.09	5.50	13.38	10 ^{-5.49}
189	308	13/2 ⁻	11/2 ⁺	0.71	0.63	5.06	11.37						2.40	> 100	2.82	6.76	12.17	10 ^{-2.60}
190	309	13/2 ⁻		0.71	0.63	6.03	11.10						0.88	> 100	2.85	7.39	11.71	10 ^{-1.88}
191	310	13/2 ⁻	11/2 ⁺	0.71	0.64	4.84	10.87						1.78	> 100	3.17	7.98	10.67	10 ^{1.07}
192	311	13/2 ⁻		0.71	0.65	5.75	10.59						0.40	> 100	3.19	7.97	10.32	10 ^{1.70}
193	312	13/2 ⁻	11/2 ⁺	0.70	0.66	4.67	10.42	1.00	0.00	0.00	0.00	0.00	±	±	3.48	8.64	9.90	10 ^{3.28}
194	313	13/2 ⁻		0.71	0.66	5.61	10.28						...	β -st	3.52	8.99	10.06	10 ^{2.45}
195	314	13/2 ⁻	1/2 ⁻	0.71	0.67	4.50	10.11	1.00	0.00	0.00	0.00	0.00	±	±	3.82	9.35	9.55	10 ^{4.37}
196	315	13/2 ⁻		0.73	0.67	5.45	9.94						3.07	> 100	3.80	9.58	9.36	10 ^{4.65}
197	316	13/2 ⁻	7/2 ⁻	0.73	0.68	4.30	9.75	1.00	0.00	0.00	0.00	0.00	±	±	0.45	6.13	9.20	10 ^{5.52}
198	317	13/2 ⁻		0.73	0.68	5.35	9.66	1.00	0.00	0.00	0.00	0.00	±	±	0.30	6.25	9.06	10 ^{5.63}
199	318	13/2 ⁻	9/2 ⁺	0.73	0.69	4.13	9.48	1.00	0.00	0.00	0.00	0.00	±	±	0.28	6.26	12.69	10 ^{-3.74}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 119																		
200	319	13/2 ⁻		0.72	0.70	5.18	9.31	1.00	0.00	0.00	0.00	0.00	±	±	2.74	8.81	12.74	10 ^{-4.19}
201	320	13/2 ⁻	5/2 ⁻	0.73	0.70	4.27	9.45	1.00	0.00	0.00	0.00	0.00	±	±	3.06	9.12	12.59	10 ^{-3.51}
202	321	13/2 ⁻		0.73	0.70	5.05	9.32	1.00	0.00	0.00	0.00	0.00	1.21	> 100	2.84	9.20	10.17	10 ^{2.13}
203	322	13/2 ⁻	19/2 ⁻	0.73	0.71	3.97	9.01	1.00	0.00	0.00	0.00	0.00	±	±	3.21	9.56	10.16	10 ^{2.47}
204	323	13/2 ⁻		0.73	0.70	4.90	8.86	1.00	0.00	0.00	0.00	0.00	1.58	> 100	3.30	9.95	10.24	10 ^{1.93}
205	324	13/2 ⁻	15/2 ⁺	0.73	0.70	3.80	8.70	1.00	0.00	0.00	0.00	0.00	2.80	> 100	5.08	10.39	10.04	10 ^{2.83}
206	325	13/2 ⁻		0.74	0.69	4.77	8.57	1.00	0.00	0.00	0.00	0.00	2.01	> 100	5.09	12.14	9.79	10 ^{3.27}
207	326	13/2 ⁻	7/2 ⁺	0.74	0.69	3.71	8.48	1.00	0.00	0.00	0.00	0.00	3.23	> 100	5.36	11.24	9.43	10 ^{4.76}
208	327	13/2 ⁻		0.74	0.69	4.58	8.29	1.00	0.00	0.00	0.00	0.00	2.46	70.6479	5.37	11.60	7.87	10 ^{10.25}
209	328	1/2	7/2	0.75	0.67	3.36	7.94	1.00	0.00	0.00	0.00	0.00	3.93	21.3256	4.51	11.71	9.12	10 ^{5.80}
210	329	5/2 ⁺		0.91	0.56	5.21	8.57	1.00	0.00	0.00	0.00	0.00	2.31	> 100	5.41	12.77	8.12	10 ^{9.20}
211	330	5/2 ⁺	3/2 ⁻	0.92	0.56	3.45	8.66	1.00	0.00	0.00	0.00	0.00	3.70	26.7745	5.58	13.02	7.93	10 ^{10.33}
212	331	5/2 ⁻		0.76	0.65	5.92	9.37	1.00	0.00	0.00	0.00	0.00	3.12	19.8124	7.05	14.66	6.16	10 ^{19.04}
213	332	5/2 ⁻	5/2 ⁻	0.77	0.64	3.26	9.18	1.00	0.00	0.00	0.00	0.00	4.55	10.7971	6.14	14.85	6.11	10 ^{19.69}
214	333	5/2 ⁻		0.77	0.64	4.18	7.43	0.99	0.01	0.00	0.09	0.01	3.65	8.0266	6.12	14.54	6.21	10 ^{18.73}
215	334	5/2 ⁻	11/2 ⁺	0.77	0.64	3.07	7.25	1.00	0.00	0.00	0.00	0.00	5.06	5.3488	6.43	14.84	6.20	10 ^{19.13}
216	335	5/2 ⁻		0.77	0.64	4.04	7.11	0.92	0.08	0.00	0.14	0.08	4.10	3.9614	6.47	14.85	6.65	10 ^{16.17}
217	336	5/2 ⁻	1/2 ⁻	0.77	0.64	2.93	6.97	0.98	0.02	0.00	0.24	0.02	5.48	2.5790	6.85	14.87	6.49	10 ^{17.36}
218	337	5/2 ⁻		0.77	0.65	3.92	6.85	0.79	0.21	0.00	0.22	0.21	4.52	2.1403	6.60	14.90	6.60	10 ^{16.45}
219	338	1/2 ⁻	9/2 ⁻	0.70	0.60	3.04	6.96	0.82	0.18	0.00	0.34	0.18	5.69	1.5142	6.73	15.14	6.47	10 ^{17.53}
220	339	1/2 ⁻		0.70	0.58	4.21	7.25	0.69	0.31	0.00	0.30	0.31	4.30	3.9075	6.74	15.43	6.16	10 ^{19.10}
Z = 120																		
167	287		7/2 ⁺	0.71	0.71								9.11	3.2387	-0.70	-2.39	13.96	10 ^{-6.02}
168	288			0.72	0.70	9.24							7.25	7.7230	-0.65	-2.04	13.85	10 ^{-6.89}
169	289		1/2 ⁺	0.72	0.69	7.70	16.95						8.21	2.5344	-0.32	-1.70	13.75	10 ^{-5.63}
170	290			0.72	0.68	8.89	16.59						6.81	1.6919	-0.10	-1.42	13.75	10 ^{-6.70}
171	291		3/2 ⁺	0.71	0.64	7.24	16.13						7.89	6.3788	-0.35	-1.30	13.87	10 ^{-5.86}
172	292			0.71	0.63	8.71	15.95						6.41	9.7054	0.03	-0.86	13.78	10 ^{-6.76}
173	293		5/2 ⁺	0.71	0.62	7.23	15.94						7.23	8.6822	0.04	-0.48	13.65	10 ^{-5.45}
174	294			0.71	0.61	8.44	15.67						5.69	16.5208	0.42	-0.06	13.49	10 ^{-6.21}
175	295		1/2 ⁺	0.70	0.60	6.89	15.33						6.38	24.3374	0.41	0.29	13.46	10 ^{-5.08}
176	296			0.70	0.59	7.88	14.77						4.98	33.4475	0.72	0.60	13.59	10 ^{-6.40}
177	297		5/2 ⁺	0.70	0.58	6.47	14.35						6.22	31.9073	0.70	0.40	13.66	10 ^{-5.45}
178	298			0.70	0.61	7.99	14.46						4.38	26.5990	0.99	1.04	13.24	10 ^{-5.72}
179	299		1/2 ⁺	0.69	0.59	6.18	14.17						5.29	> 100	1.01	1.31	13.73	10 ^{-5.60}
180	300			0.69	0.57	7.40	13.57						3.87	> 100	1.32	1.70	13.69	10 ^{-6.61}
181	301		3/2 ⁺	0.69	0.55	5.97	13.37						4.62	> 100	1.32	2.01	13.62	10 ^{-5.39}
182	302			0.69	0.56	7.08	13.05						3.24	> 100	1.67	2.35	13.55	10 ^{-6.32}
183	303		1/2 ⁺	0.69	0.59	5.70	12.78						3.94	> 100	1.68	2.65	13.51	10 ^{-5.18}
184	304			0.69	0.63	6.70	12.40						1.90	> 100	1.98	2.97	13.55	10 ^{-6.32}
185	305		1/2	0.69	0.65	4.69	11.39						3.28	> 100	2.01	3.32	14.26	10 ^{-6.56}
186	306			0.69	0.67	6.37	11.06						1.13	> 100	2.31	3.63	14.28	10 ^{-7.66}
187	307		9/2 ⁻	0.72	0.63	5.00	11.37						2.44	> 100	3.09	4.72	13.62	10 ^{-5.39}
188	308			0.71	0.63	6.71	11.71						0.79	> 100	3.49	5.58	12.97	10 ^{-5.16}
189	309		11/2 ⁺	0.71	0.63	5.10	11.82						1.72	> 100	3.54	6.36	11.77	10 ^{-1.47}
190	310			0.71	0.63	6.33	11.44						0.22	> 100	3.83	6.68	11.28	10 ^{-1.37}
191	311		3/2 ⁻	0.72	0.64	4.85	11.18						1.12	> 100	3.85	7.02	10.76	10 ^{1.08}
192	312			0.71	0.65	6.06	10.91						...	β -st	4.15	7.34	10.71	10 ^{0.15}
193	313		5/2 ⁻	0.71	0.65	4.72	10.78						0.62	> 100	4.21	7.69	10.50	10 ^{1.80}
194	314			0.70	0.66	5.91	10.63						...	β -st	4.50	8.02	10.33	10 ^{1.21}
195	315		1/2 ⁻	0.71	0.66	4.54	10.45						0.12	> 100	4.55	8.37	10.16	10 ^{2.77}
196	316			0.72	0.67	5.80	10.34						...	β -st	4.90	8.70	9.93	10 ^{2.37}
197	317		7/2 ⁻	0.73	0.68	4.31	10.11						...	β -st	4.91	5.36	9.82	10 ^{3.80}
198	318			0.73	0.68	5.63	9.94						...	β -st	5.19	5.48	9.66	10 ^{3.24}
199	319		9/2 ⁺	0.73	0.68	4.16	9.79						...	β -st	5.22	5.50	13.15	10 ^{-4.47}
200	320			0.73	0.69	5.50	9.66						...	β -st	5.54	8.28	13.16	10 ^{-5.54}
201	321		5/2 ⁻	0.73	0.70	4.21	9.71						...	β -st	5.48	8.54	13.08	10 ^{-4.33}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 120																		
202	322			0.73	0.69	5.33	9.54						...	β -st	5.76	8.59	10.48	$10^{0.79}$
203	323		19/2 ⁻	0.73	0.70	3.90	9.23	1.00	0.00	0.00	0.00	0.00	0.35	> 100	5.69	8.90	10.54	$10^{1.68}$
204	324			0.73	0.70	5.03	8.93						...	β -st	5.82	9.12	10.78	$10^{-0.04}$
205	325		15/2 ⁺	0.73	0.69	3.97	9.00	1.00	0.00	0.00	0.00	0.00	0.79	> 100	5.99	11.08	10.41	$10^{2.08}$
206	326			0.73	0.69	4.93	8.91						...	β -st	6.16	11.25	10.28	$10^{1.36}$
207	327		7/2 ⁺	0.73	0.69	3.81	8.75	1.00	0.00	0.00	0.00	0.00	1.31	> 100	6.26	11.62	8.48	$10^{8.44}$
208	328			0.73	0.68	4.84	8.65	1.00	0.00	0.00	0.00	0.00	0.41	> 100	6.51	11.89	8.41	$10^{7.68}$
209	329		13/2 ⁺	0.73	0.68	3.59	8.43	1.00	0.00	0.00	0.00	0.00	1.89	> 100	6.74	11.25	8.26	$10^{9.31}$
210	330			0.73	0.68	4.84	8.42	1.00	0.00	0.00	0.00	0.00	0.90	> 100	6.36	11.78	7.99	$10^{9.35}$
211	331		15/2 ⁻	0.75	0.66	5.34	10.18	1.00	0.00	0.00	0.00	0.00	2.11	> 100	8.26	13.84	6.87	$10^{15.72}$
212	332			0.75	0.65	4.68	10.03	1.00	0.00	0.00	0.00	0.00	1.11	> 100	7.02	14.07	6.50	$10^{16.69}$
213	333		5/2 ⁻	0.76	0.65	3.28	7.96	1.00	0.00	0.00	0.00	0.00	2.51	88.0560	7.04	13.18	6.51	$10^{17.76}$
214	334			0.76	0.64	4.48	7.76	1.00	0.00	0.00	0.00	0.00	1.58	92.6654	7.35	13.47	6.47	$10^{16.87}$
215	335		11/2 ⁺	0.76	0.64	3.08	7.56	1.00	0.00	0.00	0.00	0.00	3.01	28.4032	7.35	13.79	7.56	$10^{12.31}$
216	336			0.77	0.64	4.31	7.39	1.00	0.00	0.00	0.00	0.00	2.06	26.4279	7.62	14.10	7.44	$10^{11.76}$
217	337		1/2 ⁻	0.76	0.66	2.96	7.27	1.00	0.00	0.00	0.00	0.00	3.44	9.4044	7.66	14.51	7.25	$10^{13.78}$
218	338			0.76	0.65	4.21	7.17	1.00	0.00	0.00	0.00	0.00	2.44	10.0826	7.95	14.55	7.03	$10^{13.82}$
219	339		3/2 ⁻	0.76	0.65	2.82	7.02	1.00	0.00	0.00	0.00	0.00	3.87	4.3205	7.72	14.45	6.77	$10^{16.25}$
Z = 121																		
169	290	11/2 ⁺	1/2 ⁺	0.73	0.69								10.22	1.0768	-2.11	-2.44	14.17	$10^{-6.12}$
170	291	11/2 ⁺		0.73	0.68	9.01							8.45	1.4225	-2.00	-2.10	14.35	$10^{-6.78}$
171	292	11/2 ⁺	3/2 ⁺	0.73	0.67	7.71	16.72						9.45	1.3528	-1.52	-1.87	14.02	$10^{-5.82}$
172	293	11/2 ⁺		0.73	0.67	8.63	16.34						8.05	1.3093	-1.60	-1.57	14.06	$10^{-6.26}$
173	294	5/2 ⁻	5/2 ⁺	0.72	0.62	7.13	15.76						9.36	6.4656	-1.71	-1.66	14.41	$10^{-6.56}$
174	295	5/2 ⁻		0.72	0.62	8.44	15.57						7.81	10.2022	-1.71	-1.28	14.30	$10^{-6.69}$
175	296	5/2 ⁻	1/2 ⁺	0.72	0.60	7.22	15.66						8.47	9.4761	-1.37	-0.97	14.30	$10^{-6.35}$
176	297	5/2 ⁻		0.72	0.59	7.90	15.11						7.04	11.9934	-1.36	-0.64	14.47	$10^{-6.99}$
177	298	5/2 ⁻	5/2 ⁺	0.71	0.58	6.85	14.75						8.19	17.8619	-0.98	-0.27	14.52	$10^{-6.74}$
178	299	3/2 ⁻		0.70	0.60	7.93	14.78						6.43	60.5087	-1.04	-0.05	14.17	$10^{-6.44}$
179	300	3/2 ⁻	1/2 ⁺	0.70	0.58	6.70	14.63						7.13	> 100	-0.52	0.49	13.95	$10^{-5.71}$
180	301	3/2 ⁻		0.70	0.57	7.41	14.10						5.70	> 100	-0.51	0.81	14.25	$10^{-6.60}$
181	302	3/2 ⁻	3/2 ⁺	0.70	0.57	6.33	13.74						6.44	> 100	-0.15	1.17	14.07	$10^{-5.92}$
182	303	3/2 ⁻		0.70	0.56	7.04	13.38						5.10	> 100	-0.18	1.49	14.11	$10^{-6.35}$
183	304	3/2 ⁻	1/2 ⁺	0.70	0.60	5.99	13.03						5.81	> 100	0.11	1.79	14.10	$10^{-5.99}$
184	305	3/2 ⁻		0.70	0.63	6.72	12.71						3.78	> 100	0.12	2.10	14.10	$10^{-6.35}$
185	306	3/2	1/2	0.70	0.65	5.01	11.73						5.14	> 100	0.45	2.46	14.78	$10^{-7.18}$
186	307	3/2 ⁻		0.70	0.67	6.38	11.39						3.75	> 100	0.46	2.77	14.80	$10^{-7.57}$
187	308	11/2 ⁻	9/2 ⁻	0.73	0.63	5.72	12.10						4.75	14.0171	1.18	4.27	13.74	$10^{-5.32}$
188	309	11/2 ⁻		0.73	0.63	6.75	12.47						3.10	25.9312	1.22	4.71	13.06	$10^{-4.33}$
189	310	11/2 ⁻	11/2 ⁺	0.73	0.63	5.41	12.16						4.02	88.7792	1.53	5.06	11.87	$10^{-1.38}$
190	311	11/2 ⁻		0.73	0.63	6.35	11.76						2.52	> 100	1.55	5.38	11.83	$10^{-1.60}$
191	312	11/2 ⁻	3/2 ⁻	0.72	0.63	5.16	11.51						3.43	> 100	1.85	5.70	11.73	$10^{-1.07}$
192	313	11/2 ⁻		0.72	0.65	6.12	11.27						2.03	> 100	1.91	6.06	11.65	$10^{-1.20}$
193	314	11/2 ⁻	5/2 ⁻	0.72	0.65	5.02	11.14						2.91	> 100	2.21	6.42	11.46	$10^{-0.39}$
194	315	11/2 ⁻		0.71	0.66	5.94	10.97						1.51	> 100	2.25	6.75	11.27	$10^{-0.25}$
195	316	11/2 ⁻	1/2 ⁻	0.71	0.66	4.86	10.80						2.45	> 100	2.56	7.11	11.08	$10^{0.58}$
196	317	11/2 ⁻		0.71	0.67	5.83	10.68						0.94	> 100	2.59	7.49	10.87	$10^{0.79}$
197	318	11/2 ⁻	7/2 ⁻	0.71	0.67	4.63	10.46						1.94	> 100	2.91	7.82	10.73	$10^{1.49}$
198	319	11/2 ⁻		0.71	0.68	5.69	10.32						0.41	> 100	2.97	8.16	10.49	$10^{1.84}$
199	320	11/2 ⁻	7/2 ⁻	0.71	0.68	4.46	10.14	1.00	0.00	0.00	0.00	0.00	±	±	3.27	8.49	10.34	$10^{2.61}$
200	321	11/2 ⁻		0.71	0.69	5.53	9.99						0.13	> 100	3.30	8.84	10.16	$10^{2.80}$
201	322	11/2 ⁻	5/2 ⁻	0.71	0.69	4.31	9.84	1.00	0.00	0.00	0.00	0.00	±	±	3.39	8.87	9.98	$10^{3.68}$
202	323	11/2 ⁻		0.71	0.69	5.40	9.71						0.12	> 100	3.47	9.22	9.76	$10^{4.03}$
203	324	11/2 ⁻	5/2 ⁻	0.71	0.69	4.16	9.56	1.00	0.00	0.00	0.00	0.00	±	±	3.73	9.42	9.87	$10^{4.02}$
204	325	11/2 ⁻		0.71	0.69	5.28	9.45	1.00	0.00	0.00	0.00	0.00	1.95	94.0084	3.98	9.80	9.63	$10^{4.41}$
205	326	11/2 ⁻	15/2 ⁺	0.71	0.69	4.12	9.41	1.00	0.00	0.00	0.00	0.00	±	±	4.14	10.13	9.47	$10^{5.30}$
206	327	11/2 ⁻		0.71	0.69	5.13	9.26	1.00	0.00	0.00	0.00	0.00	0.85	> 100	4.34	10.49	9.24	$10^{5.74}$

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 121																		
207	328	11/2 ⁻	7/2 ⁺	0.71	0.68	3.94	9.07	1.00	0.00	0.00	0.00	0.00	2.14	> 100	4.46	10.72	9.10	10 ^{6.60}
208	329	11/2 ⁻		0.71	0.68	5.07	9.01	1.00	0.00	0.00	0.00	0.00	1.23	> 100	4.70	11.21	8.80	10 ^{7.30}
209	330	11/2 ⁻	7/2 ⁺	0.72	0.67	3.85	8.92	1.00	0.00	0.00	0.00	0.00	2.57	> 100	4.95	11.69	8.66	10 ^{8.16}
210	331	5/2		0.76	0.69	6.55	10.40	1.00	0.00	0.00	0.00	0.00	0.33	> 100	6.67	13.03	6.69	10 ^{16.83}
211	332	5/2	5/2	0.76	0.66	3.69	10.24	1.00	0.00	0.00	0.00	0.00	3.06	> 100	5.01	13.27	6.37	10 ^{19.02}
212	333	5/2		0.75	0.65	4.68	8.37	1.00	0.00	0.00	0.00	0.00	2.03	> 100	5.01	12.03	6.90	10 ^{15.69}
213	334	5/2	5/2	0.75	0.65	3.55	8.23	1.00	0.00	0.00	0.00	0.00	3.43	68.4250	5.28	12.32	6.80	10 ^{16.57}
214	335	5/2		0.76	0.67	4.50	8.05	1.00	0.00	0.00	0.00	0.00	2.49	60.5825	5.30	12.65	8.22	10 ^{9.55}
215	336	5/2	11/2	0.75	0.67	3.36	7.86	1.00	0.00	0.00	0.00	0.00	3.93	28.3337	5.58	12.94	8.11	10 ^{10.35}
216	337	5/2 ⁺		0.76	0.66	4.35	7.71	1.00	0.00	0.00	0.00	0.00	2.97	24.7808	5.62	13.25	7.94	10 ^{10.72}
217	338	5/2 ⁺	1/2 ⁻	0.76	0.65	3.21	7.55	1.00	0.00	0.00	0.00	0.00	4.42	11.7872	5.87	13.53	7.81	10 ^{11.63}
218	339	5/2 ⁺		0.75	0.66	4.25	7.45	1.00	0.00	0.00	0.00	0.00	3.38	10.7206	5.91	13.85	7.60	10 ^{12.24}
Z = 122																		
172	294			0.73	0.67								6.91	0.5789	-0.57	-2.17	14.52	10 ^{-7.62}
173	295		3/2 ⁺	0.74	0.66	7.27							8.08	0.6421	-0.42	-2.13	14.49	10 ^{-6.50}
174	296			0.74	0.62	8.25	15.52						7.05	4.7037	-0.61	-2.32	14.95	10 ^{-8.34}
175	297		1/2 ⁺	0.74	0.61	7.25	15.50						7.69	2.8979	-0.58	-1.95	14.93	10 ^{-7.26}
176	298			0.74	0.59	8.21	15.46						6.33	3.4188	-0.26	-1.62	15.16	10 ^{-8.70}
177	299		1/2 ⁺	0.74	0.62	7.42	15.63						6.84	2.4275	0.30	-0.67	14.62	10 ^{-6.74}
178	300			0.71	0.60	7.79	15.20						5.75	9.0258	0.16	-0.88	14.72	10 ^{-7.96}
179	301		1/2 ⁺	0.71	0.58	6.72	14.51						6.43	14.4379	0.19	-0.33	14.46	10 ^{-6.46}
180	302			0.71	0.56	7.69	14.42						5.08	13.6171	0.47	-0.04	14.76	10 ^{-8.05}
181	303		3/2 ⁺	0.71	0.56	6.37	14.06						5.75	15.2644	0.51	0.36	14.57	10 ^{-6.64}
182	304			0.71	0.56	7.38	13.75						4.36	18.3115	0.85	0.67	14.59	10 ^{-7.72}
183	305		1/2 ⁺	0.71	0.60	6.00	13.38						5.08	24.7821	0.86	0.97	14.56	10 ^{-6.60}
184	306			0.71	0.63	7.02	13.01						3.08	50.6346	1.16	1.28	14.62	10 ^{-7.79}
185	307		1/2	0.71	0.65	5.05	12.06						4.41	94.6257	1.19	1.64	15.27	10 ^{-7.82}
186	308			0.72	0.67	6.68	11.73						3.44	13.0803	1.49	1.95	15.29	10 ^{-8.92}
187	309		9/2 ⁻	0.72	0.63	6.18	12.86						4.02	15.3295	1.95	3.13	13.80	10 ^{-5.24}
188	310			0.72	0.63	7.06	13.23						2.37	74.4552	2.26	3.48	13.12	10 ^{-4.95}
189	311		11/2 ⁺	0.72	0.63	5.44	12.49						3.29	> 100	2.28	3.81	12.68	10 ^{-2.98}
190	312			0.72	0.63	6.65	12.08						1.79	> 100	2.58	4.12	12.74	10 ^{-4.17}
191	313		3/2 ⁻	0.71	0.63	5.17	11.82						2.74	> 100	2.59	4.44	12.67	10 ^{-2.96}
192	314			0.70	0.65	6.43	11.60						1.33	> 100	2.91	4.82	12.57	10 ^{-3.81}
193	315		5/2 ⁻	0.71	0.65	5.00	11.43						2.28	> 100	2.88	5.09	12.43	10 ^{-2.43}
194	316			0.70	0.66	6.30	11.30						0.84	> 100	3.24	5.49	12.19	10 ^{-2.96}
195	317		1/2 ⁻	0.70	0.66	4.86	11.16						1.80	> 100	3.24	5.80	12.05	10 ^{-1.57}
196	318			0.70	0.67	6.17	11.03						0.26	> 100	3.59	6.18	11.78	10 ^{-2.00}
197	319		7/2 ⁻	0.70	0.67	4.66	10.83						1.29	> 100	3.61	6.53	11.67	10 ^{-0.67}
198	320			0.69	0.68	5.99	10.65						...	β -st	3.92	6.89	11.47	10 ^{-1.24}
199	321		9/2 ⁺	0.70	0.68	4.51	10.50						0.77	> 100	3.97	7.24	11.27	10 ^{0.33}
200	322			0.69	0.68	6.02	10.53						...	β -st	4.46	7.76	10.88	10 ^{0.30}
201	323		19/2 ⁻	0.69	0.69	4.58	10.60						...	β -st	4.73	8.12	10.46	10 ^{2.50}
202	324			0.69	0.69	5.62	10.20						...	β -st	4.95	8.42	10.34	10 ^{1.78}
203	325		11/2 ⁺	0.84	0.60	5.66	11.28						...	β -st	6.45	10.18	8.89	10 ^{7.58}
204	326			0.70	0.68	4.10	9.76						...	β -st	5.27	9.25	10.12	10 ^{2.47}
205	327		15/2 ⁺	0.70	0.69	4.06	8.16						...	β -st	5.20	9.34	9.97	10 ^{4.02}
206	328			0.70	0.69	5.23	9.29						...	β -st	5.29	9.63	9.76	10 ^{3.55}
207	329		13/2 ⁺	0.70	0.68	4.16	9.39	1.00	0.00	0.00	0.00	0.00	0.24	> 100	5.52	9.98	9.57	10 ^{5.23}
208	330			0.70	0.67	5.18	9.34						...	β -st	5.63	10.33	9.33	10 ^{5.00}
209	331		1/2 ⁻	0.90	0.58	4.32	9.50	1.00	0.00	0.00	0.00	0.00	0.69	> 100	6.10	11.05	8.82	10 ^{7.88}
210	332			0.78	0.69	6.42	10.73						...	β -st	5.97	12.64	7.24	10 ^{13.55}
211	333		5/2 ⁻	0.76	0.68	3.64	10.06						...	β -st	5.92	10.94	7.19	10 ^{14.96}
212	334			0.75	0.68	4.95	8.60						0.13	> 100	6.20	11.21	7.07	10 ^{14.46}
213	335		5/2 ⁻	0.76	0.65	3.57	8.52	1.00	0.00	0.00	0.00	0.00	1.55	> 100	6.22	11.50	8.84	10 ^{7.77}
214	336			0.75	0.67	4.79	8.36	1.00	0.00	0.00	0.00	0.00	0.57	> 100	6.51	11.81	8.73	10 ^{7.15}
215	337		11/2 ⁺	0.76	0.67	3.40	8.19	1.00	0.00	0.00	0.00	0.00	2.01	> 100	6.54	12.12	8.62	10 ^{8.63}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)	
Z = 122																			
216	338			0.76	0.66	4.66	8.05	1.00	0.00	0.00	0.00	0.00	1.03	> 100	6.85	12.47	8.44	10 ^{8.27}	
217	339		1/2 ⁻	0.75	0.65	3.20	7.86	1.00	0.00	0.00	0.00	0.00	2.48	49.9840	6.84	12.71	8.32	10 ^{9.85}	
Z = 123																			
174	297		1/2 ⁻	0.73	0.68								8.29	0.4528	-1.82	-2.43	15.16	10 ^{-7.71}	
175	298		15/2 ⁻	5/2 ⁺	0.75	0.63	7.40						9.11	0.2449	-1.68	-2.25	14.90	10 ^{-6.93}	
176	299		15/2 ⁻		0.75	0.62	8.35	15.74					8.18	0.2188	-1.54	-1.80	14.99	10 ^{-7.42}	
177	300		11/2 ⁺	1/2 ⁺	0.76	0.62	7.23	15.57					8.73	1.9207	-1.73	-1.43	14.98	10 ^{-7.06}	
178	301		1/2 ⁻		0.73	0.60	7.87	15.10					7.59	17.2254	-1.64	-1.48	15.00	10 ^{-7.44}	
179	302		1/2 ⁻	1/2 ⁺	0.74	0.58	7.00	14.87					8.27	8.9969	-1.37	-1.18	14.85	10 ^{-6.84}	
180	303		1/2 ⁻		0.74	0.57	7.73	14.73					6.91	9.7892	-1.33	-0.85	15.05	10 ^{-7.52}	
181	304		1/2 ⁻	3/2 ⁺	0.74	0.56	6.63	14.36					7.66	8.1313	-1.06	-0.55	15.12	10 ^{-7.28}	
182	305		1/2 ⁻		0.74	0.56	7.39	14.02					6.27	10.0513	-1.05	-0.21	15.13	10 ^{-7.66}	
183	306		1/2 ⁻	1/2 ⁺	0.74	0.59	6.30	13.69					6.99	12.7989	-0.76	0.10	15.17	10 ^{-7.38}	
184	307		1/2 ⁻		0.74	0.63	7.03	13.32					5.01	20.8093	-0.75	0.41	15.18	10 ^{-7.74}	
185	308		1/2	1/2	0.74	0.65	5.37	12.40					6.32	32.9064	-0.42	0.77	15.80	10 ^{-8.40}	
186	309		1/2 ⁻		0.74	0.67	6.70	12.07					5.80	5.6844	-0.41	1.08	15.82	10 ^{-8.77}	
187	310		7/2 ⁺	9/2 ⁻	0.73	0.63	6.77	13.47					6.09	9.7524	0.18	2.14	14.07	10 ^{-5.45}	
188	311		9/2 ⁺		0.73	0.62	7.09	13.86					4.44	36.7351	0.22	2.47	13.36	10 ^{-4.43}	
189	312		7/2 ⁺	11/2 ⁺	0.73	0.63	5.74	12.82					5.35	> 100	0.52	2.80	13.34	10 ^{-4.04}	
190	313		7/2 ⁺		0.72	0.63	6.69	12.42					3.83	> 100	0.55	3.13	13.41	10 ^{-4.53}	
191	314		7/2 ⁺	3/2 ⁻	0.73	0.64	5.49	12.18	1.00	0.00	0.00	0.00	0.00	±	±	0.88	3.47	13.32	10 ^{-4.00}
192	315		7/2 ⁺		0.72	0.64	6.46	11.96					3.30	> 100	0.91	3.82	13.21	10 ^{-4.12}	
193	316		7/2 ⁺	11/2 ⁺	0.71	0.65	5.34	11.80					4.27	> 100	1.25	4.13	13.03	10 ^{-3.41}	
194	317		7/2 ⁺		0.71	0.66	6.34	11.67					2.79	> 100	1.29	4.52	12.81	10 ^{-3.29}	
195	318		7/2 ⁺	1/2 ⁻	0.71	0.66	5.23	11.56					3.74	> 100	1.65	4.89	12.61	10 ^{-2.51}	
196	319		7/2 ⁺		0.71	0.67	6.17	11.39					2.23	> 100	1.65	5.23	12.38	10 ^{-2.35}	
197	320		7/2 ⁺	9/2 ⁺	0.70	0.67	4.97	11.14					3.25	> 100	1.96	5.57	12.27	10 ^{-1.75}	
198	321		7/2 ⁺		0.71	0.68	6.04	11.01	1.00	0.00	0.00	0.00	0.00	±	±	2.00	5.92	12.06	10 ^{-1.61}
199	322		7/2 ⁺	7/2 ⁻	0.70	0.68	4.83	10.86					2.92	> 100	2.32	6.30	11.86	10 ^{-0.80}	
200	323		7/2 ⁺		0.70	0.68	6.08	10.91					1.41	> 100	2.38	6.85	11.47	10 ^{-0.18}	
201	324		7/2 ⁺	7/2 ⁻	0.70	0.68	4.93	11.01					2.10	> 100	2.73	7.47	10.99	10 ^{1.41}	
202	325		7/2 ⁺		0.70	0.69	5.77	10.70					2.00	> 100	2.88	7.84	10.76	10 ^{1.73}	
203	326		7/2 ⁺	15/2 ⁺	0.70	0.68	4.61	10.38	1.00	0.00	0.00	0.00	0.00	±	±	1.83	8.28	10.46	10 ^{2.89}
204	327		7/2 ⁺		0.70	0.68	5.47	10.08	1.00	0.00	0.00	0.00	0.00	±	±	3.21	8.47	10.38	10 ^{2.75}
205	328		7/2 ⁺	5/2 ⁻	0.70	0.68	4.28	9.76	1.00	0.00	0.00	0.00	0.00	±	±	3.43	8.63	10.27	10 ^{3.48}
206	329		7/2 ⁺		0.71	0.68	5.42	9.70	1.00	0.00	0.00	0.00	0.00	1.02	> 100	3.62	8.92	10.12	10 ^{3.56}
207	330		7/2 ⁺	13/2 ⁺	0.71	0.68	4.38	9.81	1.00	0.00	0.00	0.00	0.00	±	±	3.84	9.36	9.87	10 ^{4.68}
208	331		5/2 ⁺		0.85	0.61	5.56	9.95	1.00	0.00	0.00	0.00	0.00	0.56	> 100	4.23	9.86	9.44	10 ^{5.74}
209	332		1/2 ⁺	1/2 ⁻	0.89	0.58	4.06	9.62	1.00	0.00	0.00	0.00	0.00	±	±	3.97	10.07	9.32	10 ^{6.49}
210	333		7/2 ⁺		0.70	0.66	4.78	8.84	1.00	0.00	0.00	0.00	0.00	±	±	2.33	8.30	9.61	10 ^{5.17}
211	334		7/2 ⁻	1/2 ⁺	0.77	0.70	5.62	10.39	1.00	0.00	0.00	0.00	0.00	0.84	> 100	4.30	10.23	7.84	10 ^{12.28}
212	335		7/2 ⁻		0.76	0.69	4.99	10.60	1.00	0.00	0.00	0.00	0.00	1.12	> 100	4.33	10.53	9.40	10 ^{5.84}
213	336		7/2 ⁻	15/2 ⁻	0.76	0.67	3.81	8.80	1.00	0.00	0.00	0.00	0.00	2.52	> 100	4.58	10.79	9.28	10 ^{6.63}
214	337		7/2 ⁻		0.76	0.67	4.83	8.65					...	β -st	4.62	11.13	9.12	10 ^{6.85}	
215	338		7/2 ⁻	11/2 ⁺	0.76	0.67	3.68	8.51	1.00	0.00	0.00	0.00	0.00	2.92	89.9089	4.90	11.44	9.00	10 ^{7.62}
216	339		7/2 ⁻		0.75	0.68	4.65	8.33	1.00	0.00	0.00	0.00	0.00	1.93	76.3987	4.90	11.75	8.84	10 ^{7.87}
Z = 124																			
176	300			0.73	0.66								7.06	0.5477	-0.61	-2.15	14.99	10 ^{-7.97}	
177	301		11/2 ⁻	0.73	0.67	7.37							7.56	0.7133	-0.47	-2.20	14.87	10 ^{-6.70}	
178	302			0.74	0.67	8.60	15.98						5.96	0.9854	0.26	-1.38	14.48	10 ^{-7.08}	
179	303		15/2 ⁺	0.74	0.66	6.89	15.49						6.80	1.1848	0.15	-1.21	15.00	10 ^{-6.92}	
180	304			0.76	0.56	7.23	14.12						6.20	2.1179	-0.35	-1.67	15.56	10 ^{-8.91}	
181	305		3/2 ⁺	0.76	0.56	6.68	13.91						6.91	2.2613	-0.30	-1.37	15.61	10 ^{-7.93}	
182	306			0.76	0.56	7.69	14.37						5.52	2.6299	-0.00	-1.06	15.61	10 ^{-8.99}	
183	307		1/2 ⁺	0.76	0.59	6.31	14.00						6.24	3.1684	0.01	-0.75	15.67	10 ^{-8.02}	
184	308			0.76	0.63	7.33	13.64						4.27	4.2884	0.31	-0.43	15.72	10 ^{-9.17}	

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\overline{E}_n (MeV)	\overline{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 124																		
185	309		15/2 ⁺	0.72	0.66	6.51	13.84						4.46	11.1904	1.45	1.03	15.21	10 ^{-7.27}
186	310			0.76	0.62	7.08	13.59						4.15	6.9218	1.83	1.43	15.15	10 ^{-8.24}
187	311		7/2 ⁻	0.76	0.62	6.10	13.18						5.14	12.9423	1.17	1.35	14.09	10 ^{-5.32}
188	312			0.75	0.63	7.39	13.49						3.48	15.4270	1.47	1.69	13.38	10 ^{-4.99}
189	313		13/2 ⁻	0.73	0.62	9.33	16.72						0.84	> 100	5.06	5.58	10.23	10 ^{3.84}
190	314			0.73	0.63	7.04	16.36						...	β -st	5.41	5.97	10.25	10 ^{2.71}
191	315		3/2 ⁺	0.74	0.63	5.43	12.47						0.33	> 100	5.35	6.23	10.25	10 ^{3.78}
192	316			0.74	0.64	3.20	8.64						2.46	> 100	2.09	3.00	13.70	10 ^{-5.62}
193	317		5/2 ⁻	0.74	0.65	5.35	8.55						3.45	> 100	2.11	3.36	13.52	10 ^{-4.20}
194	318			0.73	0.66	6.60	11.96						2.07	> 100	2.38	3.66	13.34	10 ^{-4.90}
195	319		1/2 ⁻	0.73	0.66	5.24	11.85						2.99	> 100	2.39	4.04	13.10	10 ^{-3.32}
196	320			0.73	0.67	6.49	11.74						1.47	> 100	2.72	4.36	12.90	10 ^{-3.99}
197	321		5/2 ⁻	0.85	0.61	10.48	16.97						...	β -st	8.22	10.18	7.29	10 ^{15.24}
198	322			0.72	0.68	1.06	11.53	1.00	0.00	0.00	0.00	0.00	\pm	\pm	3.24	5.25	12.40	10 ^{-2.89}
199	323		19/2 ⁻	0.72	0.68	5.17	6.23						1.71	> 100	3.59	5.91	11.89	10 ^{-0.63}
200	324			0.72	0.68	6.33	11.50						0.31	> 100	3.84	6.22	11.55	10 ^{-0.86}
201	325		7/2 ⁻	0.71	0.69	4.98	11.30						1.10	> 100	3.88	6.62	11.09	10 ^{1.39}
202	326			0.82	0.60	7.61	12.58						...	β -st	5.72	8.60	9.50	10 ^{5.10}
203	327		11/2 ⁺	0.82	0.60	4.49	12.09						...	β -st	5.60	7.43	9.59	10 ^{5.90}
204	328			0.82	0.60	5.64	10.13						...	β -st	5.77	8.98	9.57	10 ^{4.90}
205	329		7/2 ⁻	0.84	0.60	4.18	9.82						...	β -st	5.67	9.09	11.05	10 ^{1.50}
206	330			0.82	0.62	5.41	9.59						...	β -st	5.65	9.28	9.74	10 ^{4.31}
207	331		1/2 ⁻	0.84	0.60	4.07	9.48						...	β -st	5.34	9.18	9.73	10 ^{5.41}
208	332			0.84	0.61	5.37	9.44						...	β -st	5.15	9.37	9.59	10 ^{4.83}
209	333		9/2 ⁻	0.85	0.58	4.11	9.48						...	β -st	5.19	9.16	9.64	10 ^{5.70}
210	334			0.87	0.57	5.26	9.37						...	β -st	5.68	8.01	9.56	10 ^{4.90}
211	335		1/2 ⁺	0.79	0.69	5.26	10.53						...	β -st	5.32	9.63	8.61	10 ^{9.40}
212	336			0.78	0.70	5.21	10.48						...	β -st	5.55	9.89	9.82	10 ^{4.08}
213	337		13/2 ⁺	0.90	0.58	2.27	7.48	1.00	0.00	0.00	0.00	0.00	\pm	\pm	4.01	8.59	11.19	10 ^{1.13}
214	338			0.76	0.71	6.64	8.91						...	β -st	5.81	10.43	9.51	10 ^{5.07}
215	339		1/2 ⁻	0.75	0.69	3.67	10.31						...	β -st	5.80	10.71	9.41	10 ^{6.51}
Z = 125																		
178	303	3/2 ⁻		0.73	0.67								7.91	0.7168	-1.81	-1.54	14.74	10 ^{-6.53}
179	304	3/2 ⁻	15/2 ⁺	0.73	0.67	7.20							7.94	1.4341	-1.50	-1.34	14.77	10 ^{-6.24}
180	305	3/2 ⁻		0.73	0.65	7.98	15.18						6.64	1.3521	-0.75	-1.10	14.67	10 ^{-6.41}
181	306	3/2 ⁻	11/2 ⁻	0.74	0.65	6.62	14.60						7.71	0.9737	-0.80	-1.11	15.05	10 ^{-6.73}
182	307	3/2 ⁻		0.74	0.66	7.66	14.29						6.36	1.6326	-0.83	-0.83	15.11	10 ^{-7.19}
183	308	1/2 ⁻	1/2 ⁺	0.79	0.59	5.44	13.10						8.25	2.2228	-1.70	-1.70	16.31	10 ^{-8.75}
184	309	1/2 ⁻		0.79	0.63	7.35	12.79						7.41	1.4733	-1.68	-1.37	16.35	10 ^{-9.15}
185	310	11/2 ⁺	9/2 ⁺	0.72	0.62	11.29	18.65						3.19	> 100	3.11	4.56	11.35	10 ^{1.05}
186	311	11/2 ⁺		0.71	0.61	7.47	18.76						1.83	> 100	3.49	5.33	10.91	10 ^{1.89}
187	312	11/2 ⁺	7/2 ⁻	0.71	0.62	6.42	13.89						2.80	> 100	3.82	4.98	9.85	10 ^{5.36}
188	313	3/2 ⁺		0.72	0.61	7.31	13.74						4.81	11.9026	3.74	5.21	9.24	10 ^{7.11}
189	314	3/2 ⁺	13/2 ⁻	0.72	0.62	6.21	13.53						5.63	26.8820	0.62	5.68	9.79	10 ^{5.55}
190	315	3/2 ⁺		0.72	0.63	7.06	13.27						4.01	30.1338	0.64	6.05	9.82	10 ^{5.15}
191	316	11/2 ⁺	3/2 ⁺	0.72	0.63	5.77	12.83						1.45	> 100	0.98	6.33	9.79	10 ^{5.59}
192	317	11/2 ⁺		0.72	0.64	6.67	12.44						0.12	> 100	4.45	6.54	9.80	10 ^{5.21}
193	318	11/2 ⁺	5/2 ⁺	0.72	0.66	5.41	12.08						1.32	> 100	4.51	6.61	9.89	10 ^{5.26}
194	319	9/2 ⁺		0.75	0.66	2.65	8.06	1.00	0.00	0.00	0.00	0.00	\pm	\pm	0.55	2.93	13.70	10 ^{-4.60}
195	320	9/2 ⁺	1/2 ⁻	0.75	0.66	5.49	8.14	1.00	0.00	0.00	0.00	0.00	\pm	\pm	0.80	3.19	13.54	10 ^{-3.94}
196	321	7/2 ⁻		0.83	0.62	12.44	17.93						2.95	> 100	6.74	9.46	7.44	10 ^{14.56}
197	322	7/2 ⁻	5/2 ⁻	0.84	0.61	5.52	17.96						...	β -st	1.79	10.01	7.15	10 ^{16.47}
198	323	5/2 ⁺		0.74	0.68	0.64	6.17	1.00	0.00	0.00	0.00	0.00	\pm	\pm	1.38	4.62	12.67	10 ^{-2.46}
199	324	5/2 ⁺	19/2 ⁻	0.74	0.68	5.54	6.19	1.00	0.00	0.00	0.00	0.00	\pm	\pm	1.75	5.33	12.10	10 ^{-0.81}
200	325	5/2 ⁺		0.73	0.68	6.41	11.95	1.00	0.00	0.00	0.00	0.00	\pm	\pm	1.82	5.66	11.73	10 ^{-0.26}
201	326	5/2 ⁺	7/2 ⁻	0.73	0.68	5.26	11.66						4.72	51.9310	2.10	5.99	11.30	10 ^{1.18}
202	327	5/2 ⁺		0.73	0.68	6.08	11.34						3.12	> 100	0.58	6.30	11.30	10 ^{0.84}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 125																		
203	328	9/2 ⁻	11/2 ⁺	0.82	0.60	6.43	12.51						2.34	> 100	2.52	8.12	9.80	10 ^{5.55}
204	329	9/2 ⁻		0.82	0.60	5.63	12.06						0.89	> 100	2.51	8.28	9.94	10 ^{4.76}
205	330	9/2 ⁻	7/2 ⁻	0.83	0.60	4.47	10.09						±	±	2.80	8.46	10.08	10 ^{4.66}
206	331	7/2 ⁻		0.82	0.61	5.38	9.85						0.52	> 100	2.76	8.42	10.18	10 ^{4.05}
207	332	7/2 ⁻	1/2 ⁻	0.84	0.60	4.38	9.76	1.00	0.00	0.00	0.00	0.00	±	±	3.08	8.42	10.08	10 ^{4.66}
208	333	7/2 ⁻		0.82	0.61	5.39	9.77						0.23	> 100	3.10	8.24	10.11	10 ^{4.23}
209	334	7/2 ⁻	9/2 ⁻	0.85	0.58	4.38	9.77	1.00	0.00	0.00	0.00	0.00	±	±	3.37	8.56	10.11	10 ^{4.57}
210	335	7/2 ⁻		0.83	0.58	5.29	9.67						1.08	> 100	3.41	9.08	10.38	10 ^{3.41}
211	336	7/2 ⁻	3/2 ⁻	0.87	0.57	4.23	9.52	1.00	0.00	0.00	0.00	0.00	±	±	2.37	7.69	10.22	10 ^{4.23}
212	337	7/2 ⁻		0.87	0.57	5.14	9.37	1.00	0.00	0.00	0.00	0.00	0.43	> 100	2.30	7.85	9.85	10 ^{5.08}
213	338	11/2 ⁺	11/2 ⁺	0.77	0.71	5.42	10.56	1.00	0.00	0.00	0.00	0.00	±	±	5.45	9.46	10.05	10 ^{4.76}
214	339	3/2 ⁻		0.83	0.59	2.83	8.25	1.00	0.00	0.00	0.00	0.00	±	±	1.64	7.45	12.20	10 ^{-1.39}
Z = 126																		
180	306			0.73	0.67								6.23	0.6191	-0.39	-1.14	15.32	10 ^{-8.06}
181	307		11/2 ⁻	0.74	0.65	6.67							7.22	0.4890	-0.34	-1.14	15.53	10 ^{-7.36}
182	308			0.74	0.66	8.00	14.67						4.66	1.4262	-0.00	-0.83	14.77	10 ^{-7.13}
183	309		9/2 ⁻	0.74	0.67	6.39	14.38						5.62	2.2620	0.95	-0.76	15.06	10 ^{-6.57}
184	310			0.71	0.62	11.77	18.16						5.15	1.9155	5.36	3.68	10.98	10 ^{1.22}
185	311		9/2 ⁺	0.71	0.62	6.60	18.37						6.02	2.8661	0.67	3.77	10.69	10 ^{3.11}
186	312			0.71	0.62	7.80	14.40						4.64	3.4383	1.00	4.50	10.22	10 ^{3.44}
187	313		7/2 ⁻	0.71	0.62	6.48	14.28						5.47	1.9615	1.06	4.87	10.25	10 ^{4.41}
188	314			0.71	0.61	7.65	14.12						4.04	8.4606	1.39	5.13	9.68	10 ^{5.20}
189	315		13/2 ⁻	0.71	0.62	6.23	13.88						4.86	24.6052	1.41	2.03	9.55	10 ^{6.70}
190	316			0.71	0.63	7.35	13.59						3.28	21.0495	1.71	2.35	9.59	10 ^{5.47}
191	317		3/2 ⁺	0.71	0.64	5.80	13.16						4.15	39.7859	1.74	2.72	13.11	10 ^{-2.85}
192	318			0.71	0.65	6.93	12.73						2.63	69.3745	2.00	6.44	13.22	10 ^{-4.15}
193	319		5/2 ⁺	0.71	0.66	5.46	12.39						...	β -st	2.04	6.55	13.20	10 ^{-3.04}
194	320			0.72	0.66	6.70	12.16						...	β -st	6.09	6.64	9.70	10 ^{5.10}
195	321		9/2 ⁺	0.82	0.63	7.68	14.38						3.37	36.7478	8.28	9.08	7.37	10 ^{15.66}
196	322			0.83	0.62	6.96	14.64						1.94	42.5185	2.80	9.55	7.02	10 ^{16.42}
197	323		5/2 ⁻	0.83	0.61	5.59	12.55						...	β -st	2.87	4.66	6.67	10 ^{19.45}
198	324			0.83	0.61	6.82	12.41						...	β -st	9.05	10.42	6.34	> 10 ²⁰
199	325		7/2 ⁻	0.84	0.61	5.35	12.17						...	β -st	8.85	10.60	11.47	10 ^{0.98}
200	326			0.75	0.68	0.73	6.08	1.00	0.00	0.00	0.00	0.00	±	±	3.18	5.00	11.80	10 ^{-0.92}
201	327		7/2 ⁻	0.75	0.68	5.29	6.02						2.09	> 100	3.21	5.31	11.68	10 ^{0.44}
202	328			0.81	0.60	8.00	13.29						0.52	> 100	5.13	5.71	10.01	10 ^{4.09}
203	329		11/2 ⁺	0.81	0.60	4.82	12.82						1.33	> 100	3.52	6.04	10.16	10 ^{4.69}
204	330			0.82	0.59	5.91	10.73						...	β -st	3.80	6.30	11.87	10 ^{-1.09}
205	331		7/2 ⁻	0.82	0.60	4.43	10.33						0.84	> 100	3.76	6.56	11.92	10 ^{-0.17}
206	332			0.81	0.61	5.74	10.17						...	β -st	4.13	6.89	11.82	10 ^{-1.00}
207	333		1/2 ⁻	0.83	0.60	4.40	10.15						0.46	> 100	4.15	7.23	11.60	10 ^{0.67}
208	334			0.83	0.61	5.67	10.07						...	β -st	4.42	7.52	11.34	10 ^{0.25}
209	335		9/2 ⁻	0.84	0.58	4.42	10.09						0.05	> 100	4.46	7.84	10.99	10 ^{2.26}
210	336			0.83	0.58	5.59	10.01						...	β -st	4.76	8.16	10.77	10 ^{1.81}
211	337		3/2 ⁻	0.86	0.57	4.26	9.84						...	β -st	4.79	7.16	10.62	10 ^{3.31}
212	338			0.84	0.57	5.40	9.66						...	β -st	5.04	7.34	10.48	10 ^{2.65}
213	339		13/2 ⁺	0.87	0.58	3.90	9.30						...	β -st	3.52	8.97	11.85	10 ^{0.02}
Z = 127																		
183	310		1/2 ⁻	0.73	0.67								12.55	0.2185	-1.56	-0.62	15.82	10 ^{-7.56}
184	311		3/2 ⁺	0.71	0.62	12.05							7.10	1.3122	-1.28	4.08	11.43	10 ^{1.08}
185	312		3/2 ⁺	0.71	0.62	6.96	19.01						7.94	1.9971	-0.92	-0.25	9.90	10 ^{5.85}
186	313		3/2 ⁺	0.71	0.62	7.87	14.83						6.54	2.2260	-0.85	0.15	9.38	10 ^{7.27}
187	314		11/2 ⁺	0.70	0.61	6.77	14.64						7.42	1.2624	-0.56	0.50	13.91	10 ^{-4.18}
188	315		11/2 ⁺	0.70	0.61	7.70	14.47						5.96	4.1406	-0.51	0.88	13.68	10 ^{-4.07}
189	316		11/2 ⁺	0.70	0.62	6.53	14.23						6.78	9.1091	-0.21	1.20	13.57	10 ^{-3.50}
190	317		3/2 ⁺	0.71	0.63	7.39	13.92						5.20	10.1355	-0.18	1.53	13.50	10 ^{-3.70}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 127																		
191	318	3/2 ⁺	3/2 ⁺	0.71	0.64	6.08	13.47						6.05	13.3598	0.10	1.84	13.64	10 ^{-3.62}
192	319	3/2 ⁺		0.71	0.65	6.98	13.06						4.53	23.5633	0.15	2.14	13.71	10 ^{-4.13}
193	320	3/2 ⁺	5/2 ⁺	0.71	0.65	5.75	12.73						5.47	22.6706	0.44	2.48	13.73	10 ^{-3.83}
194	321	3/2 ⁺		0.72	0.66	6.74	12.49						6.42	4.3695	0.48	6.57	13.67	10 ^{-4.05}
195	322	3/2 ⁺	1/2 ⁺	0.72	0.68	5.57	12.31						7.80	3.4846	-1.63	6.66	13.50	10 ^{-3.36}
196	323	3/2 ⁺		0.72	0.70	6.60	12.17						6.80	3.2578	-1.99	0.81	9.56	10 ^{6.68}
197	324	5/2 ⁺	5/2 ⁻	0.82	0.61	8.62	15.22						5.00	24.4676	1.04	3.91	6.43	> 10 ²⁰
198	325	7/2 ⁻		0.83	0.61	6.76	15.38						3.59	57.4530	0.98	10.03	12.11	10 ^{-0.60}
199	326	7/2 ⁻	7/2 ⁻	0.83	0.61	5.75	12.50						...	β -st	1.38	10.23	11.88	10 ^{0.25}
200	327	17/2 ⁺		0.76	0.68	0.50	6.25	1.00	0.00	0.00	0.00	0.00	±	±	1.15	4.33	12.03	10 ^{-0.43}
201	328	17/2 ⁺	15/2 ⁺	0.76	0.69	5.56	6.06	1.00	0.00	0.00	0.00	0.00	±	±	1.42	4.63	12.01	10 ^{-0.04}
202	329	7/2 ⁻		0.80	0.60	8.10	13.66						2.52	> 100	1.52	6.65	10.31	10 ^{4.25}
203	330	7/2 ⁻	11/2 ⁺	0.80	0.60	5.13	13.23						3.30	> 100	1.83	5.35	10.44	10 ^{4.20}
204	331	7/2 ⁻		0.81	0.59	5.81	10.94						1.92	> 100	1.73	5.53	10.72	10 ^{3.06}
205	332	7/2 ⁻	7/2 ⁻	0.81	0.60	4.81	10.62						2.85	> 100	2.11	5.87	12.33	10 ^{-0.81}
206	333	9/2 ⁻		0.81	0.61	5.76	10.57						1.49	> 100	2.13	6.25	12.20	10 ^{-0.87}
207	334	9/2 ⁻	1/2 ⁻	0.83	0.60	4.71	10.47						2.45	> 100	2.43	6.58	11.96	10 ^{0.08}
208	335	3/2 ⁻		0.82	0.61	5.67	10.37						1.21	> 100	2.43	6.86	11.67	10 ^{0.44}
209	336	3/2 ⁻	9/2 ⁻	0.84	0.58	4.69	10.35						2.11	> 100	2.70	7.16	11.37	10 ^{1.58}
210	337	3/2 ⁻		0.83	0.58	5.63	10.32						0.73	> 100	2.74	7.50	11.13	10 ^{1.88}
211	338	3/2 ⁻	3/2 ⁻	0.86	0.57	4.52	10.15	1.00	0.00	0.00	0.00	0.00	±	±	3.00	7.79	10.99	10 ^{2.58}
212	339	3/2 ⁻		0.85	0.58	5.43	9.95						0.08	> 100	3.03	8.07	10.86	10 ^{2.63}
Z = 128																		
185	313		5/2 ⁻	0.71	0.62								7.19	0.9613	-0.10	-1.02	10.95	10 ^{2.97}
186	314			0.70	0.61	8.16							5.81	1.4027	0.18	-0.67	14.57	10 ^{-6.30}
187	315		9/2 ⁺	0.70	0.61	6.84	15.00						6.66	1.0683	0.25	-0.31	14.33	10 ^{-4.79}
188	316			0.70	0.62	8.00	14.85						5.19	3.0612	0.56	0.05	14.13	10 ^{-5.46}
189	317		13/2 ⁻	0.70	0.63	6.54	14.55						6.03	5.8948	0.57	0.36	14.06	10 ^{-4.28}
190	318			0.71	0.63	7.68	14.22						4.43	6.3085	0.86	0.68	14.03	10 ^{-5.30}
191	319		3/2 ⁺	0.71	0.64	6.10	13.78						5.31	9.5081	0.88	0.98	14.16	10 ^{-4.49}
192	320			0.71	0.64	7.32	13.41						3.75	13.4176	1.22	1.37	14.20	10 ^{-5.61}
193	321		5/2 ⁺	0.71	0.65	5.79	13.11						4.69	21.1906	1.26	1.70	14.21	10 ^{-4.57}
194	322			0.71	0.67	7.03	12.82						3.24	31.1986	1.55	2.04	14.11	10 ^{-5.44}
195	323		1/2 ⁺	0.71	0.68	5.58	12.61						4.26	30.1179	1.56	-0.07	13.99	10 ^{-4.14}
196	324			0.72	0.68	6.91	12.49						5.97	2.3652	1.87	-0.12	13.78	10 ^{-4.79}
197	325		11/2 ⁺	0.71	0.70	5.30	12.20						7.43	2.1459	-1.46	-0.41	16.16	10 ^{-7.94}
198	326			0.82	0.61	10.80	16.09						2.38	27.6951	2.58	3.56	12.33	10 ^{-1.65}
199	327		7/2 ⁻	0.82	0.61	5.68	16.48						...	β -st	2.52	3.90	12.24	10 ^{-0.37}
200	328			0.82	0.61	6.79	12.47						...	β -st	8.81	9.96	12.26	10 ^{-1.51}
201	329		15/2 ⁺	0.77	0.69	-0.75	6.04	1.00	0.00	0.00	0.00	0.00	±	±	2.50	3.92	18.36	10 ^{-11.08}
202	330			0.80	0.60	8.34	7.59						1.61	> 100	2.74	4.25	10.76	10 ^{2.48}
203	331		11/2 ⁺	0.80	0.60	5.12	13.46						2.30	> 100	2.73	4.55	10.92	10 ^{3.06}
204	332			0.81	0.59	6.19	11.31						0.92	> 100	3.11	4.84	12.74	10 ^{-2.59}
205	333		7/2 ⁻	0.81	0.60	4.83	11.02						1.85	> 100	3.12	5.24	12.73	10 ^{-1.50}
206	334			0.82	0.59	6.04	10.86						0.52	> 100	3.40	5.53	12.60	10 ^{-2.25}
207	335		1/2 ⁻	0.82	0.60	4.76	10.79						1.43	> 100	3.45	5.88	12.27	10 ^{-0.44}
208	336			0.84	0.59	5.94	10.69						0.18	> 100	3.72	6.15	12.08	10 ^{-1.05}
209	337		1/2 ⁻	0.84	0.58	4.75	10.68						1.07	> 100	3.78	6.48	11.73	10 ^{0.86}
210	338			0.82	0.58	5.90	10.65						...	β -st	4.05	6.79	11.51	10 ^{0.41}
211	339		3/2 ⁻	0.84	0.57	4.56	10.46						0.55	> 100	4.09	7.09	11.36	10 ^{1.85}
Z = 129																		
187	316		9/2 ⁻	0.71	0.61								8.75	0.4804	-1.53	-1.27	14.93	10 ^{-5.61}
188	317		9/2 ⁻	0.71	0.61	8.02							7.28	0.5668	-1.51	-0.96	14.79	10 ^{-5.70}
189	318		9/2 ⁻	0.71	0.62	6.92	14.94						8.03	1.1187	-1.14	-0.56	14.64	10 ^{-5.09}
190	319		9/2 ⁻	0.71	0.63	7.74	14.66						6.39	1.2155	-1.08	-0.22	14.60	10 ^{-5.36}
191	320		3/2 ⁻	0.71	0.63	6.40	14.14						7.31	7.4823	-0.78	0.10	14.73	10 ^{-5.27}

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Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n^- (MeV)	\bar{n}	Q_β (MeV)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 129																		
192	321	3/2 ⁻		0.71	0.64	7.33	13.73						5.78	7.8982	-0.77	0.45	14.79	10 ^{-5.70}
193	322	3/2 ⁻	5/2 ⁺	0.71	0.65	6.13	13.46						6.67	11.1122	-0.43	0.83	14.73	10 ^{-5.27}
194	323	3/2 ⁻		0.72	0.65	7.12	13.25						5.13	14.7183	-0.34	1.22	14.59	10 ^{-5.36}
195	324	3/2 ⁻	1/2 ⁺	0.72	0.67	5.83	12.95						6.21	12.5202	-0.08	1.48	14.51	10 ^{-4.87}
196	325	3/2 ⁻		0.72	0.68	6.97	12.80						4.54	16.3520	-0.02	1.85	14.28	10 ^{-4.76}
197	326	3/2 ⁻	11/2 ⁺	0.73	0.68	5.55	12.52						9.79	1.2906	0.23	-1.23	14.31	10 ^{-4.47}
198	327	3/2 ⁻		0.73	0.69	6.77	12.32						8.70	1.8028	-3.80	-1.21	14.14	10 ^{-4.49}
199	328	3/2 ⁺	7/2 ⁻	0.82	0.62	10.21	16.98						5.28	7.0818	0.73	3.25	12.55	10 ^{-0.78}
200	329	3/2 ⁺		0.82	0.61	6.83	17.04						...	β -st	0.76	9.57	12.48	10 ^{-0.96}
201	330	9/2 ⁻	15/2 ⁺	0.78	0.69	-0.76	6.07						6.80	0.9780	0.76	3.25	18.99	10 ^{-11.64}
202	331	3/2 ⁻		0.81	0.60	8.36	7.60						3.56	> 100	0.78	3.51	11.13	10 ^{2.50}
203	332	3/2 ⁻	11/2 ⁺	0.81	0.59	5.39	13.75						4.36	> 100	1.04	3.77	11.30	10 ^{2.35}
204	333	3/2 ⁻		0.81	0.59	6.28	11.67						2.91	> 100	1.13	4.24	13.12	10 ^{-2.40}
205	334	3/2 ⁻	7/2 ⁻	0.81	0.60	5.11	11.39						3.84	> 100	1.42	4.54	13.14	10 ^{-2.10}
206	335	3/2 ⁻		0.82	0.59	6.07	11.19						2.52	> 100	1.46	4.86	12.88	10 ^{-1.87}
207	336	3/2 ⁻	1/2 ⁻	0.82	0.60	5.04	11.11						3.42	> 100	1.74	5.19	12.65	10 ^{-1.01}
208	337	9/2 ⁻		0.82	0.59	5.93	10.97						2.23	> 100	1.73	5.45	12.47	10 ^{-0.94}
209	338	9/2 ⁻	1/2 ⁻	0.82	0.58	5.03	10.96						3.10	> 100	2.02	5.80	12.15	10 ^{0.17}
210	339	9/2 ⁻		0.84	0.57	5.91	10.94						1.75	> 100	2.03	6.07	11.91	10 ^{0.44}
Z = 130																		
189	319		13/2 ⁻	0.70	0.62								7.22	2.1145	-0.26	-1.40	15.16	10 ^{-5.82}
190	320			0.71	0.63	8.02							5.60	2.0410	0.02	-1.06	15.14	10 ^{-6.87}
191	321		3/2 ⁺	0.71	0.63	6.49	14.51						6.43	3.3484	0.11	-0.66	15.19	10 ^{-5.89}
192	322			0.71	0.64	7.58	14.08						4.98	3.9046	0.37	-0.40	15.28	10 ^{-7.12}
193	323		5/2 ⁺	0.71	0.64	6.12	13.70						5.98	5.2531	0.36	-0.07	15.26	10 ^{-6.02}
194	324			0.71	0.65	7.44	13.56						4.37	5.4992	0.68	0.34	15.13	10 ^{-6.87}
195	325		11/2 ⁺	0.71	0.67	5.85	13.29						5.49	7.1068	0.69	0.61	15.08	10 ^{-5.70}
196	326			0.72	0.67	7.19	13.04						3.85	5.9762	0.92	0.90	14.92	10 ^{-6.48}
197	327		11/2 ⁺	0.72	0.68	5.76	12.96						4.85	13.6932	1.14	1.36	14.73	10 ^{-5.07}
198	328			0.72	0.69	7.05	12.82						8.01	0.8636	1.42	-2.38	14.59	10 ^{-5.86}
199	329		1/2 ⁻	0.73	0.68	5.59	12.64						9.24	0.7658	-3.20	-2.47	14.29	10 ^{-4.26}
200	330			0.73	0.69	6.95	12.53						1.54	78.0606	-3.08	-2.32	18.15	10 ^{-11.48}
201	331		1/2 ⁺	0.80	0.60	5.78	12.73						4.12	29.4343	3.46	4.22	18.04	10 ^{-10.28}
202	332			0.80	0.60	6.98	12.76						2.52	46.6447	2.08	2.86	17.85	10 ^{-11.09}
203	333		11/2 ⁺	0.81	0.59	5.43	12.41						3.37	78.4372	2.12	3.17	11.67	10 ^{1.61}
204	334			0.81	0.59	6.57	11.99						1.92	> 100	2.41	3.54	13.45	10 ^{-3.62}
205	335		7/2 ⁻	0.81	0.59	5.10	11.67						2.89	67.3016	2.40	3.82	13.47	10 ^{-2.60}
206	336			0.81	0.59	6.40	11.50						1.53	> 100	2.73	4.18	13.26	10 ^{-3.20}
207	337		9/2 ⁻	0.82	0.58	5.05	11.45						2.42	75.1320	2.74	4.47	13.04	10 ^{-1.67}
208	338			0.82	0.58	6.28	11.33						1.17	> 100	3.08	4.81	12.79	10 ^{-2.20}
209	339		1/2 ⁻	0.83	0.57	5.01	11.29						2.06	> 100	3.06	5.08	12.54	10 ^{-0.54}
Z = 131																		
192	323		9/2 ⁻	0.71	0.63								6.82	1.1114	-1.48	-1.11	15.69	10 ^{-6.83}
193	324		5/2 ⁺	0.71	0.64	6.47							7.80	1.3147	-1.14	-0.78	15.62	10 ^{-6.37}
194	325		9/2 ⁻	0.71	0.65	7.41	13.87						6.24	1.5642	-1.18	-0.50	15.54	10 ^{-6.57}
195	326		1/2 ⁺	0.71	0.66	6.13	13.54						7.30	1.5908	-0.89	-0.19	15.54	10 ^{-6.23}
196	327		9/2 ⁻	0.71	0.67	7.34	13.47						5.73	1.7930	-0.75	0.17	15.33	10 ^{-6.19}
197	328		11/2 ⁺	0.71	0.68	6.06	13.39						6.72	2.2282	-0.45	0.68	15.10	10 ^{-5.46}
198	329		1/2 ⁻	0.72	0.67	7.05	13.11						5.26	6.1362	-0.45	0.97	15.02	10 ^{-5.66}
199	330		1/2 ⁻	0.72	0.68	5.97	13.02						6.24	2.7195	-0.08	-3.28	14.60	10 ^{-4.55}
200	331		9/2 ⁻	0.72	0.69	6.88	12.85						5.14	2.5573	-0.14	-3.22	14.49	10 ^{-4.68}
201	332		3/2 ⁻	0.73	0.67	5.75	12.63						6.38	2.7118	-0.18	3.28	18.95	10 ^{-11.24}
202	333		3/2 ⁺	0.81	0.60	7.20	12.94						4.61	25.6770	0.04	2.12	18.58	10 ^{-11.11}
203	334		11/2 ⁺	0.80	0.59	5.82	13.01						5.36	34.4562	0.42	2.55	12.01	10 ^{1.07}
204	335		3/2 ⁺	0.80	0.59	6.58	12.40						3.88	47.9918	0.44	2.85	13.79	10 ^{-3.31}
205	336		7/2 ⁻	0.81	0.59	5.41	11.99						4.87	40.9142	0.75	3.15	13.77	10 ^{-2.90}

(continued on next page)

Table 1 (continued)

N	A	Ω_p^π	Ω_n^π	Δ_{LN_p} (MeV)	Δ_{LN_n} (MeV)	S_{1n} (MeV)	S_{2n} (MeV)	P_{0n}	P_{1n}	P_{2n}	\bar{E}_n (MeV)	\bar{n} (MeV)	Q_β (s)	T_β (s)	S_{1p} (MeV)	S_{2p} (MeV)	Q_α (MeV)	T_α (s)
Z = 131																		
206	337	3/2 ⁺		0.81	0.59	6.42	11.82						3.51	66.7207	0.76	3.49	13.63	10 ^{-2.98}
207	338	3/2 ⁺	9/2 ⁻	0.82	0.59	5.35	11.76						4.43	40.7696	1.06	3.80	13.39	10 ^{-2.13}
208	339	3/2 ⁺		0.82	0.59	6.29	11.64						3.15	> 100	1.07	4.15	13.17	10 ^{-2.00}
Z = 132																		
194	326			0.71	0.65								5.40	2.5208	-0.04	-1.22	15.96	10 ^{-7.82}
195	327		11/2 ⁺	0.71	0.66	6.26							6.47	2.3228	0.09	-0.80	15.81	10 ^{-6.52}
196	328			0.71	0.67	7.60	13.86						4.93	2.5477	0.35	-0.40	15.66	10 ^{-7.33}
197	329		11/2 ⁺	0.71	0.67	6.08	13.67						5.90	3.1424	0.37	-0.08	15.43	10 ^{-5.87}
198	330			0.71	0.68	7.44	13.52						4.43	3.4674	0.76	0.30	15.18	10 ^{-6.49}
199	331		1/2 ⁻	0.71	0.68	5.89	13.33						5.42	3.8304	0.68	0.60	15.05	10 ^{-5.20}
200	332			0.72	0.67	7.22	13.11						3.95	4.6716	1.02	0.88	14.89	10 ^{-5.97}
201	333		3/2 ⁻	0.72	0.67	5.86	13.08						5.28	4.1578	1.13	0.95	14.62	10 ^{-4.40}
202	334			0.80	0.60	7.49	13.35						3.61	16.7796	1.42	1.46	14.07	10 ^{-4.42}
203	335		11/2 ⁺	0.80	0.59	5.79	13.28						4.39	21.2270	1.40	1.83	14.07	10 ^{-3.33}
204	336			0.80	0.59	6.81	12.60						2.99	18.9815	1.63	2.07	14.23	10 ^{-4.74}
205	337		7/2 ⁻	0.80	0.59	5.51	12.32						3.90	19.3057	1.73	2.48	14.16	10 ^{-3.51}
206	338			0.80	0.59	6.70	12.20						2.55	32.8617	2.01	2.77	14.03	10 ^{-4.32}
207	339		9/2 ⁻	0.81	0.59	5.41	12.10						3.44	17.8812	2.07	3.13	13.72	10 ^{-2.62}
Z = 133																		
196	329	1/2 ⁻		0.71	0.66								6.76	1.8204	-1.47	-1.12	15.95	10 ^{-6.83}
197	330	1/2 ⁻	11/2 ⁺	0.71	0.67	6.45							7.75	2.2872	-1.09	-0.73	15.63	10 ^{-5.95}
198	331	1/2 ⁻		0.71	0.68	7.36	13.82						6.28	2.4481	-1.17	-0.41	15.60	10 ^{-6.26}
199	332	1/2 ⁻	1/2 ⁻	0.71	0.67	6.24	13.61						7.25	2.3803	-0.82	-0.14	15.42	10 ^{-5.58}
200	333	1/2 ⁻		0.71	0.67	7.32	13.56						5.80	3.2077	-0.72	0.30	15.16	10 ^{-5.44}
201	334	9/2 ⁻	3/2 ⁻	0.71	0.67	6.14	13.46						7.15	1.8052	-0.44	0.69	14.98	10 ^{-4.79}
202	335	9/2 ⁻		0.71	0.67	7.16	13.30						5.78	2.1970	-0.77	0.66	14.70	10 ^{-4.60}
203	336	3/2 ⁺	11/2 ⁺	0.78	0.60	6.33	13.49						6.26	13.0504	-0.23	1.17	14.12	10 ^{-3.15}
204	337	3/2 ⁺		0.79	0.59	6.83	13.15						4.94	11.9782	-0.22	1.42	14.49	10 ^{-4.22}
205	338	9/2 ⁻	9/2 ⁻	0.72	0.66	5.59	12.41						6.05	3.3103	-0.14	1.60	14.72	10 ^{-4.31}
206	339	9/2 ⁻		0.72	0.66	6.77	12.36						4.68	7.4979	-0.06	1.95	14.53	10 ^{-4.29}
Z = 134																		
198	332			0.69	0.67								5.48	17.1026	-0.02	-1.18	15.97	10 ^{-7.41}
199	333		1/2 ⁻	0.69	0.67	6.35							6.44	19.6539	0.09	-0.73	15.69	10 ^{-5.88}
200	334			0.70	0.67	7.60	13.96						4.98	29.4245	0.38	-0.34	15.53	10 ^{-6.67}
201	335		3/2 ⁻	0.70	0.67	6.17	13.77						5.97	40.8636	0.41	-0.03	15.25	10 ^{-5.11}
202	336			0.70	0.67	7.45	13.61						4.85	40.3356	0.69	-0.07	15.02	10 ^{-5.77}
203	337		11/2 ⁺	0.77	0.59	6.31	13.76						5.37	> 100	0.68	0.45	14.57	10 ^{-3.84}
204	338			0.78	0.59	7.19	13.51						3.76	> 100	1.05	0.83	14.87	10 ^{-5.48}
205	339		7/2 ⁻	0.79	0.59	5.74	12.93						4.79	> 100	1.20	1.06	14.92	10 ^{-4.50}
Z = 135																		
201	336	7/2 ⁺	3/2 ⁻	0.70	0.67								7.80	23.2041	-1.14	-0.73	15.57	10 ^{-5.41}
202	337	7/2 ⁺		0.70	0.68	7.46							6.65	23.5087	-1.12	-0.42	15.42	10 ^{-5.48}
203	338	3/2 ⁺	11/2 ⁺	0.75	0.60	6.59	14.05						7.25	> 100	-0.84	-0.16	14.98	10 ^{-4.34}
204	339	7/2 ⁺		0.70	0.66	6.98	13.57						6.01	59.8410	-1.06	-0.01	15.16	10 ^{-5.01}
Z = 136																		
203	339		11/2 ⁺	0.74	0.60								6.10	48.4670	0.10	-0.75	15.29	10 ^{-4.73}