

EXPLANATION OF TABLE

The nuclides listed in the Table lie in the range $2 \leq Z \leq 130$, $2 \leq N \leq 200$ with the following limitation. On the neutron-rich side, we limit to nuclei with $S_n(Z, N) > -1.2$ MeV or $S_n(Z, N-1) > -1.2$ MeV. We put this rather moderate limitation because there is some uncertainty in the mass formula and, in addition, the mass data of unstable neutron-rich nuclei are often used to study the neutron-emission instability experimentally. On the proton-rich or neutron-deficient side, we limit to nuclei with $S_p(Z, N) > -Z/50 - 1.2$ MeV or $S_p(Z-1, N) > -(Z-1)/50 - 1.2$ MeV. We sometimes need mass data of the nuclei outside the proton-drip line. In order to determine the above limit, we have checked the current experimental data in the proton-emission region. The number of nuclides in this table is 9432, and the number of the “stable” nuclides against particle emission, which are defined by $S_n > 0$, $S_{2n} > 0$, $S_p > 0$, $S_{2p} > 0$, is 6617.

Z	Proton number.
N	Neutron number.
A	Mass number.
El	Element symbol. For element symbols from $Z = 104$ to $Z = 109$ we use those adopted by International Union of Pure and Applied Chemistry (IUPAC) in 1997. ¹⁾
M_{cal}	Calculated mass excess in MeV.
*	One-particle-unstable nuclide determined by $S_n(Z, N) < 0$ or $S_p(Z, N) < 0$
**	Two-particle-unstable, but one-particle-stable, nuclide defined by $S_n(Z, N) > 0$ and $S_{2n}(Z, N) < 0$, or $S_p(Z, N) > 0$ and $S_{2p}(Z, N) < 0$
◇	β -stable nuclide defined by $Q_{\text{EC}}(Z, N) < 0$ and $Q_{\beta^-}(Z, N) < 0$
$\alpha_2, \alpha_4, \alpha_6$	Deformation parameters.
E_{sh}	Shell energy in MeV.
S_n	Calculated one-neutron separation energy. (MeV) $S_n = M_{\text{cal}}(Z, N-1)c^2 - M_{\text{cal}}(Z, N)c^2 + 8.071$ MeV
S_{2n}	Calculated two-neutron separation energy. (MeV) $S_{2n} = M_{\text{cal}}(Z, N-2)c^2 - M_{\text{cal}}(Z, N)c^2 + 2 \times 8.071$ MeV
S_p	Calculated one-proton separation energy. (MeV) $S_p = M_{\text{cal}}(Z-1, N)c^2 - M_{\text{cal}}(Z, N)c^2 + 7.289$ MeV
S_{2p}	Calculated two-proton separation energy. (MeV) $S_{2p} = M_{\text{cal}}(Z-2, N)c^2 - M_{\text{cal}}(Z, N)c^2 + 2 \times 7.289$ MeV
M_{exp}	Experimental mass excess in MeV. We use the recommended masses of Audi-Wapstra95 ²⁾ excluding their systematics values. We take the significant figures down to 0.01 MeV in conformity with the list of calculated mass excesses.
—	No calculated value, or no experimental value in Ref. 2).

References

- 1) IUPAC Recommendations 1997, Pure and Applied Chemistry, 69 (1997) 2471.
- 2) G. Audi and A.H. Wapstra, Nucl. Phys. A **595** (1995), 409.