

Survey and Evaluation of Isobaric Analogue States

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Isobaric analogue states (IAS) can be used to estimate the mass of nuclei belonging to isobars of the same isospin multiplet set. The *Atomic Mass Evaluation (AME)* had previously evaluated the experimental data used to establish the mass of these states. These masses were also used to establish a semi-empirical relationship between the members of any given mass multiplet via the *isobaric mass multiplet equation, IMME*. The experimental and IMME estimated IAS data have not been published in the *AME* since 1993 [1]. However, given the recognized importance of isobaric states, it has been decided to reactivate these IAS studies initially instigated by Aaldert H. Wapstra.

In this conference we will describe the reaction data used to establish the *IAS*. Cases where reaction data provide a better mass precision as compared to decay data will be presented. The particular cases of $N=Z$, $T=1$ ground states, and fragmented states will also be discussed. This work is an extension and update of the work carried out by Aaldert H. Wapstra until 2003.

[1] G. Audi, A.H. Wapstra and M. Dedieu, Nucl. Phys. A565(1993) 193-397.

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