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Evaluated experimental IAS masses in NUBASE and the AME, the IMME coefficients and key measurements

Isobaric Analog States (IAS) of ground state nuclei have been evaluated for the first time as part of the Atomic Mass Evaluation (AME). These states in light- to medium-weight nuclei are of interest in several areas of fundamental physics. Here we focus on mass modelling, with the determination of the Coulomb energy component which, in turn, allows us to test Wigner's Isobaric Multiplet Mass Equation (IMME). Experimental IAS masses have been evaluated for isospin multiplets T=1/2 to T=3 for masses A=8 to A=60 and the corresponding IMME coefficients extracted. These new results lead to a clearer and more precise view of the isospin dependence of nuclear mass for nuclides around N=Z.
The overall tendencies observed for this first complete evaluation will be presented, and the impact on current experimental and theoretical research considered.

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