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PREDICTIVE POWER OF NUCLEAR-MASS MODELS

Ten different theoretical models are tested for their predictive power in the description of nuclear masses. Two sets of experimental masses are used for the test: the older set of 2003 and the newer one of 2011. The predictive power is studied in two regions of nuclei: the global region ($Z, N \geq 8$) and the heavy-nuclei region ($Z \geq 82, N \geq 126$). No clear correlation is found between the predictive power of a model and the accuracy of its description of the masses.

Keywords: nuclear mass, nuclear models, accuracy of a model, predictive power of a model, heavy nuclei, global region of nuclei.