

Isospin Symmetry Breaking in Mirror Nuclei $^{23}\text{Mg} - ^{23}\text{Na}$

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Summary

The differences between the excitation energy of analogue states, called mirror energy differences (MED), are an important signature of isospin symmetry breaking and constitute a very delicate probe of several nuclear structure properties. We present the results of an experiment performed in GANIL to study isospin symmetry breaking in mirror nuclei $^{23}\text{Mg} - ^{23}\text{Na}$ up to high spin. Experimental MED values are compared with state-of-the-art shell model calculations. This permits to enlighten several nuclear structure properties, such as the way in which the nucleons alignment proceeds, the radius variation with J, the role of the spin-orbit interaction and the importance of isospin symmetry breaking terms of nuclear origin.

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