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Linking nuclear masses with nucleon separation energies

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Abstract :

With the growing interest in masses of nuclei near the drip lines, and especially for those beyond the drip lines, we take a survey of mirror systems near the drip lines, where one of the mirror pair is unbound. Two methods are followed by which their masses may be determined: investigating the separation energies of the mirror nuclei, as well as considering trends in the relative energies of the isobaric ground states. As an example, we use both methods to estimate the mass of the nucleus ^{17}Na , and its energy relative to the $p+^{16}\text{Ne}$ threshold.

Award :

No

Paper :

Yes

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