

Unexpected Shapes: The structure of ^{34}Mg nuclei

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The Nuclear Shell Model makes some excellent predictions for the shapes and properties of many nuclides, but as yet is incomplete. ^{34}Mg and its decay chain are in what is known as an "Island of Inversion," a region in the chart of nuclides that behaves differently from our expectations. We set out to measure the properties of these nuclides, and hopefully gain understanding about the physics that underlies their abnormal configurations.

What we found may surprise you!