

## Probing Microscopic Properties of Superdeformed Nuclei

*Friday, 15 July 2022 12:50 (20 minutes)*

We analyse superdeformed (SD) bands in  $^{192}\text{Hg}$  with the help of modified variable moment of inertia (VMI) model. In this, we obtain the values of unknown band-head spin ( $I_0$ ) along with the level spin. The band-head spin so estimated is not known experimentally in band-3. A total of 3 experimentally known SD bands of  $^{192}\text{Hg}$  have been analyzed. Quantitatively good results of the  $\gamma$  energies and the spins for Hg band are successfully obtained. The band-head spin for the  $^{192}\text{Hg}$  (b3) superdeformed band is reported. We propose the spin assignments and level energies of the  $^{192}\text{Hg}$  (b3) as an essential outcome of this work. It has now been resolved the tentative nature of the assignments and present a unique level scheme. These outcomes are important in near future experiments.

### The speaker is a student or young scientist

Yes

### Section

1. Nuclear structure: theory and experiment

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