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## An Intriguing examination of Band Head and Spin Levels in Superdeformed Nuclei in 130 mass region

Thursday 12 December 2024 15:50 (20 minutes)

Our analysis focuses on the Superdeformed (SD) bands in the A $\tilde{}$ 130 mass region using a modified Variable Moment of Inertia (VMI) model for a comprehensive examination of band-head spin and level spins. Due to the lack of experimental data for these bands, our model primarily aims to deduce the band-head spin. By utilizing this model, we can obtain quantitative results for  $\gamma$ -energies and spins across all observed bands. We can also examine other significant properties using VMI model. To ensure the accuracy of the band-head and level spins, we verified the predicted spin with Ratio of Transition Energies over Spin (RTEOS). Notably, we found a strong agreement between the calculated and observed transition energies and spins, indicating the reliability and precision of our approach. A key outcome of our study is the calculation of band-head spins and level spins within the Superdeformed bands of the A $\tilde{}$ 130 mass region. These findings are instrumental in resolving the tentative nature of level spins and identical bands, offering valuable insights for future research in this field.

## **Details**

NA

Is the speaker for that presentation defined?

No

Name of experiment and experimental site

NA

Is this an abstract from experimental collaboration?

No

## Internet talk

Yes

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Session Classification: Extended session