

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 $A \sim 130$ 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 γ -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 $A \sim 130$ 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

Author: JAIN, Poonam (Sri Aurobindo College, University of Delhi)

Presenter: JAIN, Poonam (Sri Aurobindo College, University of Delhi)

Session Classification: Extended session