

# Structural changes and lineshape investigation in $^{101}\text{Pd}$ isotope

Thursday, 10 October 2019 16:20 (20 minutes)

The Doppler Shift Attenuation method has been used to deduce the lifetimes in some of the excited states of  $^{101}\text{Pd}$ . Doppler broadened lineshapes are analyzed for the decaying  $\gamma$ -rays in the band via the nuclear reaction  $^{92}\text{Zr}(^{12}\text{C}, 3n)^{101}\text{Pd}$  at a beam energy of 48.8 MeV. The beam was delivered by the HI-13 Tandem accelerator at China Institute of Atomic Energy (CIAE), Beijing. The present work aims at the lifetime re-investigation of the  $\gamma$ - levels in  $\nu h_{11/2}$  band, and comparison with the neighboring Pd-isotopes. Theoretical investigations performed in the vicinity of Pd-isotopes have described the systematics well, which indicates an evolution of shape along with involvement of triaxiality. Further the Interacting boson model (IBM) and Triaxial projected shell model (TPSM) based theoretical calculations are demanded to confirm and validate the structural change.

## Abstract Type

Talk

**Primary author:** Dr ROHILLA, Aman (Institute of Modern Physics, Chinese Academy of Sciences)

**Co-authors:** Dr DING, Bing (Institute of Modern Physics, Chinese Academy of Sciences); Dr LI, C. B. (China Institute of Atomic Energy); Dr HOU, Dongsheng (Institute of Modern Physics, Chinese Academy of Sciences); Dr LI, Guangshun (Institute of Modern Physics, Chinese Academy of Sciences); Dr SONG, Guo (Institute of Modern Physics, Chinese Academy of Sciences); Dr WANG, Jianguo (Institute of Modern Physics, Chinese Academy of Sciences); Prof. LIU, Minliang (Institute of Modern Physics, Chinese Academy of Sciences); Dr HUANG, Shan (Institute of Modern Physics, Chinese Academy of Sciences); Dr LI, T. X. (China Institute of Atomic Energy); Dr WU, X. G. (China Institute of Atomic Energy); Prof. ZHOU, Xiaohong (Institute of Modern Physics, Chinese Academy of Sciences); Dr ZHENG, Y. (China Institute of Atomic Energy); Dr FANG, Yongde (Institute of Modern Physics, Chinese Academy of Sciences); Dr QIANG, Yunhua (Institute of Modern Physics, Chinese Academy of Sciences)

**Presenter:** Dr ROHILLA, Aman (Institute of Modern Physics, Chinese Academy of Sciences)

**Session Classification:** S1: 核结构

**Track Classification:** 核结构