New results concerning the wobbling properties of $^{183,187}Au$

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1 Introduction

Two wobbling sequences have been identified in ^{183}Au by Nandi et. al. [1]. One sequence has two bands with states of negative parity (built on top of the odd $h_{9/2}$ proton) and two bands with states of positive parity (built on top of the odd $i_{13/2}$ proton). Both sequences are considered to have $n_w = 0$ for the *yrast* band and $n_w = 1$ for the one-phonon wobbling band.

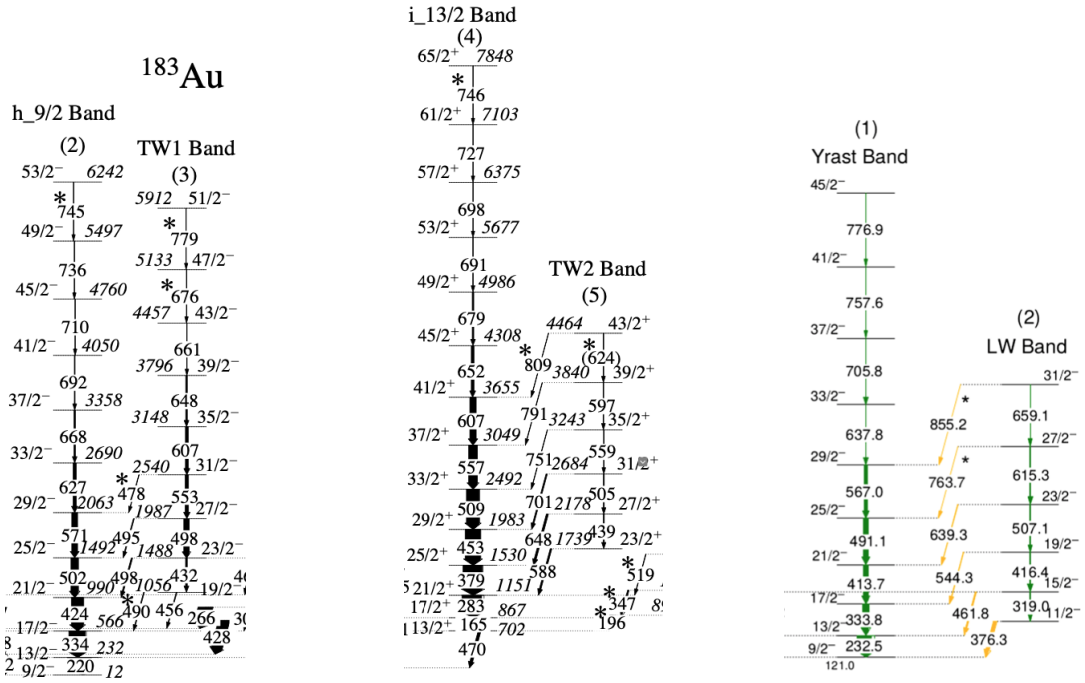

Figure 1: **Left:** ^{183}Au: negative parity states based on $j = 9/2$.**Middle:** ^{183}Au: positive parity states based on $j = 13/2$. **Right:** The wobbling structure in ^{187}Au.

On the other hand, Sensharma et. al. [2] has confirmed wobbling motion in ^{187}Au, with the identification of two such bands, show in figure 1.

References

[1] S Nandi, G Mukherjee, QB Chen, S Frauendorf, R Banik, Soumik Bhattacharya, Shabir Dar, S Bhattacharyya, C Bhattacharya, S Chatterjee, and et al. First observation of multiple transverse wobbling bands of different kinds in au 183. *Physical Review Letters*, 125(13):132501, 2020.

[2] N Sensharma, U Garg, QB Chen, S Frauendorf, DP Burdette, JL Cozzi, KB Howard, S Zhu, MP Carpenter, P Copp, and et al. Longitudinal wobbling motion in au 187. *Physical review letters*, 124(5):052501, 2020.