

Abstract Submitted  
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**The Decay Pathways of a Triaxial Strongly Deformed (TSD) Band in  $^{168}\text{Hf}$**  R.B. YADAV, W.C. MA, H. AMRO, P.G. VARMETTE, Mississippi State Univ., G.B. HAGEMANN, B. HERSKIND, K.A. SCHMIDT, G. SLETTEN, NBI, M. CARPENTER, R.V.F. JANSSENS, T.L. KHOO, T. LAURITSEN, C.J. LISTER, ANL, A. BRACCO, S. FRATTINI, B. MILLION, Univ. di Milano, J. DOMSCHEIT, H. HÜBEL, Univ. of Bonn, D.J. HARTLEY, L.L. RIEDINGER, Univ. of Tennessee, S.W. ØDEGÅRD, S. SIEM, Univ. of Oslo — Following the discovery of the wobbling motion in  $^{161-167}\text{Lu}$ , TSD bands in the mass  $A \sim 165$  region have received considerable attention. Previously, three TSD bands were reported in  $^{168}\text{Hf}$  which is the first evidence for triaxial superdeformation in an even proton system [1]. However, none of the bands was linked to known levels. Consequently, the spin/parity, excitation energy, and intrinsic configurations of the bands remain unknown. Recently, we further analysed the  $\gamma$ -ray coincidence data obtained from the Gammasphere experiment at ANL using a self-supporting target. The decay pathways of TSD2 band to low-spin normal deformed structures have been established. The spin/parity of the band were determined. The results will be discussed based on cranked shell model calculations. Work supported by U.S. DOE grant DE-FG02-95ER40939.

[1] H. Amro et al., Physics Letters B 506 (2001) 39-44.

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