

Abstract Submitted  
for the DNP07 Meeting of  
The American Physical Society

**Triaxial Strongly Deformed bands in  $^{163}\text{Tm}$** <sup>1</sup> X. WANG, Argonne National Lab/Univ. of Notre Dame, R.V.F. JANSSENS, E.F. MOORE, M.P. CARPENTER, N.J. HAMMOND, T. LAURITSEN, G. MUKHERJEE, D. SEWERYNIAK, S. ZHU, Argonne National Lab, U. GARG, Y. GU, S. FRAUENDORF, T. LI, B.K. NAYAK, Univ. of Notre Dame, N.S. PATTABIRAMAN, S.S. GHUGRE, UGC-DAE Consortium for Scientific Research, India, R.S. CHAKRAWARTHY, M. WHITEHEAD, Univ. of Manchester, UK, A.O. MACCHIAVELLI, Lawrence Berkeley National Lab — A “thin” target experiment and a DSAM lifetime measurement were carried out with the reaction  $^{130}\text{Te}(^{37}\text{Cl},4n)$  using Gammasphere at LBNL and at ANL, respectively. It has been confirmed that the two new bands in  $^{163}\text{Tm}$ , interpreted as TSD bands based on particle-hole excitations, are associated with a larger deformation than the yrast sequences. The measured quadrupole transition moments will be compared with those of neighboring nuclei. Further, TAC calculations will be presented. They provide a natural explanation for the presence of wobbling bands in the Lu isotopes and the absence of such bands in all neighboring Tm, Hf and Ta nuclei.

<sup>1</sup>This work has been supported in part by the U.S. Department of Energy, Office of Nuclear Physics, under contract No. DE-AC02-06CH11357, the U.S. National Science Foundation, and the Department of Science and Technology, Government of India.

Xiaofeng Wang  
Physics Division, Argonne National Laboratory, Argonne, IL 60439  
Physics Department, University of Notre Dame, Notre Dame, IN 46556

Date submitted: 29 Jun 2007

Electronic form version 1.4