

Abstract Submitted  
for the DNP07 Meeting of  
The American Physical Society

**A search for low-lying mixed symmetry states in  $^{140}\text{Nd}$**  E. WILLIAMS, R.J. CASPERSON, V. WERNER, H. AI, WNSL, Yale University, New Haven, CT 06520, P. BOUTACHKOV, Department of Physics and Astronomy, Rutgers University, New Brunswick, New Jersey 08903, R.F. CASTEN, WNSL, Yale University, New Haven, CT 06520, M. CHAMBERLAIN, WNSL, Yale University, New Haven, CT 06520; Department of Physics, University of Surrey, Guildford, Surrey, UK, G. GÜRDAL, WNSL, Yale University, New Haven, CT 06520; Department of Chemistry, Clark University, Worcester, MA 01610, A. HEINZ, E.A. MCCUTCHAN, J. QIAN, R. WINKLER, WNSL, Yale University, New Haven, CT 06520 — Low-lying states in  $^{140}\text{Nd}$  were populated by  $\beta^+$  decay from  $^{140}\text{Sm}$ . Subsequent  $\gamma$  decays were observed off-beam at the YRAST Ball spectrometer at Yale University, which has recently been reconfigured for angular correlation studies. Angular correlation measurements will be used to search for possible low-lying mixed-symmetric  $2^+$  states. Our results will shed more light on the evolution of mixed symmetry states in the N=80 isotones, as they seem to exhibit a strong dependence on the underlying shell structure. Preliminary results of this investigation will be presented. This work is supported by US DOE grant numbers DE-FG02-91ER-40609, DE-FG02-88ER-40417, DE-FG02-05ER-41379, and the US National Science Foundation.

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Date submitted: 28 Jun 2007

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