

Abstract Submitted  
for the HAW09 Meeting of  
The American Physical Society

**Band structures in neutron-rich  $A \sim 60 - 80$  nuclei via deep-inelastic reactions with Gammasphere**<sup>1</sup> C.J. CHIARA, I. STEFANESCU, J.R. STONE, W.B. WALTERS, University of Maryland, M.P. CARPENTER, R.V.F. JANSSENS, B.P. KAY, F.G. KONDEV, T. LAURITSEN, C.J. LISTER, E.A. MCCUTCHAN, D. SEWERYNIAK, S. ZHU, Argonne National Laboratory, R. BRODA, B. FORMAL, W. KROLAS, T. PAWLAT, J. WRZESINSKI, Niewodniczanski Institute, N.J. STONE, U. of Oxford/U. of Tennessee — Several experiments have been performed at Argonne National Laboratory in the past few years using deep-inelastic reactions on thick  $^{238}\text{U}$  targets to produce neutron-rich nuclei in the  $A \sim 60$  to 80 mass region. Beams of 430-MeV  $^{64}\text{Ni}$ , 530-MeV  $^{76}\text{Ge}$ , and 630-MeV  $^{82}\text{Se}$  have been provided by the ATLAS facility at ANL. Gamma rays were detected with the Gammasphere Ge-detector array. Band structures have been newly observed in a number of neutron-rich nuclei [e.g., I. Stefanescu *et al.*, Phys. Rev. C **79**, 064302 (2009)]. In some cases, spin and parity assignments are strengthened by angular-correlation measurements. These observations can provide insights into the single-particle and collective properties of these nuclei. Highlights of this study will be presented.

<sup>1</sup>This research is supported by the DOE Office of Nuclear Physics under Contracts DE-FG02-94ER40834 and DE-AC02-06CH11357.

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Date submitted: 06 Jul 2009

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