

Abstract Submitted  
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**Probing the Pygmy Dipole Resonance in  $^{124}\text{Sn}$** <sup>1</sup> M. BOSWELL, C. ANGELL, H. KARWOWSKI, UNC and TUNL, J. KELLEY, NC State and TUNL, A. TONCHEV, W. TORNOW, Duke U. and TUNL, N. TSONEVA, U. Giessen — A high-resolution nuclear fluorescence experiment of enriched  $^{124}\text{Sn}$  has been performed using the 100% polarized photon beam at the High Intensity Gamma-Ray Source (HI $\gamma$ S). Four HPGe detectors were used to observe 37 dipole transitions with excitation energies between 6.9 MeV and 8.4 MeV. The parity of each of the 14 previously known transitions was found to be  $J^\pi=1^-$ . The 8.269 MeV level tentatively assigned  $J^\pi=1^+$  was also found to be a  $1^-$  state.<sup>2</sup> In addition, 10 new levels were identified, all of which are E1 excitations with the exception of a 6.917 MeV state excited by an M1 transition. The observations will be compared with calculations using quasiparticle random-phase approximation.

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<sup>2</sup>K. Govaert et. al., Phys. Rev. C 57, 2229 (1998).

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