Abstract Submitted
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Gamma-ray spectroscopy of 131Sn81 via the (9Be,8Be γ) reaction[1] SEAN BURCHER, A. BEY, K. JONES, S.H. AHN, A. AYRES, K.T. SCHMITT, University of Tennessee, Knoxville, J. ALLMOND, A. GALINDO-URRIBARI, D.C. RADFORD, J.F. LIANG, C.D. NESERAJA, S.D. PAIN, S.T. PITTMAN, M.S. SMITH, D.W. STRACENER, R.L. VARNER, Oak Ridge National Laboratory, D.W. BARDAYAN, P.D. O'MALLEY, University of Notre Dame, J.A. CIZEWSKI, M.E. HOWARD, B.M. MANNING, Rutgers University, R.F. GARCIA RUIZ, Instituut voor Kern-en Stralingsfysica, KU Leuven, R.L. KOZUB, Tennessee Technological University, M. MATOS, Louisiana State University, E. PADILLA-RODAL, Instituto de Ciencias Nucleares, UNAM — Nuclear data in the region of the doubly-magic nucleus $^{132}Sn_{82}$ is useful for benchmarking nuclear structure theories due to the clean single-particle nature of the nuclear wavefunction near the closed shells. At the Holifield Radioactive Ion Beam Facility (HRIBF) neutron-rich beams in the $^{132}Sn_{82}$ region were produced via proton-induced fission of a Uranium-Carbide target. The CLARION array of HPGe detectors was coupled with the HyBall array of CsI detectors to allow for particle-gamma coincidence measurements. The gamma-ray de-excitation of the four lowest lying single-neutron states has been observed for the first time via the (^{9}Be,^{8}Be γ) reaction. The excitation energy of these states have been measured to higher precision than was possible with the previous charged particle measurement.

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Sean Burcher
University of Tennessee, Knoxville

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