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Study of the low-lying structure of the N=49 nucleus, ^{81}Ge[1]

S.H. AHN, K.L. JONES, S.T. PITTMAN, University of Tennessee at Knoxville, D.W. BARDAYAN, K.Y. CHAE, C.D. NESARAJA, S.D. PAIN, M.S. SMITH, Oak Ridge National Laboratory, A.S. ADEKOLA, J.A. CIZEWSKI, S. HARDY, M.E. HOWARD, P.D. O'MALLEY, Rutgers University, W.A. PETERS, I. SPASSOVA, Oak Ridge Associated Universities, K.A. CHIPPS, Colorado School of Mines, J.C. BLACKMON, M. MATOS, B.C. RASCO, Louisiana State University — The properties of low-lying levels of nuclei near N=50 are important for understanding the evolution of nuclear shell structure further from stability and the rapid neutron capture process, which may occur in supernovae. The low-lying levels of the N=49 nucleus ^{81}Ge have been studied by measuring the ^{80}Ge(d,p)^{81}Ge reaction at 310 MeV (3.875 MeV/u) in inverse kinematics at the Holifield Radioactive Ion Beam Facility in Oak Ridge National Laboratory. The primary goal of this work is to determine the spins of ^{81}Ge levels using the angular distribution of observed protons. Details of the experimental setup and a status report on the data analysis will be discussed.

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