

Abstract Submitted
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First identification of the $\pi g_{9/2}$ band in the neutron-rich $^{71,73,75}\text{Ga}$ isotopes produced in deep-inelastic reactions¹ I. STEFANESCU, N. HOTELING, W.B. WALTERS, University of Maryland, M.P. CARPENTER, R.V.F. JANSSENS, T. LAURITSEN, D. SEWERYNIAK, S. ZHU, ANL, R. BRODA, B. FORNAL, W. KROLAS, T. PAWLAT, INP Kracow, Poland — Deep-inelastic reactions proved to be a very powerful technique for the study of high-spin states in the neutron-rich nuclei around ^{68}Ni . This kind of reactions produced significant broadening of the experimental knowledge in the neutron-rich Fe, Ni, Cu and Zn isotopes. Such information, consisting of a number of isomeric states and rotational-like structures is extremely important for the understanding of the effects of the N=40 subshell closure on the collective properties in this mass-region. In the present paper we report the first identification of the bottom part of the g9/2 proton band in the neutron-rich $^{71,73,75}\text{Ga}$ produced in deep-inelastic reactions at Argonne National Laboratory. The bands exhibit a rotation aligned-like character suggesting moderate prolate deformation for these nuclei. A surprisingly constant level spacing with increasing the neutron number is observed experimentally, contrary to the expectation that the addition of a pair of g9/2 neutrons induces an increase in collectivity.

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