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Role of the $\nu(g_{9/2})$ orbital in the Ni isotopes[1] DANIEL S. MOERLAND, M. ALBERS, S. ZHU, J.V.F. JANSSENS, M. ALCORTA, P.F. BERTONE, M.P. CARPENTER, C.R. HOFFMAN, F.G. KONDEV, T. LAURITSEN, C.J. LISTER, E.A. MCCUTCHAN, C. NAIR, A.M. ROGERS, D. SEWERYNIAK, Argonne National Laboratory, T. BAUGHER, A. GADE, Michigan State University, C.J. CHIARA, University of Maryland, P. CHOWDHURY, University of Massachusetts Lowell, A.N. DEACON, University of Manchester — By analyzing and comparing the properties of high-spin structures, the evolution of the shape-driving effects of the $\nu(g_{9/2})$ orbital in the A$\approx$60 mass region can be inferred. In order to obtain information on those effects in the $^{60-65}$Ni isotopes from their behavior at high spin, an experiment was performed at ATLAS with Gammasphere and the Fragment Mass Analyzer (FMA). The Ni isotopes were produced by bombarding a 2 mg/cm^2-thick ^{26}Mg target with a ^{48}Ca beam at energies between 275 and 320 MeV. A and Z identification of the residues was achieved at the FMA focal plane. Signatures for collectivity and large deformation were found in several of the Ni isotopes of interest. The results will be presented and compared to observations in other nuclei of the region and to calculations.

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