

Abstract Submitted
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Seniority, collectivity, and $B(E2)$ enhancement in ^{72}Ni ¹ C.J. CHIARA, I. STEFANESCU, U. of Maryland/ANL, W.B. WALTERS, N. SHARP, U. of Maryland, M. ALCORTA, M.P. CARPENTER, G. GÜRDAL, C.R. HOFFMAN, R.V.F. JANSSENS, B.P. KAY, F.G. KONDEV, T. LAURITSEN, C.J. LISTER, E.A. MCCUTCHAN, A.M. ROGERS, D. SEWERYNIAK, S. ZHU, ANL, B. FORNAL, W. KRÓLAS, T. PAWLAT, J. WRZESIŃSKI, Krakow — Gamma rays assigned to $^{72}\text{Ni}_{44}$ have been identified with Gammasphere in deep-inelastic reactions involving a 450-MeV ^{76}Ge beam and a ^{198}Pt target. Using a combination of spectra produced by double gates on the known 454-, 843-, and 1095-keV members of the ground-state cascade, a coincident line at 199 keV has been identified and is tentatively assigned as the $8^+ \rightarrow 6^+$ transition. These γ -ray coincidences were observed only in prompt events, indicating an 8^+ half-life below 20 ns and requiring a large $B(E2)$ enhancement compared to that expected from a seniority scheme. This value is consistent with models showing decay to a seniority $\nu = 4$, 6^+ level that is depressed by the same two-body interaction responsible for the rather low 1095-keV 2_1^+ energy, as compared to the valence-symmetry counterpart $^{94}\text{Ru}_{50}$.

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