

Abstract Submitted
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***E2* decay rates from $(n, n'\gamma)$ measurements of ^{62}Ni** ¹ A. CHAKRABORTY, S.F. ASHLEY, B. CRIDER, E. ELHAMI, M.T. MCELLISTREM, S. MUKHOPADHYAY, J.N. ORCE, Department of Physics and Astronomy, University of Kentucky, Lexington, KY 40506-0055, E. PETERS, Department of Chemistry, University of Kentucky, Lexington, KY 40506-0055, S.W. YATES, Departments of Chemistry and Physics and Astronomy, University of Kentucky, Lexington, KY 40506-0055 — The low-lying levels of ^{62}Ni have been explored via the $(n, n'\gamma)$ reaction, and the lifetimes of many excited levels have been measured using the Doppler-shift attenuation method. Results from earlier inelastic neutron scattering measurements deviate from what has been accepted in the latest version of the NNDC database. For the present measurements, incident neutron energies were chosen as close to threshold for exciting the levels as was consistent with obtaining yields with good statistics. In this way, feeding to the level of interest from higher levels was avoided, guaranteeing results specific to that level. Enhanced $B(E2)$ values extracted from our measurements and spectral regularities seem to support the onset of vibrational collectivity in this nucleus, although deviations from a purely harmonic picture are present as well. Detailed results from the analysis will be presented.

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