

Abstract Submitted
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Search for mixed-symmetry states in ^{136}Ba ¹ S. MUKHOPADHYAY, S.N. CHOUDRY, B. CRIDER, E. ELHAMI, J.N. ORCE, E.E. PETERS, M. SCHECK, M.T. MCELLISTREM, S.W. YATES, University of Kentucky — The low-spin structure of ^{136}Ba reactions was studied at the University of Kentucky with the $(n,n'\gamma)$ reaction. The primary goal was the identification of the two-phonon mixed-symmetry states built on the first 2_{ms}^+ at 2129 keV. Furthermore, the systematics and the quadrupole-octupole multi-phonon excitations received special focus. The excitation functions performed from 2.2 MeV to 3.9 MeV helped to determine the threshold for the γ -ray transitions and hence their placement in the level scheme. Lifetimes, spins, multipolarities, and branching ratios obtained from angular distributions at 2.5 MeV and 3.5 MeV will be presented.

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