

Abstract Submitted
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Transition strengths and degree of deformation in ^{79}Sr ¹ R.A. KAYE, Y.K. RYU, Ohio Wesleyan University, S.L. TABOR, T. BALDWIN, D.B. CAMPBELL, C. CHANDLER, M.W. COOPER, C.R. HOFFMAN, J. PAVAN, M. WIEDEKING, Florida State University, J. DÖRING, GSI, Germany, Y. SUN, University of Notre Dame, S.M. GERBICK, O. GRUBOR-UROSEVIC, Purdue University Calumet, L.A. RILEY, Ursinus College — High-spin states in ^{79}Sr were studied using the $^{54}\text{Fe}(^{28}\text{Si}, 2pn)$ reaction at 90 MeV with a thick 14 mg/cm² ^{54}Fe target used to stop all recoils. Prompt γ - γ coincidences were detected using the FSU Compton-suppressed Ge array, and allowed for a verification of the ^{79}Sr level scheme in three separate band structures. Lifetimes of 34 excited states were measured using the Doppler-shift attenuation method, with the experimental line shapes obtained at two separate observation angles and by gating from above the transition of interest whenever possible. Transition quadrupole moments Q_t inferred from the lifetimes indicate a high degree of collectivity and deformation over a rather wide range of spins in all three observed bands. These results will be interpreted within the framework of the projected shell and cranked Woods-Saxon models.

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