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Parity Measurements in ⁷⁹Sr and ⁸⁰Y¹ M.A. HALLSTROM, Case Western Reserve University, R.A. KAYE, Ohio Wesleyan University, S.L. TA-BOR, T.D. BALDWIN, D.B. CAMPBELL, C. CHANDLER, M.W. COOPER, C.R. HOFFMAN, J. PAVAN, M. WIEDEKING, Florida State University, J. DORING, GSI, S.M. GERBICK, Purdue University Calumet, L.A. RILEY, Ursinus College — Recently, a band suspected to be based on the $[431]1/2^+$ configuration in ⁷⁹Sr has been shown to correspond to a very highly-deformed shape, but the parity of this band has never been measured directly. The yrast band in 80 Y is expected to have positive parity based on theoretical calculations and systematic evidence collected from other neighboring nuclei, but this also has not been confirmed experimentally. Therefore, the goal of this investigation was to measure conclusively the parity of these bands in ⁷⁹Sr and ⁸⁰Y. The ⁷⁹Sr and ⁸⁰Y nuclei were produced at Florida State University following the ${}^{28}\text{Si} + {}^{54}\text{Fe}$ fusion-evaporation reaction at 90 MeV. The linear polarization of γ rays that were emitted from ⁷⁹Sr and ⁸⁰Y following the reaction were measured based on how they preferentially Compton-scattered in three Clover detectors. From these measurements, the known parity assignments in ⁷⁹Sr were verified, but conclusive parity assignments could not be made for the proposed $[431]1/2^+$ band. However, a firm assignment of positive parity was made for the yrast band in ⁸⁰Y, showing that this nucleus is similar in this regard to its odd-odd neighbors.

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