Abstract Submitted
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A Detailed Study of Odd-Odd ^{170}Ta Approaching Spin 50 $\hbar$[1] A. AGUILAR, M.A. RILEY, C. TEAL, Florida State University, K. LAGERGREN, Oak Ridge National Laboratory, D.J. HARTLEY, W.H. MOHR, J.R. VANHOY, U.S. Naval Academy, R.V.F. JANSSENS, M.P. CARPENTER, A.A. HECHT, T. LAURITSEN, E.F. MOORE, S. ZHU, F.G. KONDEV, Argonne National Laboratory, M.K. DJONGOLOV, M. DANCHEV, L.L. RIEDINGER, University of Tennessee, G.B. HAGEMANN, G. SLETTEN, The Niels Bohr Institute, P. CHOWDHURY, S.K. TANDEL, University of Massachusetts, W.C. MA, Mississippi State University, S.W. ØDEGÄRD, University of Oslo — High-spin states of the odd-odd nucleus ^{170}Ta were studied via the ^{124}Sn (^{51}V, 5n) fusion-evaporation reaction. Data were collected by the Gammasphere spectrometer and sorted into γ-γ-γ cubes and γ-γ-γ-γ hypercubes for detailed analysis. Over four hundred new gamma-ray transitions were discovered along with twenty new bands. The relative spins and excitation energies of all the rotational structures were also determined for the first time. These exceptional data allowed for one of the most comprehensive investigations of any odd-odd nucleus while observing spins approaching 50 $\hbar$.

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