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Wobbling Modes in Ta Nuclei?[1] D.J. HARTLEY, W.H. MOHR, J.R. VANHOY, US Naval Academy, M.A. RILEY, A. AGUILAR, C. TEAL, Florida St Univ, R.V.F. JANSSENS, M.P. CARPENTER, A.A. HECHT, F.G. KONDEV, T. LAURITSEN, E.F. MOORE, S. ZHU, Argonne National Lab, M.K. DJONGOLOV, M. DANCHEV, L.L. RIEDINGER, Univ of Tennessee, G.B. HAGEMANN, G. SLETTEN, Niels Bohr Institute, P. CHOWDHURY, S.K. TANDEL, Univ. of Massachusetts-Lowell, W.C. MA, Mississippi St Univ, S.W. ØDEGÄRD, Univ of Oslo — Although the existence of asymmetric (or triaxial) shaped nuclei has been predicted for decades, acquiring experimental proof of this shape has been quite challenging. A triaxial nucleus should produce a collective wobbling mode when it is given significant angular momentum. Indeed, evidence of this phenomenon has been observed in a few odd-A Lu nuclei. A neutron shell gap is often cited for the stabilization of this rare shape in Lu. Theoretical calculations suggest triaxiality should also be observed in Hf nuclei; but despite several measurements, no wobbling has been confirmed. Recently, a high- spin, Gammasphere experiment aimed at identifying the wobbling mode in ^{171}Ta was performed in order to determine whether triaxial nuclei can be observed in the N≈100 region. In addition, ^{169}Ta was found to be strongly populated. No wobbling was found in either nucleus and conclusions based on these results will be discussed.

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Daryl Hartley
US Naval Academy

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