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Search for the Wobbling Mode in ^{169}Re[1] D.J. HARTLEY, E.E. PEDICINI, J.R. VANHOY, US Naval Academy, M.A. RILEY, X. WANG, Florida State Univ., L.L. RIEDINGER, Univ. of Tennessee, P.F. BERTONE, M.P. CARPENTER, C.J. CHIARA, G. GURDAL, R.V.F. JANSSENS, F.G. KONDEV, T. LAURITSEN, E.A. MCCUTCHAN, S. ZHU, Argonne National Lab, A.D. AYANGEAKAA, U. GARG, J. MATTA, Univ. of Notre Dame, W.C. MA, S. MUKHOPADHYAY, Mississippi State Univ., P. CHOWDHURY, S. HOTA, Univ. of Massachusetts-Lowell — The appearance of "wobbling" sequences can only occur with the rotation of an asymmetrically shaped nucleus. Although once thought to be a general feature of the Z=72, N=94 region [1], the lack of such sequences observed in isotopes other than lutetium led to a suggestion that the Z=71 nuclei may be unique in displaying this exotic mode [2]. However, the recent identification of a wobbling band in ^{167}Ta [3] has reopened questions about the influence the proton Fermi surface has on the observation of wobbling. An experiment using Gammasphere was performed to search for evidence of an asymmetric shape in the N=94 nucleus ^{169}Re. The $\pi i_{13/2}$sequence (the configuration on which all known wobbling structures are based) was identified for the first time in ^{169}Re, and will be discussed in relation to the wobbling phenomenon.

[1] G. Schönwasser *et al*, Phys. Lett. B **552**, 9 (2003);
[2] N. S. Pattabiraman *et al.*, Phys. Lett. B **647**, 243 (2007);
[3] D. J. Hartley *et al.*, Phys. Rev. C **80**, 041304(R) (2009).

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