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Search for High-Spin Triaxial Strongly Deformed Bands in ¹⁶⁶W¹ W.C. MA, Mississippi State Univ., S. MUKHOPADHYAY, Bhabha Atomic Research Centre, India, P. PREMARASHNA, J.C. MARSH, R.B. YADAV, Mississippi State Univ., U. GARG, J.T. MATTA, A.D. AYANGEAKAA, Y. GUPTA, Univ. of Notre Dame, R.V.F. JANSSENS, M.P. CARPENTER, T. LAURITSEN, S. ZHU, F.G. KONDEV, J. CHEN, Argonne National Lab, D.J. HARTLEY, US Naval Academy, D.C. BISWAS, R. CHAKRABARTI, Bhabha Atomic Research Centre, India, C. PETRACHE, CSNSM, Orsay, France, C.J. CHIARA, Univ. of Maryland — High-spin triaxial strongly deformed (TSD) structures, including families of wobbling bands, have been observed in several Lu and Ta Isotopes near $A \sim 165$, and in ^{164,168}Hf as well.² The nuclide ¹⁶⁶W is close to the proton and neutron shell gaps at large triaxiality. Theoretical studies suggest that the elevated yrast line of ¹⁶⁶W, an N=92 isotone, may reduce the excitation energy of the predicted TSD structure relative to its normal deformed yrast line, resulting in an increased population of the TSD bands. A Gammasphere experiment has been performed at the ATLAS facility to search for such structures through the ¹¹⁰Pd(⁶⁰Ni,4n) reaction. Previously known bands have been extended to higher spins, and several new bands have been identified. Further data analysis is in progress, results will be presented.

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²J. C. Marsh *et al.*, Phys. Rev. C **88**, 041306(R) (2013).

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