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Hexadecapole Vibration in ^{160}Gd?[1] D.J. HARTLEY, A.D. AYANGEAKAA, United States Naval Academy, F.G. KONDEV, K. AURANEN, M.P. CARPENTER, J.A. CLARK, J.P. GREENE, C.R. HOFFMAN, T. LAURITSEN, J. LI, G. SAVARD, D. SEWERYNIAK, S. STOLZE, J. WU, S. ZHU, Argonne National Laboratory, K. VILLAFANA, M.A. RILEY, J. BARRON, Florida State University, R.V.F. JANSSENS, D. LITTLE, University of North Carolina/TUNL, A.J. BOSTON, J. HEERY, E.S. PAUL, University of Liverpool, J. SIMPSON, Daresbury Laboratory, G.L. WILSON, Louisiana State University — Excited states in ^{160}Gd were populated via Coulomb excitation of a ^{160}Gd beam (at 1000 MeV) bombarding thick targets of ^{154}Sm and ^{164}Dy. The Gammasphere spectrometer, located at Argonne National Laboratory, was used to detect the emitted γ rays. A rotational band based on the $K^{\pi} = 4^{+}$ state at 1071 keV was extended to higher spin. This state has been associated with a hexadecapole vibration, and the band is found to gain alignment at an unusually constant rate, which is different from that observed for the sequences based on the ground state and on the γ vibration. A discussion based on the proximity of this nucleus to the$N = 98$ shell gap will address this constant rate of alignment.

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