

Abstract Submitted
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Quadrupole moment measurements for strongly deformed bands in $^{171,172}\text{Hf}$ ¹ S. MUKHOPADHYAY, W.C. MA, R.B. YADAV, J. MARSH, Q.A. IJAZ, Mississippi State University, D.M. CULLEN, Univ. of Manchester, UK, L.L. RIEDINGER, Univ. of Tennessee, D.J. HARTLEY, United States Naval Academy, S. LAKSHMI, S.S. HOTA, P. CHOWDHURY, Univ. of Massachusetts (Lowell), C.J. CHIARA, Univ. of Maryland, Y. TOH, JAEA, Japan, M.P. CARPENTER, ANL., R.V.F. JANSSENS, T.L. KHOO, F.G. KONDEV, T. LAURITSEN, S. ZHU, ANL — A lifetime measurement using the DSAM technique has been performed at Gammasphere to study the nature of strongly deformed bands in $^{171,172}\text{Hf}$ [1]. The measured quadrupole moments, ~ 9.5 b for Band ED in ^{171}Hf , and ~ 13.5 b for Band SD1 in ^{172}Hf , support our previous interpretation that Band ED is associated with near-prolate shape and an enhanced deformation w.r.t. the normal deformed bands, and the Band SD1 has a superdeformed shape with little triaxiality, contrary to the cranking calculations with the Ultimate Cranker code. The calculations successfully predicted the existence of triaxial strongly deformed (TSD) structures in Lu isotopes, but the predicted TSD bands in Hf isotopes remain elusive apart from the one in ^{168}Hf . [1] Y. C. Zhang et al., Phys. Rev. C 76, 064321 (2007).

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