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**Octupole Strength in the  $^{238,240,242}\text{Pu}$  isotopes<sup>1</sup>** X.

WANG, Argonne National Laboratory, Argonne, IL 60439/University of Notre Dame, Notre Dame, IN 46556, S. ZHU, R.V.F. JANSSENS, M.P. CARPENTER, I. AHMAD, J.P. GREENE, T.L. KHOO, F.G. KONDEV, T. LAURITSEN, C.J. LISTER, D. SEWERYNIAK, Argonne National Laboratory, Argonne, IL 60439, S.J. FREEMAN, University of Manchester M13 PL, UK/Argonne National Laboratory, Argonne, IL 60439, U. GARG, University of Notre Dame, Notre Dame, IN 46556, I. WIEDENHÖEVER, A. BERNSTEIN, P. WILSON, E. DIFFENDERFER, C. TEAL, Florida State University, Tallahassee, FL 32306, A. LARABEE, B. MEREDITH, Greenville College, Greenville, IL 62246 — A series of so-called “unsafe” Coulomb excitation experiments as well as 1-neutron transfer measurements was carried out with Gammasphere at the ATLAS accelerator in order to investigate the collective properties of  $^{238,240,242}\text{Pu}$ . New experimental evidence has emerged that in  $^{240}\text{Pu}$  a transition from an octupole vibration to stable octupole deformation occurs at high spin. A similar situation may be present in  $^{238}\text{Pu}$ , but is clearly absent in the heavier  $^{242}\text{Pu}$ . The data will be presented and discussed together with available information on neighboring nuclei in the region.

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