

Abstract Submitted  
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**g-factors in Neutron Rich Ce and Nd Isotopes** C. GOODIN, A.V. RAMAYYA, N.J. STONE, K. LI, S. LIU, A.V. DANIEL, J.H. HAMILTON, J.K. HWANG, Y.X. LUO, J.O. RASMUSSEN, M.A. STOYER, S.J. ZHU, G.M. TERAKOPIAN, I.Y. LEE, J.R. STONE, Vanderbilt University — We have recently developed a method for measuring the g-factors of excited states of neutron rich fragments produced in the spontaneous fission of  $^{252}\text{Cf}$ . With this method, we are able to determine angular correlations between prompt gamma-rays emitted from the fragments. The determination of g-factors is accomplished by measuring the attenuation of the expected angular correlation, caused by the interaction of the fragment with the randomly oriented hyperfine fields of an un-magnetized iron foil. Using our high statistics data set ( $\sim 4 \times 10^{11}$  triple coincidence events), we have measured the previously unknown g-factors of the  $4^+$  state in  $^{150}\text{Nd}$  and the  $6^+$  state in  $^{152}\text{Nd}$ . We have also re-measured g-factors of the  $2^+$  states in  $^{146,148}\text{Ce}$ , significantly reducing errors. We will show that, in each case, the g-factor agrees with the limiting value for a pure rotational state.

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