

Abstract Submitted  
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**New Levels in  $^{162}\text{Gd}$**  BRAYTON DOLL, NBPHS, Vanderbilt University, N.T. BREWER, J.H. HAMILTON, A.V. RAMAYYA, J.K. HWANG, Vanderbilt University, Y.X. LUO, Vanderbilt University, LBNL, J.O. RASMUSSEN, LBNL, S.J. ZHU, Vanderbilt University, Tsinghua University, G.M. TER-AKOPIAN, JINR — We've measured prompt gamma rays from the fission fragments of the spontaneous fission of  $^{252}\text{Cf}$  in Gammasphere. The data from the experiment have high statistics with  $5.7 \times 10^{11}$  triple and higher gamma coincidences. We examined levels in  $^{162}\text{Gd}$  in this data set which shows very consistent  $I(I+1)$  level spacing in the yrast band. This demonstrates consistency with a rotational nucleus that has a large quadrupole deformation. this is common for nuclei in between closed spherical shells. To find new levels and gamma transitions, we looked at triple coincidence gates in the Radware software in which we see population of yrast states up to  $16+$ . We found new evidence for proposed collective bands in this isotope. Results will be discussed.

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