

Abstract Submitted
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Lifetime measurement for the 2_1^+ of ^{174}W using fast timing with LaBr_3 scintillators¹ N. COOPER, V. WERNER, E. WILLIAMS, M. BONETT-MATIZ, Yale University, J.-M. RÉGIS, University of Cologne, T. AHN, Yale University, V. ANAGNOSTATOU, Yale, Surrey, M. ELVERS, Yale, Cologne, A. HEINZ, G. ILIE, Yale University, J. JOLIE, University of Cologne, V. MUTAI, Yale University, D. RADECK, Yale, Cologne, M. RUDIGIER, University of Cologne, M.K. SMITH, Yale University — Past experiment suggests nuclei in the rare-earth region exhibit a saturation of deformation as mid-neutron-shell is approached on the isotopic chain. Precision measurements of the $B(E2:2_1^+ \rightarrow 0_1^+)$ of these nuclei will help clarify the structure in this region and may serve as a test for theoretical models for well-deformed nuclei. Fast timing measurements after beta decay have been performed on ^{174}W at WNSL, Yale University. The standard fast timing technique drew great benefits from LaBr_3 scintillators. The high energy resolution of these scintillators, with time resolution comparable to BaF_2 scintillators, allows for a much enhanced peak-to-background ratio, the placement of narrow energy gates, and accurate background subtraction. The result is a cleaner time difference spectra than possible with BaF_2 scintillators. Results will be presented.

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