

Abstract Submitted  
for the DNP11 Meeting of  
The American Physical Society

**Revisiting K-isomers in  $^{176}\text{Hf}$  via the  $^{176}\text{Yb}(\alpha,4n)$  Reaction<sup>1</sup>** V.S. PRASHER, A.Y. DEO, S. HOTA, S. LAKSHMI, P. CHOWDHURY, C.J. GUESS, E.G. JACKSON, UMass Lowell, V. WERNER, T. AHN, G. ILIE, V. ANAGNOSTATOU, N. COOPER, M. ELVERS, P. GODDARD, A. HEINZ, D. RADECK, E. WILLIAMS, WNSL-Yale U. — High-K bands in  $^{176}\text{Hf}$  have been populated via the  $^{176}\text{Yb}(\alpha,4n)^{176}\text{Hf}$  reaction at the WNSL tandem accelerator facility at Yale University using  $\alpha$  beam energies of 41, 46 and 51 MeV. For the first time, fast beam pulsing was incorporated and tested with beam on-off periods of a few tens of  $\mu\text{s}$ . Known half lives of different high-K isomers in the Hf region [1] were measured to check the reliability of fast beam pulsing at WNSL for heavy ion spectroscopy. The population of 2-, 4-, and 6-qp isomers in  $^{176}\text{Hf}$ , with  $t_{1/2} = 9.6, 401$  and  $43 \mu\text{s}$ , respectively, is compared at different beam energies. The quest for states and isomers above the  $22^-$  6-qp isomer[2] in  $^{176}\text{Hf}$  will also be discussed.

[1] T.L. Khoo et al., Phys. Rev. Lett. 28, 1717 (1972).

[2] G. Mukherjee et al., Phys. Rev. C82, 054316 (2010).

<sup>1</sup>Work supported by the U.S. Department of Energy.

Vikram Singh Prasher  
UMass Lowell

Date submitted: 30 Jun 2011

Electronic form version 1.4