

Abstract Submitted  
for the APR08 Meeting of  
The American Physical Society

**Measurement of the ground state of  $^{15}\text{Be}$**  A. SPYROU, T. BAUMANN, D. BAZIN, G. CHRISTIAN, S. MOSBY, M. STRONGMAN, M. THOENESSEN, NSCL/MSU, J. BROWN, Wabash College, P.A. DEYOUNG, Hope College, A. DELINE, J.E. FINCK, A. RUSSELL, Central Michigan University, N. FRANK, Illinois Wesleyan University, E. BREITBACH, R. HOWES, Marquette University, W.A. PETERS, Rutgers, A. SCHILLER, Ohio University, MONA COLLABORATION — The ground state of the neutron-unbound  $^{15}\text{Be}$  was measured for the first time. The experiment was performed at the National Superconducting Cyclotron Laboratory using the MoNA-Sweeper setup. The isotope of interest was produced via two-proton knockout from a  $^{17}\text{C}$  beam at 54 MeV/nucleon. The n- $^{14}\text{Be}$  decay spectrum was reconstructed event-by-event from coincidence measurements of the  $^{14}\text{Be}$  fragment and the emitted neutron. The energy and position of the neutron were obtained using the Modular Neutron Array (MoNA), while for determining the same information for the  $^{14}\text{Be}$  fragment, a series of position and energy sensitive detectors, located at the Sweeper magnet focal plane, were used. First results from the analysis of this measurement will be presented. The present work aimed in determining the mass of the neutron-unbound  $^{15}\text{Be}$  and it was the first step towards the study of a possible di-neutron decay of  $^{16}\text{Be}$ .

A. Spyrou  
NSCL/MSU

Date submitted: 14 Feb 2008

Electronic form version 1.4