

Abstract Submitted
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Ground-state neutron decay of ^{21}C S. MOSBY, M. THOENNESSEN, NSCL/MSU, P. DEYOUNG, Hope College, MONA COLLABORATION — The ground state of neutron-unbound ^{21}C was measured for the first time in a neutron-fragment coincidence experiment at the National Superconducting Cyclotron Laboratory at Michigan State University. This is the heaviest neutron-unbound $N = 15$ nucleus and provides a measurement of the $\nu(1s_{1/2}) - \nu(0d_{5/2})$ shell gap in the presence of proton holes in the p shell. ^{21}C was produced via one-proton knockout from a ^{22}N secondary beam at 69.7 MeV/u. The Modular Neutron Array (MoNA) was used to measure the time-of-flight and position of emitted neutrons, while ^{20}C fragments were detected in a series of position and energy-sensitive detectors behind the MSU/FSU Sweeper magnet. The decay of ^{21}C was then reconstructed event-by-event from the four-momentum vectors of the neutron and fragment. Preliminary results will be presented.

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