

Abstract Submitted
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Studying the neutron-unbound ^{18}B A. SPYROU, T. BAUMANN, D. BAZIN, G. CHRISTIAN, S. MOSBY, M. STROGMAN, M. THOENNESSEN, NSCL/MSU, J. BROWN, Wabash College, P.A. DEYOUNG, Hope College, A. DELINE, J.E. FINCK, A. RUSSEL, Central Michigan University, N. FRANK, Augustana College, E. BREITBACH, R. HOWES, Marquette University, W.A. PETERS, Rutgers, A. SCHILLER, Ohio University, MONA COLLABORATION — The decay of the neutron-unbound ground state of ^{18}B was studied for the first time through a single-proton knockout reaction from a 62 MeV/u ^{19}C beam. The decay energy spectrum was reconstructed from coincidence measurements between the emitted neutron and ^{17}B fragment using the MoNA/Sweeper setup. An s -wave line shape was used to describe the experimental spectrum resulting in an upper limit for the scattering length of -50 fm which corresponds to a decay energy < 10 keV. Observing an s -wave decay of ^{18}B provides an experimental verification that the ground state of ^{19}C includes a large s component. In addition, our results show that the $s - d$ mixing proposed for ^{19}C is also present in ^{18}B , therefore no clear signs of an inversion between the $s_{1/2}$ and $d_{5/2}$ orbitals can be suggested.

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