Abstract Submitted for the HAW05 Meeting of The American Physical Society

Ground State Wave Function of ¹²**Be**¹ W.A. PETERS, T. BAU-MANN, N. FRANK, J.-L. LECOUEY, A. SCHILLER, M. THOENNESSEN, K. YONEDA, MSU/NSCL, P. DEYOUNG, G. PEASLEE, Hope College, J. BROWN, Wabash College, K. JONES, Rutgers University, B. LUTHER, Concordia College, W. ROGERS, Westmont College — Spectroscopic factors are important quantities in establishing the shell structure in nuclei. We measured the spectroscopic factor for the neutron knockout reaction of a ¹²Be beam into the neutron unbound $d_{5/2}$ state of ¹¹Be using neutron-fragment coincidence measurements. The secondary ¹²Be beam was produced from a 120 MeV/nucleon ¹⁸O beam from the Coupled Cyclotron Facility at the NSCL. The ¹⁰Be fragments were detected and identified using the MSU/FSU sweeper magnet while the neutrons were detected by the Modular Neutron Array (MoNA). From the reconstructed invariant mass spectra the relative contributions from different states in ¹¹Be can be extracted.

¹This work was supported by the National Science Foundation Grant No. PHY-01-10253.

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Date submitted: 25 May 2005

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