Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Spectroscopy of ^{12}Li[1] ERIC LUNDERBERG, CHRISTOPHER HALL, PAUL DEYOUNG, Hope College, ARTEMIS SPYROU, MICHAEL THOENNESSEN, NSCL-MSU, THE MONA COLLABORATION — The spectroscopy of neutron-unbound levels in ^{12}Li is presented. The ^{12}Li were formed by a two-proton knockout reaction from a 53.4 MeV/u ^{14}B beam at the National Superconducting Cyclotron Laboratory. The decay energy spectrum was measured with the Modular Neutron Array (MoNA) and Sweeper superconducting dipole magnet experimental setup. The measured decay energy spectrum exhibits one *s*-wave resonance and two *d*-wave resonances. The *d*-wave resonances are modeled by energy-dependent Breit-Wigner line shapes, and the *s*-wave resonance line shape was calculated with a scattering length of -13.7 fm^2. The specific energies for the two Breit-Wigner resonances are 250±20 keV and 555±20 keV. The observed widths were dominated by the experimental resolution.

[1]This work was supported by the National Science Foundation; PHY-0651627
[2]Yu. Aksyutina *et al.*, Phys. Lett. B **666**, 430 (2008).

Paul DeYoung
Hope College

Date submitted: 19 Jul 2009 Electronic form version 1.4