Two-neutron decay of excited states of $^{11}$Li JENNA SMITH, MSU/NSCL, MONA COLLABORATION — One prominent example of a Borromean nucleus is the two-neutron halo nucleus, $^{11}$Li. All excited states of this nucleus are unbound to two-neutron decay. Many theories propose that the two valence neutrons exhibit dineutron behavior in the ground state, but it is unclear what effect such a structure would have on the decay of the excited states. We have recently completed an experiment designed to study the decay of one of these excited states. Unbound $^{11}$Li was populated via a two-proton knockout from $^{13}$B. The two emitted neutrons were detected with the Modular Neutron Array (MoNA) and the Large-area multi-Institutional Scintillator Array (LISA) in coincidence with the daughter fragment, $^9$Li. Preliminary results will be discussed.

Jenna Smith
MSU/NSCL

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