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A Multi-layered target for the Study of Neutron-Unbound Nuclei[1] PAUL GUEYE, Hampton University, NATHAN FRANK, Augustana College, MICHAEL THOENNESSEN, National Superconducting Cyclotron Laboratory/Michigan State University — The MoNA/LISA setup at the National Superconducting Cyclotron Laboratory at Michigan State University has provided an avenue to study the nuclear structure of unbound states/nuclei at and beyond the neutron drip line for the past decade using secondary beams from the Coupled Cyclotron Facility. A new multi-layered Si/Be active target is planned to be built to specifically study neutron unbound nuclei. In these experiments the decay energy is reconstructed from fragment-neutron coincidence measurements which are typically low in count rate. The multi-layered target will allow the use of thicker targets to increase the reaction rates, thus enabling to study currently out of reach nuclei such as 21C, 23C, and 24N. A description of the new setup and physics impact will be discussed.

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