

Abstract Submitted
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Decay Energies for $^{24}\text{O} \rightarrow ^{23}\text{O} + \text{n}$ using MoNA-LISA-Sweeper Detector Systems and Monte Carlo Simulations¹ SIERRA GARRETT, ALYSON BARKER, RACHEL PARKHURST, WARREN ROGERS, Westmont College, ANTHONY KUCHERA, NSCL, Michigan State University, MONA COLLABORATION — The LISA Commissioning experiment, conducted at NSCL at Michigan State University, used the Modular Neutron Array (MoNA) and the Large multi-Institutional Scintillator Array (LISA) in conjunction with the Sweeper Magnet and Detector Chamber, in order to investigate unbound excited states of ^{24}O produced by proton knockout from a secondary ^{26}F beam. Experimental energy spectra for the $^{24}\text{O} \rightarrow ^{23}\text{O} + \text{n}$ decays were obtained through invariant mass spectroscopy using neutron and charged fragment trajectories and energies following decay. GEANT4-based Monte Carlo simulations, which included MENATE_R for modeling neutron scattering, and STMONA developed by the MoNA group at NSCL, were used to take into account specific reaction dynamics and geometry, as well as all detector acceptances and efficiencies, in order to extract individual decay energies and widths from our experimental data. Results for this decay will be presented.

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