Abstract Submitted
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Sequential Decay of ^{26}F[1] HAYDEN KARRICK, NATHAN FRANK, Augustana College - Rock Island, ANTHONY KUCHERA, Davidson College, CALEB SWORD, JACLYN BRETT, PAUL DEYOUNG, Hope College, MICHAEL THOENNESSEN, NSCL/MSU, MONA COLLABORATION — Unstable neutron rich nuclides show interesting characteristics including multi-neutron emission. By using Jacobi coordinates, multi-neutron emissions from unstable nuclides may be characterized. At the National Superconducting Cyclotron Laboratory experiment, a 101.3 MeV/u ^{27}Ne ion beam hit a liquid deuterium target, causing reactions which produced several nuclides. Many of these nuclides decayed, resulting in a charged fragment and one or more neutrons. A superconducting dipole magnet bent the path of the fragments into a series of charged-particle detectors. Neutrons from these decays were measured as they interacted with arrays of scintillating plastic bars called the MoNA-LISA. The four-momentum vectors of the charged particle and neutron(s) were used to reconstruct the invariant mass. ^{26}F was formed by 1-proton stripping from the ^{27}Ne beam, which resulted in either one or two neutrons emission. A GEANT4 simulation comparison to the experimental data shows that sequential neutron emission resulted from some of the ^{26}F produced. The results of these comparisons will be presented.

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