Abstract Submitted
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(CEU) Study of excited neutron-rich ^{44,45}Ca isotopes populated through fusion-evaporation[1] ANDREW MACGREGOR, PETER BENDER, University of Massachusetts Lowell — The search for high-spin states with a clear n-particle-hole configurations are key to unraveling the mysteries of evolving nuclear structure. Such states are often high spin in nature and naturally populated via the fusion-evaporation reaction mechanism. Through careful gamma spectroscopy, these states can be unambiguously identified and used as rigorous tests to state of the art nuclear theory. A recent experiment at the John D. Fox superconducting Laboratory at FSU was preformed to examine such states. Here, a ^{14}C beam was impinged on a ^{36}S target at 34-Mev. The experimental setup included an array of HPGe detectors as well as a Si telescope for identification of evaporated charged particles. In this work, the alpha evaporation channel will be presented and the detailed gamma-ray spectroscopy results for ^{44,45}Ca will be presented. Aspects of the experimental approach and data analysis will be presented. Final results will be discussed and compared to recent shell model calculations.

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