Abstract Submitted
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Measurement of neutron-induced reactions on ^{242m}Am[1] M. Q. BUCKNER, C.-Y. WU, R. A. HENDERSON, B. BUCHER, Lawrence Livermore National Laboratory, A. CHYZH, North Carolina State University, T. A. BREDEWEG, B. BARAMSAI, A. COUTURE, M. JANDEL, S. MOSBY, J. L. ULLMANN, Los Alamos National Laboratory, DANCE COLLABORATION — Neutron-induced reaction cross sections of ^{242m}Am were measured at the Los Alamos Neutron Science Center using the Detector for Advanced Neutron-Capture Experiments array along with a compact parallel-plate avalanche counter for fission-fragment detection. A new neutron-capture cross section was determined relative to a simultaneous measurement of the well-known ^{242m}Am(n,f) cross section. The (n,γ) cross section was measured from thermal to an incident energy of 1 eV. Our new ^{242m}Am fission cross section was normalized to ENDF/B-VII.1 and agreed well with the (n,f) cross section reported in the literature from thermal energy to 1 keV. The capture-to-fission ratio was determined from thermal energy to E_n = 0.1 eV, and it was found to be (n,γ)/(n,f) = 26(4)% compared to 19% from ENDF/B-VII.1. Our latest results will be reported.

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