

Abstract Submitted
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Preliminary results on $^{241,243}\text{Am}$ and ^{235}U (n,γ) cross sections measured at DANCE M. JANDEL, T.A. BREDEWEG, M.M. FOWLER, E.M. BOND, J.M. O'DONNELL, R. REIFARTH, R.S. RUNDBERG, J.L. ULLMANN, D.J. VIEIRA, J.B. WILHELMY, J.M. WOUTERS, Los Alamos National Laboratory, R.A. MACRI, C.-Y. WU, J.A. BECKER, Lawrence Livermore National Laboratory — The Detector for Advanced Neutron Capture Experiments (DANCE) at Los Alamos National Laboratory (LANL) was used for neutron capture cross sections measurements. Its high granularity of 160 BaF_2 detectors allows for highly efficient detection of prompt gamma-rays following a neutron capture. DANCE is located on the 20.26 m neutron flight path 14 at the Manuel Lujan Jr. Neutron Scattering Center at the Los Alamos Neutron Science Center (LANSCE). The moderated production target provides neutrons in the 0.02 eV - 500 keV energy range. An analysis of neutron capture measurements on $^{241,243}\text{Am}$ and ^{235}U targets will be presented. The experiments were carried out using a customized Parallel-Plate Avalanche Counter (PPAC) detector installed in the center of the DANCE array. The PPAC was used as a fission-tagging detector to separate (n,γ) from ($n,\text{fission}$) events. Preliminary results of (n,γ) cross sections will be presented and compared with the available evaluated data for neutron energies from 0.02 eV to 1 keV. Additional neutron capture measurements with DANCE will be briefly discussed.

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