

Abstract Submitted  
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**$^{241}\text{Am}(n,\gamma)$  absolute cross sections measured with DANCE** M. JANDEL, T.A. BREDEWEG, M.M. FOWLER, E.M. BOND, M.B. CHADWICK, R.R. CLEMENT, A. COUTURE, J.M. O'DONNELL, R. REIFARTH, R.S. RUND-  
BERG, J.L. ULLMANN, D.J. VIEIRA, J.B. WILHELMY, J.M. WOUTERS, Los Alamos National Laboratory, Los Alamos, NM, 87545, USA, U. AGVAANLUVSAN, R.A. MACRI, S.A. SHEETS, C.Y. WU, J.A. BECKER, Lawrence Livermore National Laboratory, Livermore, CA, 94550, USA —  $^{241}\text{Am}$  is present in plutonium due to the beta decay of  $^{241}\text{Pu}$  ( $t_{1/2}=14.38$  years). As such  $^{241}\text{Am}$  can be used as a detector for nuclear forensics. A precise measurement of  $^{241}\text{Am}(n,\gamma)$  cross section is thus needed for this application. The measurement is also of interest for advanced reactor design as part of the Global Nuclear Energy Partnership (GNEP). The Detector for Advanced Neutron Capture Experiments (DANCE) at Los Alamos National Laboratory (LANL) was used for neutron capture cross section measurement on  $^{241}\text{Am}$ . The high granularity of DANCE (160  $\text{BaF}_2$  detectors in a  $4\pi$  geometry) enables the efficient detection of prompt gamma-rays following a neutron capture. DANCE is located on the 20.26 m neutron flight path 14(FP14) at the Manuel Lujan Jr. Neutron Scattering Center at the Los Alamos Neutron Science Center (LANSCE). The absolute  $^{241}\text{Am}(n,\gamma)$  cross sections were obtained in the range of neutron energies from 0.02 eV to 320 keV. The results will be compared to existing evaluations in detail.

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