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Measurement of Neutron Induced and Spontaneous Fission in Pu-242 at DANCE[1] ANDRII CHYZH, NCSU/LANL, C.Y. WU, R. HENDERSON, LLNL, A. COUTURE, H.Y. LEE, J. ULLMANN, J.M. O'DONNELL, M. JANDEL, R.C. HAIGHT, T.A. BREDEWEG, LANL, DANCE COLLABORATION
— Neutron capture and fission reactions are important in nuclear engineering and physics. DANCE (Detector for Advanced Neutron Capture Measurement, LANL) combined with PPAC (avalanche technique based fission tagging detector, LLNL) were used to study neutron induced and spontaneous fission in ^{242}Pu. 2 measurements were performed in 2013. The first experiment was done without the incident neutron beam with the fission tagging ability to study γ-rays emitted in the spontaneous fission of ^{242}Pu. The second one – with the neutron beam to measure both the neutron capture and fission reactions. This is the first direct measurement of prompt fission γ-rays in ^{242}Pu. The γ-ray multiplicity, γ-ray energy, and total energy of γ-rays per fission in ^{242}Pu will be presented. These distributions of the ^{242}Pu spontaneous fission will be compared to those in the ^{241}Pu neutron induced fission.

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