Abstract Submitted
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Determination of Fission Product Yields of ^{235}U, ^{238}U and ^{239}Pu for Neutron Energies from 0.5 to 14.8 MeV MATTHEW GOODEN, NC State University and TUNL, CHARLES ARNOLD, Los Alamos National Laboratory, JOHN BECKER, Lawrence Livermore National Laboratory, CHITRA BHATIA, MEGHA BHIKE, TUNL, BRENT FALLIN, Duke University and TUNL, MALCOLM FOWLER, Los Alamos National Laboratory, CALVIN HOWELL, Duke University and TUNL, JOHN KELLEY, NC State University and TUNL, MARK STOYER, ANTON TONCHEV, Lawrence Livermore National Laboratory, WERNER TORNOW, Duke University and TUNL, DAVID VIERA, JERRY WILHELMY, Los Alamos National Laboratory — A joint TUNL-LANL-LLNL collaboration has been formed to study the issue of possible energy dependences for fission product isotopes. Work has been carried out at the TUNL 10 MV Tandem accelerator which produces nearly mono-energetic neutrons via either ^{2}H(d,n)^{3}He,^{3}H(d,n)^{4}He, or ^{3}H(p,n)^{3}He reactions. Three dual fission ionization chambers dedicated to ^{235}U, ^{238}U and ^{239}Pu thick target foils and thin monitor foils respectively, were exposed to the neutron beams. After irradiation, thick target foils were gamma counted over a period of 1-2 months and characteristic gamma rays from fission products were recorded using HPGe detectors at TUNL's low background counting area. Using the dual fission chambers fission product yields relative to total number of fissions were determined at a high precision of 2-3% as well as absolute fission product yields at a lower precision of 5-6%. Results will be presented for a number of fission product isotopes at 1.38, 4.6 and 14.8 MeV as well as preliminary results at 9 MeV.

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