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^{239}Pu Cumulative Fast Fission Product Yield Analysis[1] AARON S. TAMASHIRO, C.J. PALMER, Oregon State Univ, J.T. HARKE, S. BURCHER, S.W. PADGETT, G. SLAVIK, N. HARWARD, N. GHARIBYAN, R. HENDERSON, Lawrence Livermore Natl Lab, B. PIERSON, L. GREENWOOD, Pacific Northwest Natl Lab, J. GODA, D. HAYES, J.A. BOUNDS, Los Alamos Natl Lab
— Precise integral measurement of fast neutron-induced fission product yields for various actinides is of high interest for applied nuclear science. The goal of this effort is to improve uncertainties in fission product yield values of ^{239}Pu. Fission was induced in a pure ^{239}Pu ($> 99\%$) target using the Godiva-IV critical assembly in burst mode. The irradiated sample was transferred to a high-resolution γ-ray detector within 45 minutes. γ-ray list mode data was collected from 45 minutes to 1 week after the irradiation. γ-ray spectroscopy was performed to analyze the time dependent γ-ray yields using an automated peak search algorithm to identify isotopes by their decay γ-ray energy and half-life. The initial activity for each isotope identified was used to calculate their fission product yield.

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