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Precision β-decay branching ratio measurements for long-lived fission products.[1] MIGUEL BENCOMO, KAROLINA KOLOS, NICHOLAS D SCIELZO, WEI JIA ONG, MARK A STOYER, ANTON P TONCHEV, MARY T BURKEY, LLNL, DAN MELCONIAN, VICTOR E IACOB, JOHN C HARDY, TAMU, JASON A CLARK, MATTHEW GOTT, DANIEL SANTIAGO-GONZALEZ, GUY SAVARD, ADRIAN VALVERDE, XINLIANG YAN, ANL, BRIAN CHAMPINE, TYLER NAGEL, ERIC B NORMAN, UC Berkeley, AMBER M HENNESSY, UC Irvine, RODNEY ORFORD, LBNL, DWAIPAYAN RAY, Univ. of Manitoba, LOUIS VARRIANO, Univ. of Chicago, GRAEME MORGAN, LSU, SHAOFEI ZHU, BNL — Nuclear data for fission products are used to determine fission-product yields, which impact nuclear applications. Many branching ratio measurements of long-lived fission products ($t_{1/2}$ >1d) suffer from high uncertainties, which contribute to the uncertainties in the determined fission yields. We developed a new experimental method to precisely (˜1% precision) measure the γ-ray branching ratios in the β decay of long-lived fission products. The approach involves production of a pure fission-product sample at the CARIBU facility at ANL on an ultra-thin carbon foil and a subsequent decay measurement with a 4π gas proportional counter and a meticulously-calibrated high-purity germanium (HPGe) detector at TAMU. We will present results for ^{95}Zr/^{95}Nb, ^{147}Nd, and^{156}Eu.

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