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Measurement of the Total Kinetic Energy Release (TKE) in ^{232}Th(n,f) with E_n = 2.59 - 87.31 MeV JONATHAN KING, RICARDO YANEZ, JONATHAN BARRETT, WALTER LOVELAND, Oregon State University, FREDRIK TOVESSON, NICK FOTIADES, HYE YOUNG LEE, Los Alamos National Laboratory — Experimental results for the Total Kinetic Energy Release (TKE) of ^{232}Th(n,f) with E_n = 2.59 - 87.31 MeV will be presented. The experiment was performed at the 15R beamline at the Weapons Neutron Research(WNR) facility at LANL-LANSCE. WNR provides a white spectrum of neutrons peaking at 2 MeV and reaching up to 800 MeV, with neutron energies being deduced from measurements of the neutron time of flight (TOF). A thin-backed $^{232}ThF_4$ target of 2 cm diameter with a thorium areal density of 178.9 μg/cm^2 was placed between two arrays of Hammamatsu PIN diodes (active area 4 cm^2 each). The beam was collimated to 1 cm diameter. The target was placed 45 degrees off of the beam axis, with the detectors at 60 degrees and 120 degrees from the beam axis. Over 25,000 fission fragment coincidence events were recorded, allowing for sixteen energy bins between 2.59 and 87.31 MeV. We believe that this will be the most comprehensive published measurement of the TKE for ^{232}Th(n,f) with E_n = 2.59 - 87.31 MeV.

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