

## **Analysis of delayed electron and gamma data following the thermal neutron induced fission of $^{235}\text{U}$ and $^{239,241}\text{Pu}$**

Electron and gamma ray spectra from the neutron induced fission of  $^{235}\text{U}$ ,  $^{239,241}\text{Pu}$  were measured at ORNL in the 1970s by J.K. Dickens and collaborators. These spectra were used to derive some of the most accurate electron and gamma decay heat values to be used in simulations of Loss Of Coolant Accidents (LOCA) scenarios. These spectra, however, have only been published in ORNL reports, and are not available in EXFOR. Following their proper curation, the spectra were analyzed using modern codes and nuclear databases. The electron data has been used to benchmark independent fission yields for nuclides with short half-lives and weak or poorly known gamma data, but with accurate beta intensity data from Total Absorption Gamma Spectroscopy experiments. Additionally, using summation model corrections, these spectra were converted to ratio of electron spectra under equilibrium conditions, which have shed light into the origin of the Reactor Antineutrino Anomaly. Finally, the gamma spectra revealed a serious deficiency in current decay data, which is the lack of accurate gamma spectra following the beta-minus decay of neutron rich fission fragments with high Q-values.

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