

An Unexpected Energy Evolution of the Fission-Product Yields from Neutron-Induced Fission of ^{235}U , ^{238}U , and ^{239}Pu

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High-precision measurements of the fission product yields of ^{235}U , ^{238}U , and ^{239}Pu using monoenergetic neutrons between 0.5 and 14.8 MeV have been performed to study the energy dependence. The results confirm the progression towards symmetric fission at higher incident neutron energy, i.e., 14.8 MeV. However, at lower energies ($E_n < \sim 4$ MeV) the experimental data reveal a peculiar energy dependence of some of the fission-product yields from neutron-induced fission of ^{239}Pu : a positive slope up to about 4-5 MeV which then turns negative as the incident neutron energy increases. This latter finding at low-energy is in conflict with present theoretical predictions. New experimental cumulative and short-lived fission-product yield data will be presented at fast neutron induced fission.

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