

Abstract Submitted
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Neutron-Induced Fission Cross Sections for Uranium-238 Above 100 MeV ZACHARIAH MILLER, MICHAEL KOVASH, Dept. of Physics, Univ. of Kentucky — The cross section for neutron-induced fission of ^{238}U is not well known above 100 MeV; only a few published measurements exist between 100 and 300 MeV. We report here new cross section data which span the range from 100 to over 200 MeV. A white neutron beam produced at the LANSCE/WNR facility was incident both on a thin transmission fission chamber, and subsequently on a liquid hydrogen target. Data were simultaneously collected from fission-fragment triggers in the chamber, as well as from n-p elastic scattering events from the cryogenic target. The fragment time spectrum was used to determine the energy of the initiating neutron, while an ADC spectrum from the chamber allowed for a clean separation of alpha-particle backgrounds. Elastic n-p triggers were derived from a coincidence between scattered neutrons and the recoil protons, detected in a plastic-CsI telescope whose time spectrum was used to determine the incident neutron energy. The cross section for n-p scattering is well known, and is used to normalize the fission yields at beam energies above 100 MeV. The new fission cross section data are compared with previous measurements.

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