THE FISSION FRAGMENT ANGULAR DISTRIBUTIONS AND TOTAL KINETIC ENERGIES FOR $^{235}U(n,f)$ FROM .18 to 8.83 MeV[a]

by

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ABSTRACT

A gridded ion chamber was used to measure the fission fragment angular distribution and total kinetic energy for the $^{235}U(n,f)$ reaction from 0.18 to 8.81 MeV neutron energy. The anisotropies are in generally good agreement with earlier measurements. The average total kinetic energy is ~ 0.2 MeV greater than the thermal value at neutron energies < 2 MeV and shows a sudden decrease of ~ 0.8 MeV between 4 and 5 MeV neutron energy, well below the (n, n'f) threshold. Possible causes of this decrease are a change in the mass distribution or decreased shell effects in the heavy fragment.

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