

Measurement of Fission Cross Section and Angular Distributions of Fission Fragments from Neutron-Induced Fission of ^{243}Am in the Energy Range 1-500 MeV

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Fission cross sections and angular distributions of fission fragments from the neutron-induced fission of ^{243}Am have been measured in the energy range 1–500 MeV at the neutron time-of-flight spectrometer GNEIS based on the 1-GeV proton synchrocyclotron of the NRC KI - PNPI (Gatchina) used as pulsed neutron source. The description of the original experimental set-up consisted of two MWPC counters with targets of ^{243}Am and ^{235}U is given, as well as the some principal details of experimental data processing.

The fission cross section of ^{243}Am was obtained by ratio method using ^{235}U as a standard. The anisotropy of fission fragments $W(0^\circ)/W(90^\circ)$ was deduced from the experimental data on angular distributions of ^{243}Am . The anisotropy data are of particular interest because in the investigated energy range 1–500 MeV other experimental data are practically absent, despite the ever-growing interest in this field, stimulated by the creation of new nuclear technologies. This work is a part of the program dedicated to investigations of neutron-induced fission at intermediate energies.