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Neutron-induced fission cross section of 239Pu, 240Pu and 242Pu in the energy range from 0.3 to 500 MeV

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The 239Pu, 240Pu and 242Pu neutron-induced fission cross sections were measured relative to the 235U(n, f) cross section in the energy range from 0.3 MeV to 500 MeV using the GNEIS neutron time-of-flight spectrometer at the 1 GeV proton synchrocyclotron of the NRC KI - PNPI (Gatchina). The experimental setup consisted of two position-sensitive MWPC counters, which also allowed simultaneous measurement of the angular distributions of the fission fragments. The description of the experimental set-up, data processing and the results are presented together with the experimental data obtained on other time-of-flight facilities, such as n_TOF (CERN, EU) and LANSCE (Los Alamos, USA).

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