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FISSION CROSS-SECTION MEASUREMENTS OF CURIUM ISOTOPES

Ivanin I.A., Khokhlov Yu.A., In'kov V.I., Vinogradov Yu.A., Fomushkin E.F., Danilin L.D., Polynov V.N.

There are presented measurement results of fission cross-sections for Cm-245, Cm-246, Cm-247. As a source of neutrons there was used the uranium target of VNIIEF linear accelerator of electrons. The measurements were carried out with the help of time-of-flight method. The fission events were registered by hemispheric avalanche detectors of fission fragments. The data obtained were compared to the results of other experiments and estimations.

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MEASUREMENTS OF ENERGY DEPENDENCE OF PROMPT NEUTRONS AVERAGE MULTIPLICITY AT U-235 AND Pu-242 FISSION

Khokhlov Yu.A., Ivanin I.A., In'kov V.I., Vinogradov Yu.A., Danilin L.D., Polynov V. N.

There are presented the measurement results of energy dependence of neutrons average multiplicity at U- 235 and Pu-242 fission by neutrons. The measurements were carried out at LU-50 linear accelerator of electrons with the help of time-of-flight method on the basis of 28.5 m. Fission neutrons were registered by gamma-quanta of neutron capture on the nuclei of gadolinium in a 400- liter liquid scintillation detector (as related to $\overline{\upsilon}_p$ for spontaneous fission of Cf-252), while fission events were registered by the plane-parallel avalanche detector of fission fragments.

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DIFFERENTIAL CROSS-SECTIONS OF Be-9(P,ALPHA-GAMMA) Li-6 REACTION FROM DOPPLER SHIFT OF GAMMA-LINE

S.N.Abramovich, L.N.Generalov, A.G.Zvenigorodski, L.M.Lazarev, V.G.Kiptily[1]

[1]*Institute of Physics and Technology - ANRF, Sanct-Petersburg*

There are presented the results of measuring angular distributions of gamma-quanta from Be-9(p,alpha-gamma) Li-6 reaction for the angles: 0, 30,60,120,150 degrees and for the energy of incident protons E_p=2.40-3.10 MeV with a pitch of 50 keV; the excitation function of integral reaction cross-section is described for the angle of 0 degree and for the above specified values of E_p. The systematic error constitutes 10.6%. Moreover, there are given (minus "background") the energy spectra of 3.563 MeV gamma- line, broadened in the reaction through the Doppler shift at the transfer of Li-6(from 0+ to 1+) nucleus, for the angle of 0 degree and for all values of E_p energies. The resolution by gamma- quanta energy constitutes 3.75 keV. From the energy spectrum of gamma- line there are calculated the coefficients of angular alpha - particle distribution and the mechanism of the course of reaction under study is defined with the aid of the theory of threshold phenomena.