MECHANISM OF NEUTRON SCATTERING ON BARIUM NUCLEI. IN 0.5 – 15 MeV ENERGY RANGE

I. A. Korzh, N. T. Sklyar, T. I. Yakowenko

Our data and data of other authors on total, integral and differential elastic and inelastic cross sections of neutron scattering in 0,5 - 15 MeV energy range for barium nuclei of natural isotope composition, as well as for $^{136, 138}$Ba isotopes are analyzed. Optical statistical approach based on optical model, coupled channel method and modern versions of statistical model is used. Possibility of an adequate description of all experimental data in frames of this approach, even using averaged values of optical parameters is shown, and this permitted to evaluate the contribution of direct and compound mechanisms of fast neutron scattering by researched nuclei.