
THE INVESTIGATION OF NEUTRON CROSS-SECTIONS STRUCTURE OF Nb, Mo, Rh, Ho AND W IN THE RESONANCE REGION.

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The results of gamma-ray multiplicity spectra and transmission measurements for ⁹³Nb, Mo, Rh, W, Ho and ²³⁸U in energy range 21.5eV – 46.5 keV are presented. Gamma spectra from 1 to 7 multiplicity were measured on the 501m and 121m flight paths of the IBR-30 using a 16-section scintillation detector with a NaI (Tl) crystals of a total volume of 36 l and a 16-section liquid scintillation detector of a total volume of 80 l for metallic samples of 50, 80mm in diameter and 0.1, 1.5mm thickness. Besides, the total cross-sections of Nb, Mo, Rh, W were measured by means batteries of B-10 and He-3 counters on the 124m, 504m and 1006m flight paths of the IBR-30. Spectra of multiplicity distribution were obtained for resolved resonances in the energy region E=30-6000 eV and for energy groups in the energy region E=21.5eV – 46.5keV. Standard capture cross-sections of ²³⁸U and experimental gamma-ray multiplicity spectra of ⁹³Nb, Mo, Rh, W and ²³⁸U were used for determination of capture cross-sections in energy groups. Similar values were calculated using the ENDF/B-6 and JENDL-3 evaluated data libraries with the help of the GRUCON computer program.