

Experimental investigation of (n, α) reaction cross section for zinc isotopes

The paper presents the (n, α) reaction cross section data for zinc isotopes (^{64}Zn and ^{66}Zn). The work was performed at the tandem accelerator IPPE.

In the work, special attention was paid to background neutrons arising from the solid deuterium target. The background component was investigated in detail using a digital neutron spectrometer based on the organic scintillator. The thickness of the targets was measured by Rutherford backscattering method. To register the products of the studied reaction, a new digital spectrometer was used, which made it possible to significantly reduce the contribution from background events. Measurements were carried out in the energy range from 3.5 to 7.5 MeV. The data obtained for the isotopes of zinc-64, 66 are compared with the available experimental data of other authors and the estimated data of different libraries.

Primary authors: KHROMYLEVA, Tatiana (IPPE); Mr BONDARENKO, Ivan (IPPE); Dr GURBICH, Alexander (IPPE); Mr KETLEROV, Vladimir (IPPE); Dr KHRYACHKOV, Vitaly (IPPE); Mr PRUSACHENKO, Pavel (IPPE)

Presenter: KHROMYLEVA, Tatiana (IPPE)

Session Classification: Will not participate

Track Classification: Section 2. Experimental and theoretical studies of nuclear reactions.