

Registration efficiency of a stilbene based neutron detector

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Detection efficiency of a stilbene based neutron detector at neutron energy at 14 MeV for different amplitude thresholds is presented. Experiment was performed in Frank Laboratory of Neutron Physics of the Joint Institute for Nuclear Research, Dubna, Russia using the VNIIA ING-27 generator of 14 MeV neutrons. Comparisons of the calculated neutron energy spectra with experimental data induced by 6.29, 7.07 and 14 MeV neutrons are presented. Neutron interactions with the detector were simulated in Geant4 toolkit and energy spectra obtained with the use of Birk's Law.

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