MEASUREMENT OF NEUTRON ENERGY SPECTRA IN THE REGION OF LARGE ANGLES IN Xe + Csl COLLISIONS AT ENERGY OF 3.8 A GeV

N. Lashmanov, M. Kapishin, S. Piyadin, S. Sedykh, S. Sergeev, V. Rogov, V. Yurevich
Joint Institute for Nuclear Research
E-mail: lashmanov@jinr.ru

Neutron production double-differential cross section was measured for ^{124}Xe + CsI collisions at energy 3.8 A GeV with a compact TOF spectrometer as a part of BM@N setup at external beam channel of the Nuclotron. The aim of this study is to obtain new experimental results on neutron emission from excited spectators of the target nuclei. The measurement was performed at angles $\theta > 90^\circ$ and it covers an energy interval of emitted neutrons from 2 to 200 MeV. Neutron detectors based on stilbene with pulse shape discrimination of gamma-rays and a time resolution of 110 ps allow to use short flight distances of $\sim$30 cm and by these to get small contribution from gamma-ray and neutron background. The preliminary results of data analysis are presented and discussed.