

DIFFERENCE BETWEEN DISTRIBUTIONS OF INTERMEDIATE AND SLOW NEUTRON FLUX FROM PHOTONEUTRON SOURCE EXIT CHANNEL

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Distributions of intermediate and slow neutron flux from the output collimated channel of the photoneutron source are measured. A cadmium filter is used to suppress slow neutrons in the measurement of intermediate neutrons. A standard helium counter moved during measurements and the two-coordinate neutron detector based on a thin ^{10}B layer combined with a proportional chamber are used [1]. The significant difference in the experiment is observed in the distribution shape of two neutron groups with energies above and below the cadmium boundary. If the distribution of intermediate neutrons has a symmetrical Gaussian shape, then the distribution shape of slow neutrons is complex. The possible difference of the shapes is discussed.

1. I. V. Meshkov, S. I. Potashev, A. A. Afonin, Yu. M. Burmistrov, A. I. Drachev, S. V. Zuyev, S. Kh. Karaevsky, A. A. Kasparov, E. S. Konobeevski, S. P. Kuznetsov, V. N. Marin, V. N. Ponomarev, G. V. Solodukhov, Bull. Ras. Acad. Sci. Phys. 84, 382 (2020).

The speaker is a student or young scientist

No

Section

1. Synchrotron and neutron radiation sources and their use in scientific and applied fields

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