Measurements of the ^{6}Li(n,α)^{3}H Reaction in the Neutron Energy Range E_n=3.3-5.1 MeV

Chuprakov I.[1,5], Gledenov Yu.M.[1], Sansarbayar E.[1,3], Krupa L.[2], G. Khuukhenkhuu[3], Zhang Guohui[4], Liu Jie[4], Xia Cong[4], Bai Haofan[4], Wu Zepeng[4], Ren Wenkai[4]

[1]*Frank Laboratory of Neutron Physics, JINR, IIO, 141980, Dubna*
[2]*Flerov Laboratory of Nuclear Reactions, JINR, IIO, 141980, Dubna*
[3]*Nuclear Research Centre, National University of Mongolia, Ulaanbaatar 210646, Mongolia*
[4]*State Key Laboratory of Nuclear Physics and Technology, Institute of Heavy Ion Physics, Peking University, Beijing 100871, China*
[5]*The Institute of Nuclear Physics, Ministry of Energy of the Republic of Kazakhstan, Almaty 050032, Kazakhstan*

We have measured the cross sections of the ^{6}Li(n,α)^{3}H reaction at E_n=3.3, 3,9, 4.3,4.5, 4.8, and 5.1 MeV. Experiments were performed at the Van de Graaff Accelerator EG5 of Frank Laboratory Neutron Physics, JINR. Fast monoenergetic neutrons were obtained from the reaction D(d,n)^{3}He using a gaseous deuterium target. The gridded ionization chamber was used as an alpha particle detector. The absolute neutron flux was determined in the ^{238}U(n,f) reaction, the neutron flux was monitored using both a long ^{3}He counter and an additional fission chamber placed inside the ionization chamber. The data we obtained were compared with those available in EXFOR and data libraries.