

## MECHANISMS OF THE $^{12}\text{C}(^{11}\text{B}, ^{15}\text{N})^8\text{Be}$ REACTION

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Angular distributions of the  $^{12}\text{C}(^{11}\text{B}, ^{15}\text{N})^8\text{Be}$  reaction were measured at the energy  $E_{\text{lab}}(^{11}\text{B}) = 49$  MeV for the transitions to the ground and 2,94 MeV (2+) excited state of  $^8\text{Be}$  and to the ground and 5,270 MeV (5/2+) + 5,299 MeV (1/2+), 6,324 MeV (3/2-), 7,155 MeV (5/2+) + 7,301 MeV (3/2+), 7,567 MeV (7/2+) excited states of  $^{15}\text{N}$ . The data were analyzed by the coupled-reaction-channel method. The elastic, inelastic scattering and one- and two-step transfers were included into the coupling scheme. The data of the  $^{12}\text{C}(^{11}\text{B}, ^8\text{Be})^{15}\text{N}$  reaction at  $E_{\text{cm}} = 9,4 - 17,8$  MeV known from the literature, were also included in the analysis. It was found that in the  $^{12}\text{C}(^{11}\text{B}, ^{15}\text{N})^8\text{Be}$  reaction the  $\alpha$ - and t-cluster transfers dominate at  $\theta_{\text{cm}} < 90^\circ$  and  $\theta_{\text{cm}} > 90^\circ$ , respectively. The optical model parameters for the  $^{15}\text{N} + ^8\text{Be}$  interaction and their energy dependence were deduced.