

**MECHANISM OF CHARGE-EXCHANGE IN THE  ${}^7\text{Li}({}^{10}\text{B}, {}^{10}\text{Be}){}^7\text{Be}$  REACTION  
AND POTENTIAL OF INTERACTION OF THE  ${}^7\text{Be} + {}^{10}\text{Be}$  NUCLEI**

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Angular distributions of the  ${}^7\text{Li}({}^{10}\text{B}, {}^{10}\text{Be}){}^7\text{Be}$  reaction were measured at the energy  $E_{\text{lab}}({}^{10}\text{B}) = 51$  MeV for the transitions to the ground and excited states of  ${}^{10}\text{Be}$  and  ${}^7\text{Be}$  nuclei. The measured  ${}^7\text{Li}({}^{10}\text{B}, {}^{10}\text{Be}){}^7\text{Be}$  reaction data as well as only known from the literature  ${}^{10}\text{B}({}^7\text{Li}, {}^7\text{Be}){}^{10}\text{Be}$  reaction data at the energy  $E_{\text{lab}}({}^7\text{Li}) = 39$  MeV were analyzed within DWBA method for the direct charge-exchange of the  ${}^{10}\text{B} \rightarrow {}^{10}\text{Be}$ ,  ${}^7\text{Li} \rightarrow {}^7\text{Be}$  nuclei and within the coupled-reaction-channels method for one- and two-step transfers of nucleons and clusters such as  ${}^{10}\text{B} \rightarrow X \rightarrow {}^{10}\text{Be}$ ,  ${}^7\text{Li} \rightarrow Y \rightarrow {}^7\text{Be}$ . It was studied the contributions of different mechanisms to the angular distribution of the  ${}^7\text{Li}({}^{10}\text{B}, {}^{10}\text{Be}){}^7\text{Be}$  and  ${}^{10}\text{B}({}^7\text{Li}, {}^7\text{Be}){}^{10}\text{Be}$  reactions. Using data of these reactions, the parameters of the  ${}^7\text{Be} + {}^{10}\text{Be}$ -potential as well as their energy dependence were deduced by standard fitting procedure. The deduced  ${}^7\text{Be} + {}^{10}\text{Be}$ -potential is compared with the corresponding folding-potential calculated using nucleon distributions in  ${}^7\text{Be}$  and  ${}^{10}\text{Be}$ .