

THE APPROACH OF COUPLED REACTION CHANNELS TO ${}^7\text{Li} + {}^{11}\text{B}$ SCATTERING

*A.A. Rudchik, A.T. Rudchik, O.A. Ponkratenko,
K.W. Kemper¹*

Institute for Nuclear Research,
Nat. Acad. Sci. of Ukraine
(47, Nauky Prosp., Kyiv 03680, Ukraine;
e-mail: rudchik@kinr.kiev.ua),

¹Florida State University
(Tallahassee, Florida 32306, USA;
e-mail: kirby@martech.fsu.edu)

S u m m a r y

The data on the ${}^7\text{Li} + {}^{11}\text{B}$ elastic and inelastic scatterings at the energy $E_{\text{lab}}({}^7\text{Li}) = 34$ MeV are analyzed within the method of coupled reaction channels (CRC). The deformation parameters of ${}^7\text{Li}$ and ${}^{11}\text{B}$ and the ${}^7\text{Li}^{(*)} + {}^{11}\text{B}^{(*)}$ optical model (OM) potential parameters are deduced, and the energy dependence of the optical model potential for the ${}^7\text{Li}^{*} + {}^{11}\text{B}$ and ${}^7\text{Li} + {}^{11}\text{B}^{*}$ channels is obtained.