Contribution ID: **104** Type: **Poster**

Deuteron stripping on nuclei at intermediate energies

Thursday, 3 September 2015 16:30 (1h 30m)

A general analytical expression for the double differential cross section of deuteron stripping reaction on nuclei at intermediate energies of incident particles was obtained in the diffraction approximation [1]. Nucleon-nucleus phases were calculated in the framework of Glauber formalism and making use of the double-folding potential. The exact wave function of deuteron with correct asymptotics at short and long distances between nucleons [2] was used. The formalism used in ref. [1] was later modified to calculate the nucleon polarization that arises in deuteron stripping reaction. The calculated angular dependencies of cross sections and analyzing power Ay are in good agreement with corresponding experimental data [3,4].

[1] V.I. Kovalchuk, Nucl. Phys. A 937, 59 (2015).
[2] D.V. Piatnytskyi and I.V. Simenog, Ukr. J. Phys. 53, 629 (2008).
[3] C. Wilkin, J. Phys. G 6, 69 (1980).
[4] H. Kamada et al., Prog. Theor. Phys. 104, 703 (2000).

Primary author: KOVALCHUK, Valery (Department of Physics, Taras Shevchenko National University of Kiev, Ukraine)

Presenter: KOVALCHUK, Valery (Department of Physics, Taras Shevchenko National University of Kiev, Ukraine)

Session Classification: Poster