Contribution ID: **30** Type: **poster contribution**

Microscopic optical potentials including the breakup effects for unstable nucleus scattering

Saturday, 25 August 2018 15:35 (10 minutes)

Recently, study on unstable nuclei near the neutron dripline has been attracted by the development of radioactive ion-beam experiments. The optical potential between a projectile and a target is a basic ingredient to describe the elastic scattering. In the neutron-rich region, it is difficult to determine the phenomenological optical potential due to restrictions on experimental data. Therefore, we need to construct the optical potential microscopically.

The g-matrix folding model has been widely used as a reliable method to obtain the microscopic optical potential. However, this approach does not work well for the case of unstable nuclei, since the folding model neglects projectile-excitation effects that are important for reactions involving weakly-binding nuclei.

In our study, we propose a method to construct a microscopic optical potential including projectile-excitation effects by combining the folding model with the Glauber model. In this conference, we will report the results applied to ^{3,6}He scattering, and discuss applicability to the case of the proton target.

Primary authors: Mr OGAWA, Shoya (Kyushu University); Dr MATSUMOTO, Takuma (Kyushu University); Dr TOYOKAWA, Masakazu (Kyushu University); Mr HORINOUCHI, Ryo (Kyushu University)

Presenter: Mr OGAWA, Shoya (Kyushu University)

Session Classification: YSS