

Theoretical Study of Heavy-ion Charge Exchange Reaction at Intermediate Energies With Eikonal Model

Heavy-ion charge exchange reactions at intermediate energies have drawn much attention because they have great advantages for determination of spin-isospin strength with better resolution and selectivity than that with nucleon probes such as (p,n) reaction. Such reactions could be used to extract values of GT strength which is important for electron capture and beta-decay rates, and electron capture results in the depletion of the Stellar environment. With the development of new facilities, accelerators, and detectors, there are more and more experimental studies of heavy-ion charge exchange reactions. However, in spite of the advantages of heavy-ion charge exchange reaction at intermediate energies, the reaction mechanisms for heavy ion induced charge exchange reactions are more complicated than that for (p,n) or (n,p) reactions. Now, based on Eikonal approximation, a newly developed theoretical instrument could give some results, and the results have been compared with that predicted by FOLD which has been developed based on DWBA.

Summary

Primary author: Ms LI, Jingjing (Peking University)

Presenter: Ms LI, Jingjing (Peking University)