

Mechanism for nuclear and Coulomb breakup reactions

Tuesday, 21 December 2010 09:30 (30 minutes)

Breakup reactions have played key roles in investigating properties of unstable nuclei. One of the most reliable methods for treating projectile breakup processes is the method of continuum-discretized coupled channels (CDCC). CDCC has successfully been applied to analyses of three-body breakup system, in which the projectile breaks up into two constituents. Recently, we have developed CDCC to treating four-body breakup reactions with three-body projectile. Thus CDCC is very useful for systematic analyses of scattering including light unstable nuclei, which have exotic properties such as the halo structure and the island of inversion.

In this talk, I will report results of analyses for ^{11}Be , ^{15}C , and ^6He breakup reactions with nuclear and Coulomb interactions, and discuss for those structure properties and reaction mechanisms.

Presenter: Dr MATSUMOTO, Takuma (RIKEN Nishina Center)