

Abstract Submitted  
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**Analysis of low-energy corrections to the eikonal approximation**

PIERRE CAPEL, CHLOE HEBBORN, Univ Libre De Brussels — Exotic nuclei are mostly studied through reactions. To extract valuable structure information from measured cross sections, a reliable reaction model is needed. At high-enough energy, the eikonal approximation provides an excellent description of the collision, while being numerically efficient. Unfortunately, its validity is limited to energies above 50 A MeV. Various facilities will soon deliver exotic beams at about 10 A MeV, e.g., ReA12 at FRIB. To help experimenters in the analysis of their data, we study various corrections to the eikonal approximation to low energies [1,2,3]. Some of them efficiently correct the description of the elastic scattering of one-body projectiles. When extended to two-body projectiles, these corrections are still able to improve the eikonal prediction [4]. They could therefore provide good alternatives to coupled-channel reaction models.

References:

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