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Reaction cross sections for light proton-rich nuclei

Light nuclei away from the valley of stability are characterized by low binding energies for valence nucleons, leading to the formation of an extended matter distribution that, in some nuclei, appear as exotic configurations like halo (e.g. ^8B and ^{11}Be) and borromean (e.g. ^6He and ^{11}Li) structures. These exotic structures manifest themselves in a nuclear collision as a narrow momentum distribution of the fragments after breakup and enhancement of the interaction cross section. These signatures are readily apparent at energies around the Coulomb barrier (V_b).

In this talk I will cover some of the recent experimental results with exotic nuclei with emphasis on proton-rich nuclei and limitations of reduction methods often used to compare the reduced reaction cross sections among the systems.

Notes

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