Contribution ID : **66** Type : **oral contribution**

Coulomb barrier dynamics of nuclear haloes

Wednesday, 29 May 2024 12:29 (20)

Exotic light-nuclei with low particle separation energy can exhibit a very extended matter distribution, the so-called nuclear halo [1, 2]. At collision energies around the Coulomb barrier, the presence of a halo enhances the coupling between the elastic and reaction channels, such as breakup, transfer, and fusion, as compared to stable well-bound nuclei. The Coulomb barrier scattering of single-nucleon halo nuclei such as 8B (1p) and 15C (1n), or two-nucleon haloes such as 17Ne (2p) and 6He (2n), are particularly interesting, due to a complex interplay between nuclear and Coulomb forces and valence nucleon correlations on the dynamical couplings [3, 4, 5, 6]. In this contribution, the characteristic features of low-energy dynamics of nuclear haloes will be presented and discussed, making particular emphasis of latest experimental results and its interpretation in terms of coupled channel calculations.

[1] I. Tanihata et al., Phys. Rev. Lett. 55, 242676 (1985).
[2] K. Riisager, Phys. Scr. T152, 014001 (2013).
[3] J. Díaz-Ovejas et al., Phys. Lett. B
[4] A.M. Sánchez-Benítez et al., Nucl. Phys. A803, 30 (2008).
[5] R. Sparté et al., Phys. Lett. B820,136477(2021).
[6] V. G. Távora et al., Phys. Lett. B, submitted.

Primary author(s) : MARTEL, Ismael (Univesity of Huelva)

Presenter(s) : MARTEL, Ismael (Univesity of Huelva)

Session Classification : Session 10