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Studying the interaction between charm and light-flavor mesons

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In the last years, several exotic states were observed in the charm sector; such particles cannot be interpreted as regular baryons or mesons and are thought to be either quark bags or molecular states. To unveil their nature, it is crucial to experimentally constrain the strong force that governs the interaction between the charm hadrons and other hadrons, for instance, via the measurement of the scattering parameters. However, the available experimental knowledge of these interactions is very poor: so far, only the D-proton system was investigated. In this contribution, the studies of the strong nuclear force in the charm sector are extended, focusing on the interactions between open-charm and light-flavor mesons. The measurement of the final-state strong interaction is achieved with a femtoscopic study of high-multiplicity proton-proton collisions at sqrt(s) = 13 TeV, collected by the ALICE Collaboration.

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