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Results on meson-meson scattering at large $N_{ m c}$

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In this talk, we present results on the dependence of meson-meson scattering observables on number of colors, $N_{\rm c}$. We work in a theory with $N_{\rm f}=4$ degenerate light quark flavors, and run lattice simulations with varying $N_{\rm c}=3-6$ and pion mass $M_{\pi}\approx590$ MeV. We focus on three different scattering channels, two of which possess the quantum numbers of some recently-found tetraquarks states at LHC. These include the the scalar $T_{c\bar{s}0}^{++}(2900)$ state or the vector $T_{c\bar{s}1}^0(2900)$ particle. Finite-volume energies are extracted using two-particle operators corresponding to either two pions or two vector mesons, complemented by local tetraquark operators. Using Lüscher's formalism, we constrain the $N_{\rm c}$ dependence of the infinite-volume scattering phase shift of the studied channels and investigate the possible presence of tetraquark resonances.

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