

# Exploring the 't Hooft limit of meson observables

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The 't Hooft limit of QCD, also referred to as large  $N_c$  limit, constitutes a simplification of the theory that preserves most of its non-perturbative properties, including confinement and spontaneous chiral symmetry breaking. It also leads to some definite predictions such as a non-existing  $\Delta I=1/2$  rule in the  $K \rightarrow \pi\pi$  isospin decay amplitudes. Many phenomenological approaches to hadron physics employ approximations inspired by this limit, even for quantities such as the former, where the large  $N_c$  prediction is off. In this talk, I will present our recent lattice results for some relevant observables for light meson physics, such as meson masses and decay constants, nonleptonic kaon decay amplitudes, and scattering amplitudes.

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