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## Data-driven dispersive analysis of the $\pi\pi$ and $\pi K$ scattering

We present a data-driven analysis of the resonant S-wave  $\pi\pi \rightarrow \pi\pi$  and  $\pi K \rightarrow \pi K$  reactions using the partial-wave dispersion relation. The contributions from the left-hand cuts are accounted for using the Taylor expansion in a suitably constructed conformal variable. The fits are performed to experimental and lattice data as well as Roy analyses. For the  $\pi\pi$  scattering we present both a single- and coupled-channel analysis by including additionally the  $K\bar{K}$  channel. For the latter the central result is the Omnès matrix, which is consistent with the most recent Roy and Roy-Steiner results on  $\pi\pi \rightarrow \pi\pi$  and  $\pi\pi \rightarrow K\bar{K}$ , respectively. By the analytic continuation to the complex plane, we found poles associated with the lightest scalar resonances  $\sigma/f_0(500)$ ,  $f_0(980)$ , and  $\kappa/K_0^*(700)$  for the physical pion mass value and in the case of  $\sigma/f_0(500)$ ,  $\kappa/K_0^*(700)$  also for unphysical pion mass values.

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