

# **$f_0(1370)$ Controversy from Dispersive Meson-Meson Scattering Data Analyses**

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We establish the existence of the long-debated  $f_0(1370)$  resonance in the dispersive analyses of meson-meson scattering data. For this, we present a novel approach using forward dispersion relations, valid for generic inelastic resonances. We find its pole at  $(1245 \pm 40) - i(300 - 70 + 30)$  MeV in  $\pi\pi$  scattering. We also provide the couplings as well as further checks extrapolating partial-wave dispersion relations or with other continuation methods. A pole at  $(1380 - 60 + 70) - i(220 - 70 + 80)$  MeV also appears in the  $\pi\pi \rightarrow KK^-$  data analysis with partial-wave dispersion relations. Despite settling its existence, our model-independent dispersive and analytic methods still show a lingering tension between pole parameters from the  $\pi\pi$  and  $KK^-$  channels that should be attributed to data. Reference: Phys.Rev.Lett. 130 (2023) 5, 051902

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