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f0(1370) Controversy from Dispersive Meson-Meson Scattering Data Analyses

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We establish the existence of the long-debated f0(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±40)-i(300-70+30) MeV in ππ 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 ππ→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 ππ and KK⁻ channels that should be attributed to data. Reference: Phys.Rev.Lett. 130 (2023) 5, 051902

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