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Pole parameters of the $f_2(1270)$ and $f_2'(1525)$ from a coupled-channel analysis of the radiative J/ψ multipoles

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We present a determination of the pole parameters of the tensor resonances $f_2(1270)$ and $f_2'(1525)$ through a combined analysis of hadronic scattering and radiative J/ψ decay data. The fit includes the isoscalar D-wave $\pi\pi$ phase shift, the $\pi\pi \to K\bar{K}$ modulus, and BESIII data for $J/\psi \to \gamma\pi^0\pi^0$ and $\gamma K_S K_S$. For the radiative decays, we include all three 2^{++} multipoles, together with their relative phases. The radiative decay amplitudes are constructed using a coupled-channel Muskhelishvili–Omnès representation, accounting for inelastic two-body final-state interactions.

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