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Resonant meson-meson scattering amplitudes from lattice QCD

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The nexus of recent algorithmic and theoretical advances has significantly improved lattice QCD calculations of hadron-hadron scattering amplitudes. I will review the current state of this progress for low-lying meson resonances and emphasize calculations of resonance photo-production amplitudes such as the timelike pion form factor. This form factor is of particular interest as it may improve lattice QCD calculations of the hadronic vacuum polarization, a leading theoretical uncertainty in the Standard Model determination of the muon anomalous magnetic moment.