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A dispersive estimate of $a_0(980)$ contribution to hadronic light-by-light scattering in g-2

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A dispersive implementation of the $a_0(980)$ resonance to (g-2) requires the knowledge of the double-virtual S-wave $\gamma^*\gamma^* \to \pi\eta, KK$ amplitudes. To obtain these amplitudes we used a modified coupled-channel Muskhelishvili–Omnès formalism, with the input from the left-hand cuts and the hadronic Omnès function. The latter we obtained using a data-driven N/D method in which the fits were performed to the different sets of experimental data involving $\pi\eta$ and KK final states.

Collaboration

Primary author: DEINEKA, Oleksandra (Johannes Gutenberg University Mainz)

Co-authors: DANILKIN, Igor (Johannes Gutenberg University Mainz); VANDERHAEGHEN, Marc (Johannes Gutenberg University Mainz)

Presenter: DEINEKA, Oleksandra (Johannes Gutenberg University Mainz)

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