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Theoretical analysis of the $\gamma^{(*)}\gamma \to \pi^0\eta$ process

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Collaboration

Abstract content

We present a theoretical study of the $\gamma\gamma \to \pi\eta$ process from the threshold up to 1.4 GeV in the $\pi\eta$ invariant mass. For the s-wave $a_0(980)$ resonance state we adopt a dispersive formalism using a coupled-channel Omn\'es representation, while the d-wave $a_2(1320)$ state is described as a Breit-Wigner resonance. An analytic continuation to the $a_0(980)$ pole position allows us to extract its two-photon decay width as $\Gamma_{a_0\to\gamma\gamma} = 0.27(4)$ keV. [Phys. Rev. D 96, 114018]. As an extension of our work, the preliminary results for the single virtual case will be shown.

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