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Hadron spectroscopy and exotics (experiment and theory)
QCD: Soft interactions
Experiment: L3 Collaboration
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Formation of the $f_1(1285)$ Resonance in $\eta\pi^+\pi^-$ Final States in Two-Photon Collisions

L3 Collaboration

Abstract

The $\eta\pi^+\pi^-$ final state in two-photon collisions is studied with the L3 detector at LEP, at centre-of-mass energies from 183 to 209 GeV with an integrated luminosity of 664.6 pb^{-1}. The $\mathrm{f}_1(1285)$ meson is observed and the Q^2 dependence of its production is compared to different form factor models. The $\gamma\gamma$-coupling parameter $\tilde{\Gamma}_{\gamma\gamma}$ is found to be $3.5 \pm 0.6\,(stat.) \pm 0.5\,(sys.)$ keV. The branching fraction $\Gamma(\mathrm{f}_1(1285) \to \mathrm{a}_0\pi)/\Gamma(\mathrm{f}_1(1285) \to \eta\pi\pi)$ is also measured.

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