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QCD: Soft interactions
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Inclusive $\pi^{\pm}$ Production in Two-Photon Collisions at LEP

L3 Collaboration

Abstract

The reaction $e^+e^- \to e^+e^-\pi^{\pm}X$ is studied using data collected at LEP with the L3 detector at centre-of-mass energies between 189 and 202 GeV.

The inclusive differential cross section is measured as a function of the $\pi^{\pm}$ transverse momentum p_t For $p_t < 1.5$ GeV. The $\pi^{\pm}$ differential cross sections are described by an exponential, typical of soft hadronic processes. For $p_t > 1.5$ GeV, the cross sections show the presence of perturbative QCD processes, described by a power-law.

The data are compared to Monte Carlo predictions and to NLO QCD calculations. They are in very good agreement with our previous inclusive π^0 measurement.

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