

Fragmentation functions from e+e- annihilation at Belle

Abstract

The Belle experiment at KEKB collected 1 ab^{-1} of e+e- annihilation data at or near to the centre-of-mass energy of 10.58 GeV. While the focus of the experiment is on B-meson and related flavour physics, the extensive data set has also been employed for numerous QCD studies on fragmentation functions. Fragmentation functions are used to describe the production of mostly light hadrons from the initial partons, and the emphasis has lately more and more shifted to the investigation of all the kinematic dependences of those processes including also transverse degrees of freedom. In this talk, recent results on the transverse-momentum dependence of single-hadron production will be presented, where the hadron is either a charged pion, kaon or a (anti)proton and the transverse momentum is measured with respect to the thrust axis. The region of low transverse momentum is approximated by Gaussian distribution and the variation of the Gaussian width from fits to data are studied for the various hadrons and as function of the hadron's energy.

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