

Transverse momentum distributions of pions, kaons and protons for high multiplicity and close to azimuthal isotropic events in 7 TeV pp collisions with the ALICE experiment at the LHC

Studies on transverse momentum (p_t) distributions, the mean p_t values and yield ratios of pions, kaons and protons at mid rapidity ($|y| < 0.5$) for different charged particle multiplicities and event shapes in pp collisions at $\sqrt{s} = 7$ TeV are reported.

The changes in the shape of the p_t distribution of pions, kaons and protons as a function of charged particle multiplicity and degree of azimuthal isotropy of the considered events are investigated. The mean p_t of identified particles, increasing with particle mass, are presented as a function of multiplicity and event shape and compared with PYTHIA and PHOJET model predictions. The particle ratios as a function of p_t for high multiplicity and close to azimuthal isotropic class of events are compared to the minimum bias case. An attempt is also made for extracting an average transverse energy density and, under several model assumptions, comparing it to the ones of heavy-ion collisions at RHIC and LHC energies.

Primary author: ANDREI, Cristian (National Institute of Physics and Nuclear Engineering (IFIN-HH)-)

Presenter: ANDREI, Cristian (National Institute of Physics and Nuclear Engineering (IFIN-HH)-)

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