

Transverse energy in Pb-Pb collisions with ALICE

A prerequisite for producing the Quark Gluon Plasma in heavy-ion collisions is to have a sufficient local energy density, which, traditionally, is estimated via measurements of the produced particle transverse energy (E_T). In hadronic collisions the E_T is determined by the initial scattering of the partonic constituents of the incoming nuclei as well as re-interactions among the produced partons, hadrons and the created medium, and so it provides information on the collision dynamics, particularly on the amount of incoming longitudinal energy converted into particle production. The ALICE Inner Tracking System (ITS) and Time Projection Chamber (TPC) are used for measurements of the E_T from charged hadrons and the electromagnetic calorimeters (PHOS and EMCal) are used to measure the E_T from neutral hadrons. Methods for measuring E_T using exclusively the tracking detectors are compared to methods using the combination of the tracking detectors and the calorimeters. Results from Pb-Pb collisions in ALICE are presented and compared to E_T measurements at RHIC and the LHC, as well as to theoretical models.

Preferred Track

Collective Dynamics

Collaboration

ALICE

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