



Contribution ID: 206

Type: Oral Presentation

Pseudorapidity and centrality dependence of transverse energy flow in PbPb collisions at 2.76 TeV from CMS

Tuesday, August 14, 2012 5:45 PM (20 minutes)

The transverse energy flow in PbPb collisions at 2.76 TeV nucleon-nucleon center-of-mass energy has been measured over a broad range of centrality for pseudorapidities between -5.2 and 5.2 using the CMS detector at the LHC. This analysis is based on 0.306/ub of data from 2010, with recently extended number (and range) of pseudorapidity and centrality bins. The transverse energy per unit of pseudorapidity increases faster with collision energy than the multiplicity of charged particles. This implies that the mean energy per particle and hence the temperature of the system is increasing with collision energy. The amount of transverse energy produced per participating nucleon increases with centrality and with collision energy. The centrality dependence of transverse energy production has only a weak dependence on pseudorapidity and collision energy. For the most central collisions, the energy density is estimated to be 11.3 ± 0.6 GeV/fm³ at a time of 1 fm/c after the collision, which is 2.8 times higher than the value reported at $\sqrt{s_{NN}}=200$ GeV.

Primary author: CMS, Collaboration (CERN)

Presenter: Dr MALEK, Magdalena (University of Illinois at Chicago (US))

Session Classification: Parallel 2A: Global & Collective Dynamics (Chair A. Poskanzer)

Track Classification: Global and collective dynamics