

## **Measurement of charged particle pseudorapidity density in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV with the ATLAS detector at the LHC**

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Charged particle multiplicity is an important bulk observable for heavy ion collisions. It measures the global features of the medium produced and constrains the initial conditions of the system. It also provides an important test for dynamical model calculations which predict the dependence of multiplicity on centrality at RHIC and the LHC. We present the study of charged particle pseudorapidity density distributions over a broad range of pseudorapidity and centrality in Pb+Pb collisions at  $\sqrt{s_{NN}} = 2.76$  TeV with the ATLAS detector at LHC. The centrality dependence of the particle density near mid-rapidity scaled by the number of participating nucleon pairs ( $dN_{ch}/d\eta(|\eta| < 0.5)/(0.5N_{part})$ ) is presented. Comparisons with results from previous measurements are used to study the collision energy dependence. The pseudorapidity distributions measured over four units of pseudorapidity are compared with those of different collision systems and energies as well as dynamical models.

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