

Charge Fluctuations in Pb-Pb Collisions at $\sqrt{s_{NN}} = 2.76$ TeV measured by ALICE experiment

Charge fluctuations are considered to provide a possible signature for the existence of the de-confined Quark Gluon Plasma phase (QGP). Charge fluctuations are sensitive to the number of charges in the system, thus the fluctuations in the QGP, with fractionally charged partons, are significantly different from those of hadron gas with unit charged particles [1,2]. The study of charge fluctuations have been carried out by using the variable, v_{+-} -dyn [3] which, by its construction, is free from the collisional bias, i.e., impact parameter fluctuations and fluctuations from the finite number of charged particles within the detector acceptance. The dependence of charge fluctuations on the rapidity windows for various centrality bins are analyzed for Pb+Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV in the ALICE experiment at CERN-LHC. A scaling behavior is observed as a function of increasing pseudo-rapidity window for the charge fluctuations, expressed in terms of $N_{ch} \times v_{+-}$ -dyn, where N_{ch} is the number of charged particles. The observed fluctuations are corrected for diffusion of fluctuations [4,5] in the hadronic medium. The results will be shown and discussed.

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