



Contribution ID: 558

Type: **Poster**

Event-by-Event Fluctuations in Identified Particle Ratios in ALICE at LHC

Tuesday, 29 September 2015 16:30 (2 hours)

In ultra-relativistic heavy-ion collisions, the nuclear matter undergoes a phase transition from hadronic matter to a state of quark and gluons. Phase transitions are often associated with enhanced fluctuations in various globally conserved quantities, such as electric charge, baryon number, strangeness, etc. Therefore, the study of the event-by-event fluctuations of these quantities can be a probe to explore the properties of the matter created in heavy ion collisions and its phase structure. A study of particle ratio fluctuations has been carried out by using the variable ν_{dyn} which, by its construction, is free from collisional biases, i.e. impact parameter fluctuations and fluctuations from the finite number of particles within the detector acceptance. We present the first results on event-by-event dynamical fluctuations of identified particle ratios, such as, K/π , p/K and p/π in Pb-Pb collisions at 2.76 TeV using the ALICE detector at the LHC. In order to gain insight into the origin of these fluctuations, we measure ν_{dyn} for all like-sign and unlike-sign particle pairs as a function of number of participants. We will also make comparisons with measurements at lower center-of-mass energies from the SPS and RHIC, and discuss the results to models.

On behalf of collaboration:

ALICE

Primary author: JENA, Deepika (Panjab University (IN))

Presenter: JENA, Deepika (Panjab University (IN))

Session Classification: Poster Session

Track Classification: Correlations and Fluctuations