Contribution ID: **432** Type: **Parallel Talk**

Investigating correlated fluctuations of conserved charges with cross-cumulants and net-lambda fluctuations in Pb-Pb collisions at ALICE

Monday, May 14, 2018 4:50 PM (20 minutes)

The fluctuations of conserved charges - such as electric charge, strangeness, or baryon number - in ultrarelativistic heavy-ion collisions provide insights into the properties of the hot and dense matter produced as well as the QCD phase diagram. They can be related to the moments of the multiplicity distributions of identified particles. We extend the previous and ongoing measurements of the cumulants of the net-pion, net-kaon, and net-proton distributions by investigating the correlated fluctuations of identified particles.
We present the first measurements with the ALICE detector of net-lambda fluctuations and of the off-diagonal cumulants between net-proton, net-pion and net-kaon distributions in Pb-Pb collisions. The results are obtained with the Identity Method, which, in particular, is applied in a novel way to account for the combinatoric background in the net-lambda analysis. The net-lambda fluctuations are compared with the corresponding net-proton and net-kaon results, previously measured by ALICE. Moreover, the off-diagonal cumulants are confronted with the lattice QCD predictions.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

Primary author: ALICE COLLABORATION (CERN)

Presenter: OHLSON, Alice (Ruprecht Karls Universitaet Heidelberg (DE))

Session Classification: Correlations and fluctuations

Track Classification: Correlations and fluctuations