

Contribution ID: 57

17th International Conference on

Quark Matter

Type: oral presentation

Anisotropic flow of identified hadrons in $\sqrt{s_{\rm NN}}$ = 5.02 TeV Pb--Pb collisions at ALICE

Thursday, 13 July 2017 09:20 (20 minutes)

Correlation measurements, such as the anisotropic flow, constrain the kinematic (η/s) and bulk (ζ/s) viscosity of the quark-gluon plasma created in heavy-ion collisions, and give insight into the hadronization mechanisms. Particle production mechanisms can also be studied via other correlation techniques that can statistically separate the hadron production associated with a high- $p_{\rm T}$ trigger particle (jet) from that of the bulk, in order to investigate the baryon-to-meson anomaly at intermediate $p_{\rm T}$ observed in central heavy-ion collisions.

In this talk we present the elliptic (v_2) and higher harmonic (v_3 , v_4) flow coefficients of π^{\pm} , K^{\pm} , $p(\bar{p})$ and the ϕ -meson for a wide range of $p_{\rm T}$, measured in Pb-Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV with the ALICE detector. These measurements allow for a unique testing of the presence of mass ordering at low $p_{\rm T}$, and baryon and meson scaling at intermediate $p_{\rm T}$. We also present the Λ/K_s^0 ratio in the bulk and jet peak regions, measured for $2 < p_{\rm T} < 8$ GeV/c using 2.76 TeV Pb-Pb data, where the results suggest that the enhancement of baryons compared to mesons arises from the soft, collective part of the medium (the bulk), and not from the hard processes (modified jet fragmentation).

List of tracks

Hydrodynamics

Primary author: ALICE COLLABORATION

Presenter: BERTENS, Redmer Alexander (Nikhef National institute for subatomic physics (NL))

Session Classification: Parallel Hydrodynamics 1

Track Classification: Hydrodynamics