Contribution ID: 23 Type: not specified

Influence of temperature dependent shear viscosity on elliptic flow at back- and forward rapidities in ultrarelativistic heavy-ion collisions

Tuesday, 16 September 2014 18:00 (30 minutes)

We explore the influence of a temperature-dependent shear viscosity over entropy density ratio eta/s on the azimuthal anisotropies v2 and v4 of hadrons at various rapidities. We find that in Au+Au collisions at full RHIC energy, the flow anisotropies are dominated by

hadronic viscosity at all rapidities, whereas in Pb+Pb collisions at the LHC energy, the flow coefficients are affected by the viscosity both in the plasma and hadronic phases

at midrapidity, but the further away from midrapidity, the more dominant the hadronic viscosity is.

The centrality and rapidity dependence of the elliptic and quadrangular flows can help to distinguish different parametrizations of (etas/s)(T), while at midrapidity the flow harmonics are almost independent of the decoupling criterion, but show some sensitivity to the criterion at back- and forward rapidities.

Primary author: Dr MOLNAR, Etele (Hungarian Academy of Sciences)

Co-authors: HOLOPAINEN, Hannu; NIEMI, Harri (University of Jyväskylä); HUOVINEN, Pasi (Johann Wolf-

gang Goethe-Universität)

Presenter: Dr MOLNAR, Etele (Hungarian Academy of Sciences)