QM 2011 - XXII International Conference on Ultrarelativistic Nucleus-Nucleus Collisions

Contribution ID: 130 Type: Poster

Enhancement of flow anisotropies due to magnetic field in relativistic heavy-ion collisions

It is known that the presence of background magnetic field in cosmic

plasma distorts the acoustic peaks in CMBR. This primarily results from different types of waves in the plasma with velocities

depending on the angle between the magnetic field and the wave vector. We consider the consequences of these effects in relativistic heavy-ion collisions where very strong magnetic fields arise

during early stages of the plasma evolution. We show that flow coefficients can be significantly affected by these effects when the magnetic field remains strong during early stages due to strong

induced fields in the conducting plasma. In particular, the presence of magnetic field can lead to enhancement in the elliptic flow coefficient v_2 .

Primary author: PANDIAT, Saumia (Institute of Physics)

Co-authors: Prof. SRIVASTAVA, Ajit (Institute of Physics); MOHAPATRA, Ranjita (Institute of Physics)

Presenter: PANDIAT, Saumia (Institute of Physics)

Track Classification: Global and collective dynamics