Contribution ID: **464** Type: **Poster**

Elliptic flow at intermediate transverse momentum: mass versus quark number

The particle species dependence of elliptic flow (v_2) at intermediate transverse momentum (p_T) provide a mean to investigate the hadronization mechanism of the dense medium formed in heavy ion collisions. At intermediate p_T (> 2 GeV/c), v_2 of different particles exhibit an interesting scaling behaviour when divided by their constituent number of quarks (NCQ-scaling). At RHIC, the NCQ-scaling was recognized as a hallmark signature of quark like degrees of freedom and particle production via a mechanism of quark recombination. However, recent data from the top-RHIC and LHC energy suggest that scaling is only an approximation and questions the relevance of coalescence as model of hadronization. Here, in the framework of string melting (SM) version of A Multi Phase Transport model (AMPT), we aim to study the source(s) of NCQ-violation at top-RHIC and LHC energies. From our study we infer that large deviation from the perfect scaling at LHC is because of the modification of the v_2 generated at the partonic phase by the final stage hadronic re-scatterings together with the extension of linear scaling between hadron and parton v_2 upto higher values of hadron p_T because of high phase-space density at the partonic level.

Preferred Track

Collective Dynamics

Collaboration

Not applicable

Primary author: CHOUDHURY, Subikash (Department of Atomic Energy (IN))

Presenter: CHOUDHURY, Subikash (Department of Atomic Energy (IN))

Session Classification: Poster Session