

Model study of two particle correlations with identified trigger particles in p-Pb collisions at LHC energy

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Azimuthally anisotropic collective emission of charged particles commonly known as elliptic flow, mass ordering of the flow coefficient (v_2) and baryon enhancement at intermediate p_T in p-Pb collisions has remained a few of the most remarkable and surprising observations at LHC. However, no general consensus could be reached as ideas based on hydrodynamical evolution of partonic medium or based on incoherent parton scattering along with quark coalescence could reproduce similar results.

In this study, the two particle correlations technique with identified trigger hadrons has been used to study hadronization at intermediate p_T . Baryon production being favoured in coalescence and/or hydro framework, a suppression in correlation strength has been conjectured for baryon triggered correlation function compared to that of mesons.

The multiplicity dependence of the per trigger yields associated with baryon and meson triggers as obtained from the string-melting version of the AMPT Model has been used to quantify the response of two-particle correlation function towards coalescence formalism. A comparative study on hydro-based model with hadronic cascade in the later stage will also be reported.

Primary author: SARKAR, Debojit (Department of Atomic Energy (IN))

Co-authors: CHATTOPADHYAY, Subhasis (Department of Atomic Energy (IN)); CHOUDHURY, Subikash (Department of Atomic Energy (IN))

Presenter: SARKAR, Debojit (Department of Atomic Energy (IN))

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