



Contribution ID: 569

Type: Poster

First feasibility study for Asymmetric Cumulants of flow amplitudes in CBM at FAIR

Tuesday 5 September 2023 17:30 (2h 10m)

Besides the traditional flow studies of individual flow amplitudes v_n , independent information about all stages in heavy-ion evolution can be extracted from multi-harmonic correlations of flow amplitudes. The simplest realization is Symmetric Cumulants (SC), which correlate the same-order moments of two or more flow amplitudes. In recent studies, it was demonstrated that SC can reveal the details of the differential temperature dependence of specific shear viscosity (η/s) of quark–gluon plasma, while individual v_n amplitudes are sensitive only to the average values $\langle \eta/s \rangle$.

The generalization of SC to correlations involving different-order moments of flow amplitudes is not trivial, and it was accomplished only recently. These generalized flow observables are dubbed Asymmetric Cumulants (AC), and they by definition extract new and independent information in flow analyses that is not accessible either to v_n , nor to SC observables.

In this contribution, the first feasibility study for centrality dependence of AC is presented for data-taking conditions in CBM experiment at FAIR.

Category

Experiment

Collaboration (if applicable)

CBM

Primary author: BILANDZIC, Ante (Technische Universitaet Muenchen (DE))

Presenter: BILANDZIC, Ante (Technische Universitaet Muenchen (DE))

Session Classification: Poster Session

Track Classification: Collective Dynamics