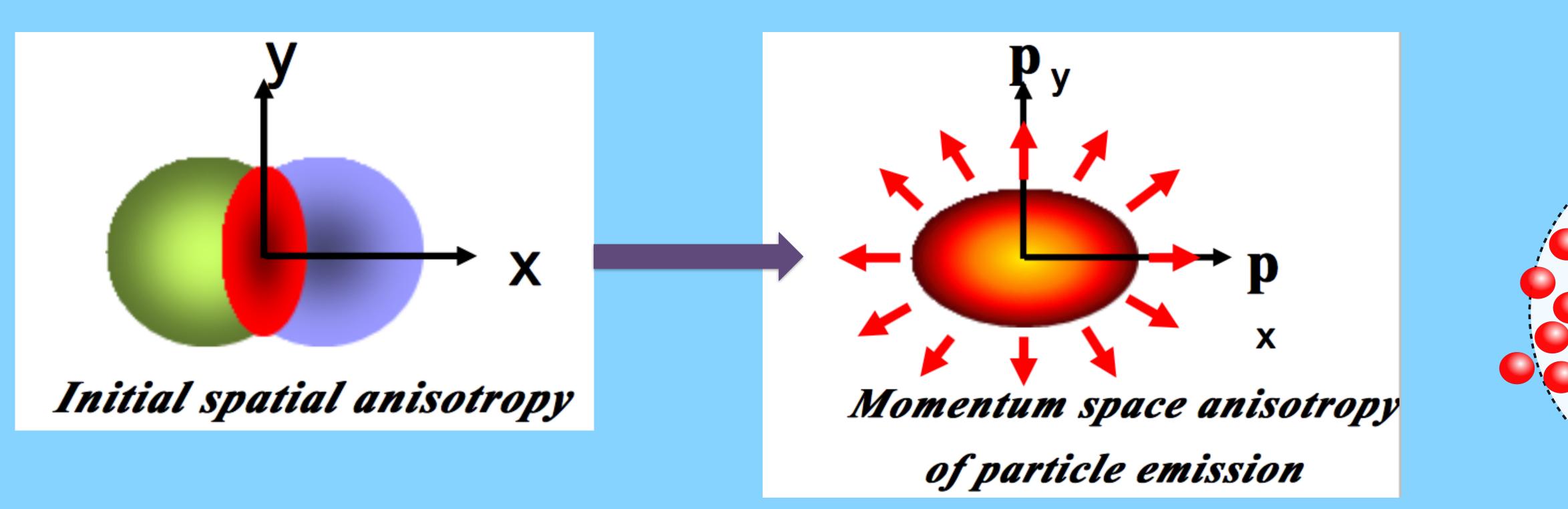
Azimuthal anisotropic flow of identified hadrons in Au + Au collisions in BES-II

Abstract : In this poster, we present measurements of azimuthal anisotropic flow coefficients, specifically elliptic flow (v₂) and triangular flow (v₃), of identified hadrons in Au+Au collisions at $\sqrt{s_{NN}} = 14.6$ and 19.6 GeV in mid-rapidity (|y| < 1.0) using high-statistics data from the RHIC Beam Energy Scan phase-II (BES-II). These coefficients are powerful tools for investigating the equation of state and transport properties of the medium created in heavy-ion collisions. We have studied the number of constituent quark (NCQ) scaling, which holds at these energies, providing strong evidence for the presence of partonic collectivity in the early stages of the collisions.

Introduction & Motivation

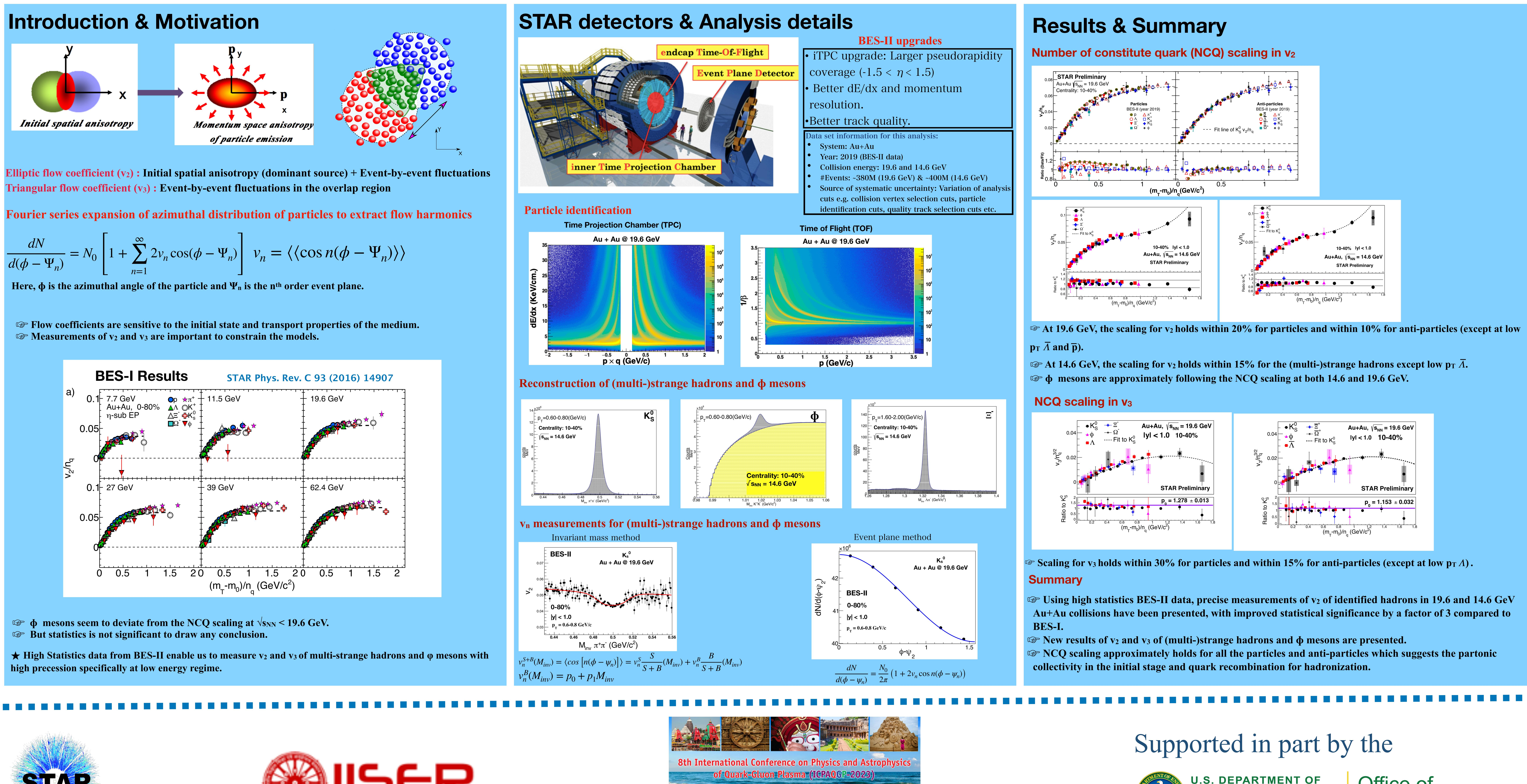


Triangular flow coefficient (v₃) : Event-by-event fluctuations in the overlap region

$$\frac{dN}{d(\phi - \Psi_n)} = N_0 \left[1 + \sum_{n=1}^{\infty} 2v_n \cos(\phi - \Psi_n) \right] \quad v_n = \langle \langle \cos n(\phi - \Psi_n) \rangle$$

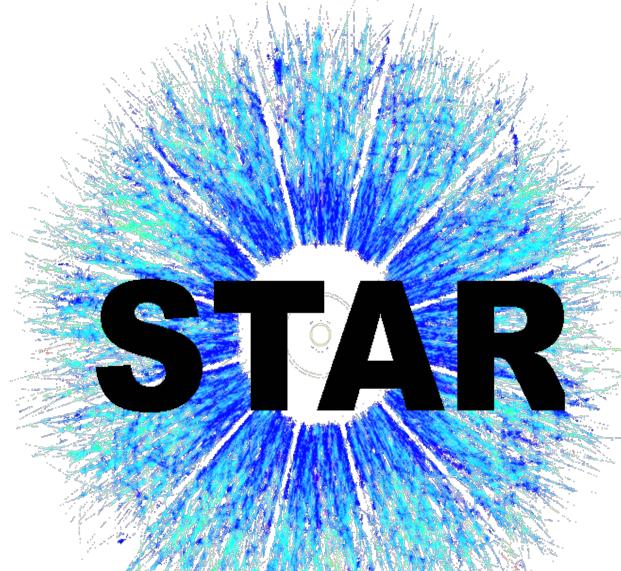
Here, ϕ is the azimuthal angle of the particle and Ψ_n is the nth order event plane.

rease Flow coefficients are sensitive to the initial state and transport properties of the medium. Provide the set of the



 Φ mesons seem to deviate from the NCQ scaling at $\sqrt{s_{NN}} < 19.6$ GeV. But statistics is not significant to draw any conclusion.

high precession specifically at low energy regime.





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