

Simulation of Hadronic Triangular Flow in Relativistic Heavy Ion Collisions

Jana Crkovská¹, L. Bravina ², E. Zabrodin ^{2,3}G. Eyyubova ^{1,3}

¹Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague,

²University of Oslo, Department of Physics,

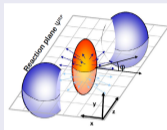
³Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University

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Anisotropic flow of particles

The azimuthal distribution of outgoing particles created can be expanded into a Fourier series w. r. t. reaction plane:



$$E \frac{d^3N}{d^3p} = \frac{1}{2\pi} \frac{d^2N}{p_T dp_T dy} \left(1 + \sum_{n=1}^{\infty} 2v_n \cos(n\phi - n\Psi_R) \right)$$

$$v_n = \langle \cos(n\phi - n\Psi_R) \rangle$$

Studied systems

- Au+Au at $\sqrt{s_{NN}} = 200$ GeV
- Pb+Pb at $\sqrt{s_{NN}} = 2.76$ TeV

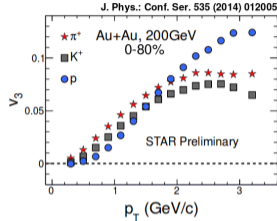
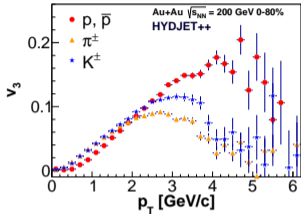
HYDJET++

HYDJET++ is a Monte Carlo heavy-ion event generator. It acts as a superposition of a soft hydro-part and a hard-part containing jets, both of which are treated independently.

Soft-part: hadrons generated on freeze-out hypersurface described by relativistic hydrodynamics

Hard-part: binary collisions at b from Glauber model, parton further evolved only if $p_T > p_T^{min}$

Results for triangular flow at LHC and RHIC



- HYDJET++ gives good description of STAR data
- weak branching in accordance to data
- HYDJET++ yields stronger flow of kaons \Rightarrow needs to be investigated further

- hints of NCQ scaling observed at RHIC, similar studies at LHC
- we performed a study of effect of resonance decays on NCQ scaling
- decays of resonances drive the flow towards fulfilment of NCQ scaling

