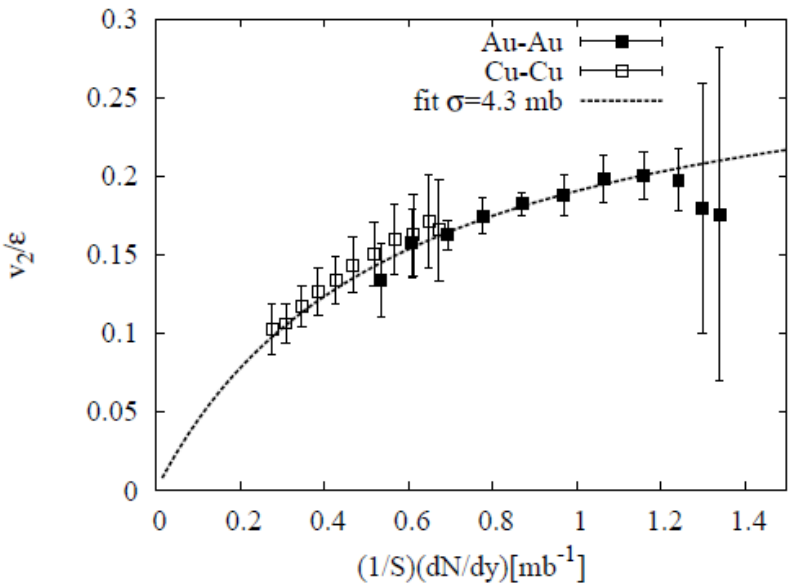
Обзор работ по изучению зависимости v_2/ε от поперечной плотности частиц $\frac{1}{S}\frac{dN}{dy}$

The centrality dependence of elliptic flow, the hydrodynamic limit, and the viscosity of hot QCD, H. – J. Drescher and etc.

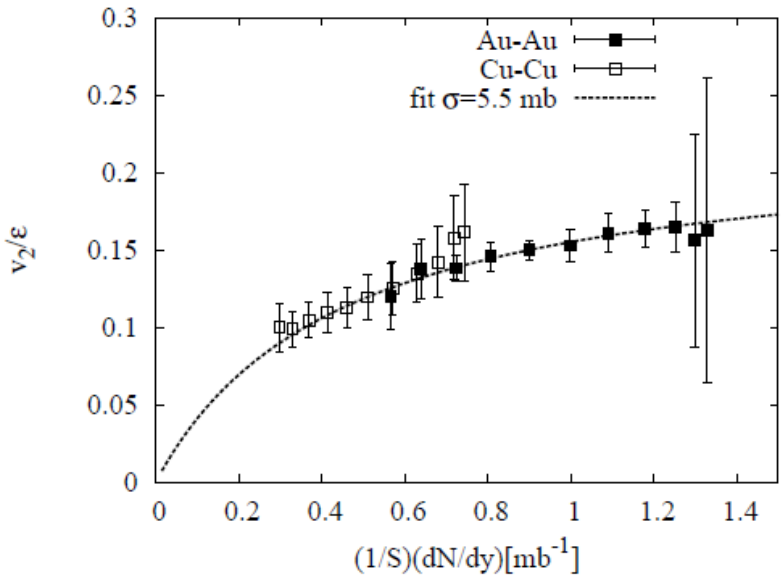
arXiv: 0704.3553

$$\frac{v_2}{\varepsilon} = \frac{v^{hydr}}{\varepsilon}\frac{1}{1+{}^{K}/_{K_0}} \qquad K^{-1} = \frac{R}{\lambda} = \frac{\sigma}{S}\frac{dN}{dy}c_S \qquad \frac{\eta}{s} = 0{,}316\,\frac{T}{c\sigma n}$$



Glauber

$\frac{\eta}{s} \approx 0{,}19$

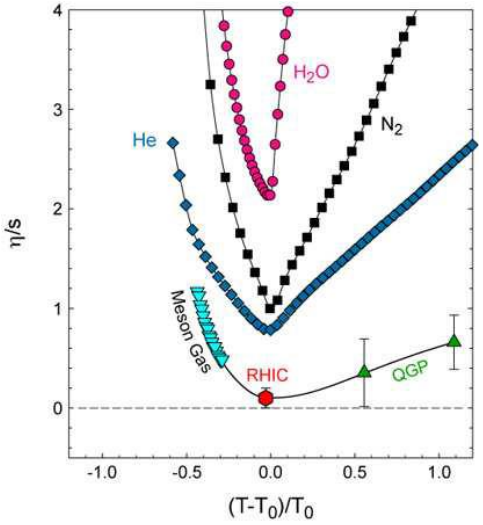


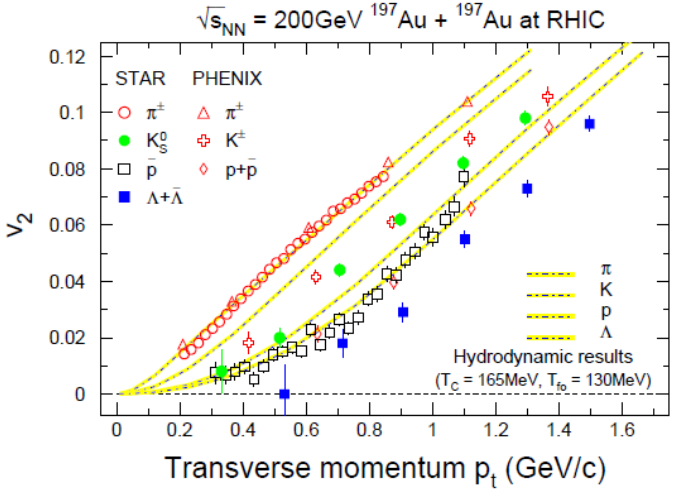
CGC

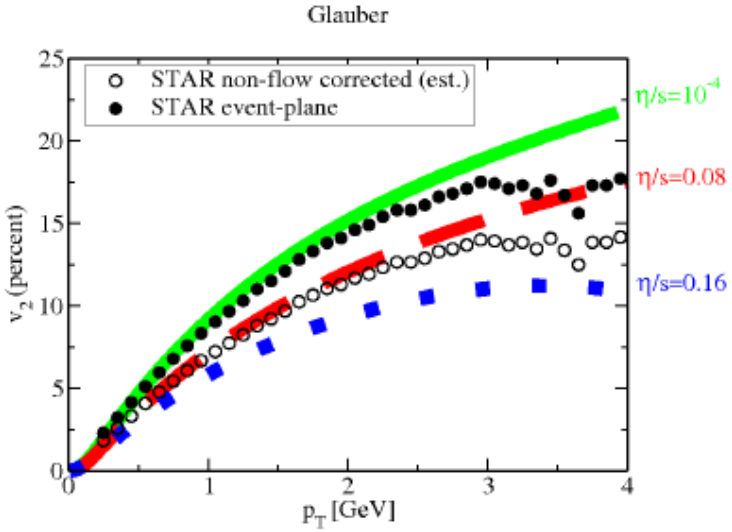
$\frac{\eta}{s} \approx 0{,}11$

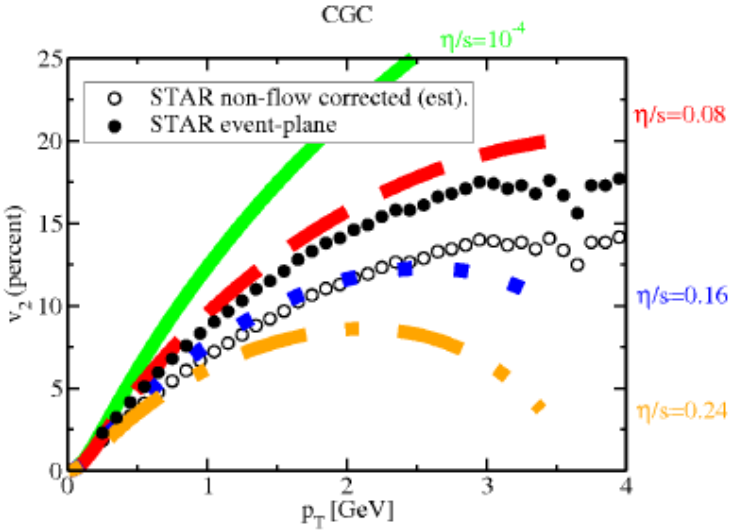
Transport properties of the fluid produced at RHIC, R. S. Bhalerao

arXiv: 1003.3293





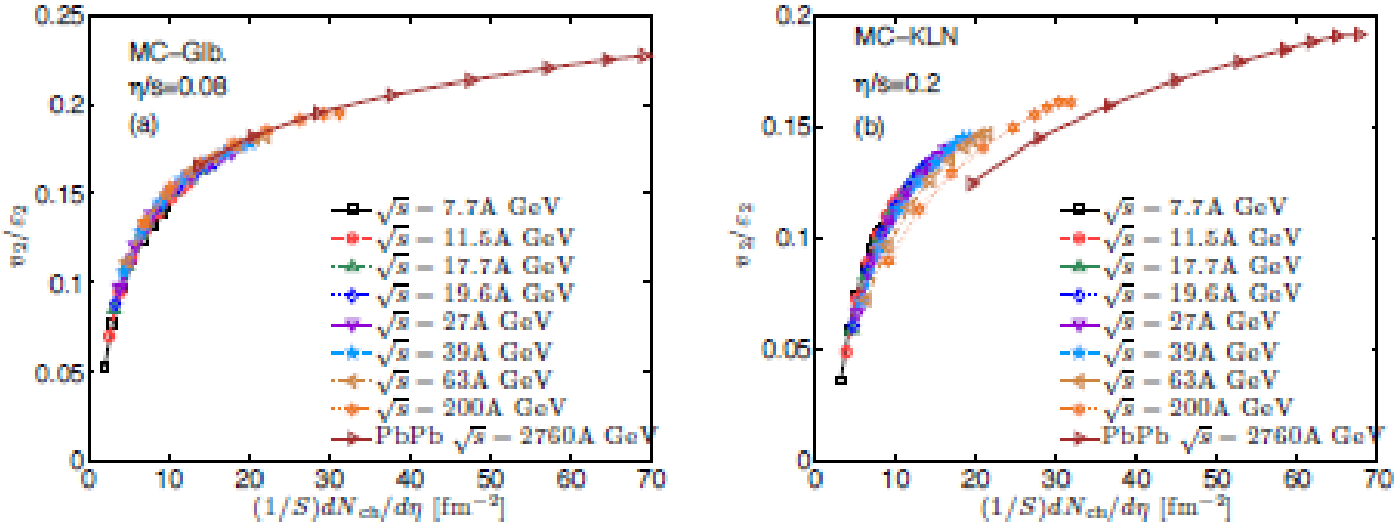




Viscous Flow in Heavy-Ion Collisions from RHIC to LHC

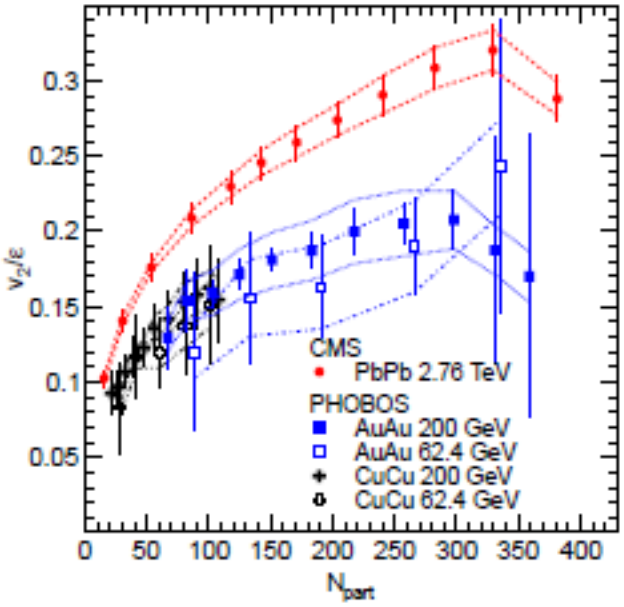
Chun Shen, Ulrich Heinz

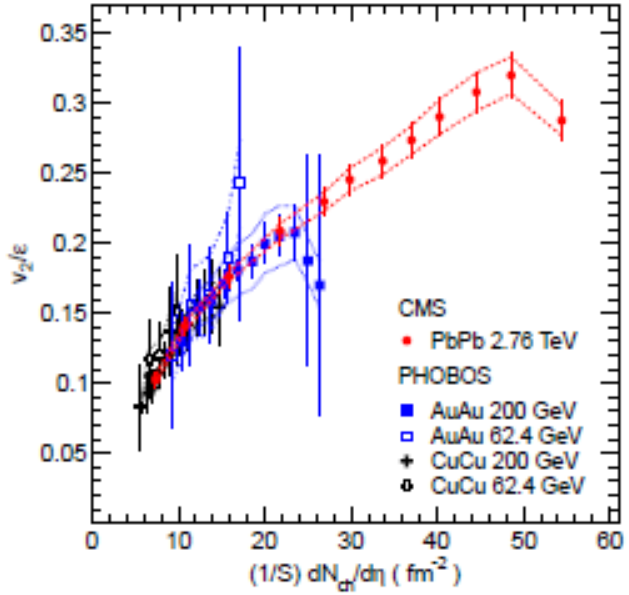
arXiv: 1210.2074



Measurement of the elliptic anisotropy of charged particles produced in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, CMS Collaboration

arXiv: 1204.1409





Azimuthal anisotropy: transition from hydrodynamic flow to jet suppression, R. A. Lacey and etc.

arXiv: 1005. 4979

$$\frac{v_{2k}(p_T)}{\varepsilon_{2k}} = \frac{v^{hydr}(p_T)}{\varepsilon_{2k}} \left[\frac{1}{1+{}^{K^*(p_T)}/_{K_0}}\right]^{-1}, \; k = 1, 2,..$$

$$[K^*(p_T)]^{-1} = \beta(p_T)\frac{1}{S}\frac{dN}{dy}$$

MC-Glauber

$$\frac{\eta}{s} = 0{,}167 \pm 0{,}016$$

MC-KLN

$$\frac{\eta}{s} = 0.088 \pm 0{,}008$$

Дальнейшие планы:

- Используя формулу с предыдущего слайда, обобщить ее на нечетные гармоники и провести анализ данных

Спасибо за внимание!