$v_{1,2}$ from 9.2 GeV Au+Au Collisions

Softhadron Group Meeting

July 28, 2008

Many thanks to Hiroshi, Kejun and Nu for help and discussion.

S.S. Shi

Outline

- **Dataset**

- **Results of directed flow**

- **Results of elliptic flow**

- **Summary**

Dataset

- **Dataset: P08ic**

- **Cuts used :**
  Vx*Vx + Vy*Vy < 2 cm
  |Vz| < 75 cm

- **3030 events**

RefMult	
Entries	3030
Mean	70.61
RMS	65.13

(a)
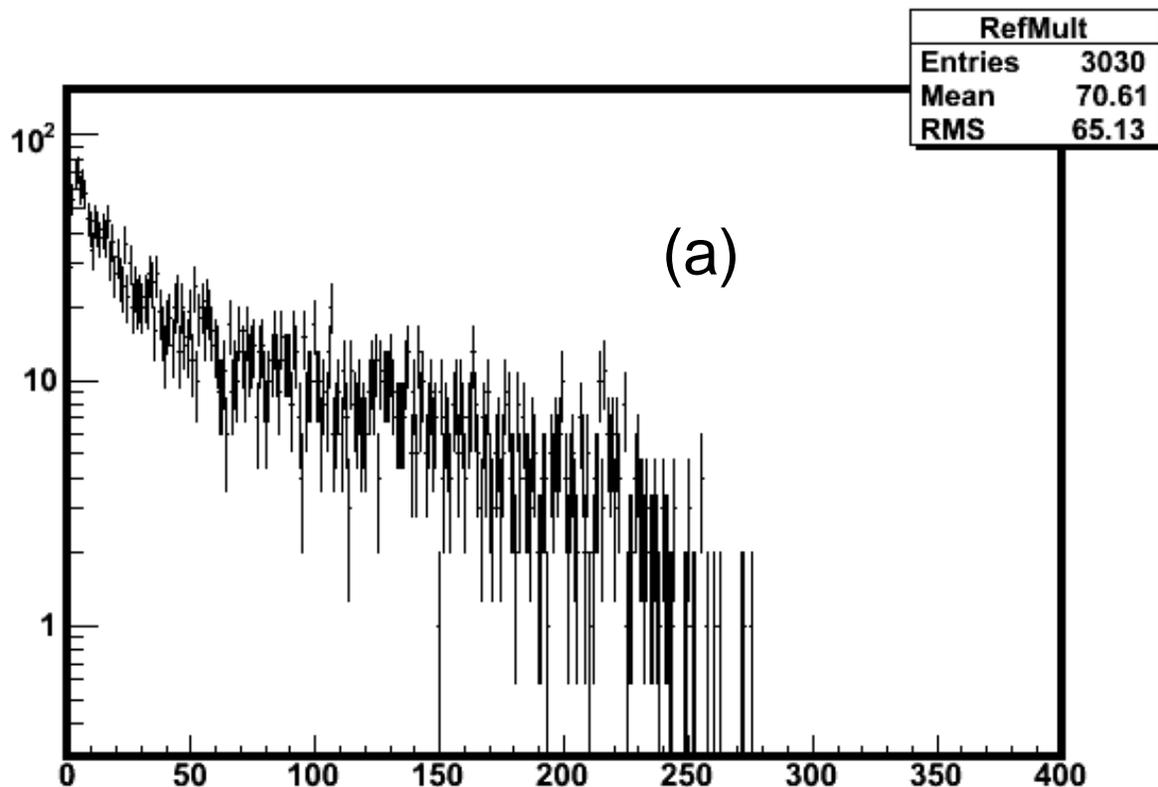
- **Reference multiplicity distribution**

S.S. Shi

Directed flow
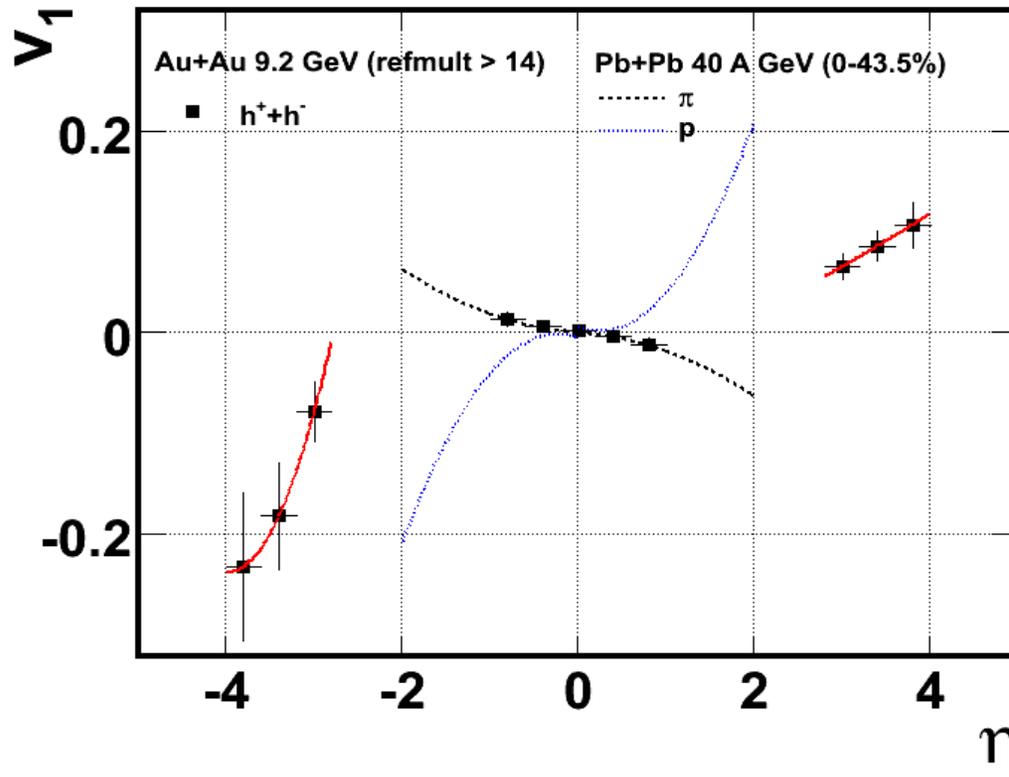
- STAR: RefMult > 14, p_T < 2.0GeV
- NA49: 0-43.5%, p_T < 2.0GeV

S.S. Shi

Compare with model results

Au+Au $\sqrt{S_{NN}} = 9.2$ GeV b<14 fm

$0.1 < p_T < 2$ GeV/c

- ● RHIC Exp. minibias
- □ AMPT   V2.1 SM
- △ AMPT   V2.1 default
- ◇ RQMD   V2.4
- ○ UrRQM V1.3
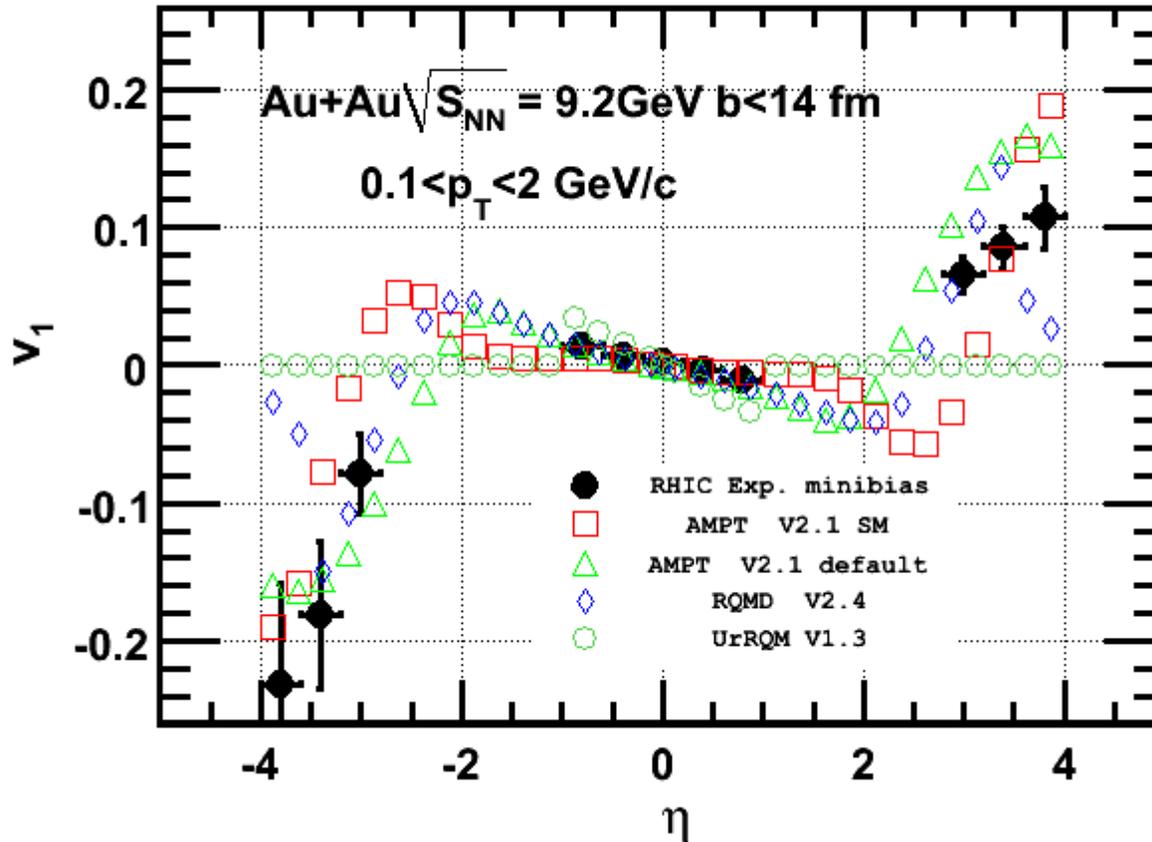
AMPT and RQMD Monte-Carlo model can reproduce
v_1 from 9.2 GeV Au+Au collisions at RHIC-STAR.

S.S. Shi

Elliptic flow
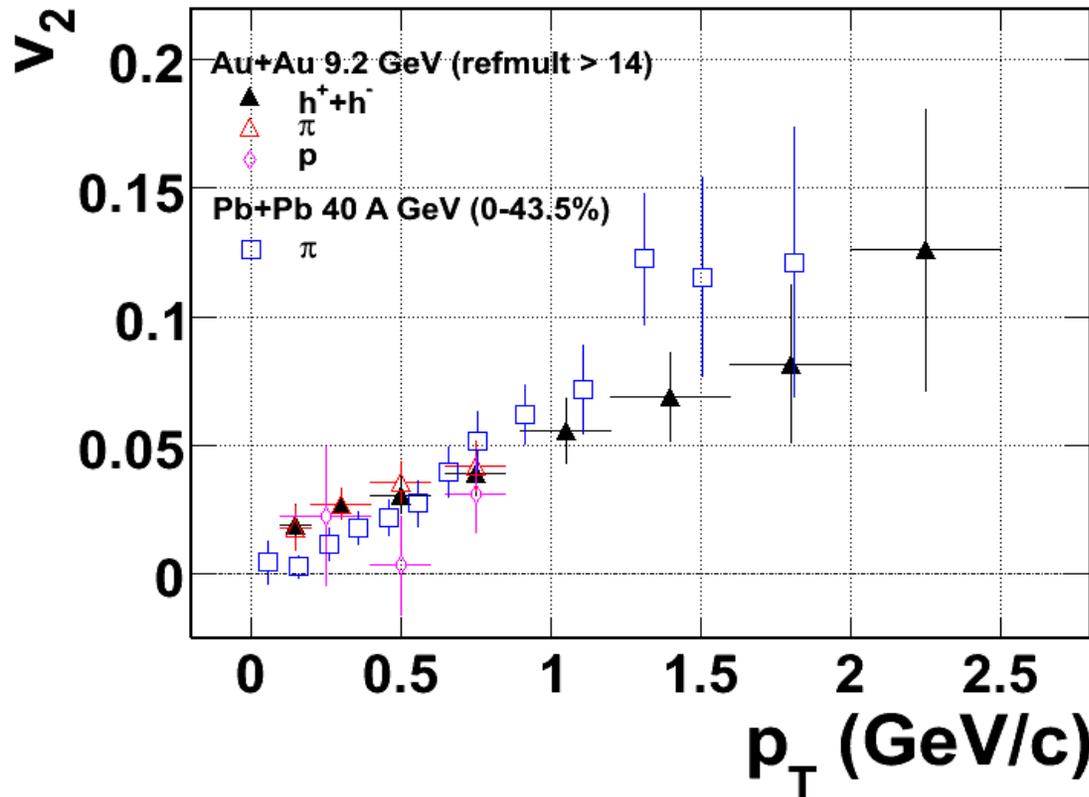
- v_2 of charged hadrons from 9.2 GeV Au+Au collisions.
- v_2 of proton and pion up to 0.8 GeV, v_2(pronton) < v_2(pion).

**S.S. Shi**

Compare with model results

AMPT with string melting   **AMPT default**
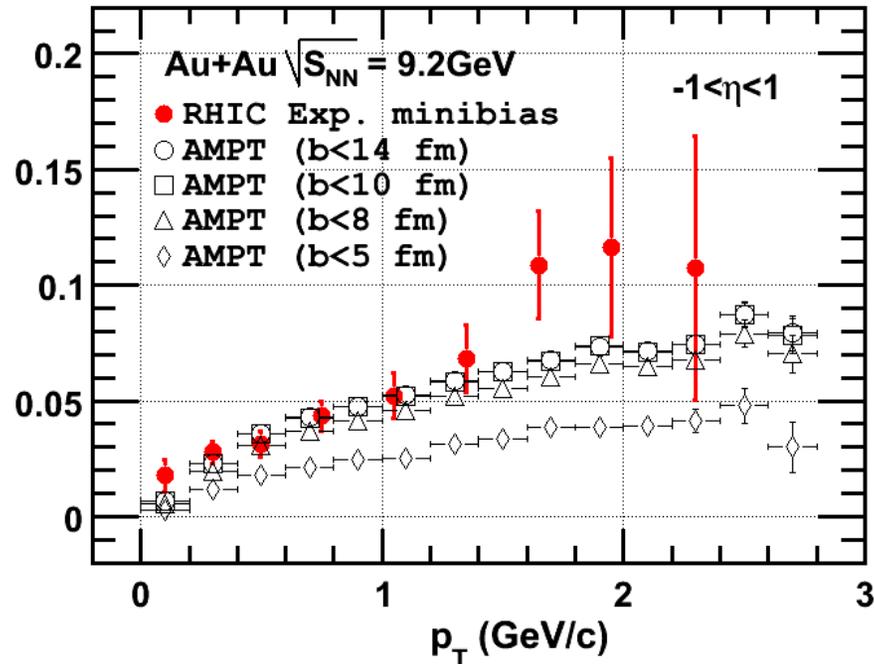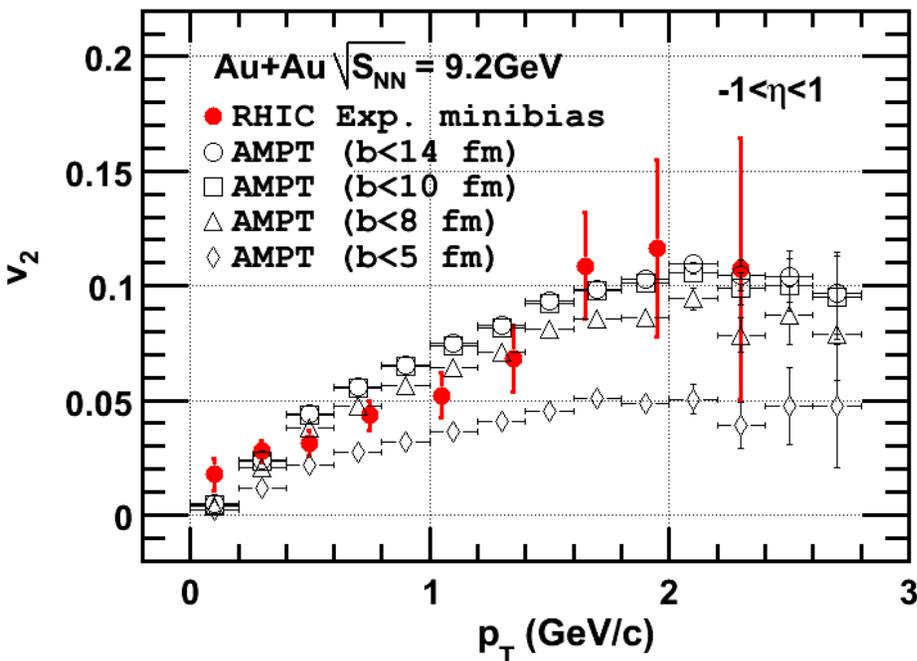
Model results for 0 < b <5 fm, 0 < b <8 fm, 0 <b< 10 fm and 0 <b< 14 fm .
(At the moment we do not know the impact parameter for the 9.2 GeV run)

S.S. Shi

Compare with model results

RQMD
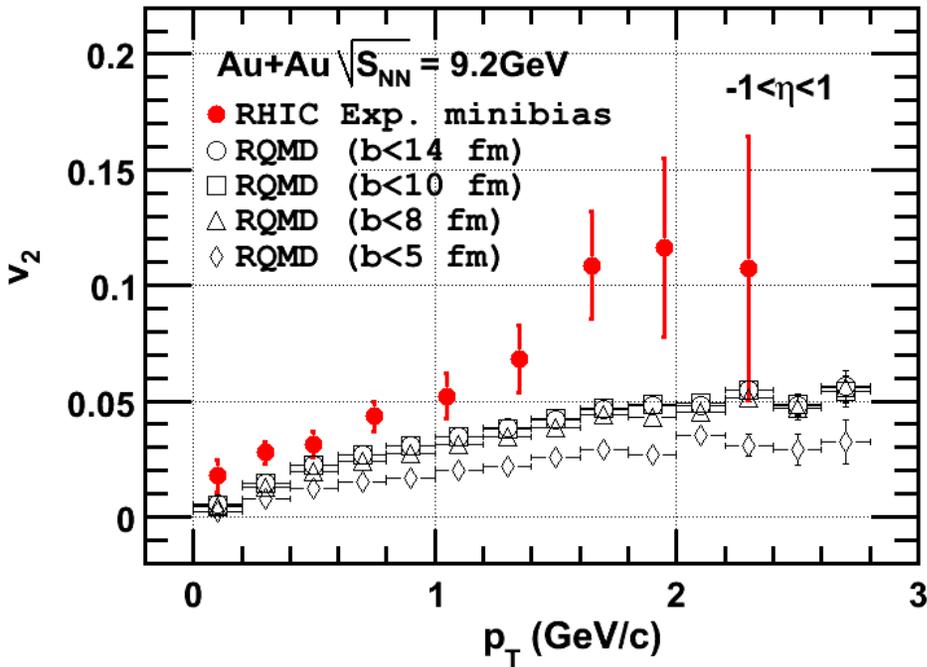
UrQMD
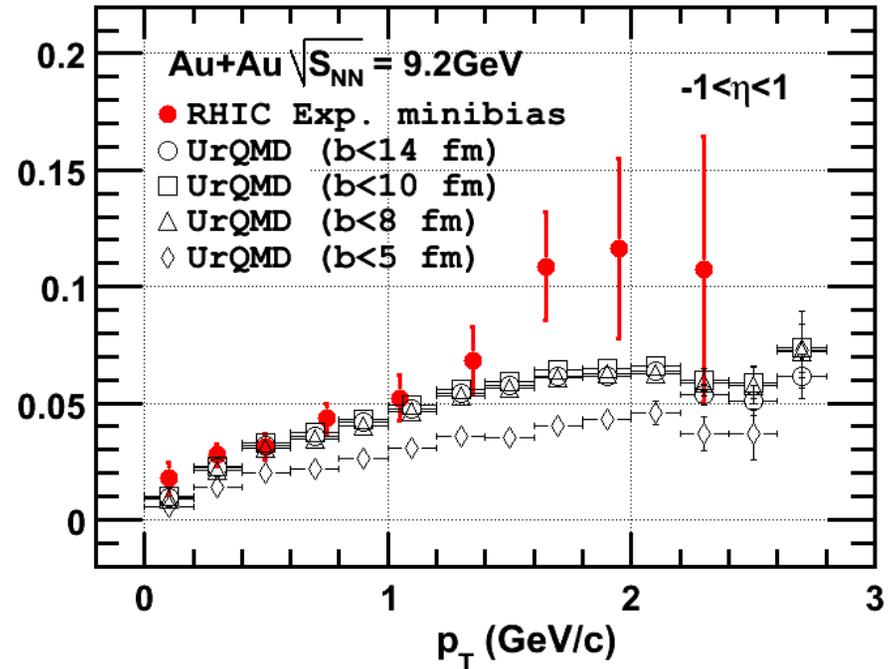
RQMD under-predicts the experimental results.

S.S. Shi

Summary

- **STAR preliminary results on the $v_{1,2}$ measurements from 9.2 GeV Au+Au collisions.**

- **AMPT and RQMD Monte-Carlo model can reproduce v_1.**

- **AMPT and UrQMD Monte-Carlo model can reproduce v_2.**

S.S. Shi