P_T-dependence of Pion HBT Parameters

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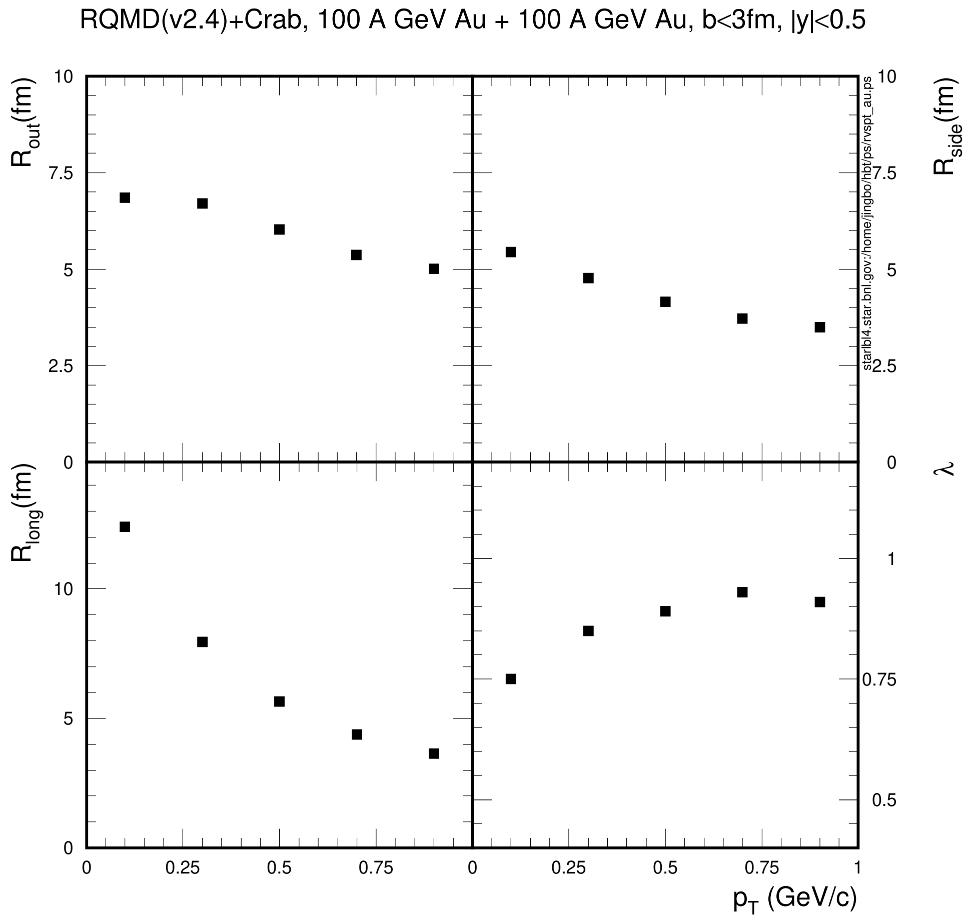
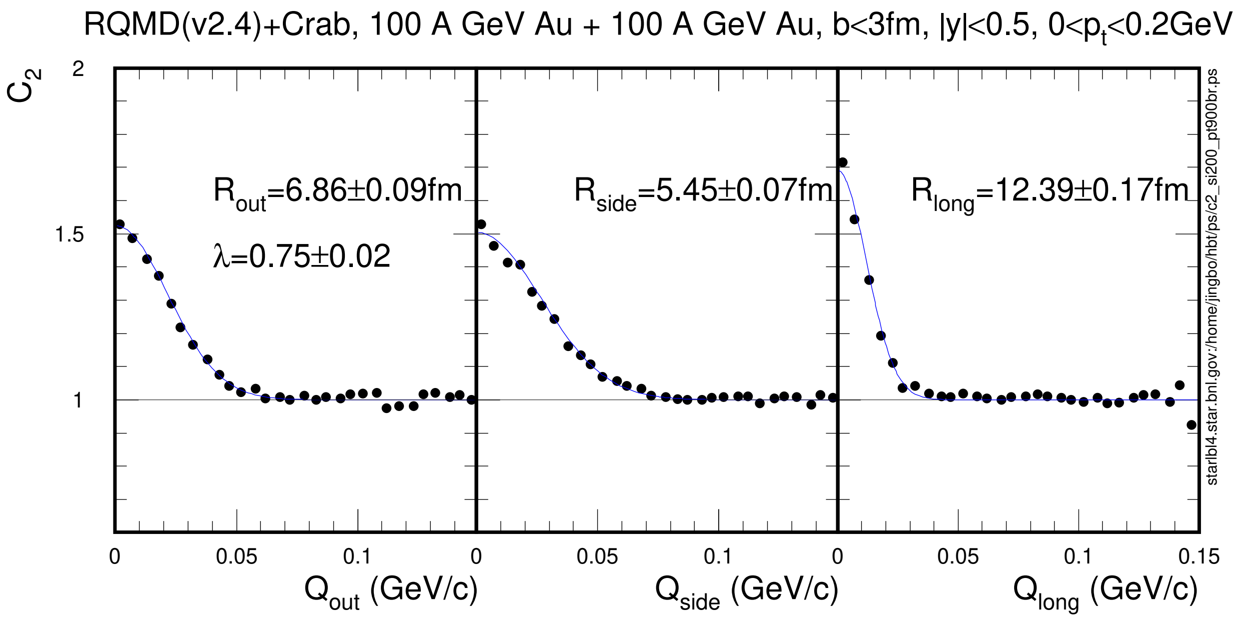
P_T-dependence



The space-momentum correlation may caused by

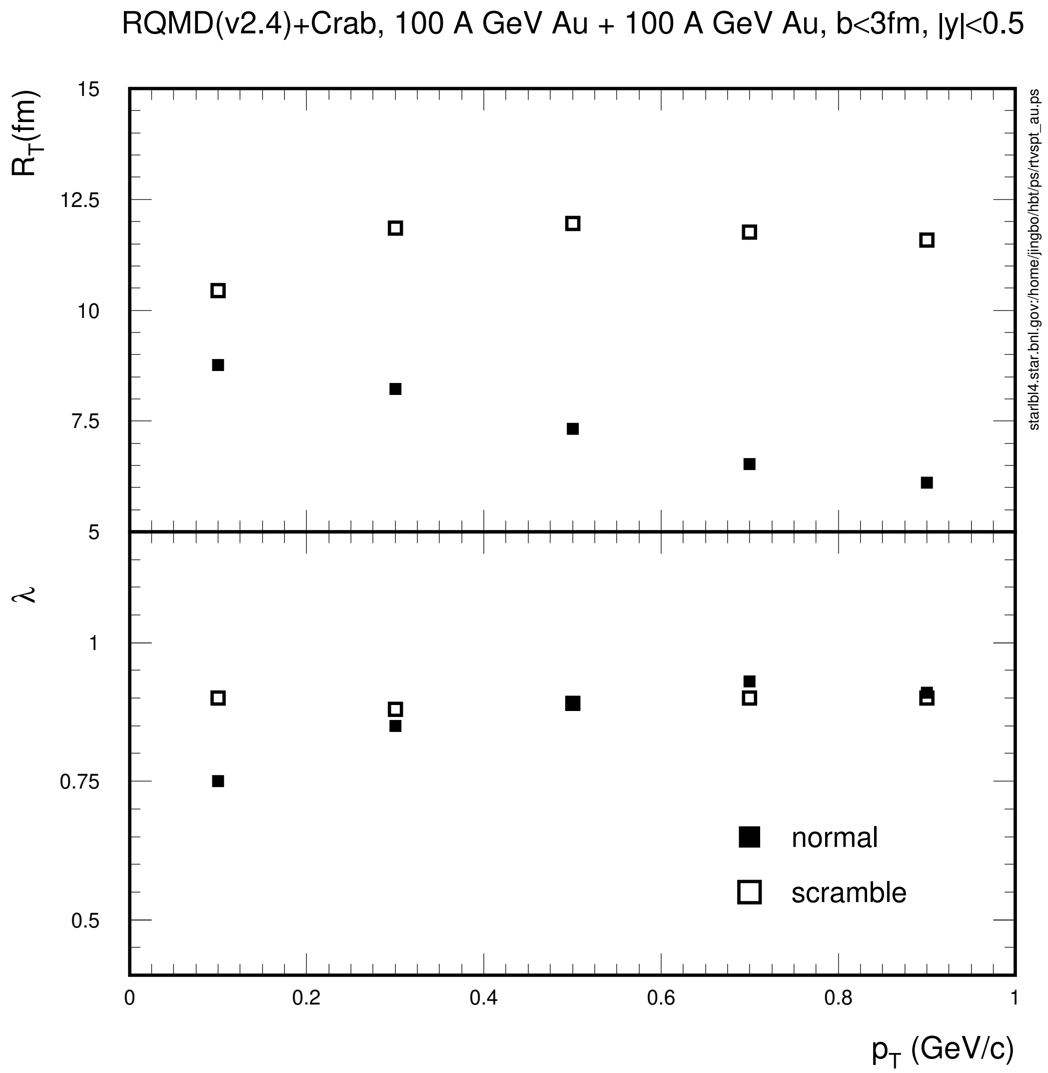
- Direct production such as string breaking
- Collective behavior such as radial flow
- Resonance decay
- … …

Correlation Function

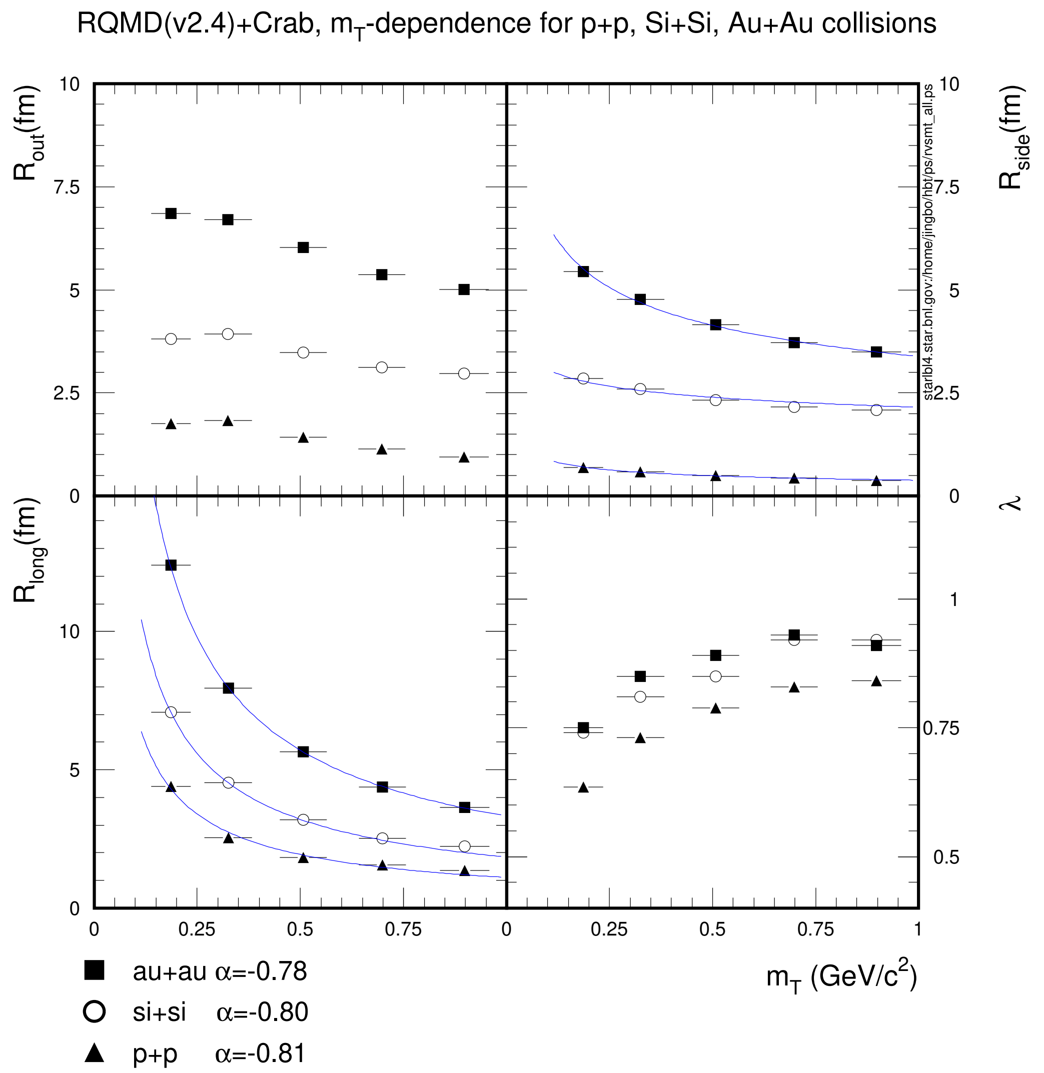


- 1,814 central events generated by using RQMD(v2.4) model
- fed the freeze-out information into CRAB(α3.0) code
- fitting with the 3-dimensional correlation function
  $C_2(\mathbf{q},\mathbf{K}) = 1 + \lambda exp[-R^2_{out}q^2_{out} - R^2_{side}q^2_{side} - R^2_{long}q^2_{long}]$

The Scramble Case



m_T-dependence



- fitting with $\sim m_T^{\alpha}$

Summary

- The p_T-denpendence are very similar in pp, $SiSi$, and $AuAu$ collisions at RHIC.
- It looks like that the direct produced pions already have strong space-momentum correlations.
- Who knows, if 'QGP' was made in the collision, what would be the p_T-denpendence?

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