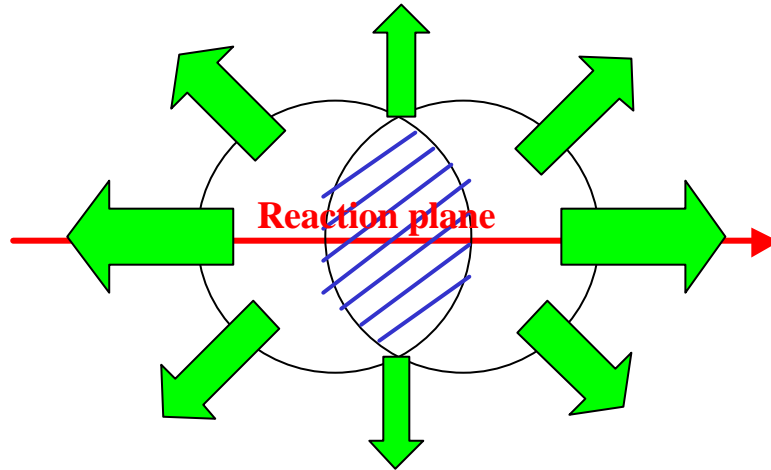


# Interplay between $v_2$ and jets at 200GeV Au+Au collisions at RHIC-PHENIX

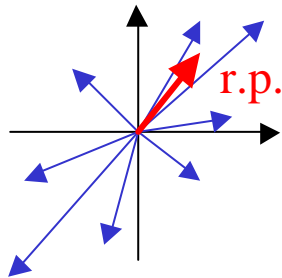
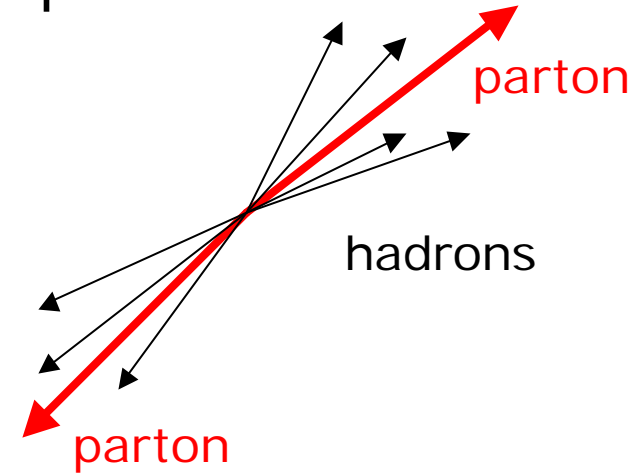
ShinIchi Esumi for  
the PHENIX collaboration  
Univ. of Tsukuba

One preliminary plot  
Many simulations  
Summary

A+A collision



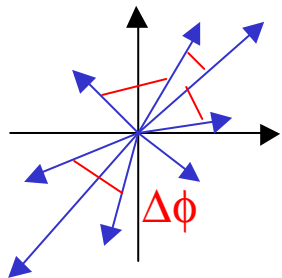
p+p collision



r.p. for a geometrical origin

suffer r.p. resolution (smeared shape)

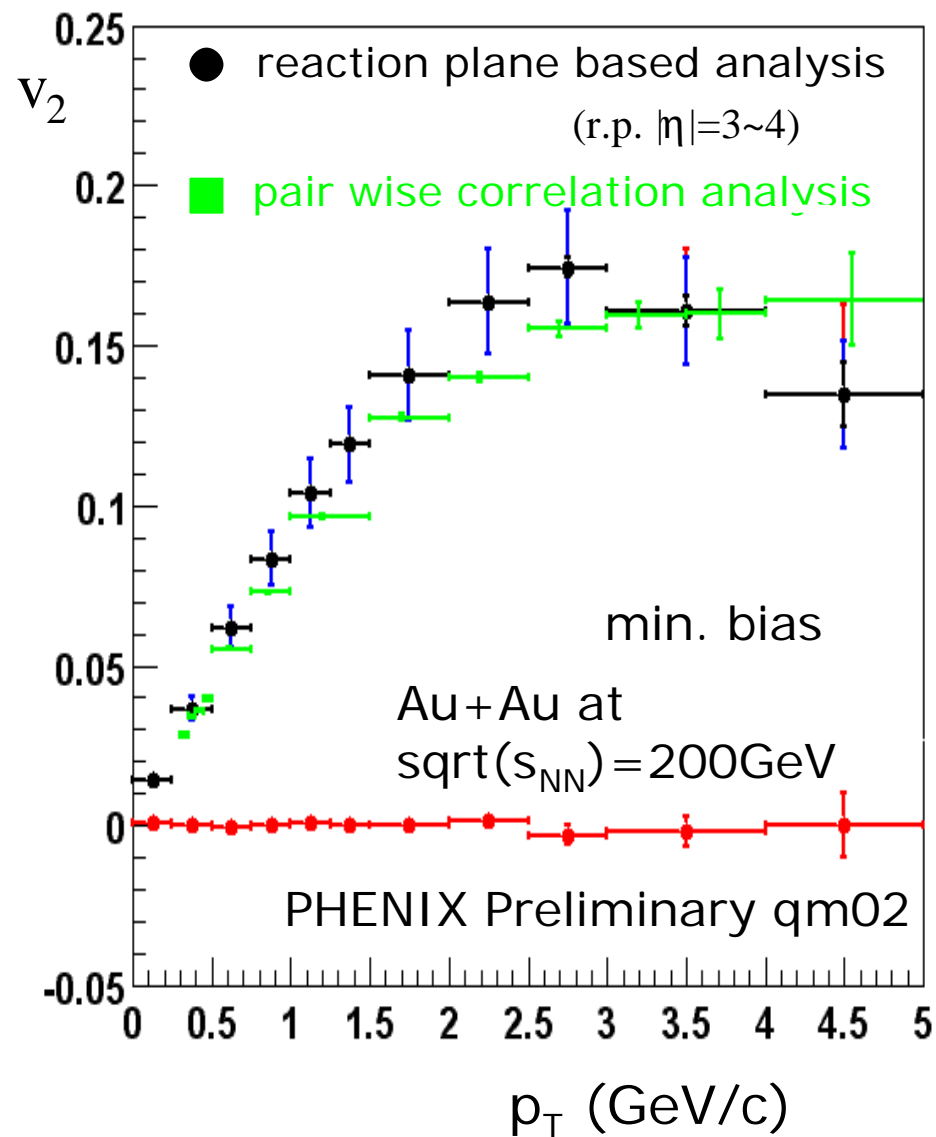
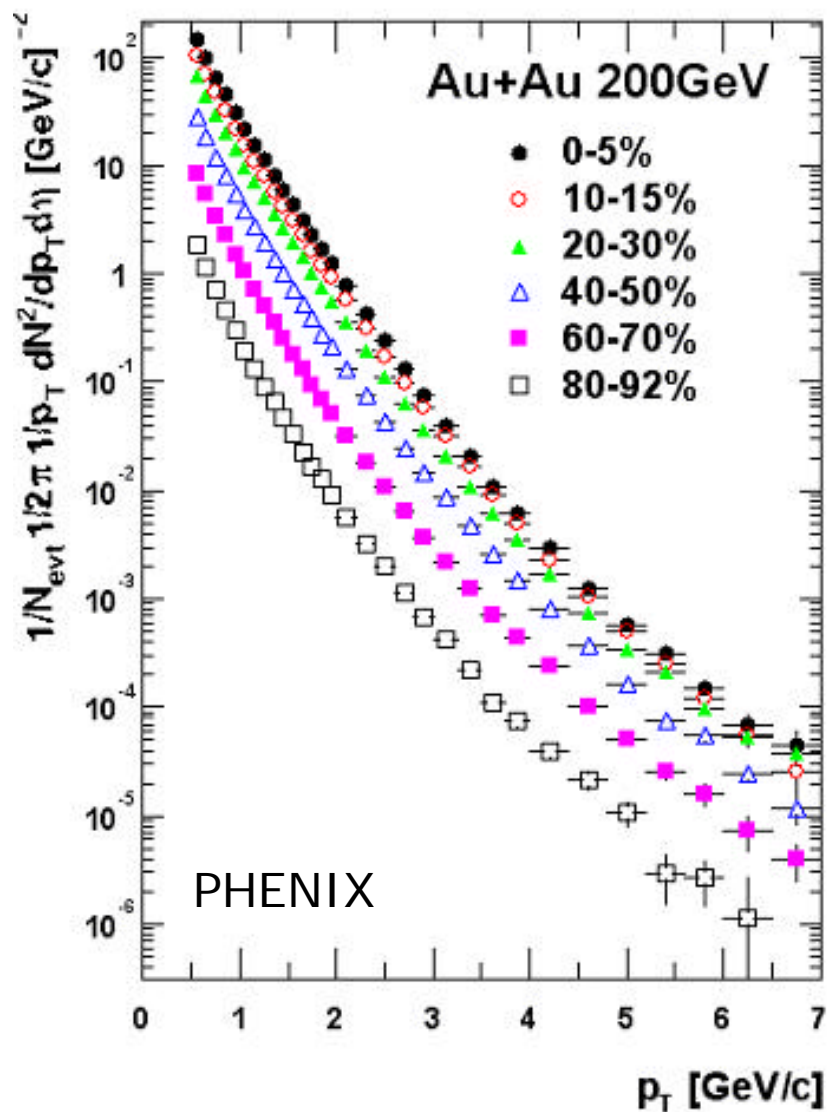
$$dN/d(f-F) = N (1 + S 2v_n' \cos(n(f-F)))$$



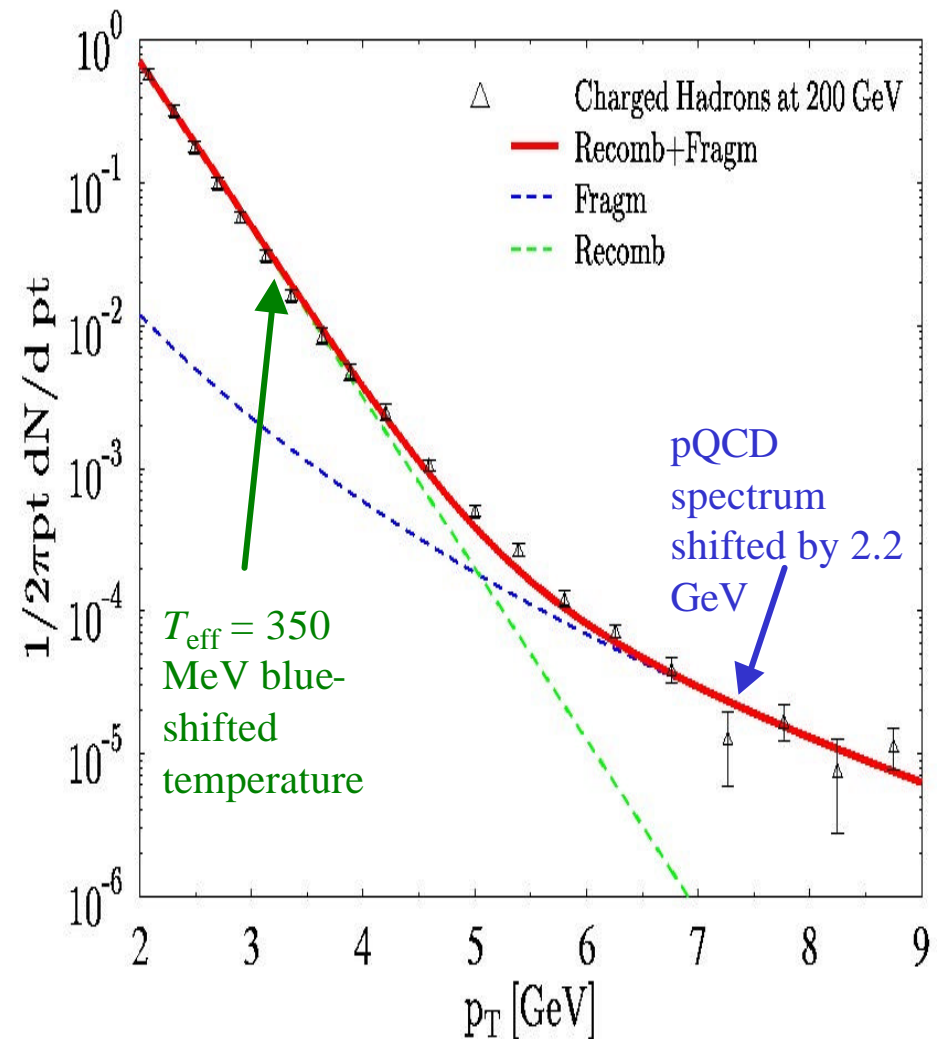
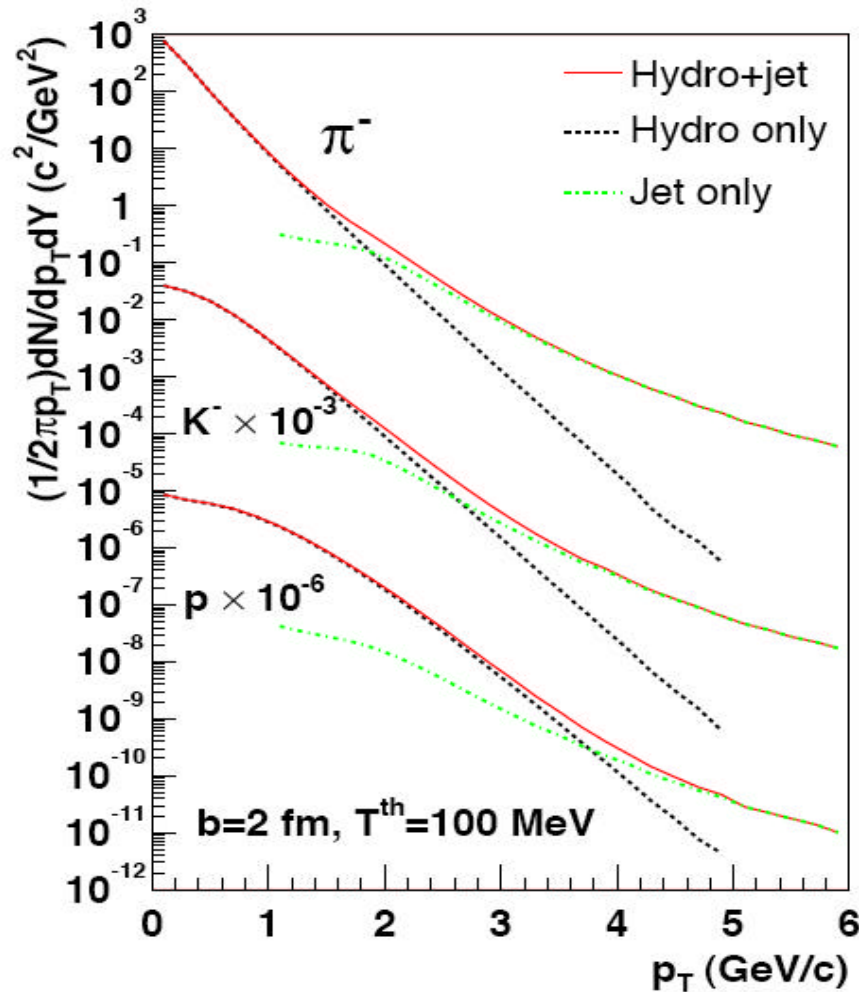
no smearing (detailed shape analysis)

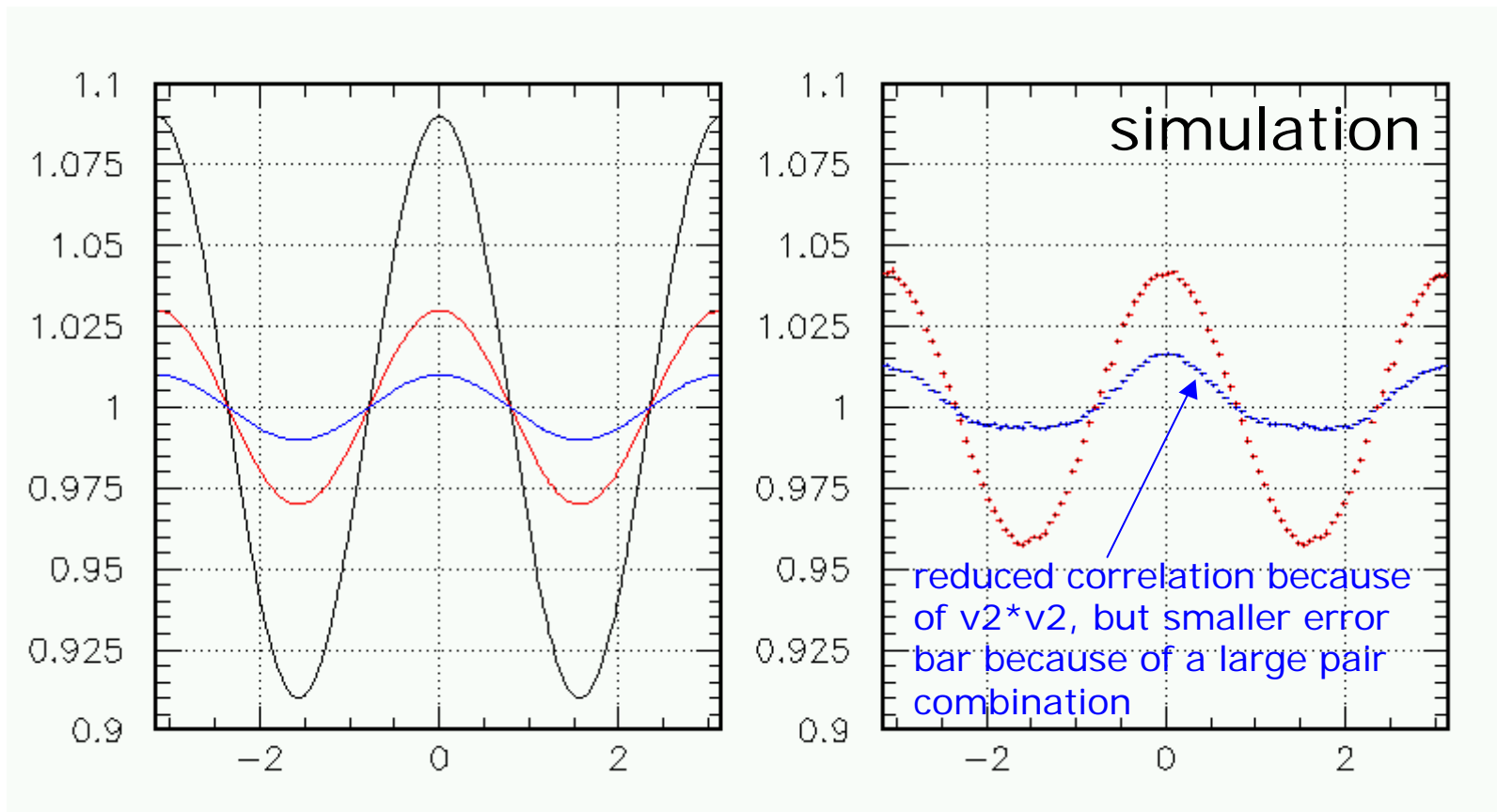
event anisotropy shape (no relation to r.p.)

$$N^{\text{real}}(Df)/N^{\text{mixed}}(Df) = N (1 + S 2v_n^2 \cos(n(Df)))$$



# Models (hydro+recombination+jets)





$\phi_{\text{track}} - \Phi_{\text{true}} \rightarrow$

$\phi_{\text{track}} - \Phi_{\text{measured}} \rightarrow$

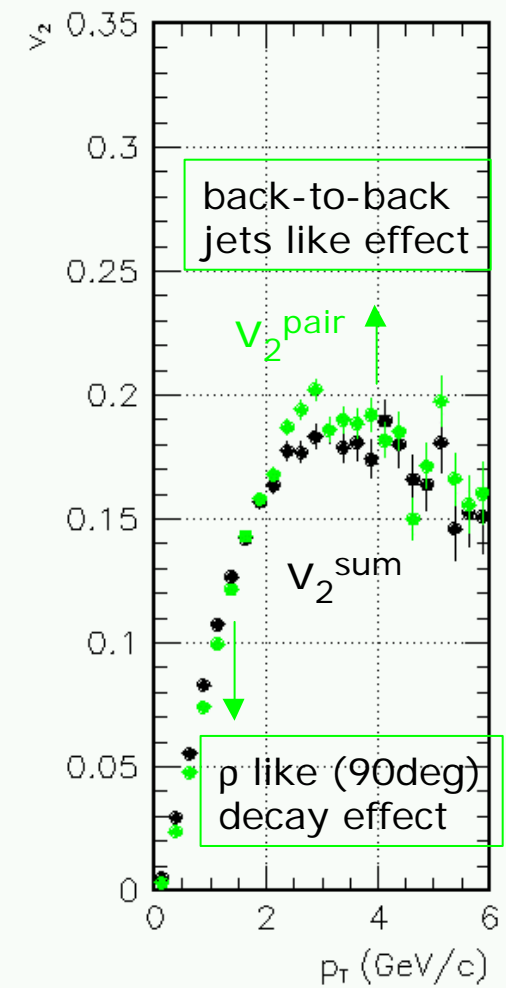
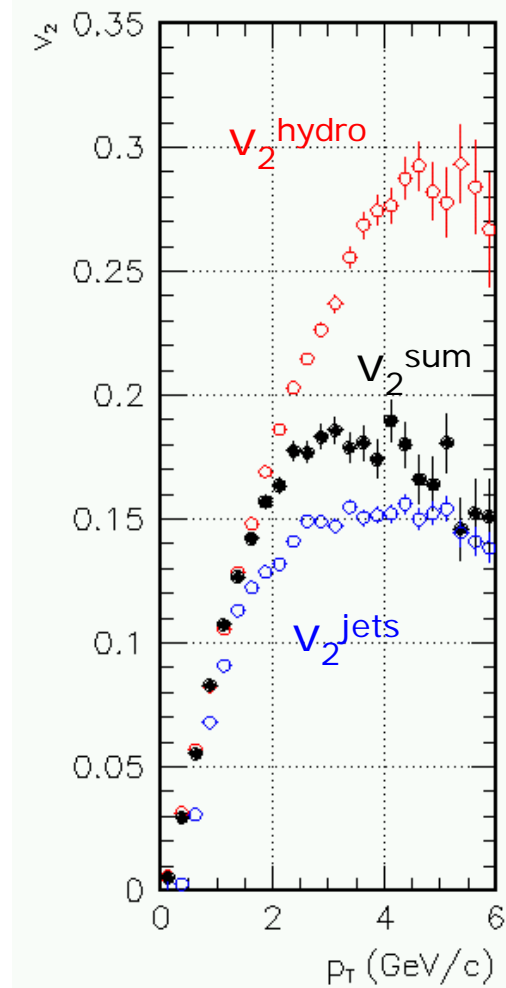
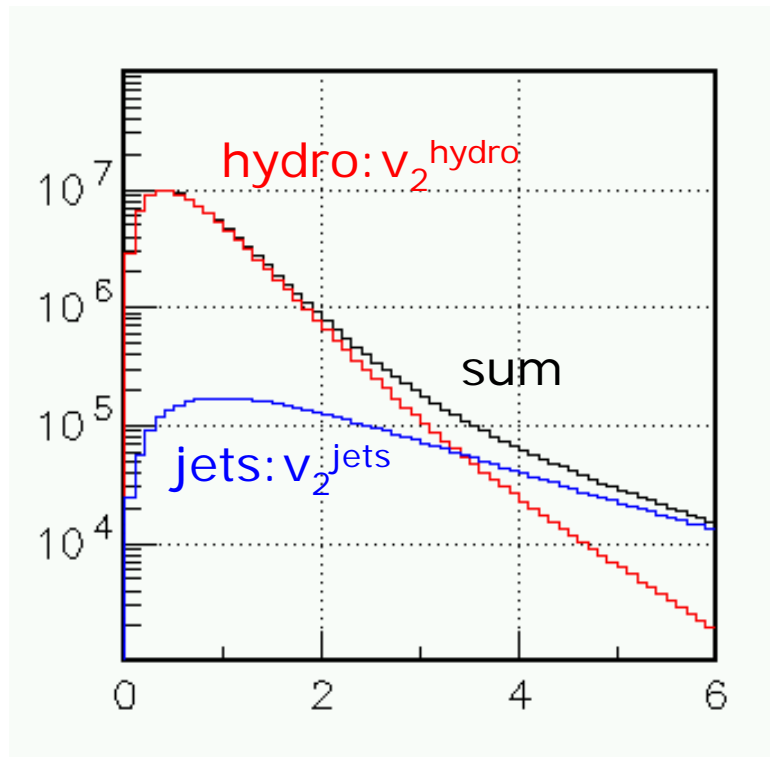
$\phi_{\text{track1}} - \phi_{\text{track2}} \rightarrow$

$v_2$

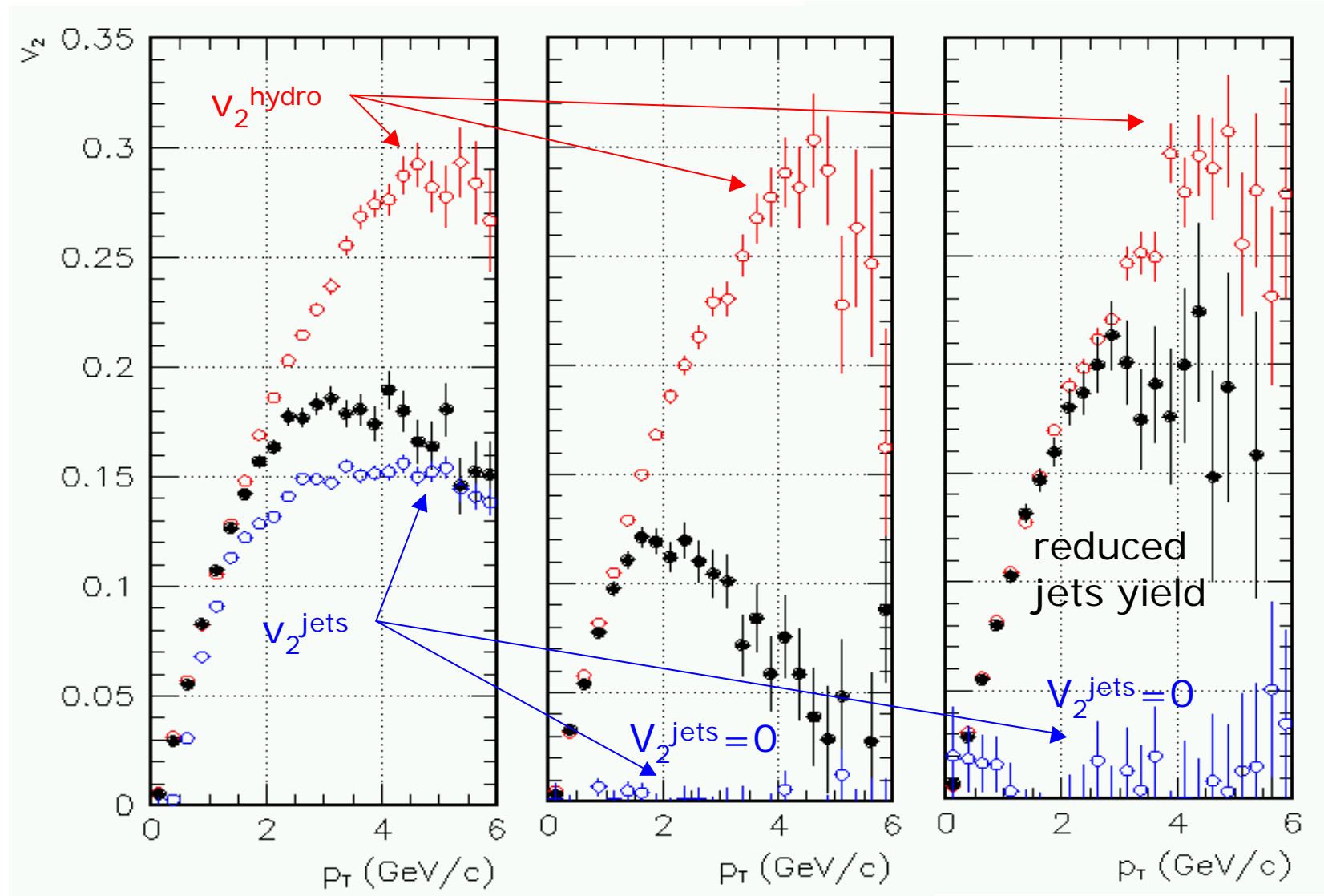
$v_2 \cdot \text{resolution}$

$v_2 \cdot v_2$

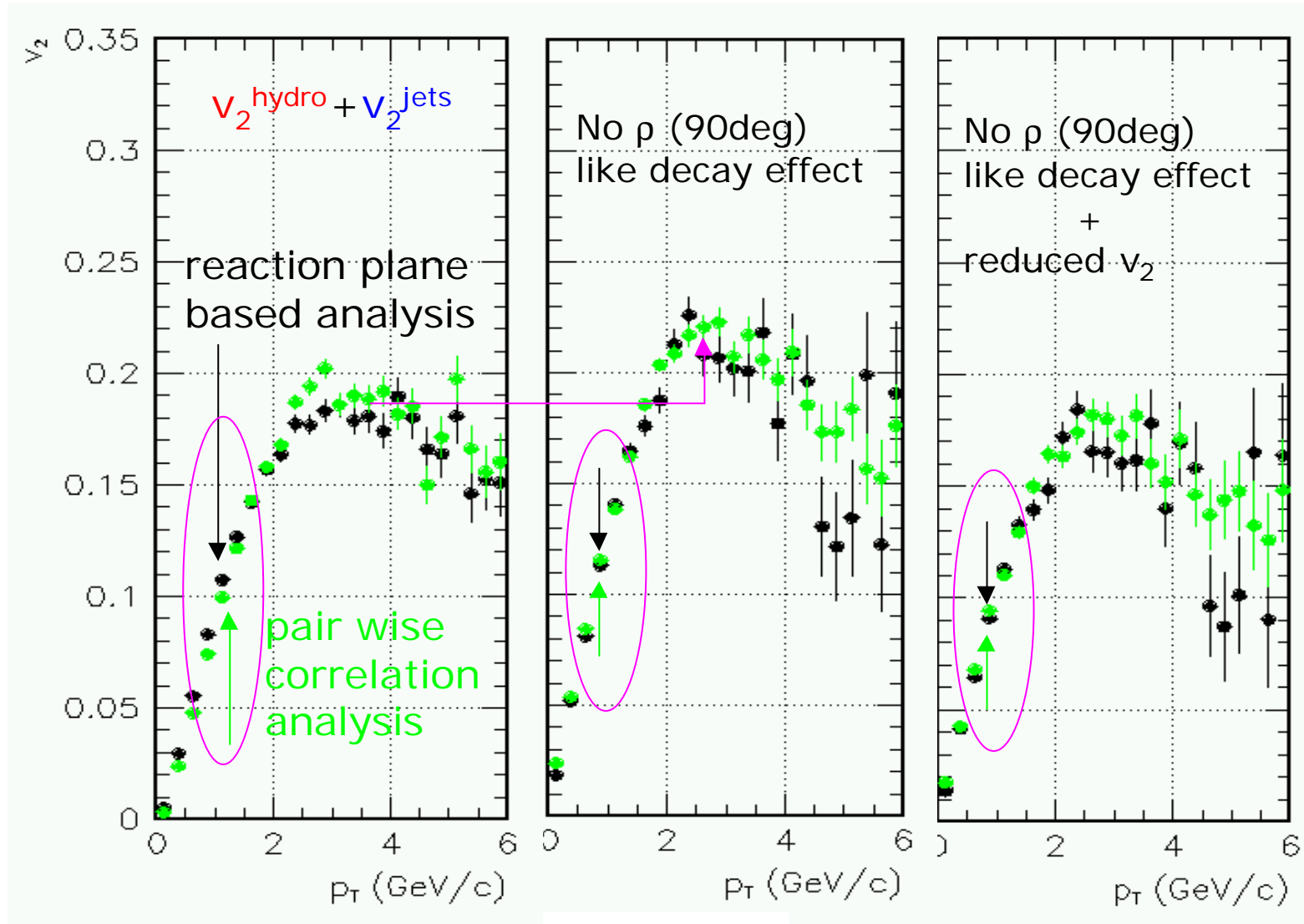
# Flow+Jets simulation



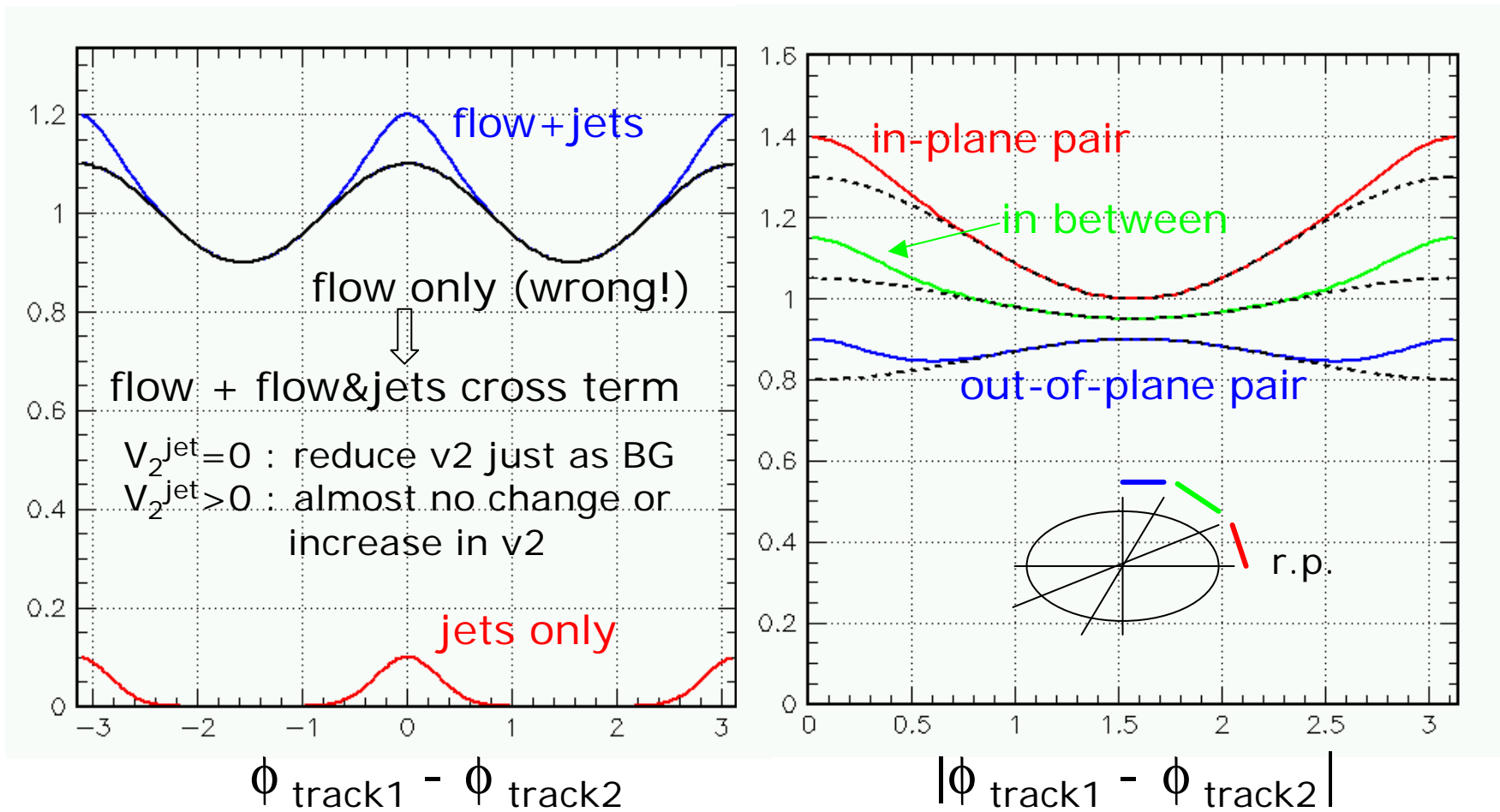
simulation



simulation

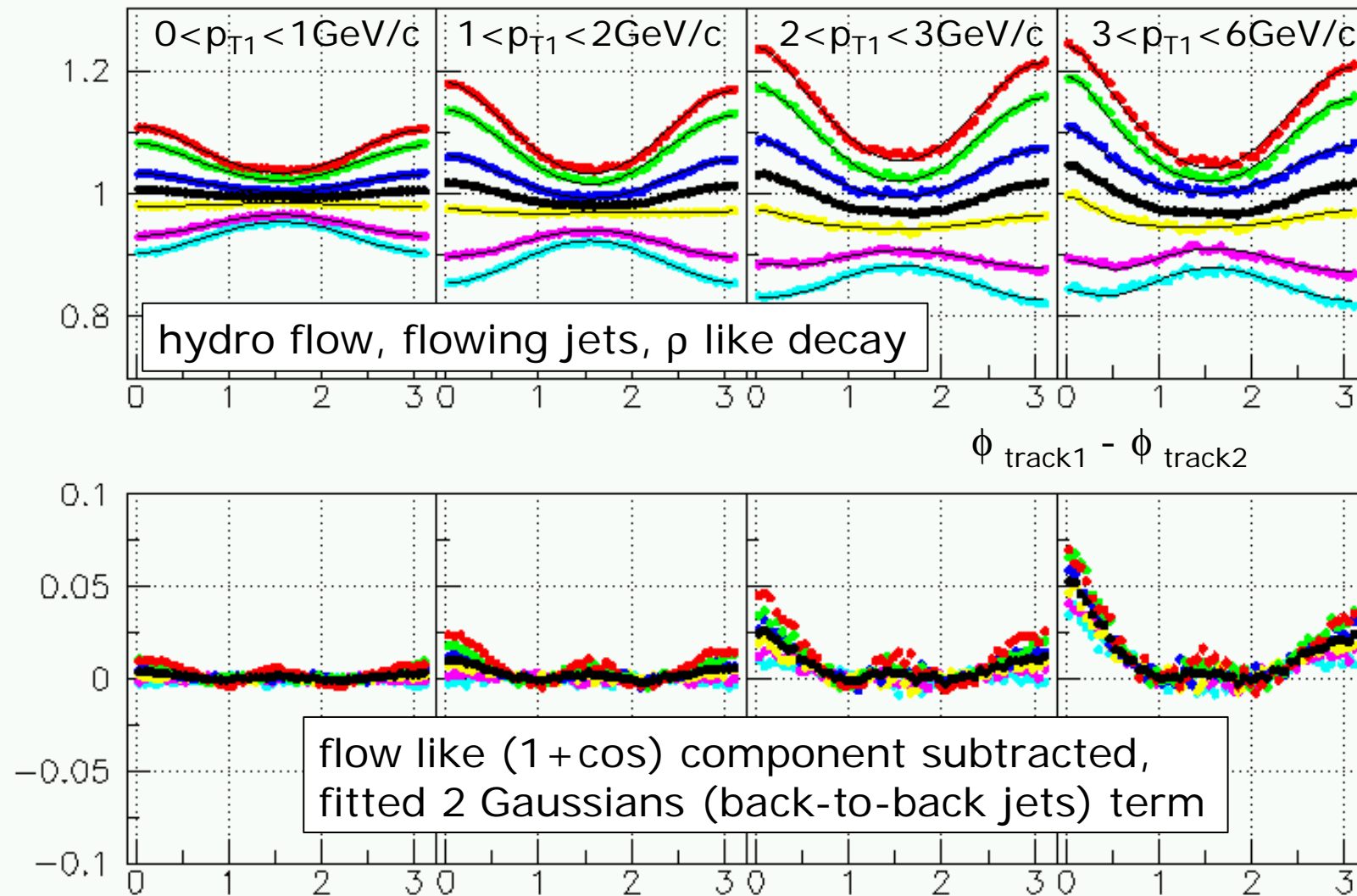






in-plane ——— out-of-plane  
 ——— average

simulation



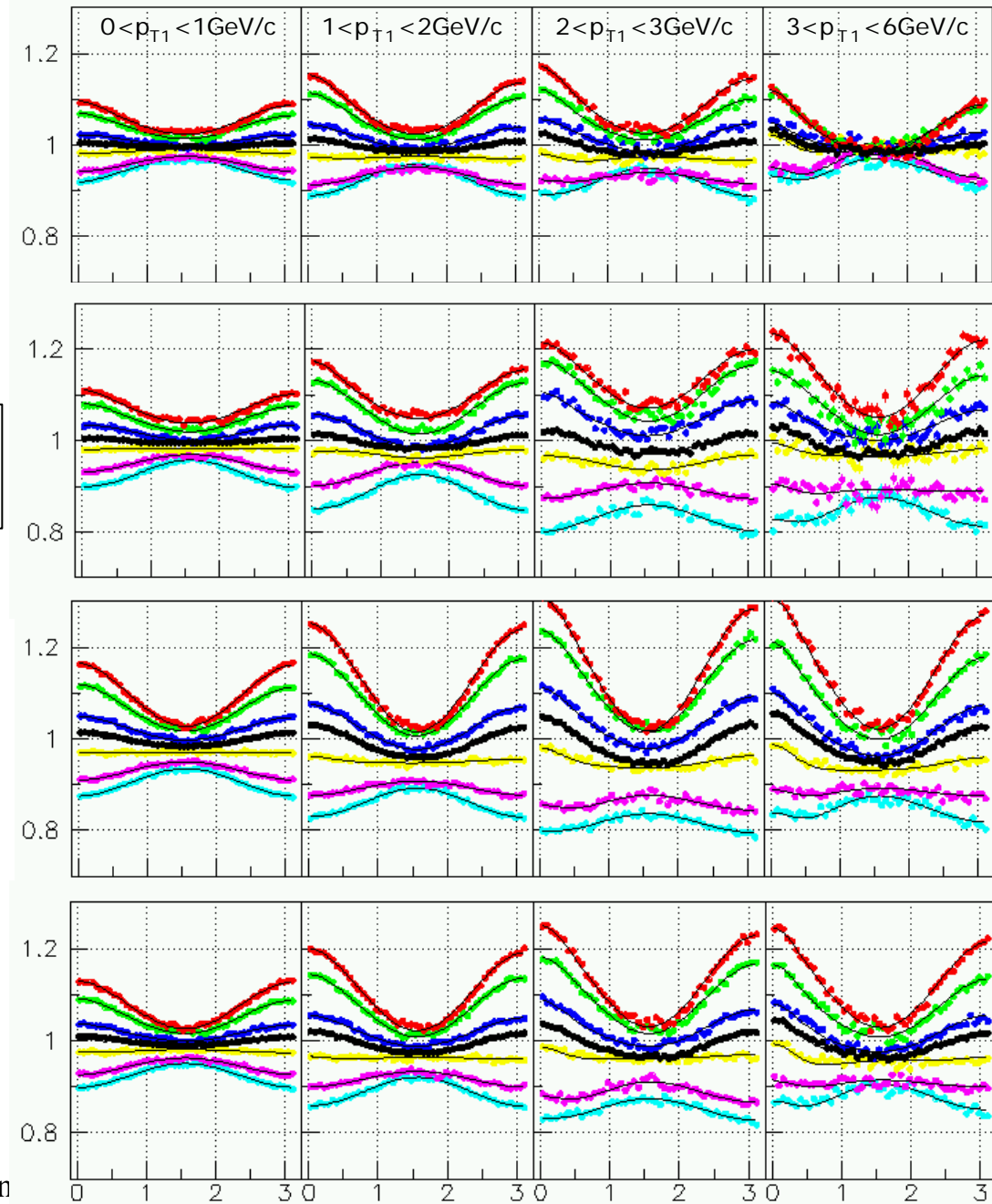
# simulation

No flowing jets

No flowing jets,  
reduced jets yield

No  $\rho$  like decay

No  $\rho$  like decay,  
reduced  $v_2$



## Summary

- 1) Non-flow effect is not always additive.
- 2) Quenched jets and daughter hadrons would make finite  $v_2$  at high  $p_T$ .
- 3) Is  $v_2$  saturation/reduction caused by quenched jets or by quark flow?  
-> quark number scaled  $v_2$  of identified hadrons