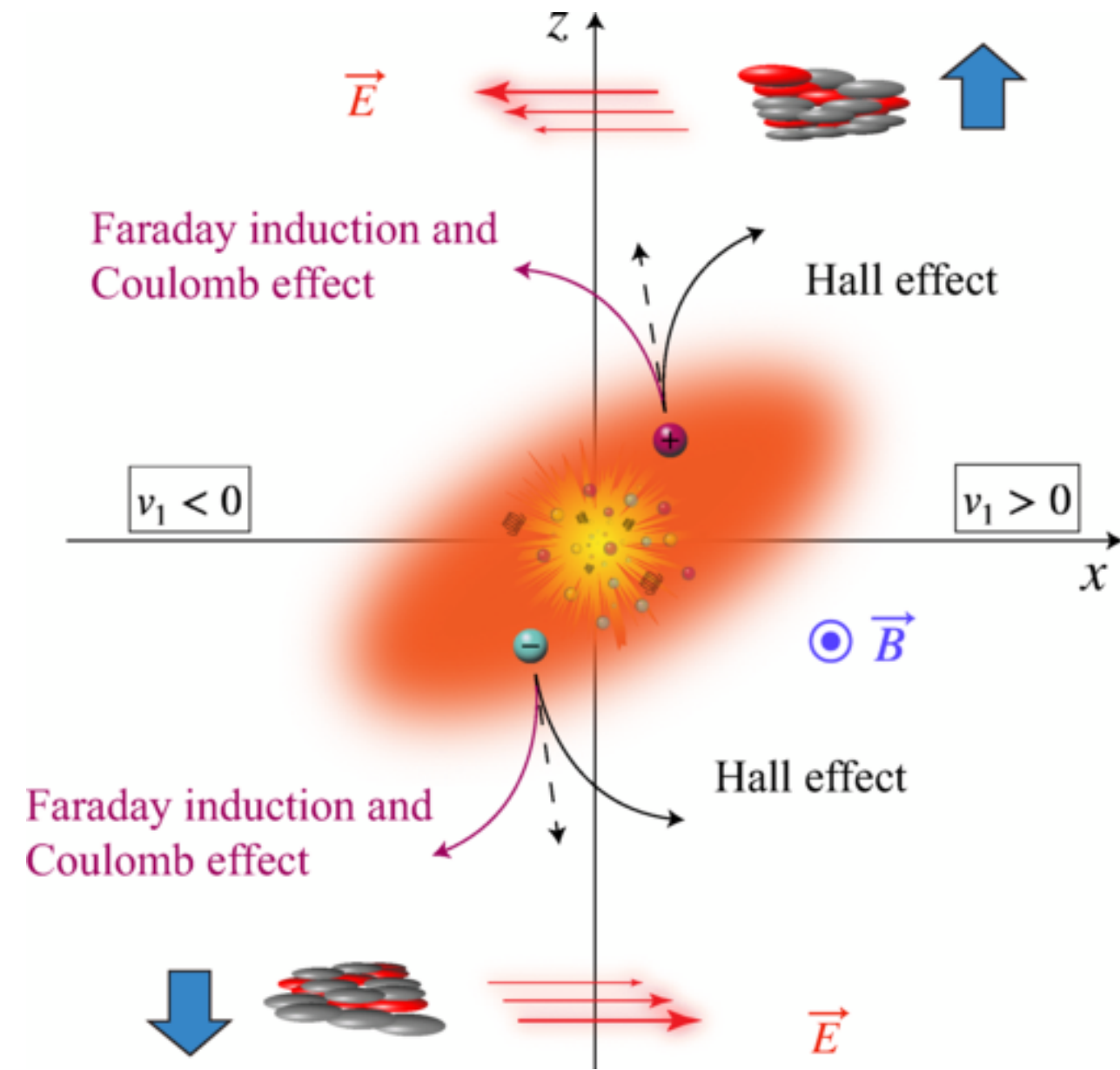


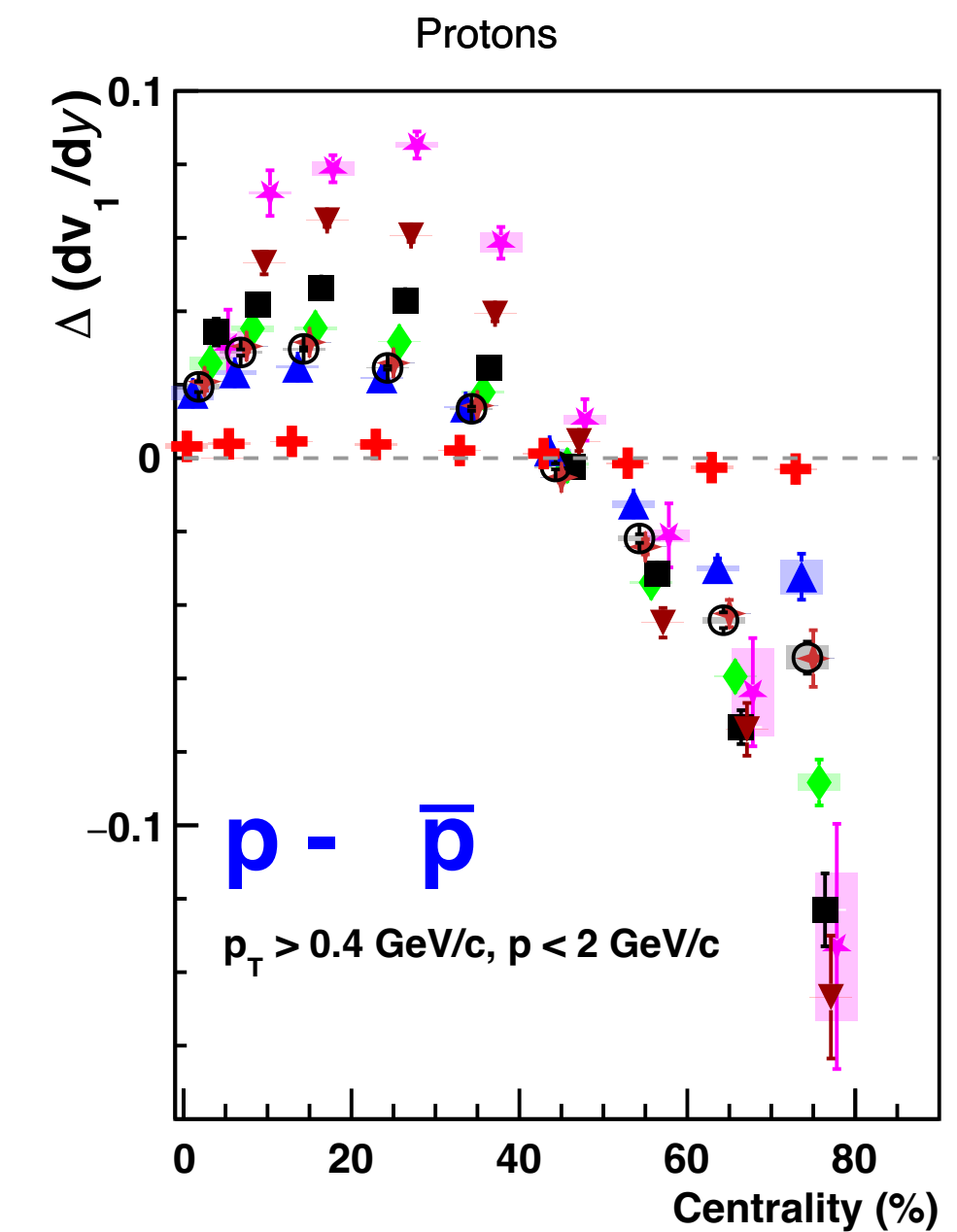
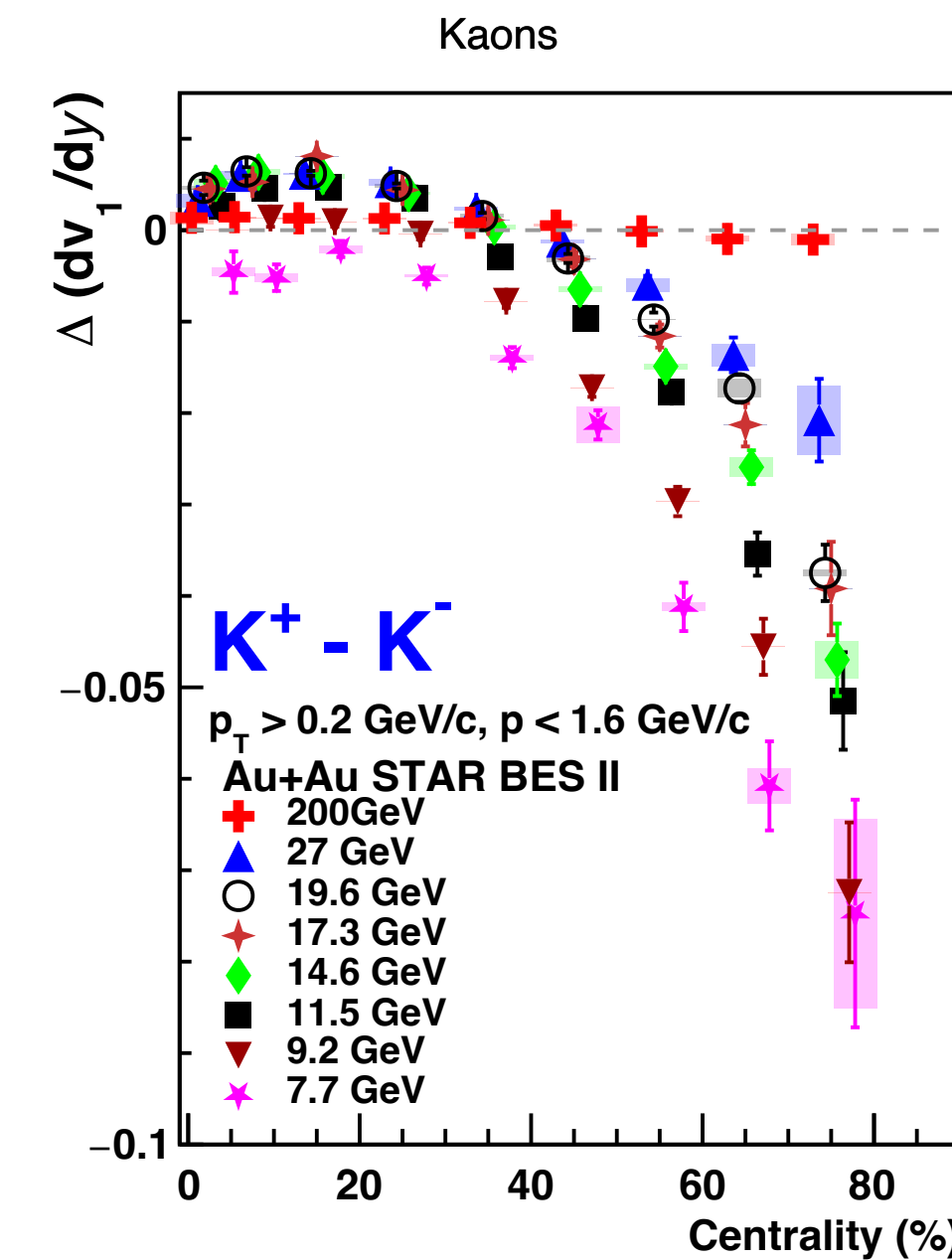
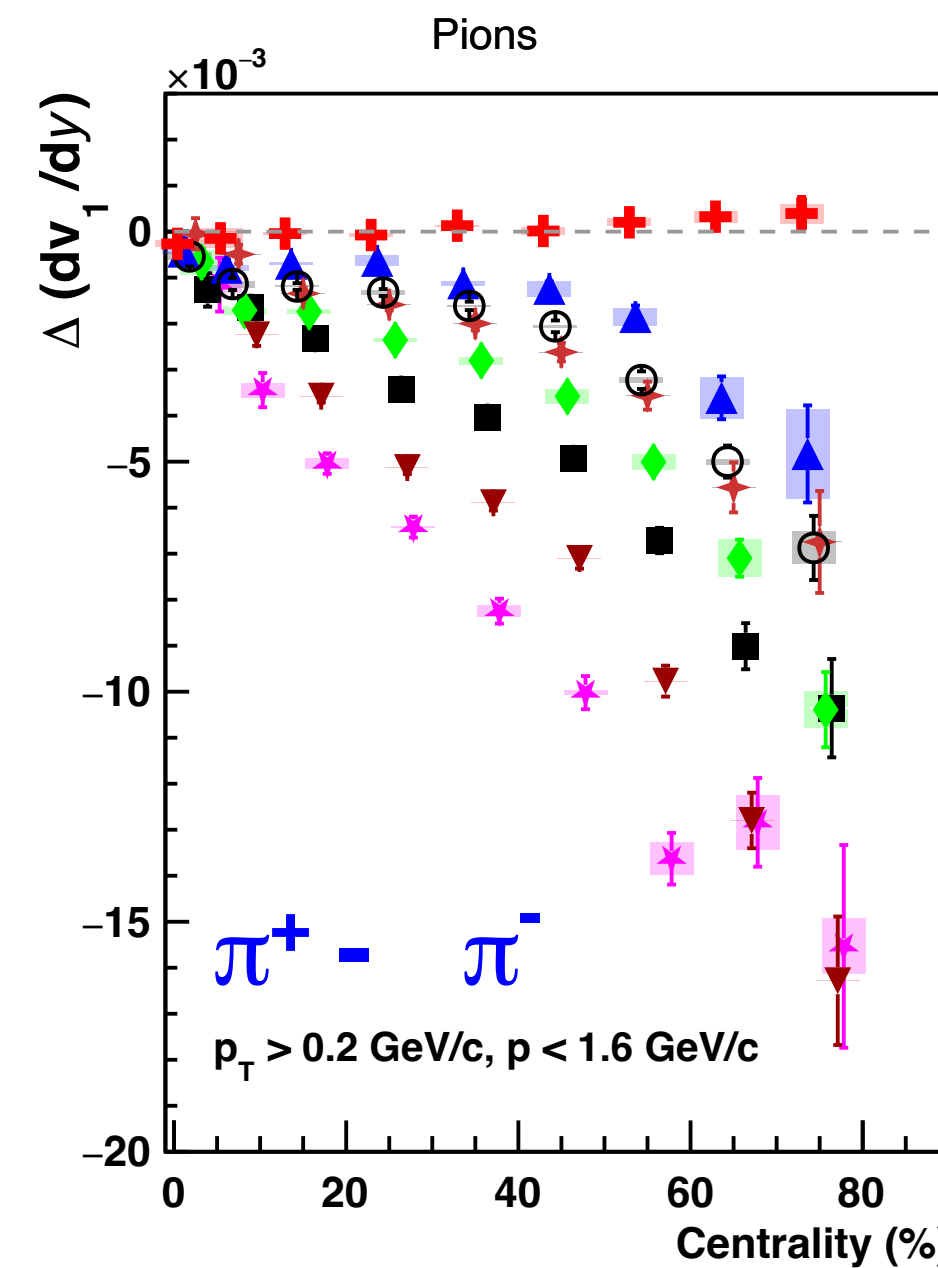
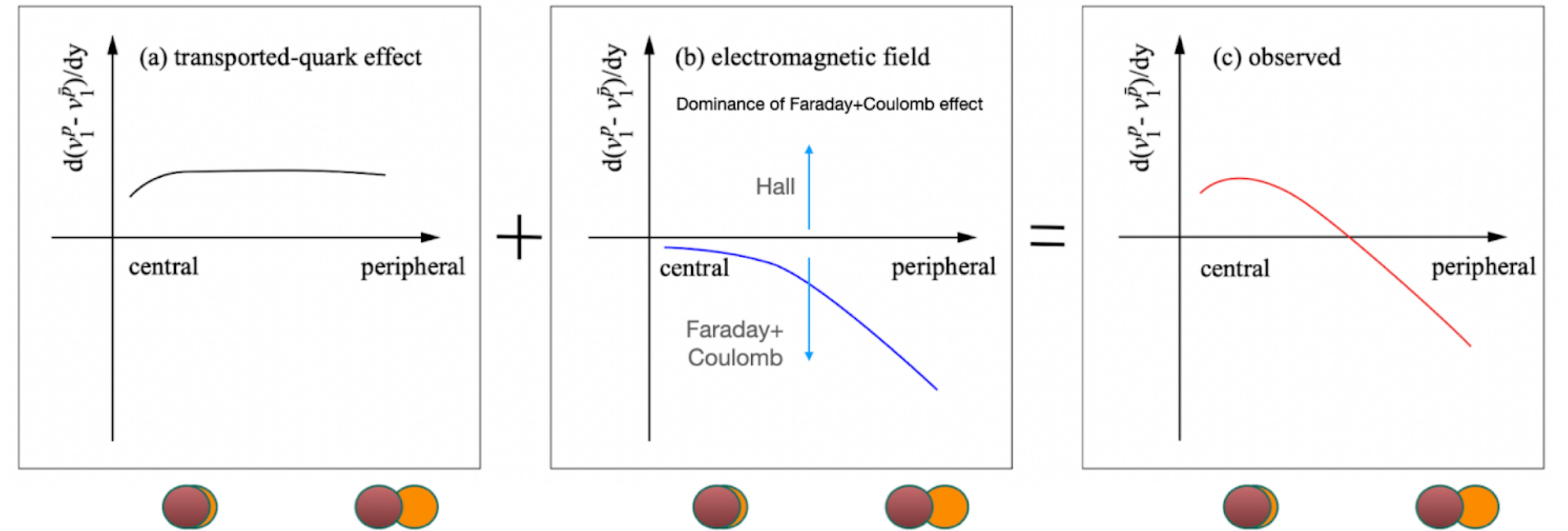
Exploring Electromagnetic-field Effects using BES-II Data of Charge-Dependent Directed Flow at STAR



Phys. Rev. X **14**, 011028 (STAR)

- Ultra strong electromagnetic fields ($\sim 10^{18}$ G) expected in Heavy Ion Collisions
- Predicted to impart a negative Δv_1 in peripheral collisions
- Beam energy dependence crucial to understanding effect of electromagnetic field on medium, beam energy dependence of CME signal and conductivity of QGP

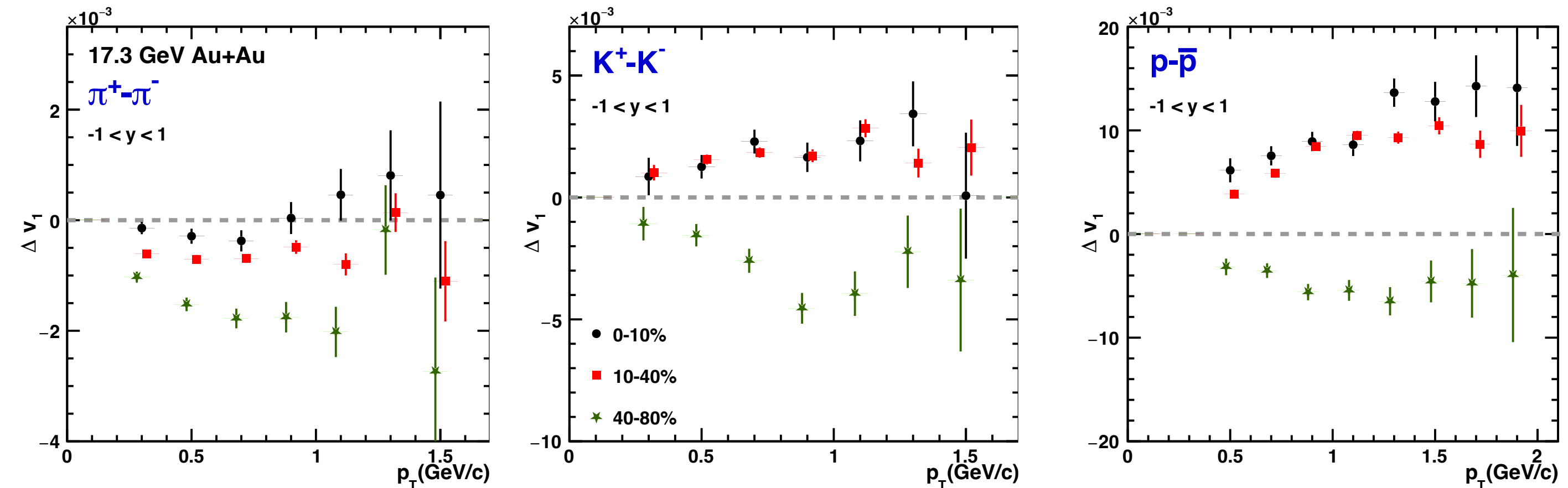
Expectation for protons



New Results

- dv_1/dy for charged $\pi/K/p$ at BES-II energies(19.6-9.2 GeV)
- New $\Delta(dv_1/dy)$ results at 17.3,11.5 and 9.2 GeV consistent with stronger EM effect at lower energies
- Non-zero $(dv_1/dy(\Lambda) - dv_1/dy(\bar{\Lambda}))$ could arise from electromagnetic effect at parton level (Xiatong Wu's talk)
- New $\Delta v_1(p_T)$ results at 17.3,11.6 and 9.2 GeV consistent with expectations from EM field

$\Delta v_1(p_T)$ at 17.3 GeV for $\pi/K/p$ (similarly in 11.5 and 9.2 GeV)



dv_1/dy at BES-II energies for $\pi/K/p$

