



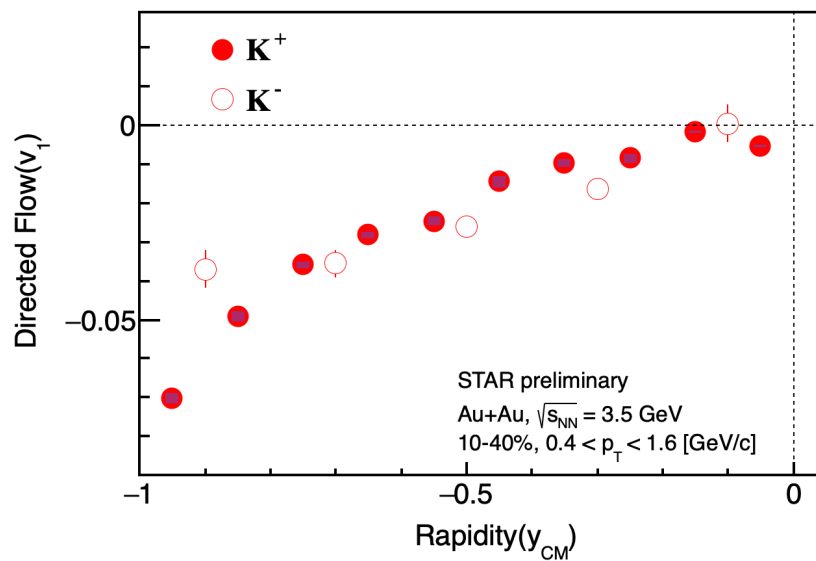
PWG review:

**Measurements of Kaon Anti-flow in the High Baryon
Density Region from Au + Au Collisions at $\sqrt{s_{NN}} = 3 - 3.9$ GeV**

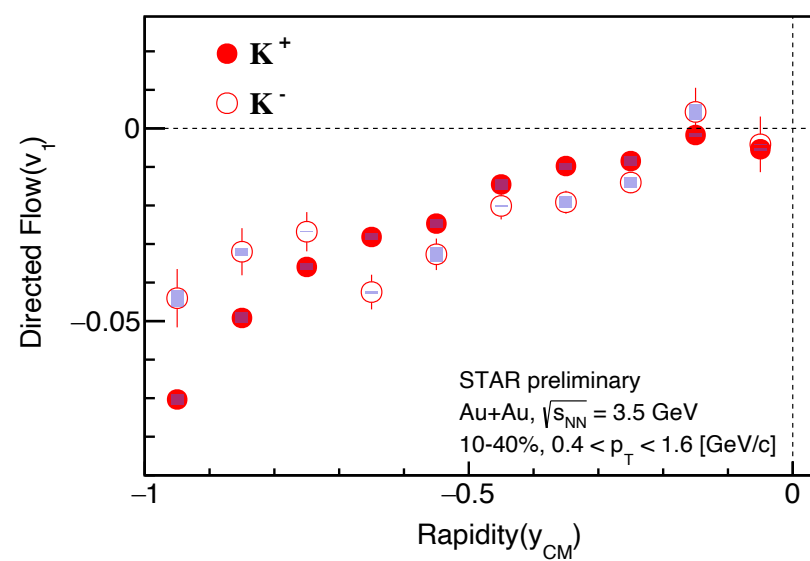
Zuowen Liu

2024/5/15

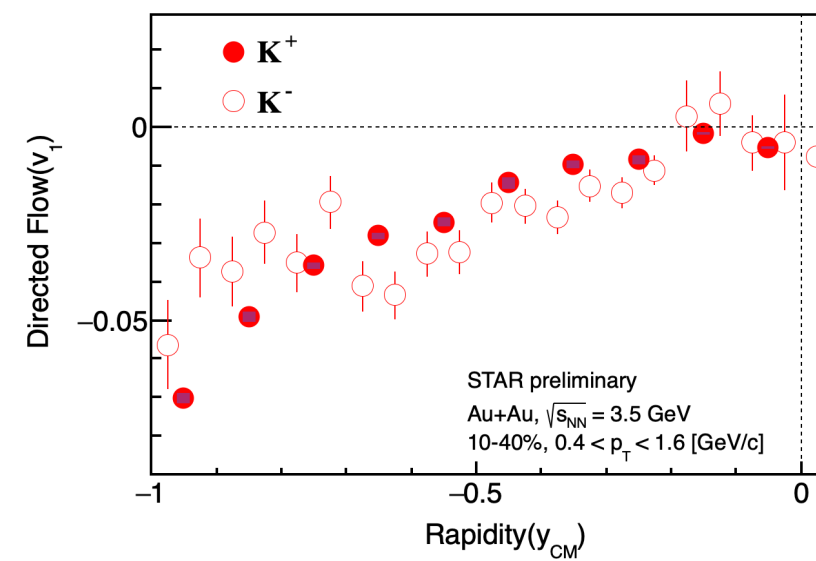
5 bins



10 bins



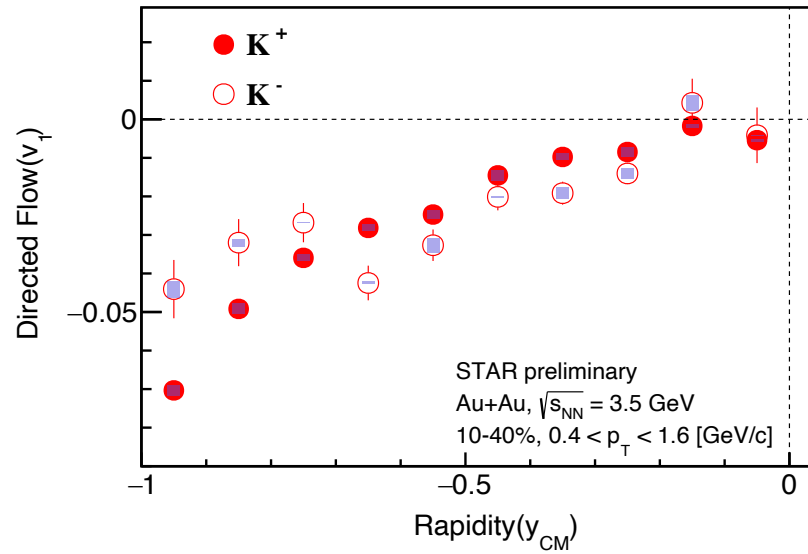
20 bins



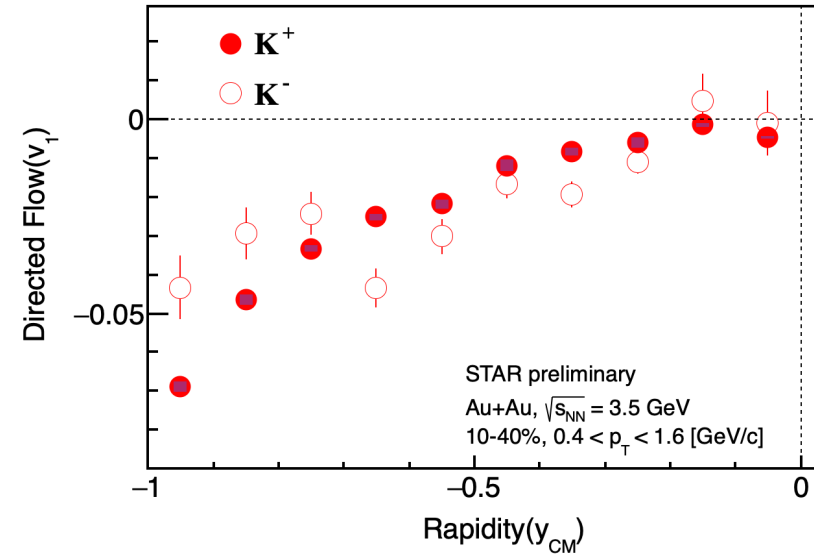
Results from different binning.

Check the new production

Old production: P23ie



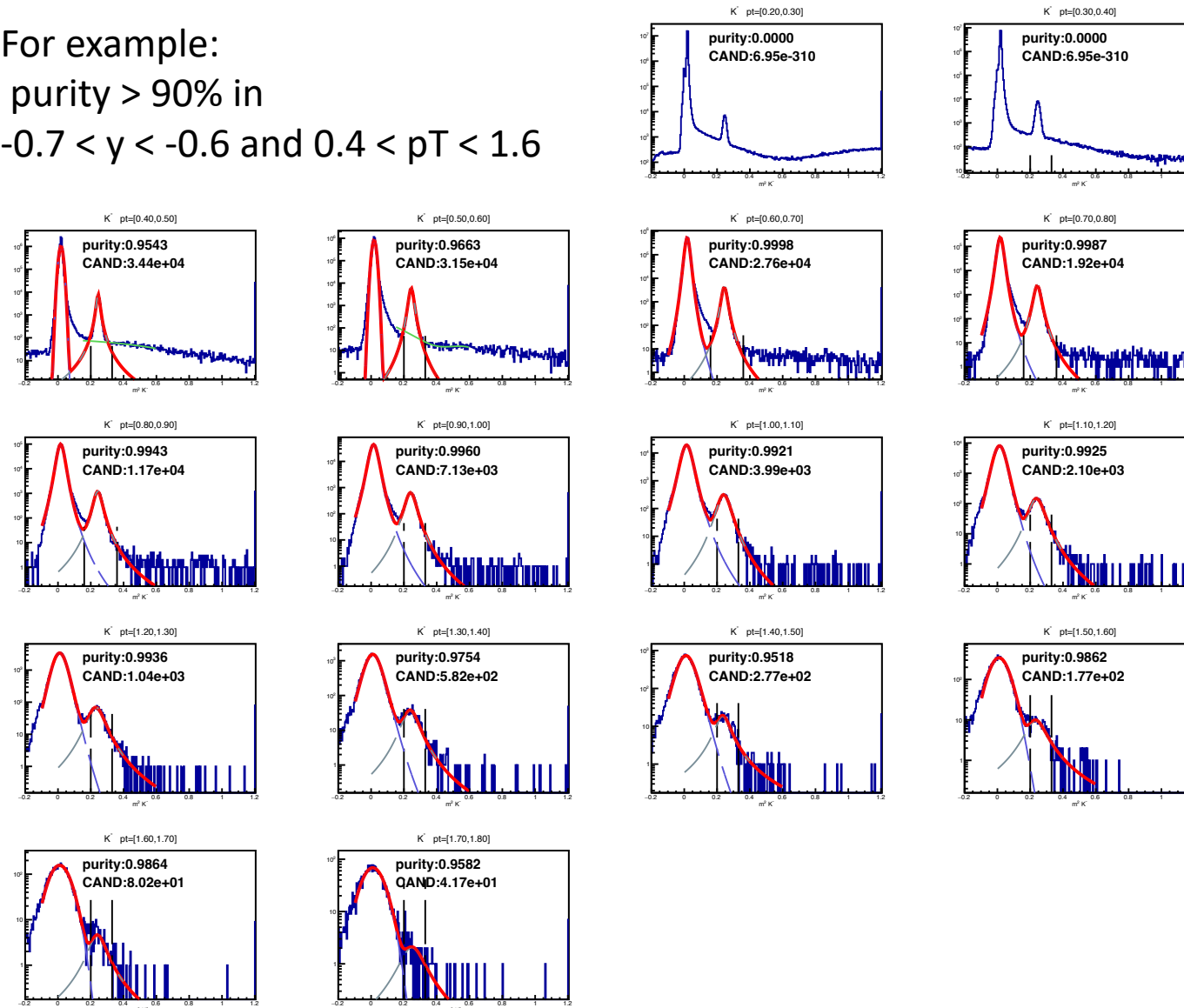
New: P24ia



The new production (P24ia) vs. P23ie.

Check purity of K-, Rapidity by rapidity and pT by pT

For example:
purity > 90% in
 $-0.7 < y < -0.6$ and $0.4 < pT < 1.6$

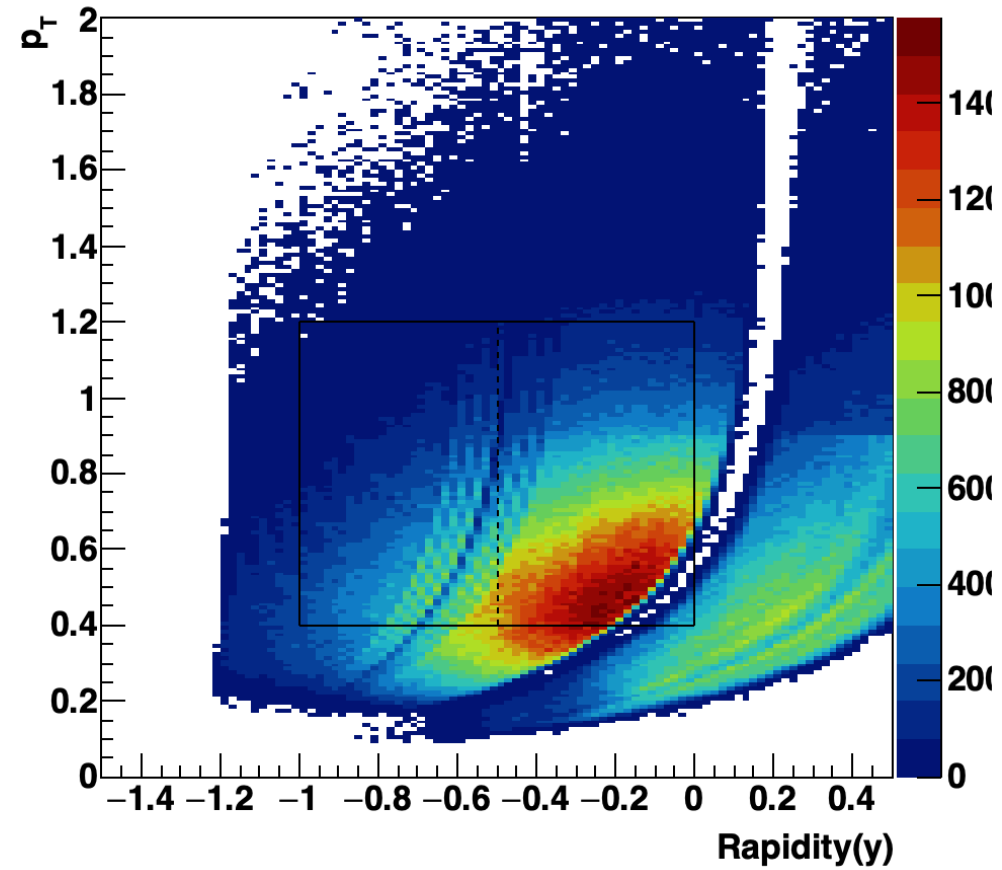


3.5 GeV

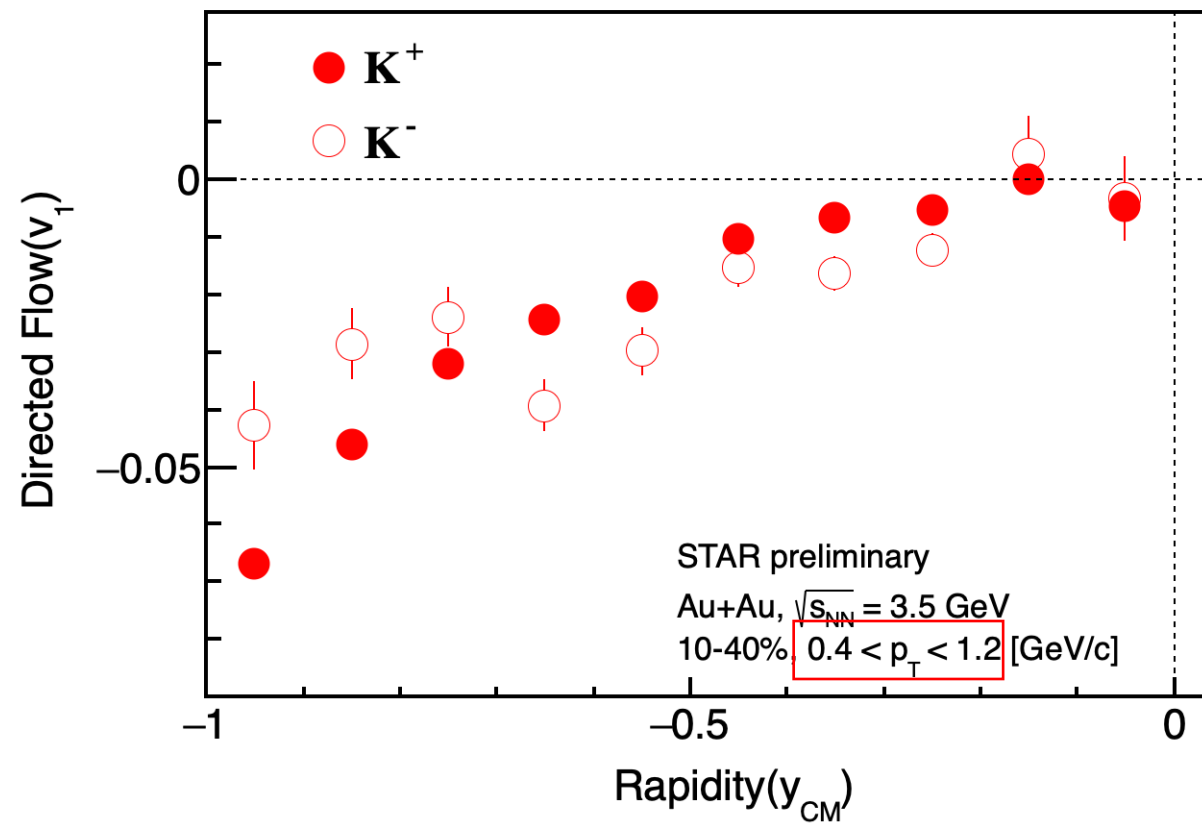
	Range of p_T GeV/c (95%)	Range of p_T GeV/c (90%)
$-0.1 < y < 0$	(0.5, 1.1)	(0.5, 1.2)
$-0.2 < y < -0.1$	(0.4, 1.1)	(0.4, 1.2)
$-0.3 < y < -0.2$	(0.4, 1.1)	(0.4, 1.2)
$-0.4 < y < -0.3$	(0.4, 1.2)	(0.3, 1.3)
$-0.5 < y < -0.4$	(0.4, 1.2)	(0.4, 1.4)
$-0.6 < y < -0.5$	(0.4, 1.3)	(0.4, 1.5)
$-0.7 < y < -0.6$	(0.4, 1.4)	(0.4, 1.6)
$-0.8 < y < -0.7$	(0.4, 1.4)	(0.4, 1.5)
$-0.9 < y < -0.8$	(0.4, 1.4)	(0.4, 1.5)
$-1 < y < -0.9$	(0.4, 1.3)	(0.4, 1.4)

Purity > 90%: K- in $-1 < y < 0$ and $0.4 < p_T < 1.2$

K- acceptance, 3.5 GeV

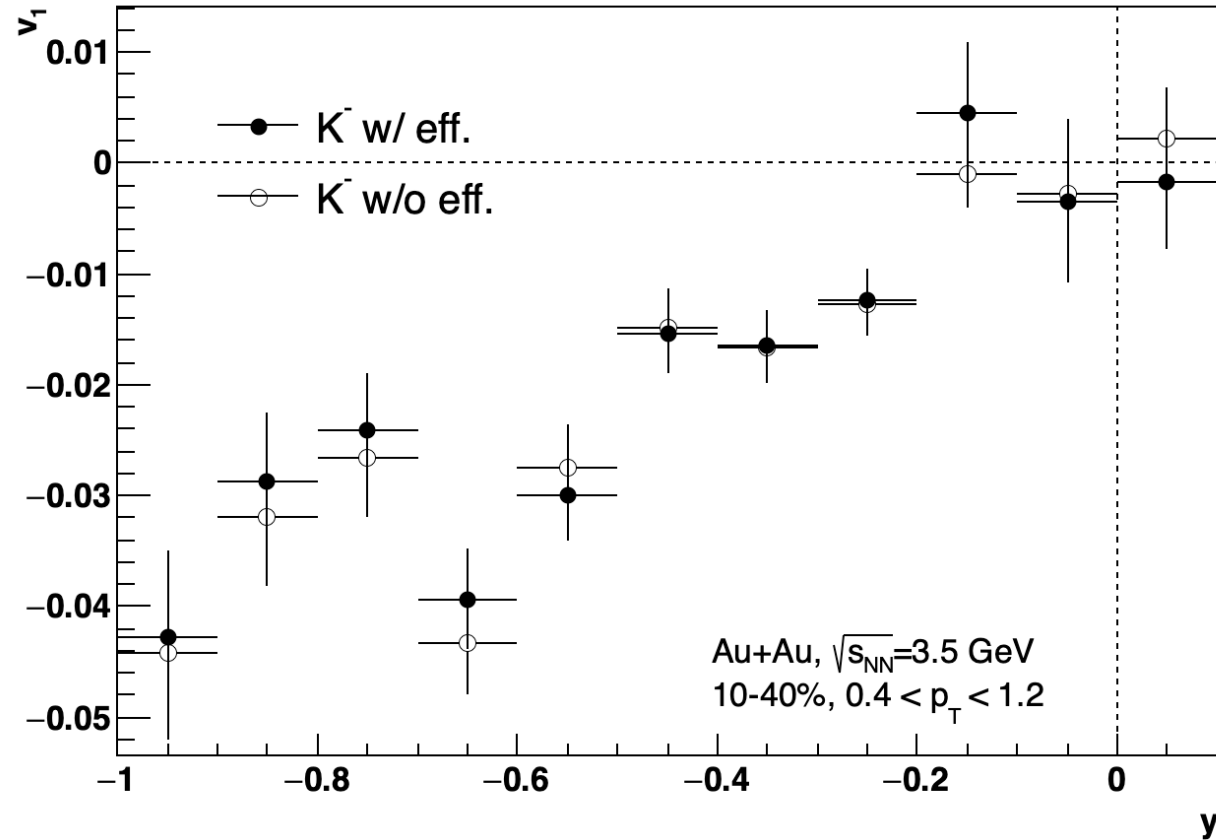


Kaon v1 with new PID cut and pT window



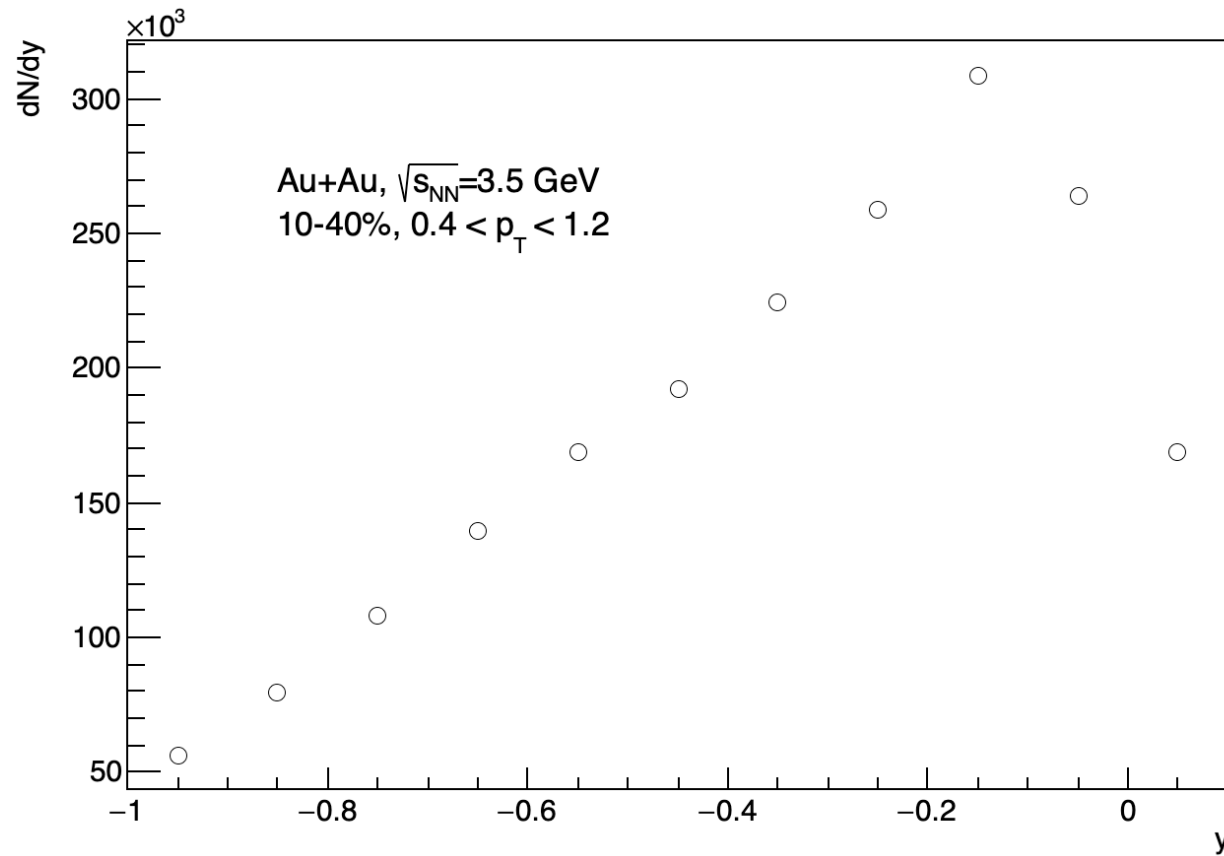
The results with new PID cut

Check K- v_1 w/ and w/o efficiency



Results with and without efficiency correction.

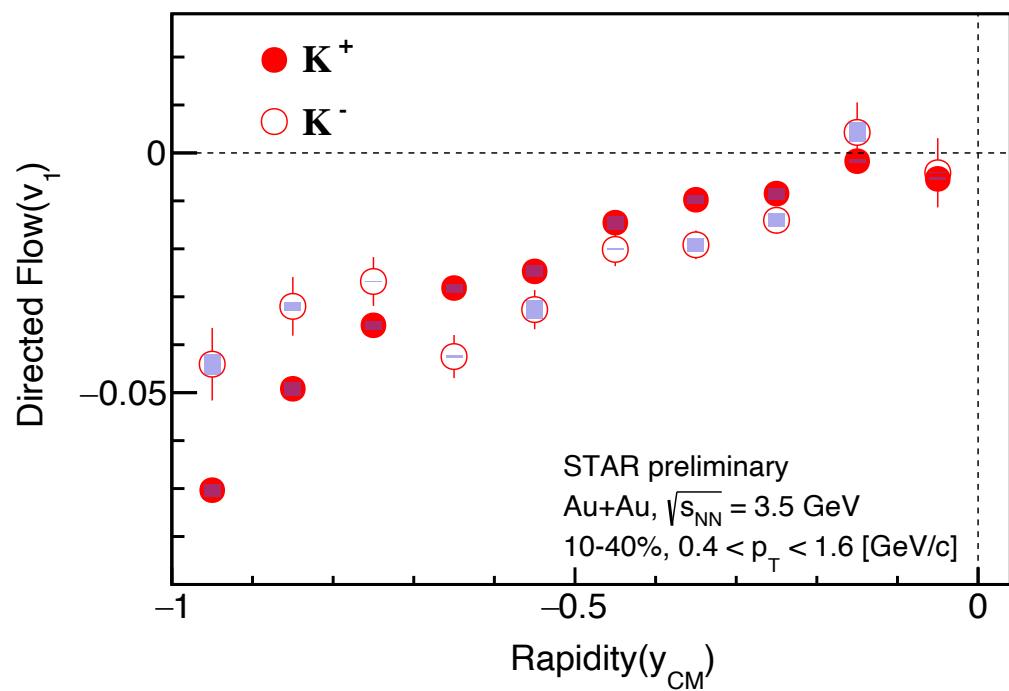
Check dN/dy of K-



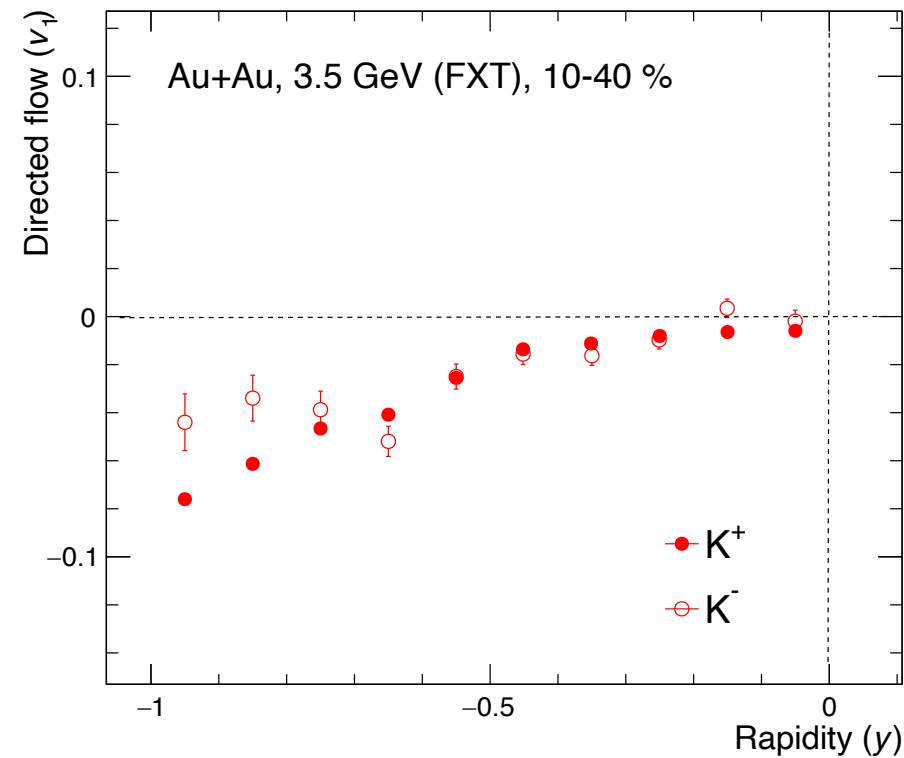
Yield as a function of rapidity in the for-rapidity looks smooth.

Independent analysis from:

Zuowen

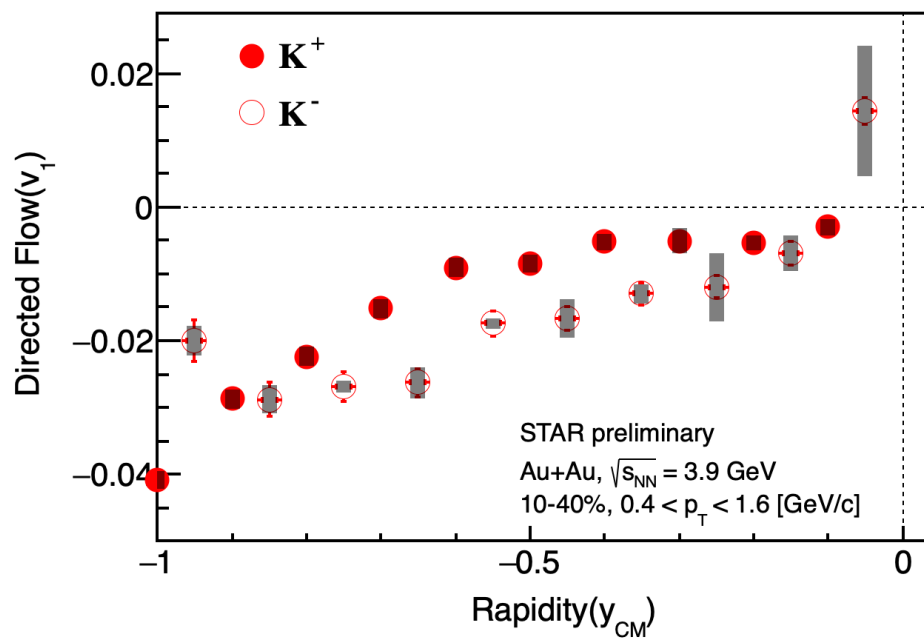
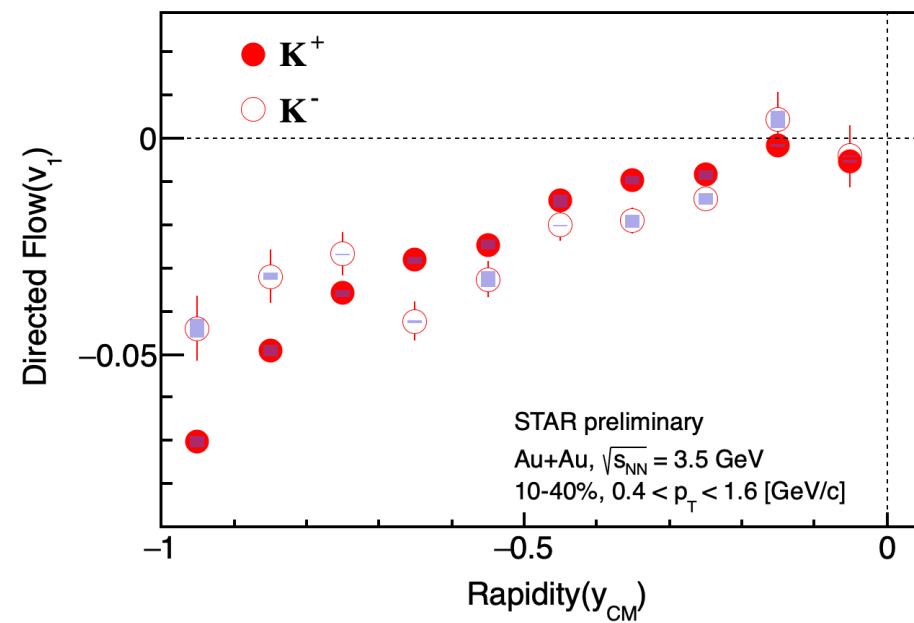
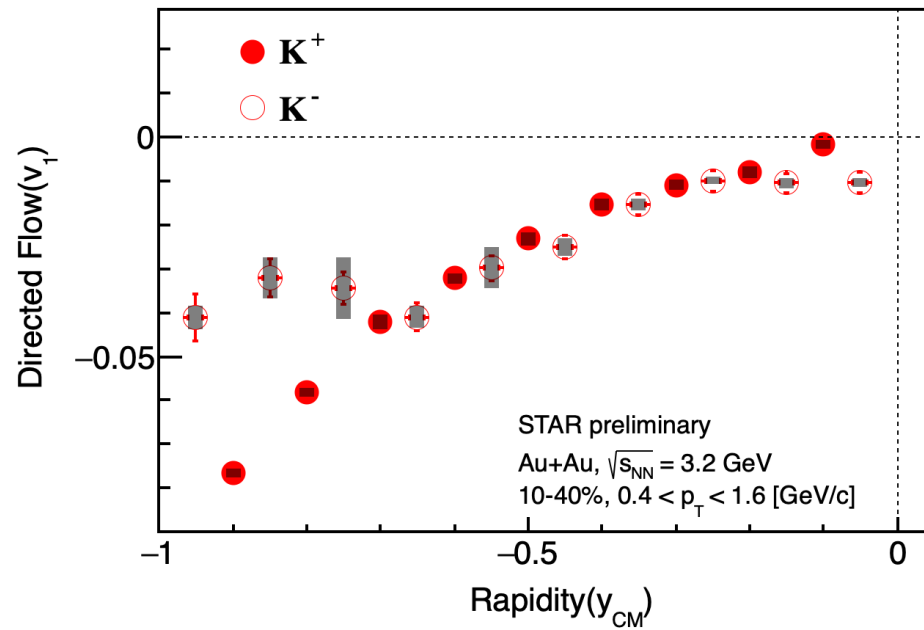
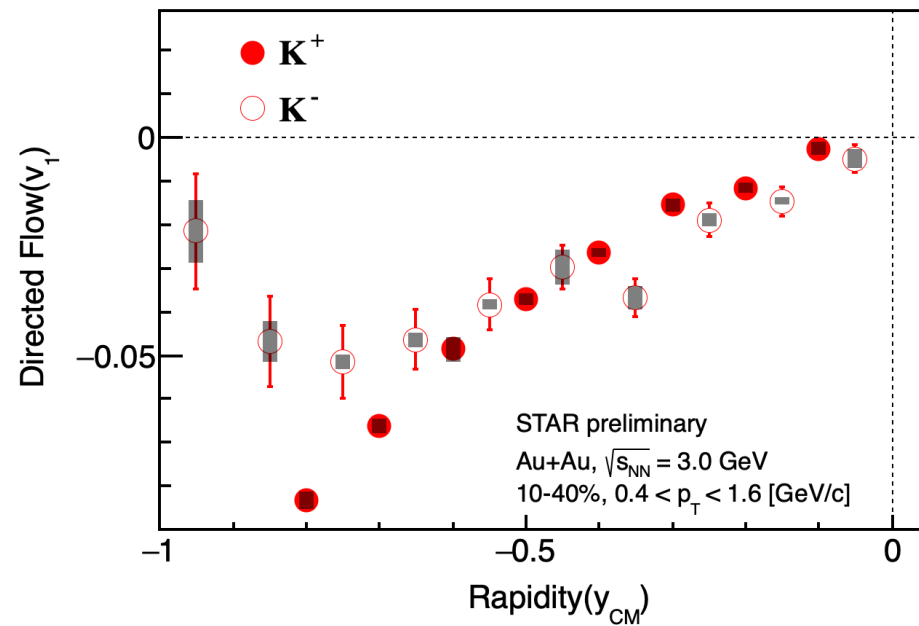


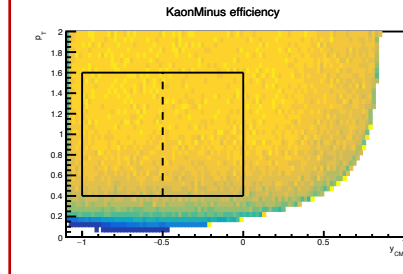
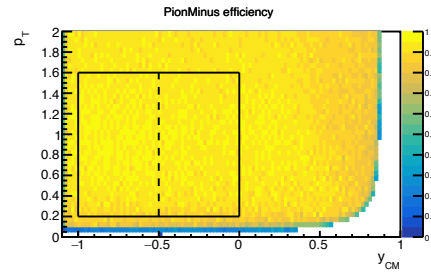
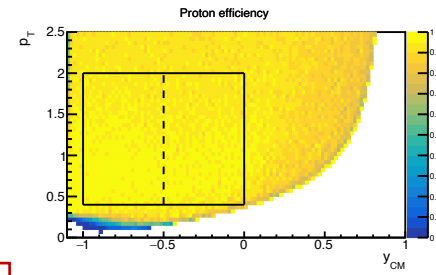
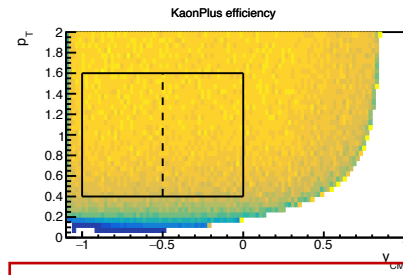
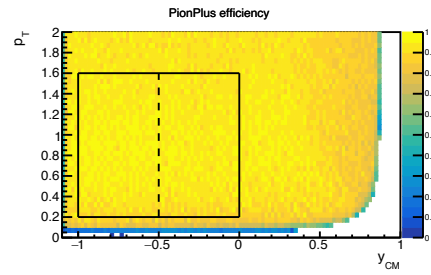
Sharang



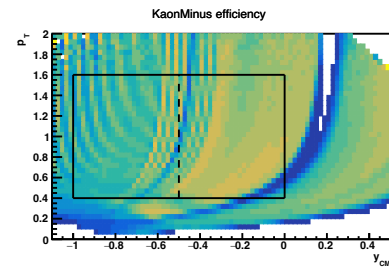
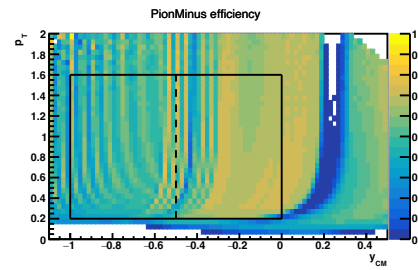
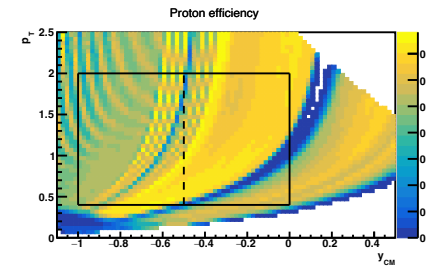
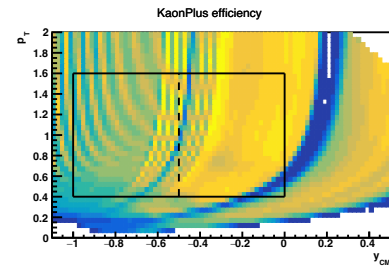
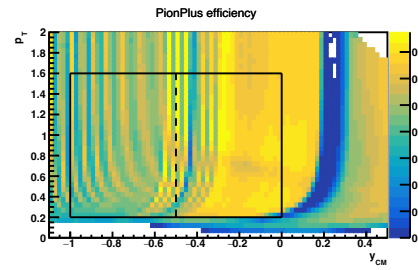
Results from Sharang show similar behavior

Backup

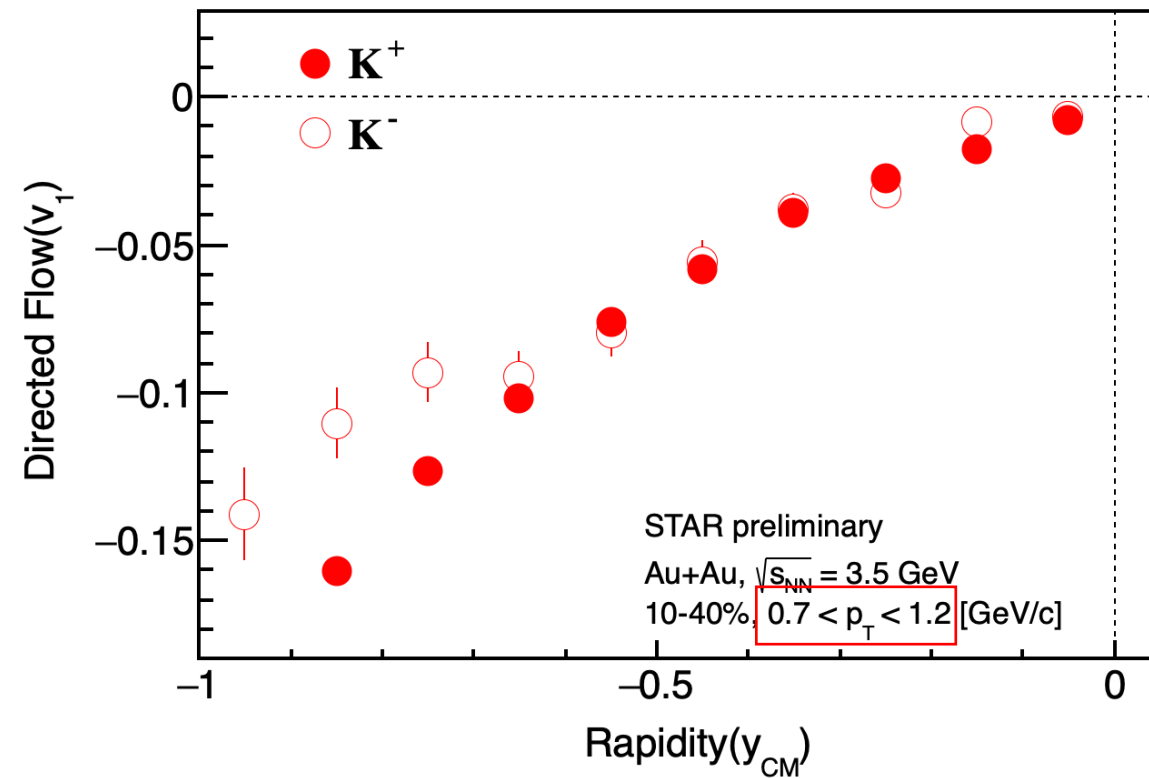
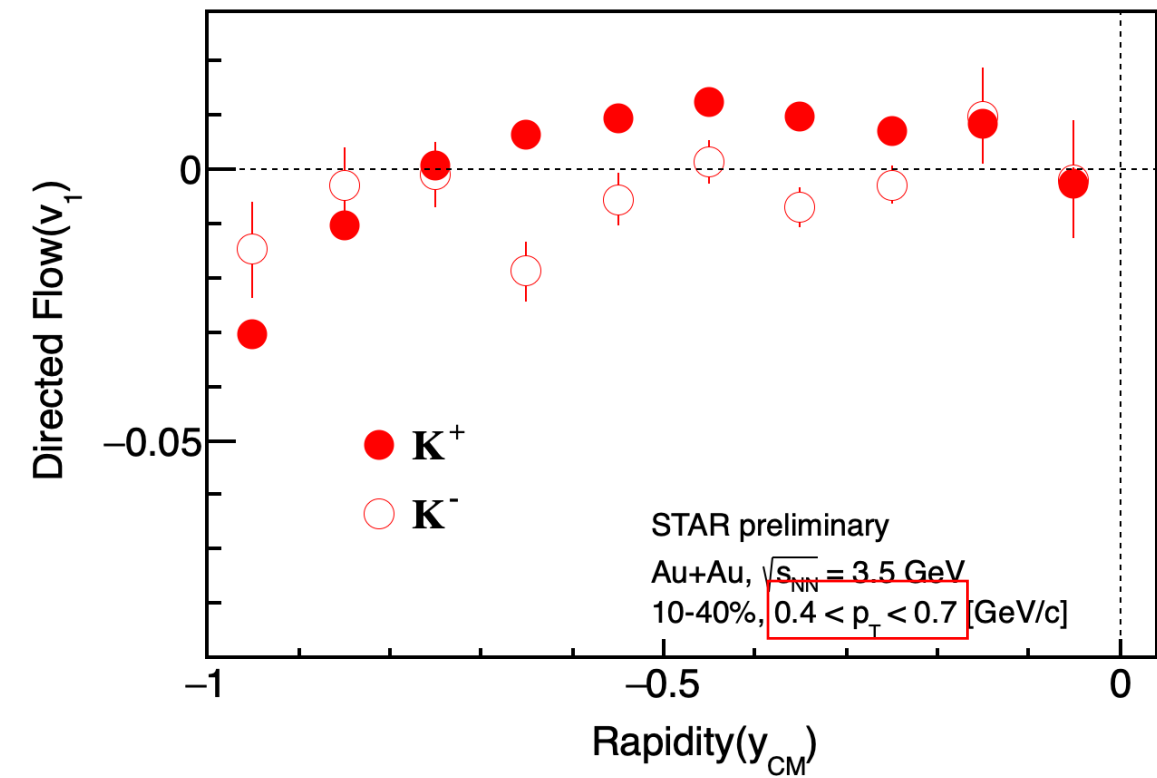


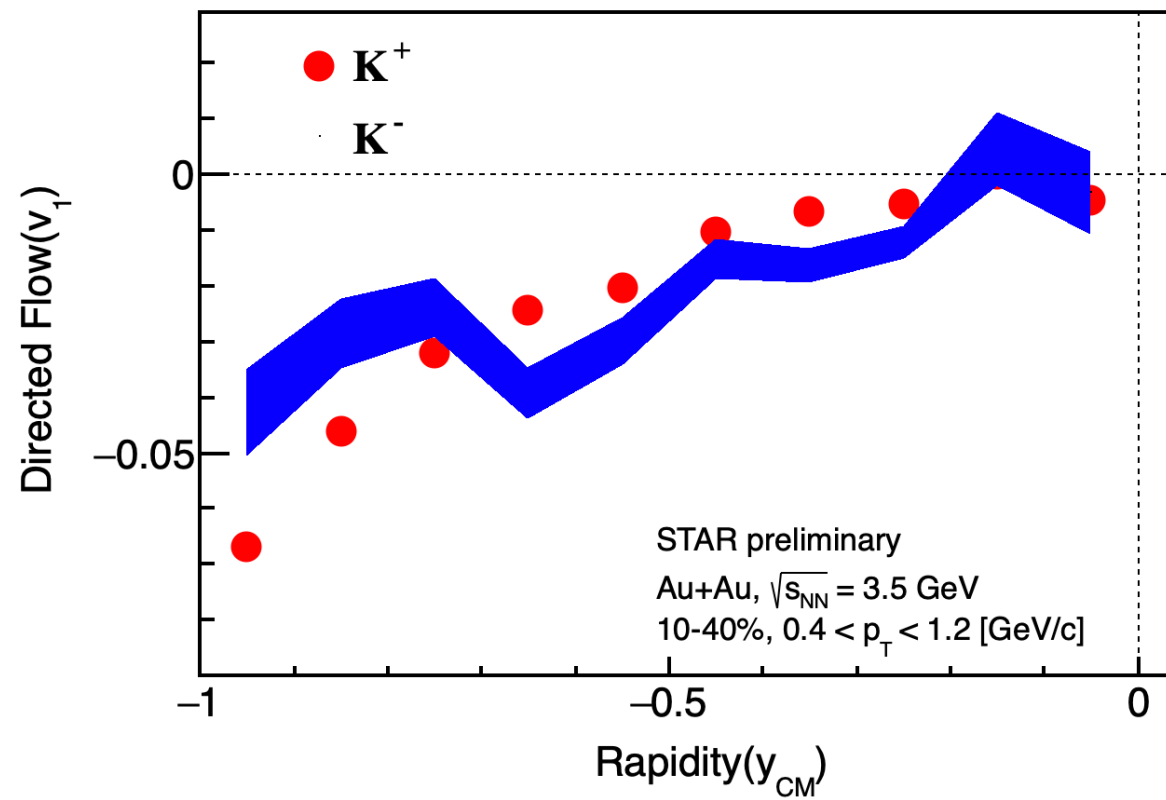


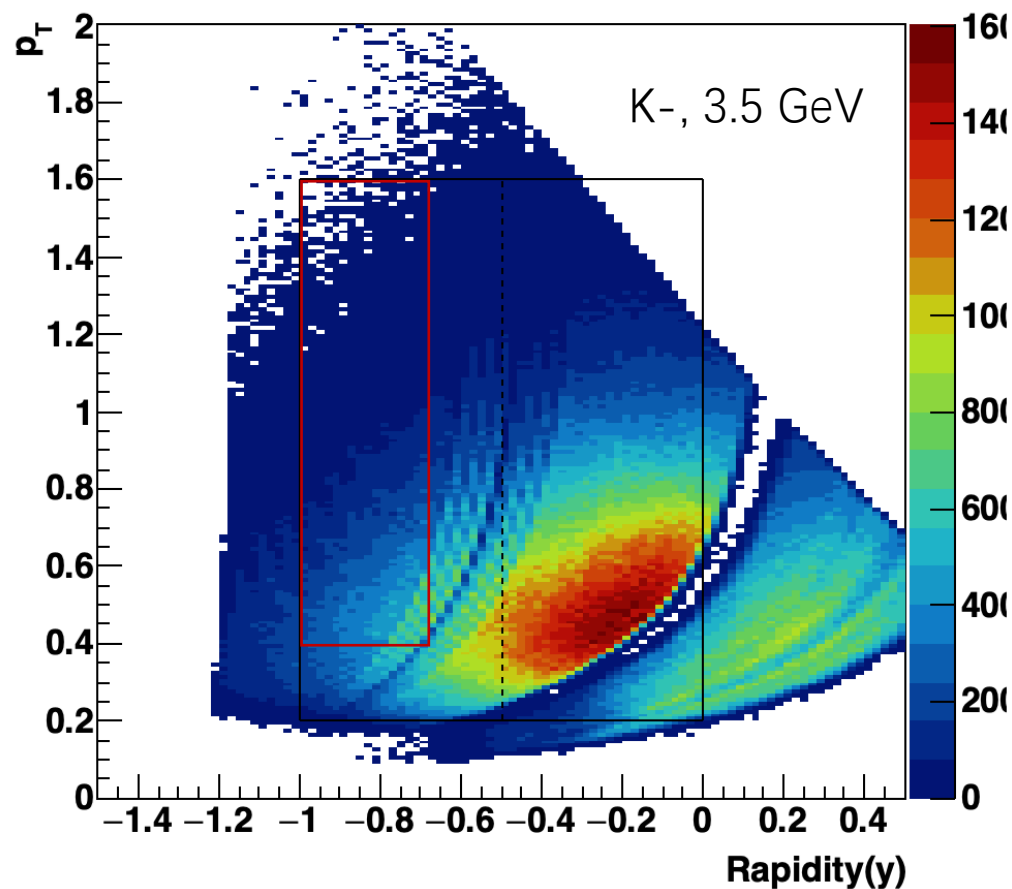
Au+Au @ $\sqrt{s_{NN}}=3.5$ GeV, 0-80%
TPC tracking efficiency



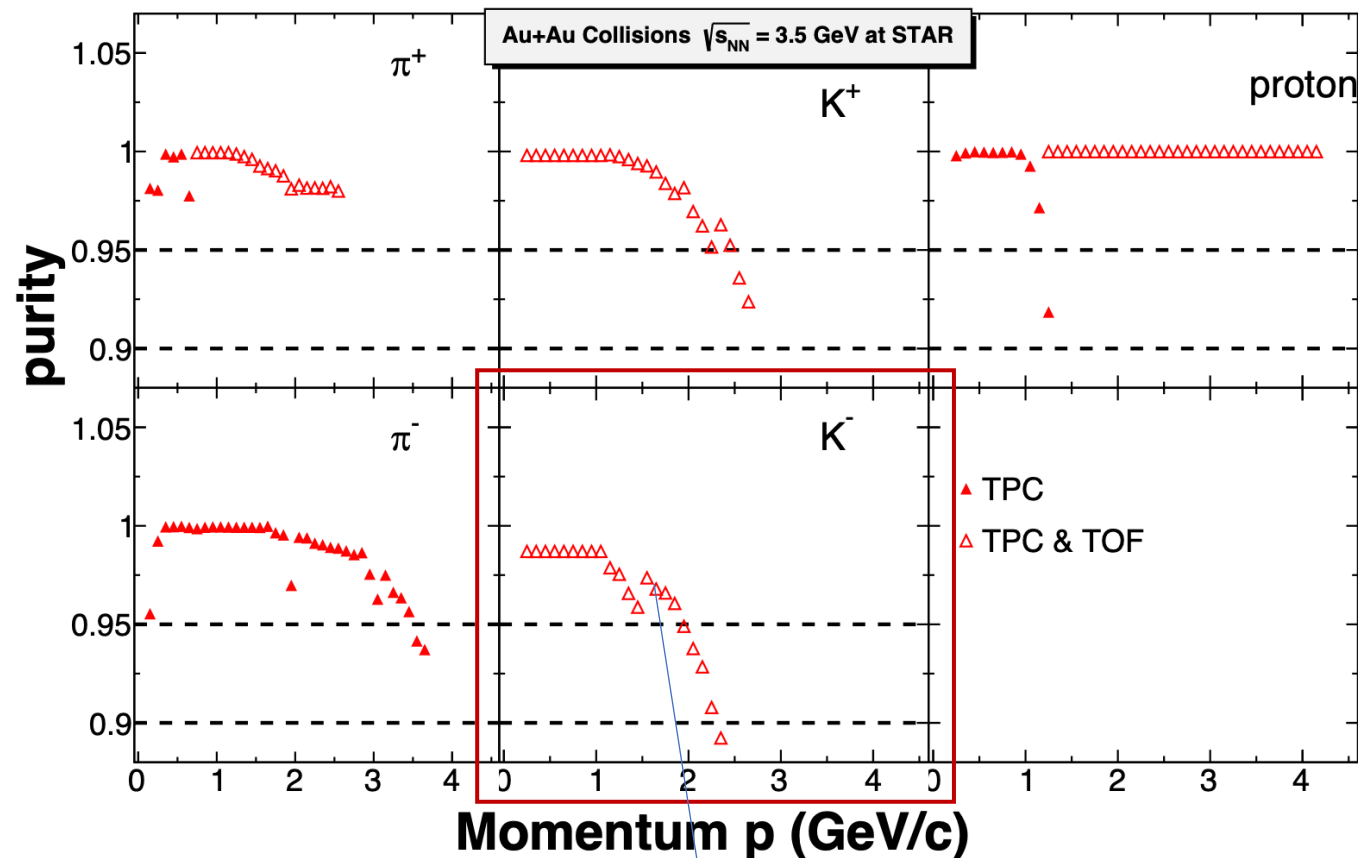
Au+Au @ $\sqrt{s_{NN}}=3.5$ GeV, 0-80%
TOF matching efficiency







Low yield in the forward-rapidity



Asymmetric m^2 cut at higher p to make sure the purity is greater than 90%.

K-: dN/dy

