Ks Spectra Measured with HFT

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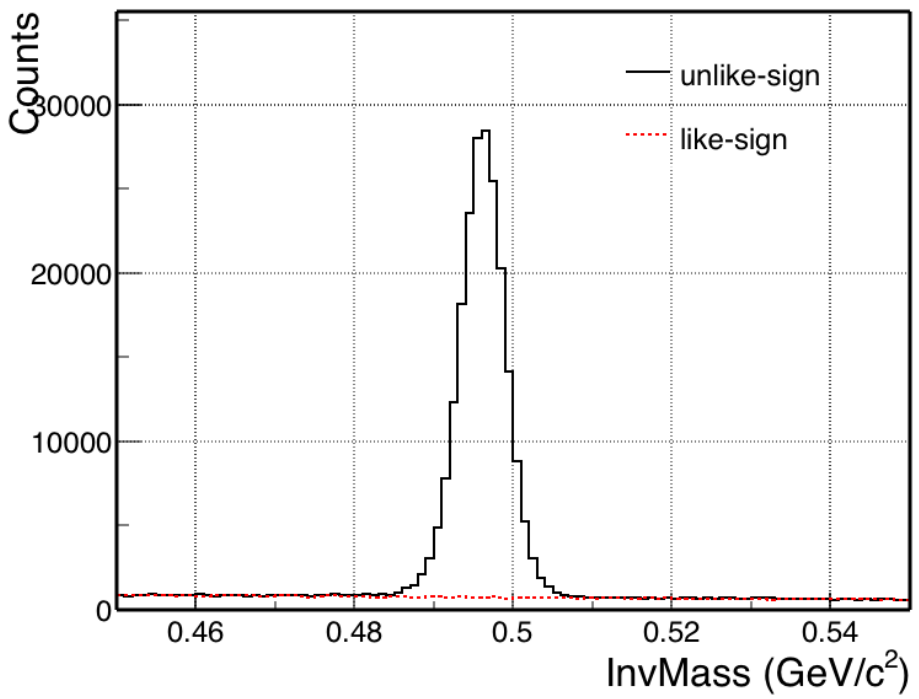
With helps from Guannan, Michael, Mustafa, Hao etc.

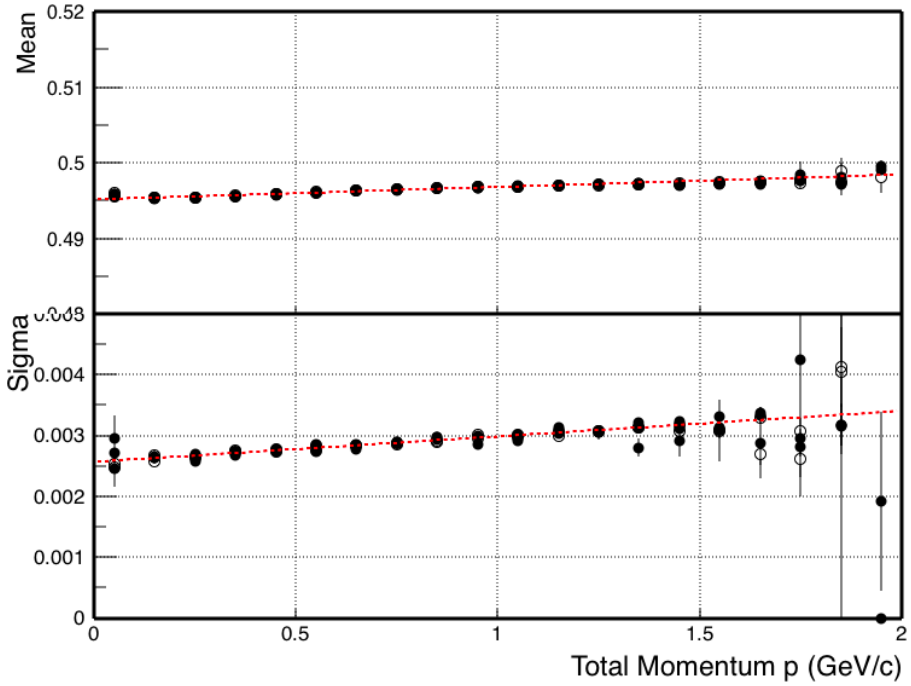
Ks Reconstruction

Event/Track quality cuts – same as those in D0 analysis

dca1>0.3, dca2>0.3, dca12<0.02, dca2vtx<0.05, cos(theta)>0
decayL_xy < 1.5 (inside beampipe)
pT1>0.2, pT2>0.2 (default, will study the threshold dependence)

0-10%, 1<p_T<1.1 GeV/c



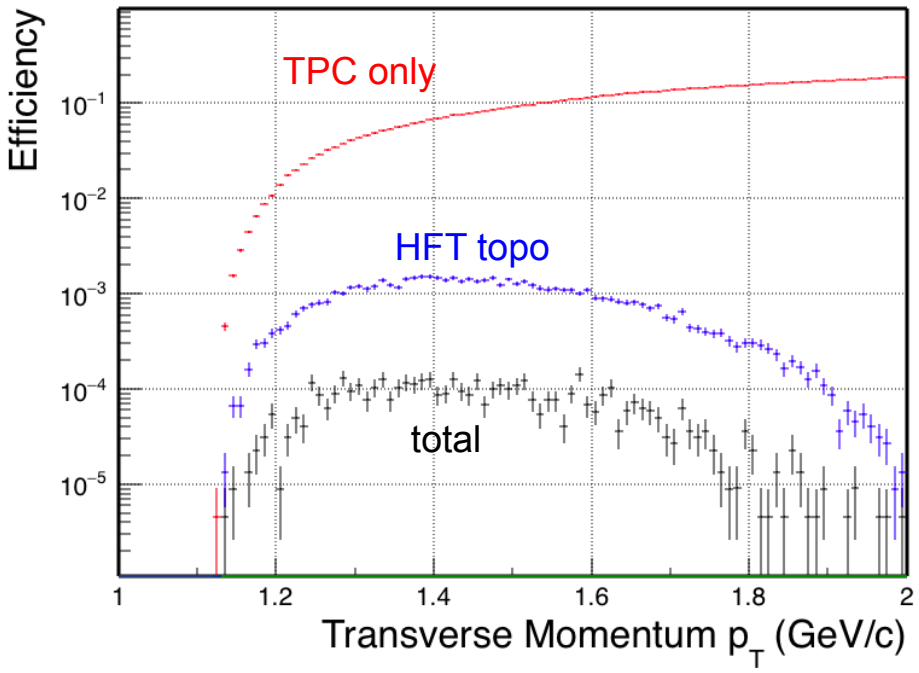


Raw yields: US-LS, counting the yields within 3 sigma (sigma is from a Gaussian fit)

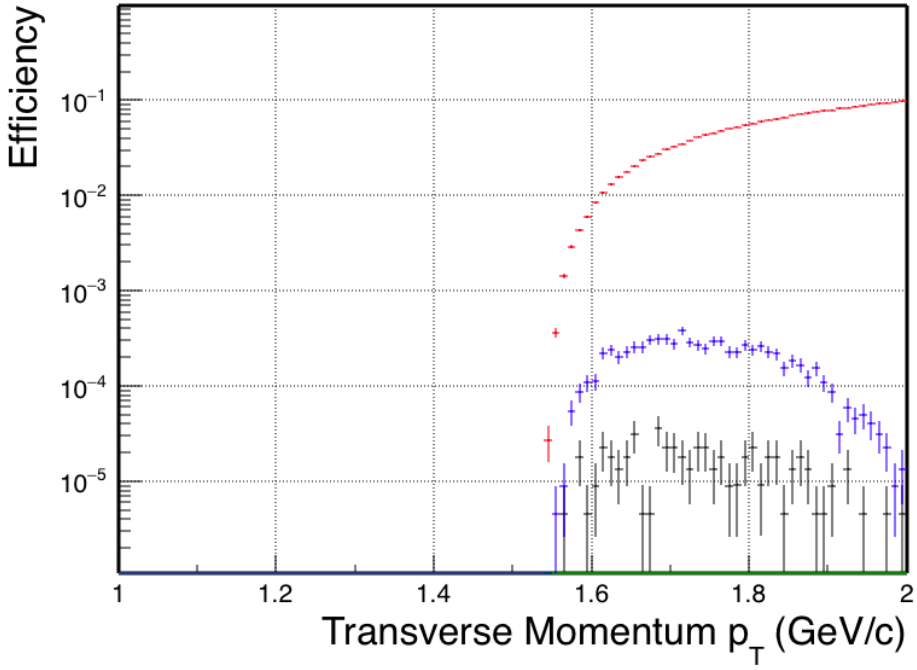
Efficiency Calculation (version 2)

Au+Au 10-20%

pT1>0.6, pT2>0.6



pT1>0.8, pT2>0.8

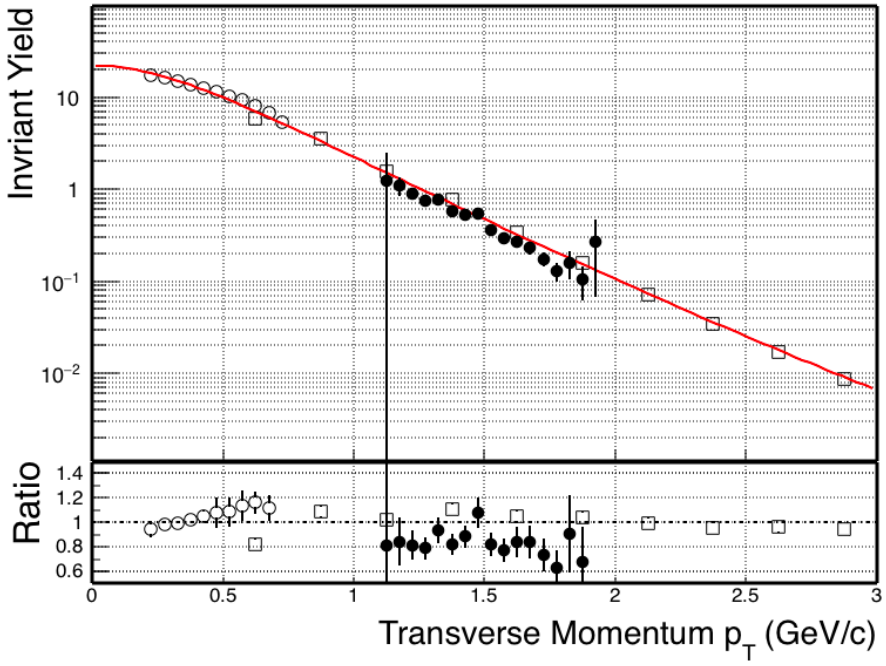


Need to improve the MC statistics

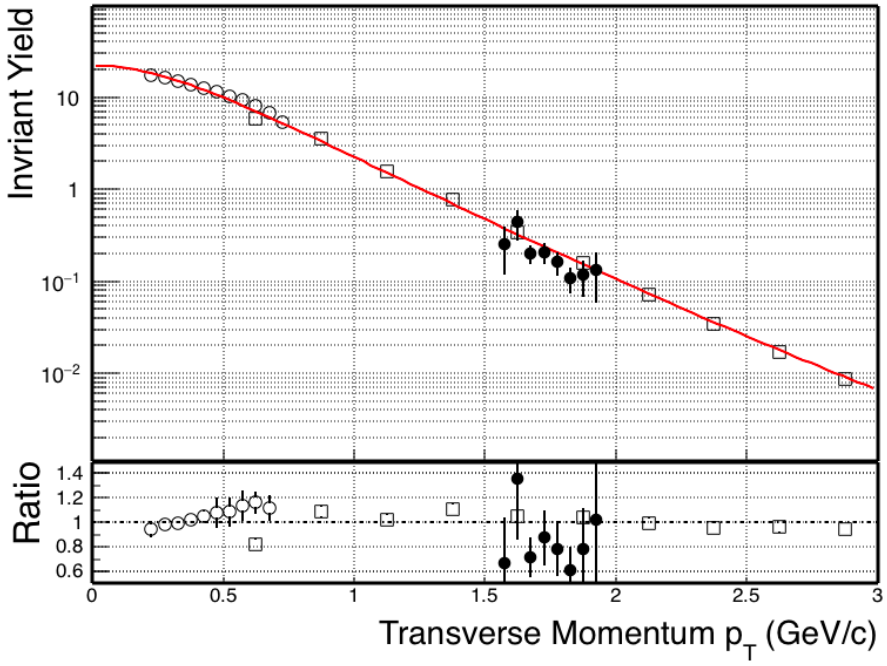
Corrected Ks Spectra

Au+Au 10-20%

pT1>0.6, pT2>0.6



pT1>0.8, pT2>0.8



Open symbols: published K+/- and Ks spectra in 10-20% centrality bin
Solid symbols: measured Ks spectra with different pT daughter cuts

Limited statistics in MC simulation, some contributions to errors

Summary and To-do

Ks spectra from HFT fairly consistent with published one (20% level)

To-do

1) improve the MC simulation statistics

2) use the re-weighting to correct for the mis/right-match difference with full GEANT simulation (a bit tricky for somewhat looser topo cuts in Ks analysis)