

ϕ -meson Global Spin Alignment Update

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Current State of Analysis

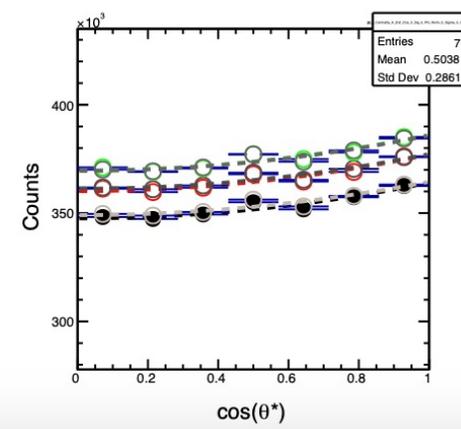
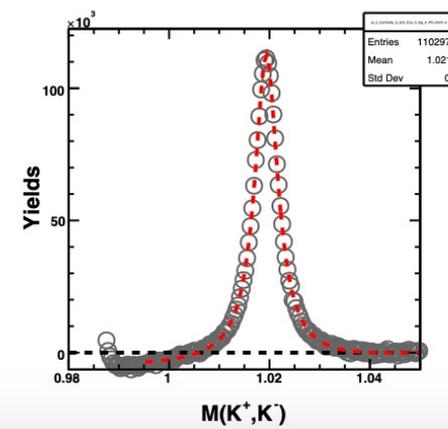
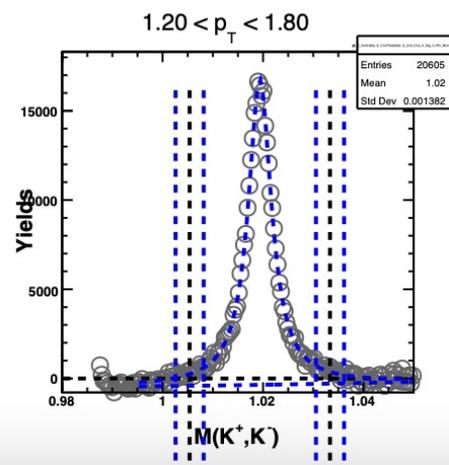
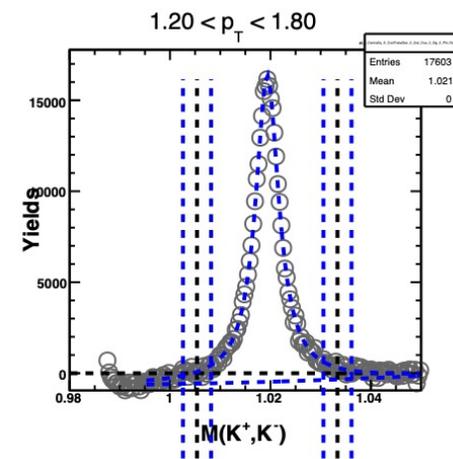
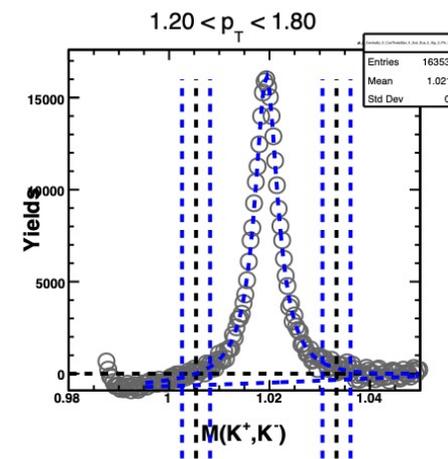
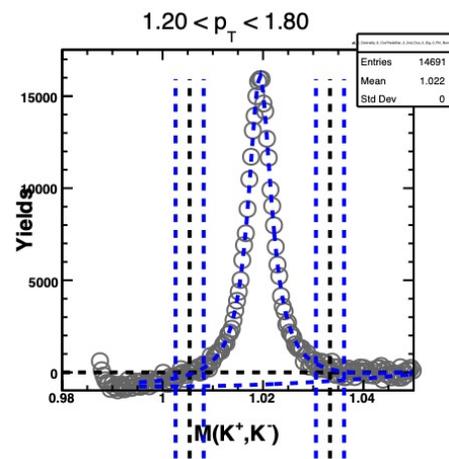
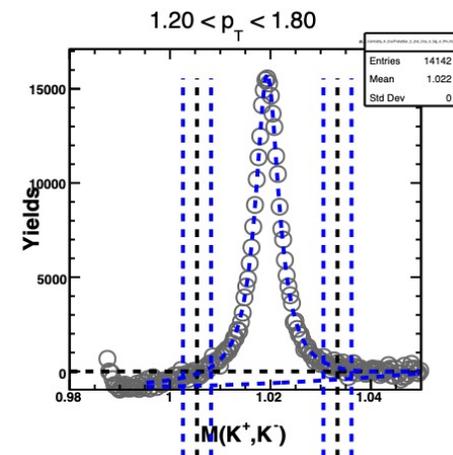
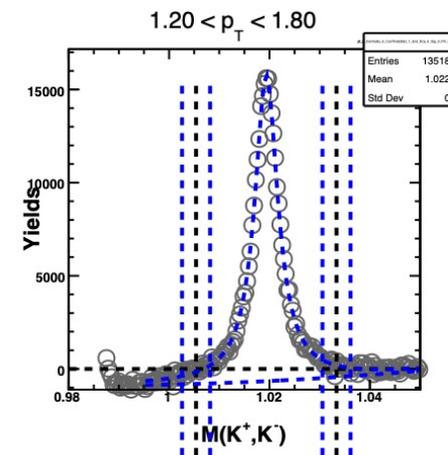
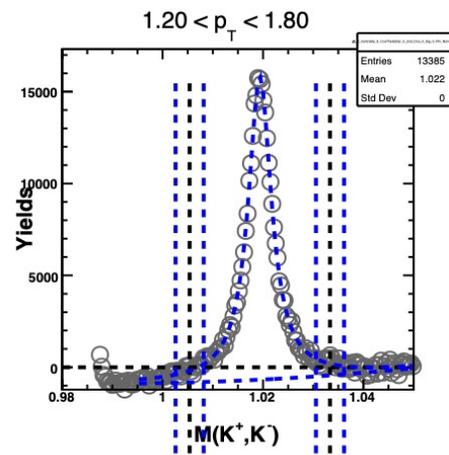
- Divided ϕ -meson analysis into 3 bins based on daughter Kaon η acceptance with $|y| < 1.5$ for all ϕ -mesons.
 - $K^{+/-} |\eta| < 1.0$ && $K^{-/+} |\eta| < 1.0$ (All particles require TOF + TPC)
 - $K^{+/-} |\eta| < 1.0$ (TOF + TPC) && $K^{-/+} 1.0 < |\eta| < 1.5$ (TPC Only)
 - $K^{+/-} 1.0 < |\eta| < 1.5$ && $K^{-/+} 1.0 < |\eta| < 1.5$ (TPC Only)
- Perform each analysis separately:
 - Raw p_0 extraction
 - Efficiency correction
 - Acceptance correction

Current State of Analysis

- Code is in place for efficiency and acceptance calculations.
 - Acceptance correction needs some thought.
 - Distribution deviates from $1+F\cos^2\theta^*$ for individual rapidity bins.
- Efficiency simulation is currently running for some of the pT bins.
 - We have a first look at the efficiency distributions for different rapidity bins.
- Analysis in the $|\eta| < 1.0$ acceptance bin is straight forward, but there are some problems to address with other acceptance bins.

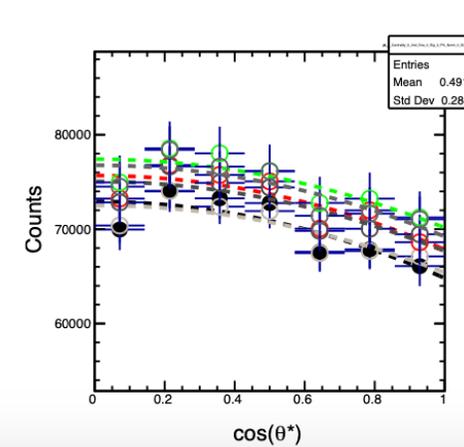
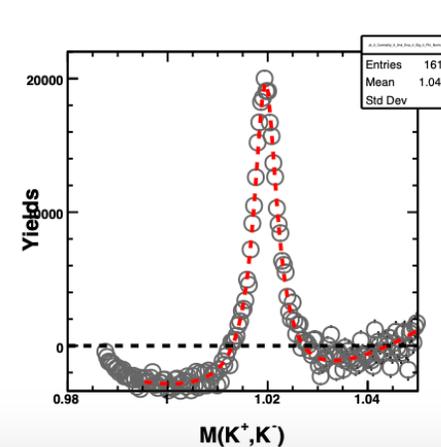
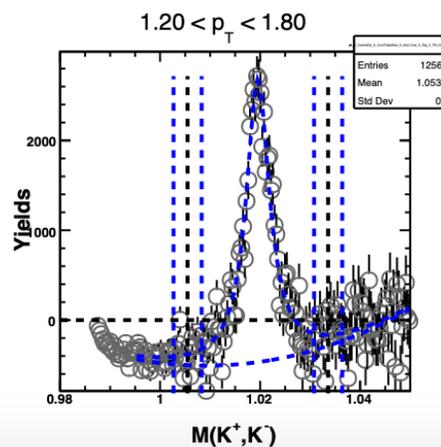
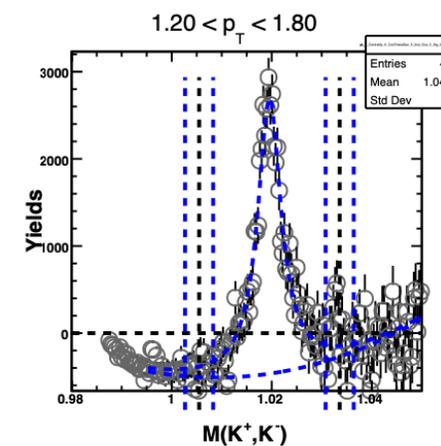
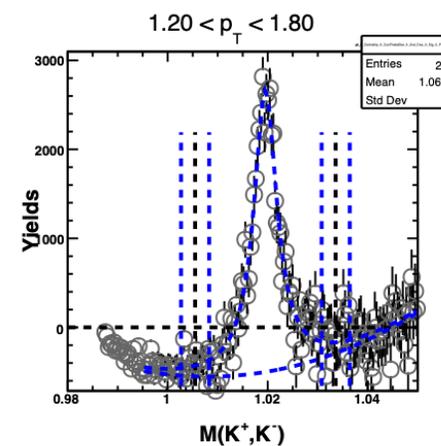
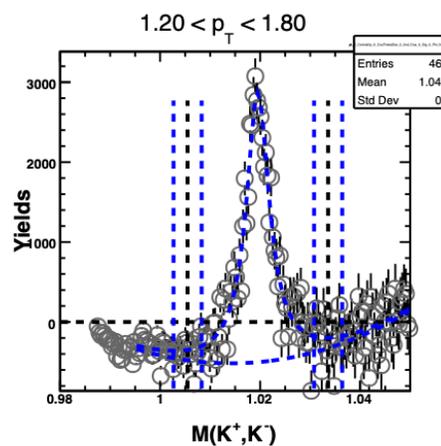
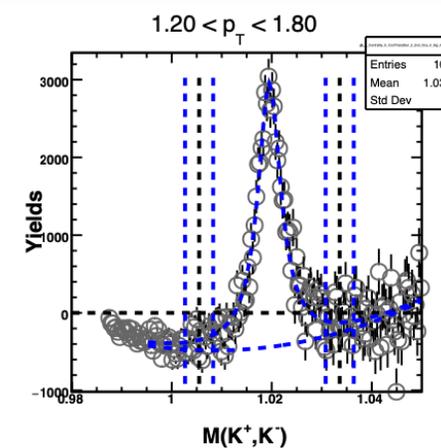
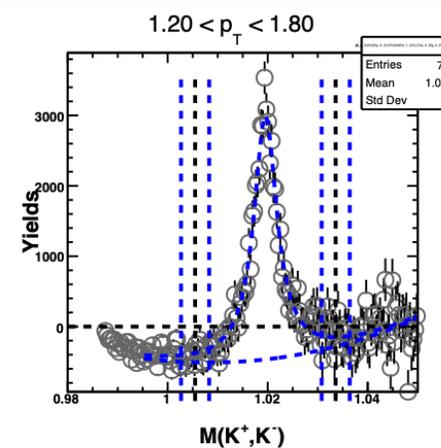
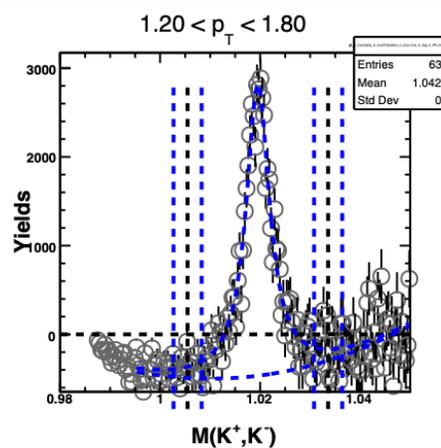
$$|\eta| < 1.0$$

$$|\eta| < 1.0$$



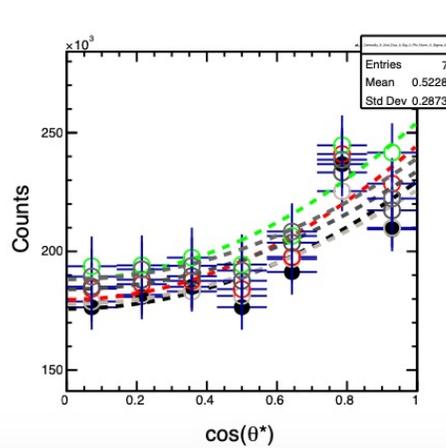
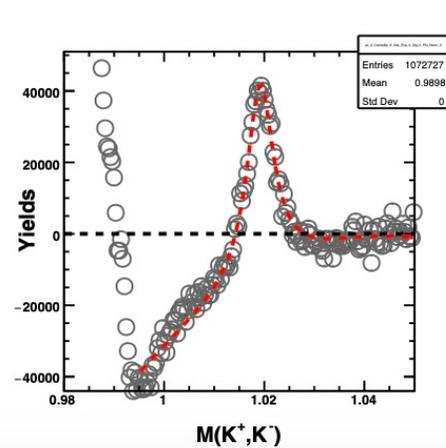
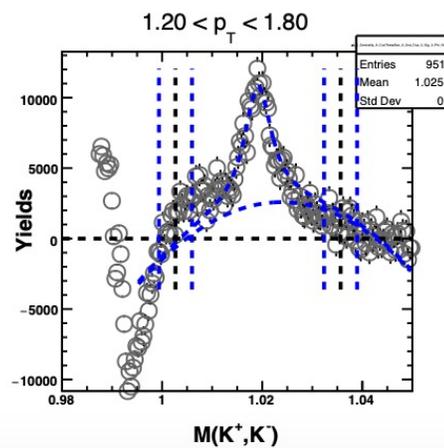
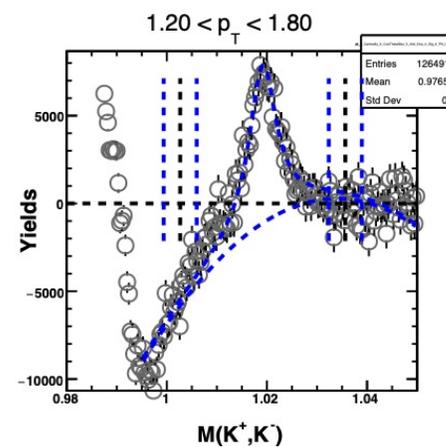
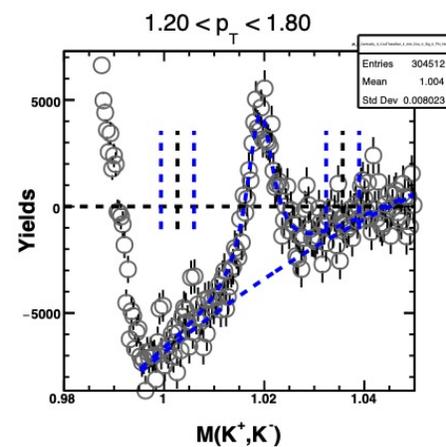
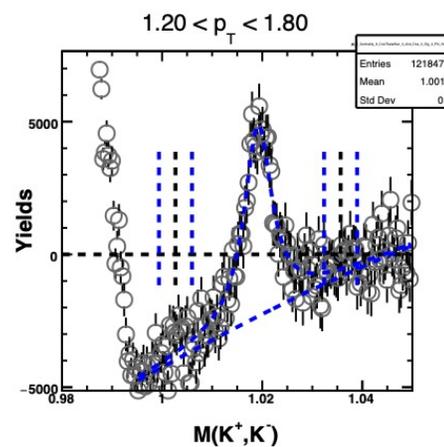
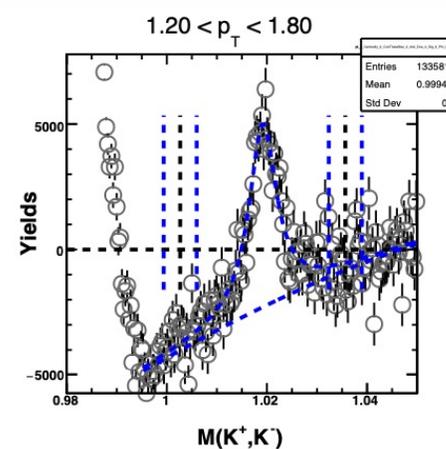
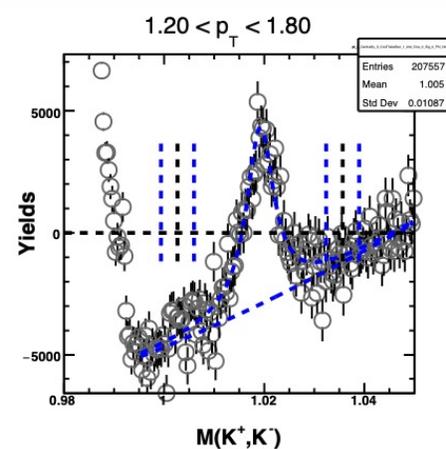
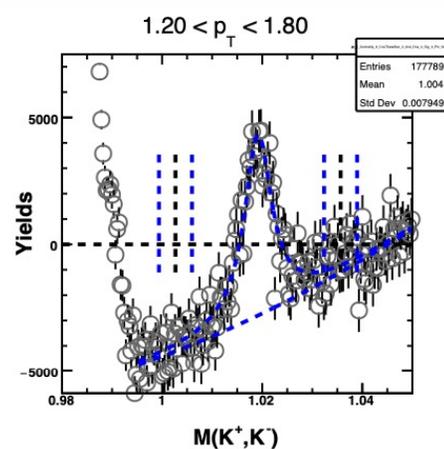
$|\eta| < 1.0$

$1.0 < |\eta| < 1.5$



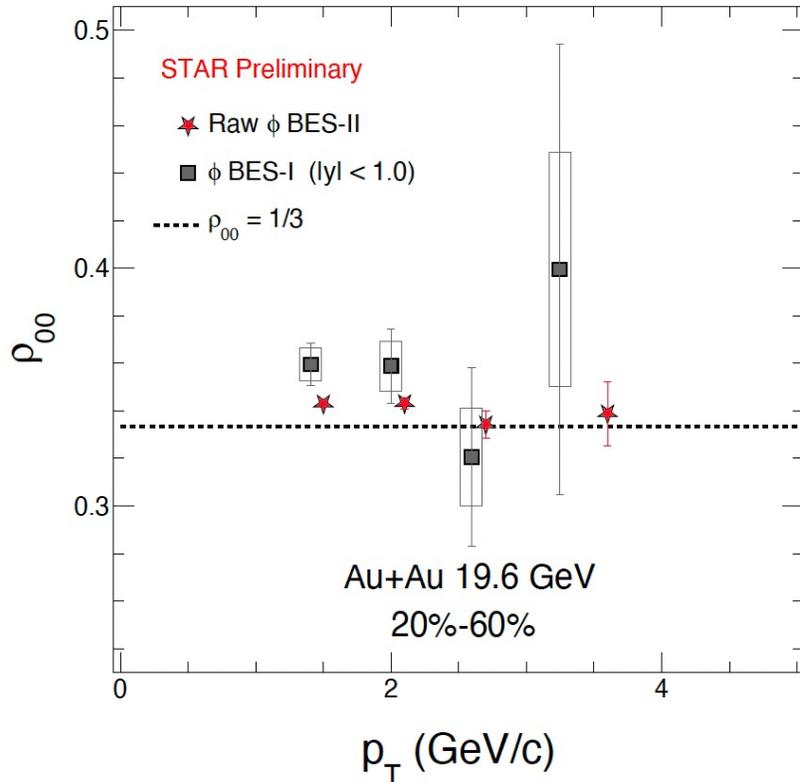
$1.0 < |\eta| < 1.5$

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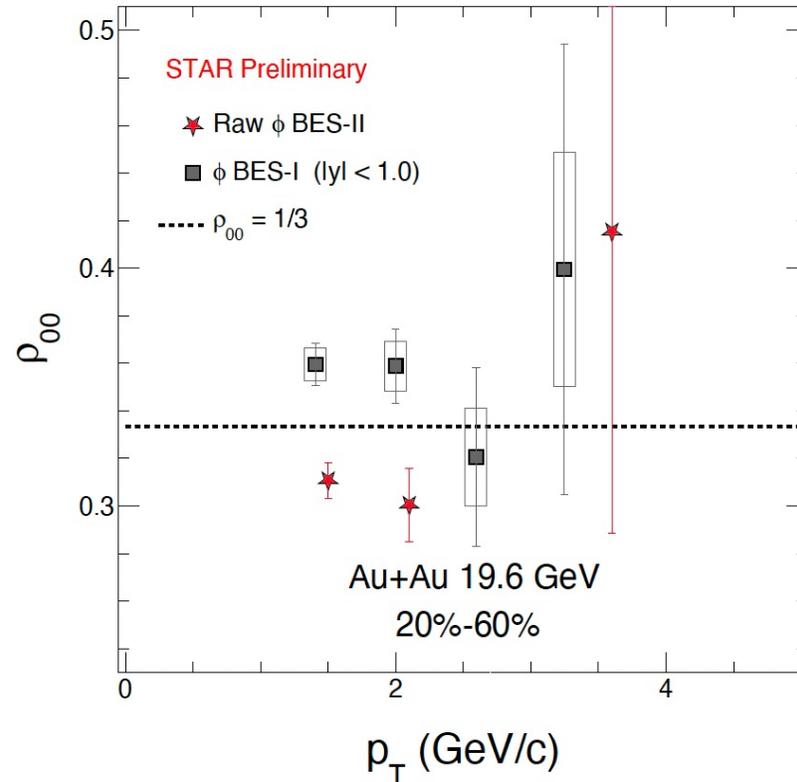


p_T dependence of ρ_{00}

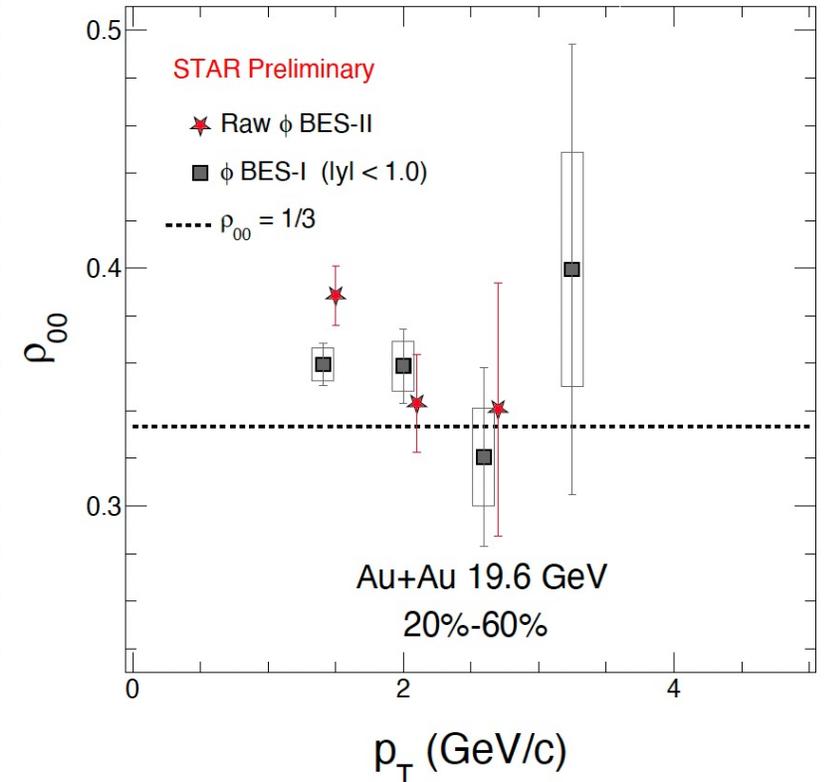
$|\eta| < 1.0$
 $|\eta| < 1.0$



$|\eta| < 1.0$
 $1.0 < |\eta| < 1.5$

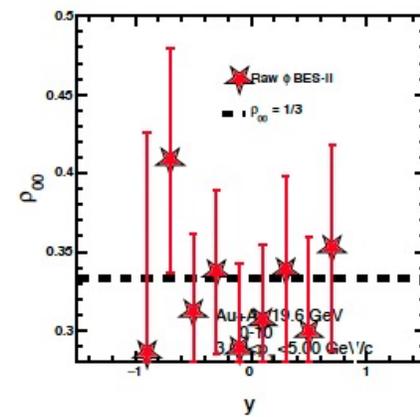
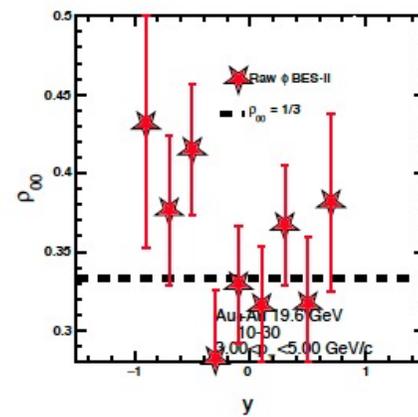
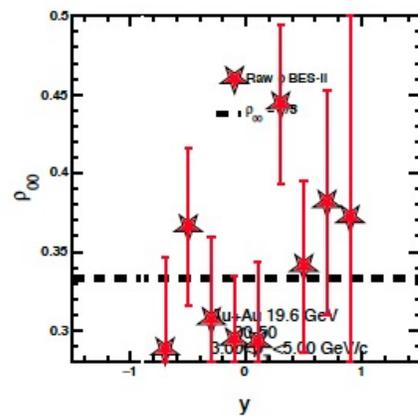
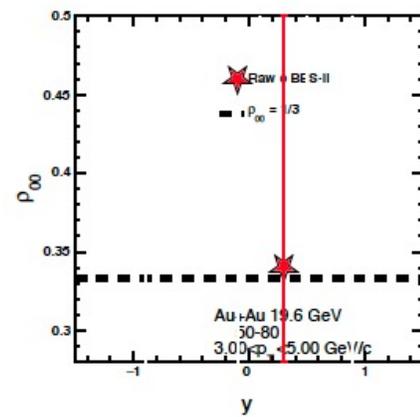
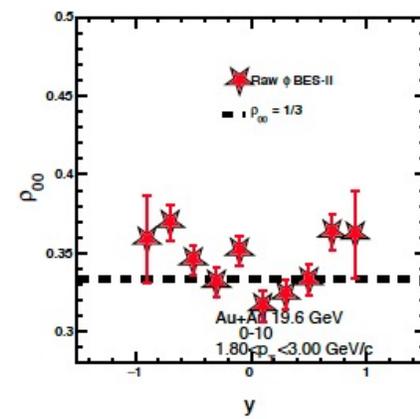
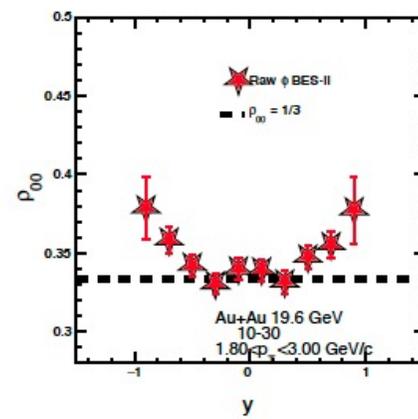
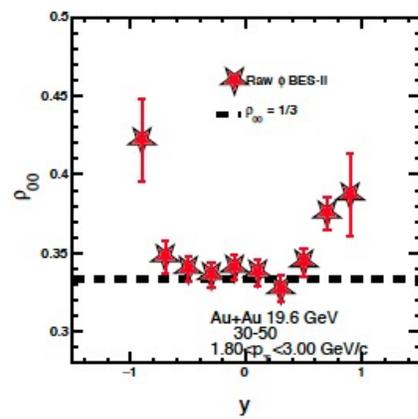
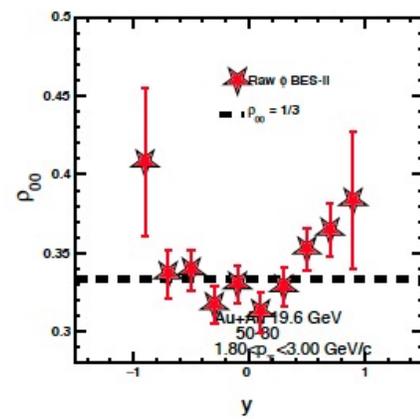
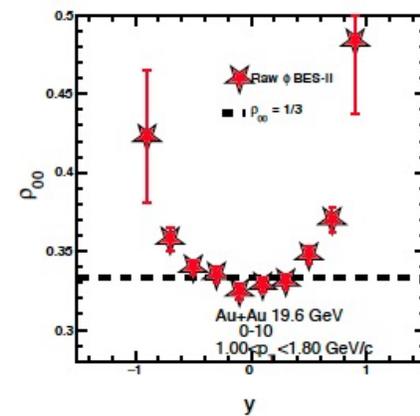
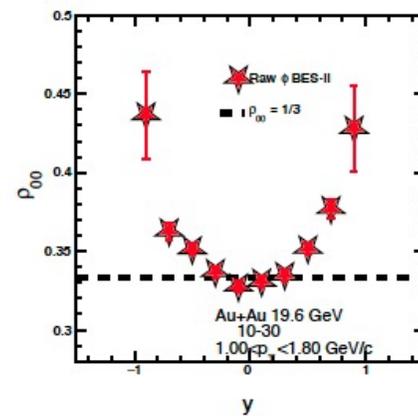
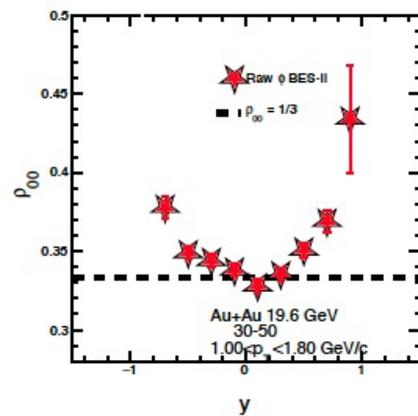
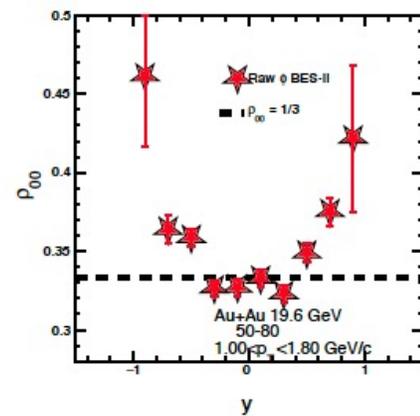


$1.0 < |\eta| < 1.5$
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$|\eta| < 1.0$

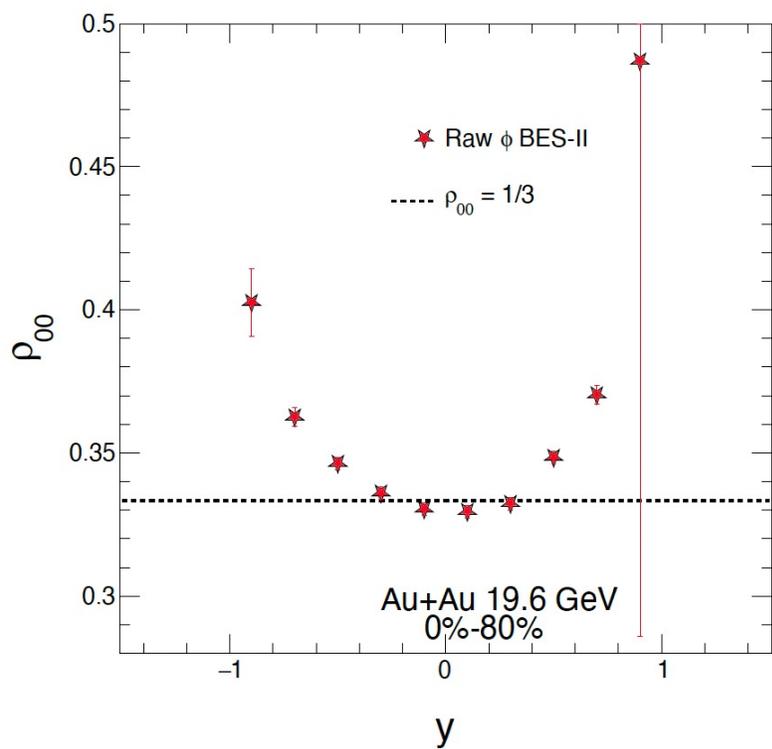
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rapidity dependence of ρ_{00}

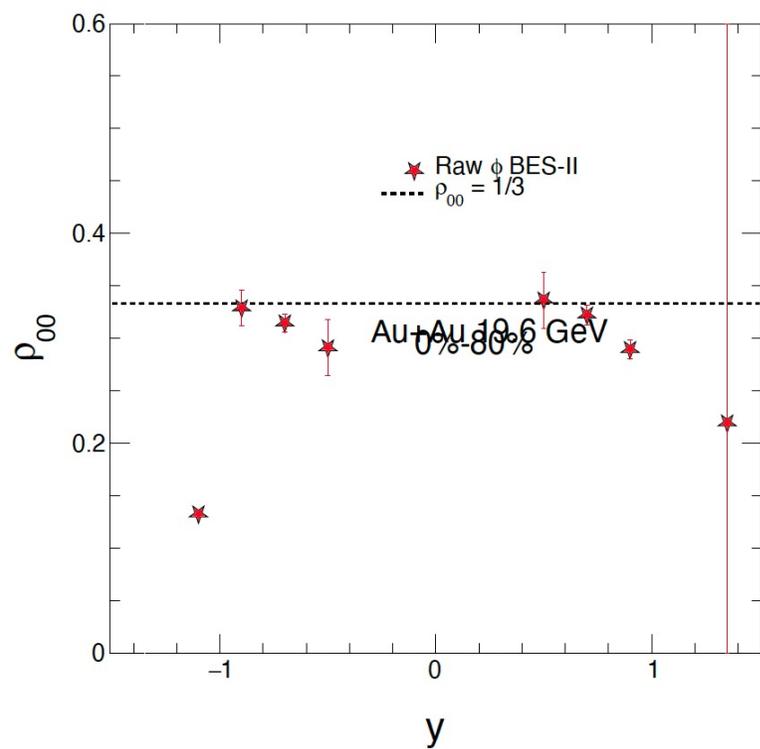
$|\eta| < 1.0$

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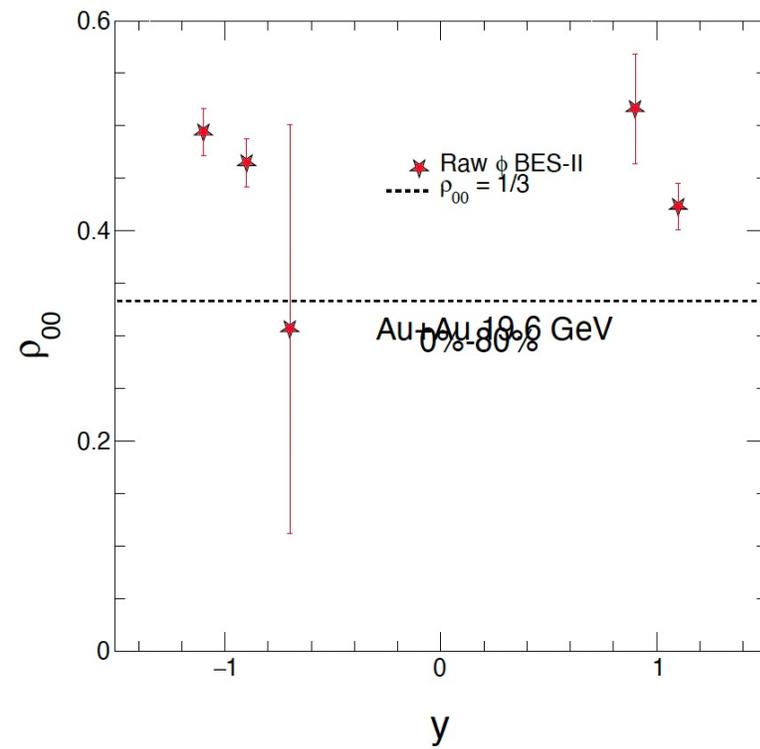
$|\eta| < 1.0$

$1.0 < |\eta| < 1.5$



$1.0 < |\eta| < 1.5$

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centrality dependence of ρ_{00}

$|\eta| < 1.0$

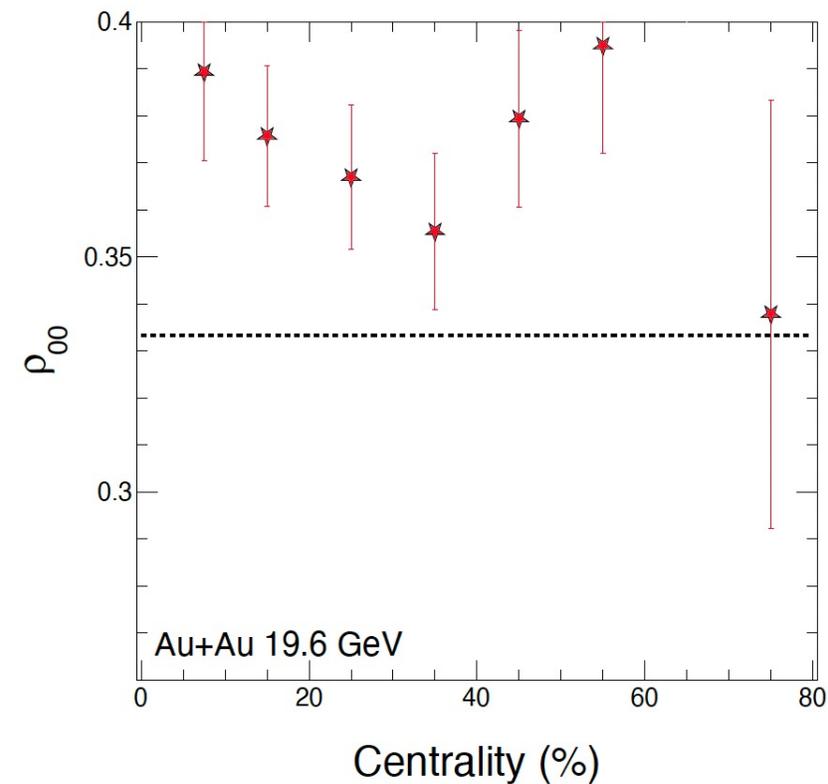
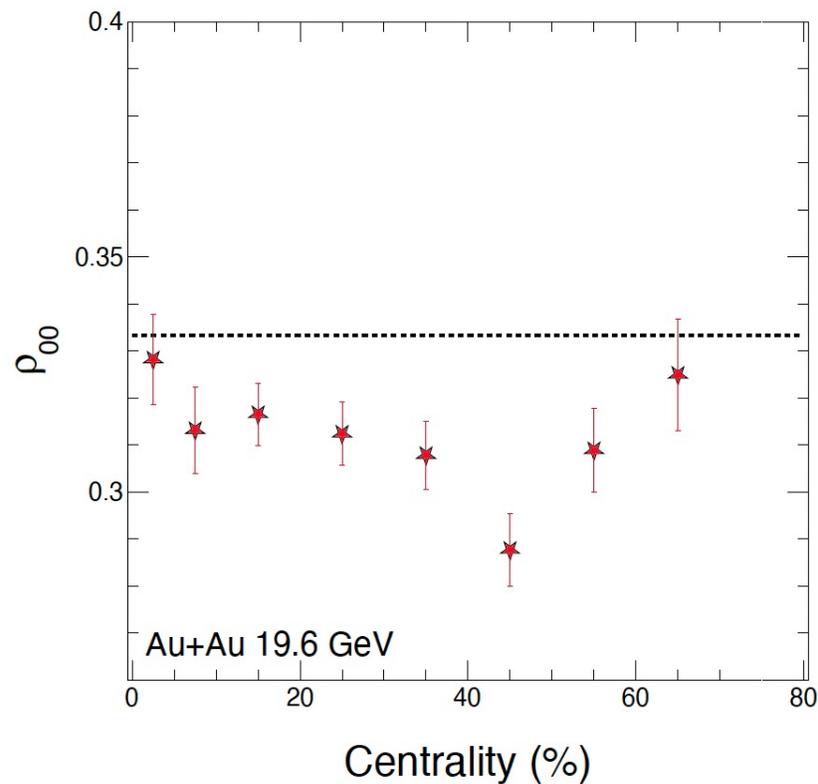
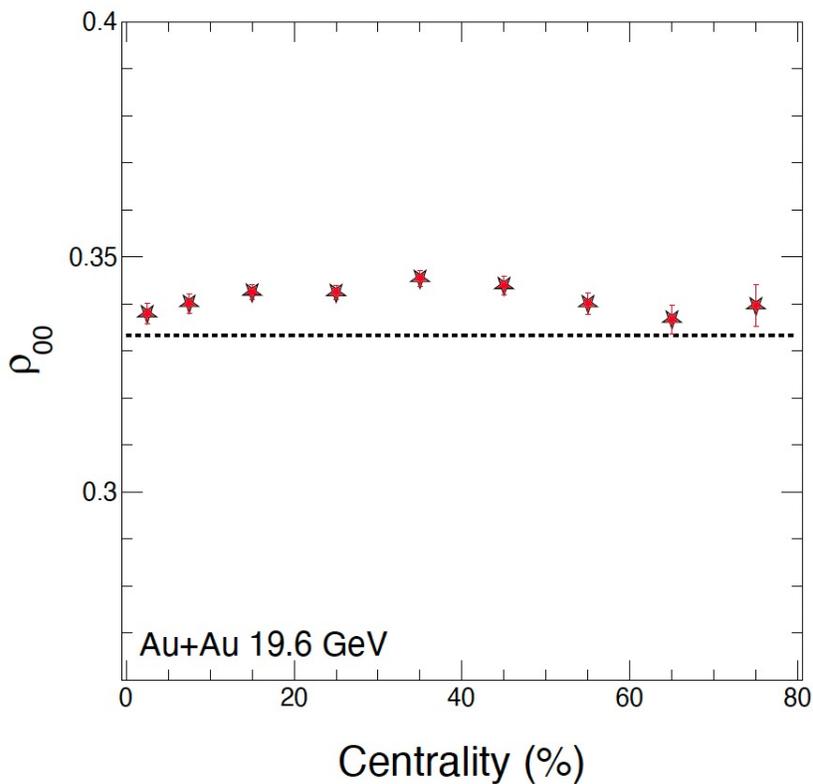
$|\eta| < 1.0$

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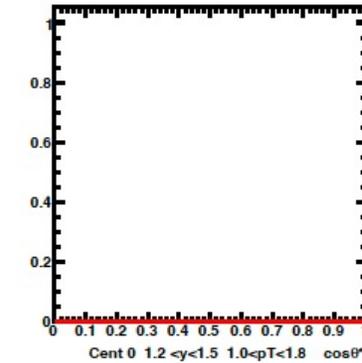
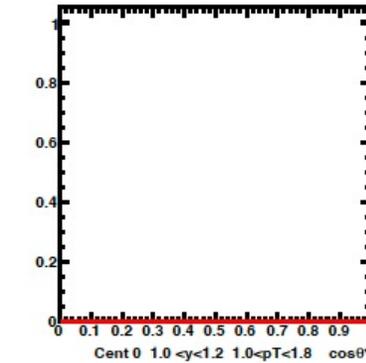
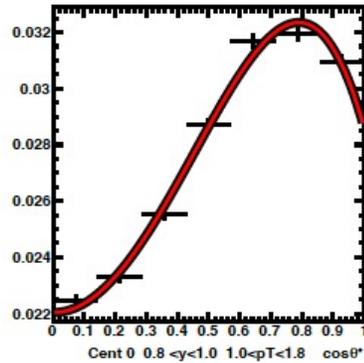
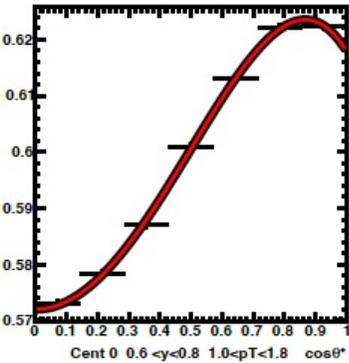
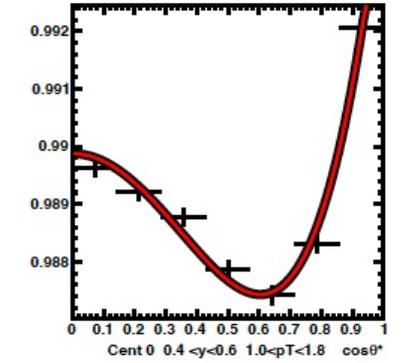
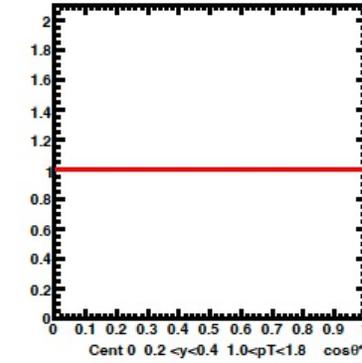
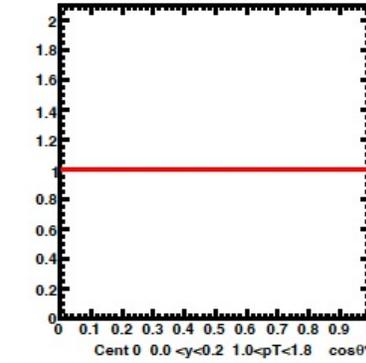
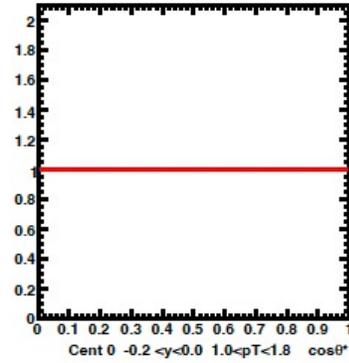
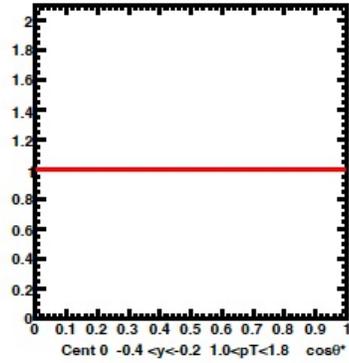
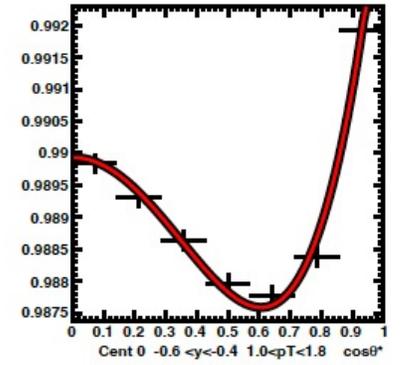
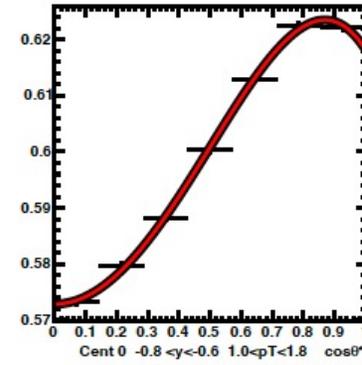
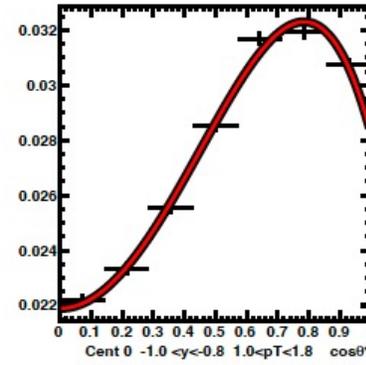
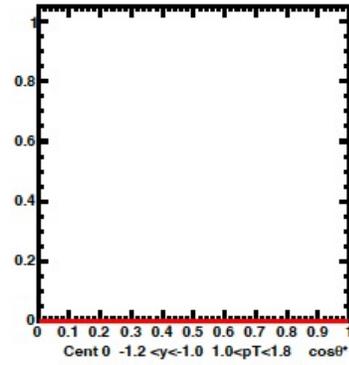
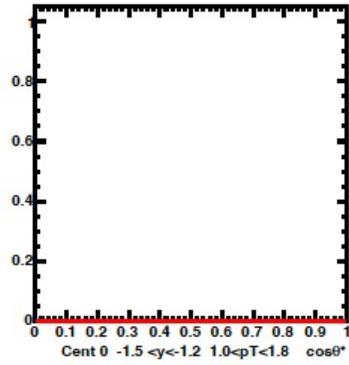
$1.0 < |\eta| < 1.5$

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Rapidity dependence of acceptance ($|\eta| < 1.0$)



Rapidity dependence of Efficiency ($|\ln| < 1.0$)

