Status Weekly Ξ_c^0 analysis meeting, Feb. 18, 2021

Status

- Succeeded reproducing Jinjoo's results
 - a. MB + [0, 100], final cross section,by using New train output
 - b. MB + [0, 100], raw e-Xi pair yields before prefilter correction,by using both New and Old (by Jinjoo, before WDF update) train output
- Currently looking into Xi variables' distribution:

by using both New and Old (before WDF update) train output

X-section MB + [0, 100], Comparison w/ Jinjoo's results

Jinjoo, Feb. 5 MB 0.0to100.0, Xic0Eff wgt ith new Xi cuts' and new results $\mathsf{d}^2 \circ \! / \mathsf{d} \rho_{\scriptscriptstyle op} \mathsf{d} \mathsf{y} \, (\mu \mathsf{b} (\mathsf{GeV} / c)^\dagger)$ 0.104 0.1 Mean 3.246 1.057 0.08 0.067 --- Merged 0.06 0.02 old with old Xi cuts Xsec_MB_0.0to100.0 old with new Xi cuts -- new **≡** 10² 70.318 Cross section 0.02 $\mathrm{d}^2 \circ / \mathrm{d} \rho_{\mathrm{T}} \mathrm{d} \mathrm{y} \ (\mu \mathrm{b} (\mathrm{GeV}/c)^{\text{-1}})$ Mean p_T (GeV/c) --- old Efficiency --- Merged 10 6

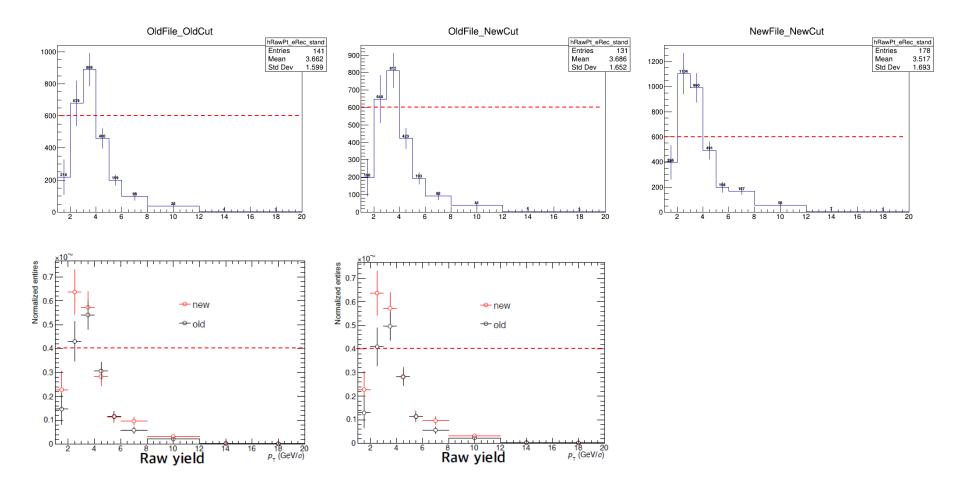
Left: my result / Right: Jinjoo's, both results by new file + new Xi topology cuts

12

16

10

X-section MB + [0, 100], Comparison w/ Jinjoo's results

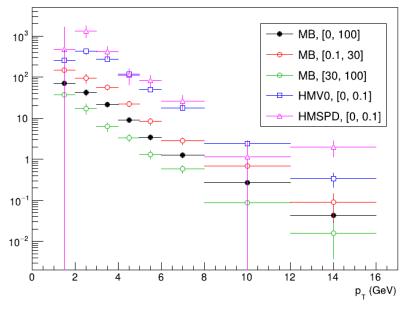


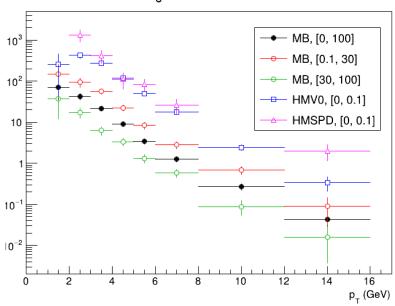
Top: my result / Bottom: Jinjoo's

X-section Cross section, for all combinations

Ξ_c^0 cross section

 Ξ_c^0 cross section





- FAR FROM FINAL ONE: many corrections are left, at the very least,
 - # of events processed, by using AliNormalizationCounter (main task code need to be updated) a.
 - b. Efficiency difference by trigger and multiplicity
- Statistics (# of events processed):
 - MB + [0, 100] (multiplicity percentile) 1.834×10^9 a.
 - MB + $[0.1, 30] 0.515 \times 10^9$ b.
 - c. MB + $[30, 100] - 1.317 \times 10^9$
 - $HMV0 + [0, 0.1] 0.487 \times 10^9$ d.
 - HMSPD + $[0, 0.1] 0.024 \times 10^9$ e.