

Analysis Update: p_T spectra as a function of R_T for pp collisions at $\sqrt{s} = 5.02$ TeV

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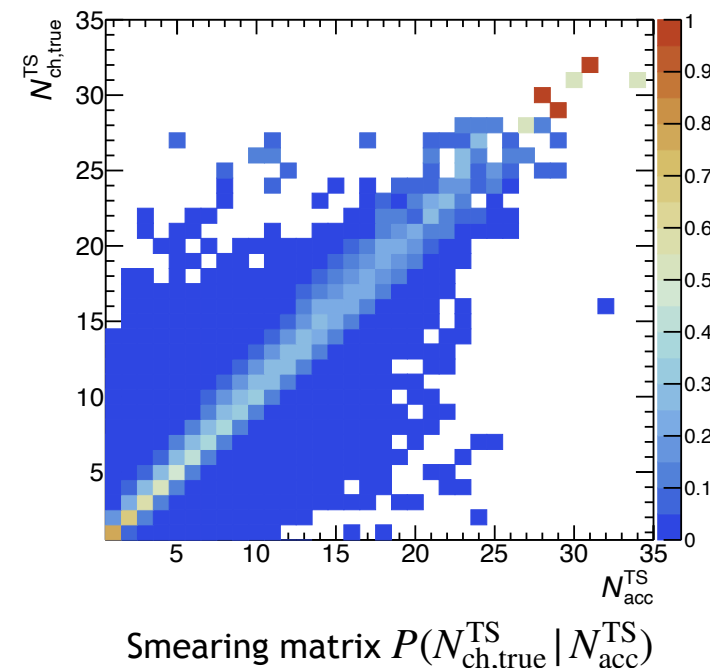
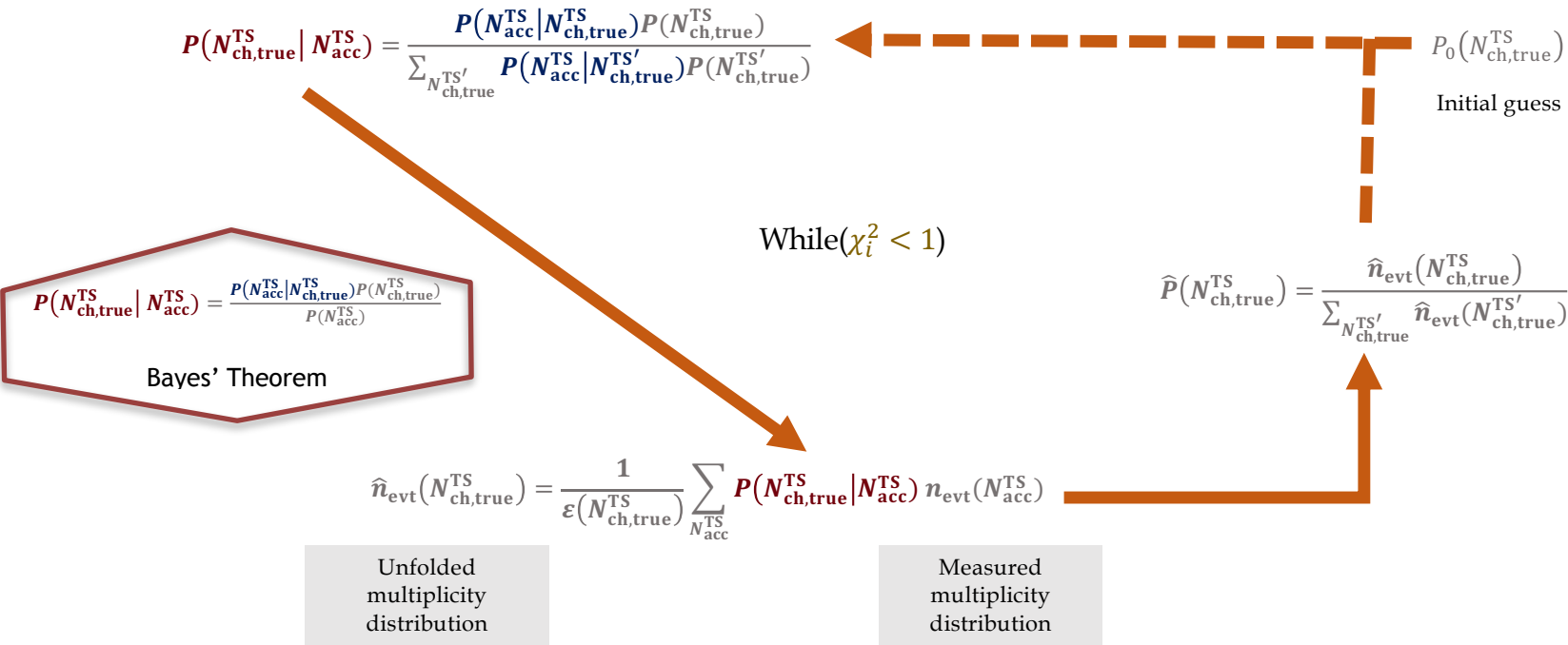
Luz Elena Tiscareño Montoya
Paola Vargas Torres

Tuesday, September 13th 2021

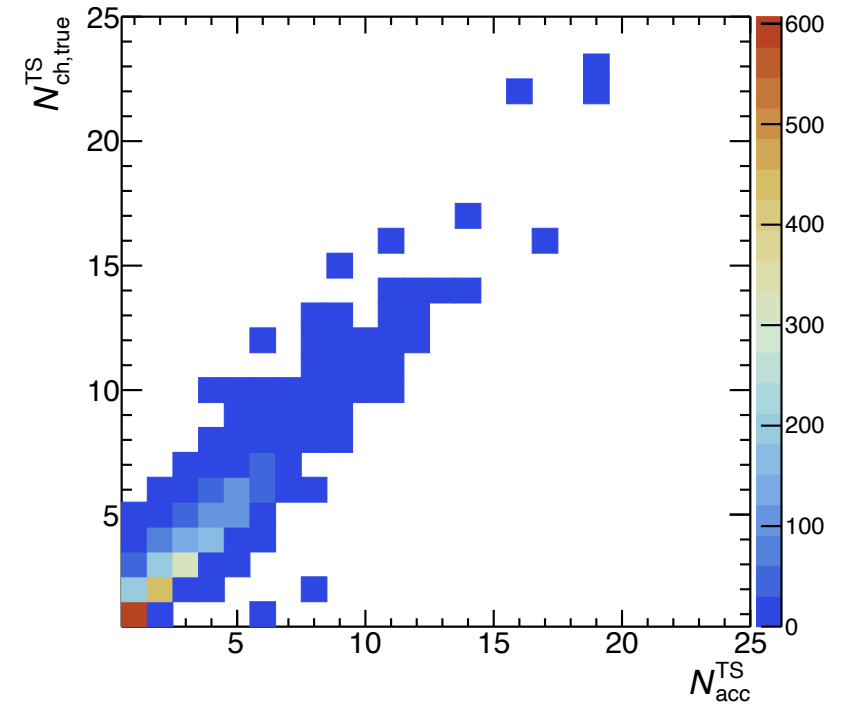
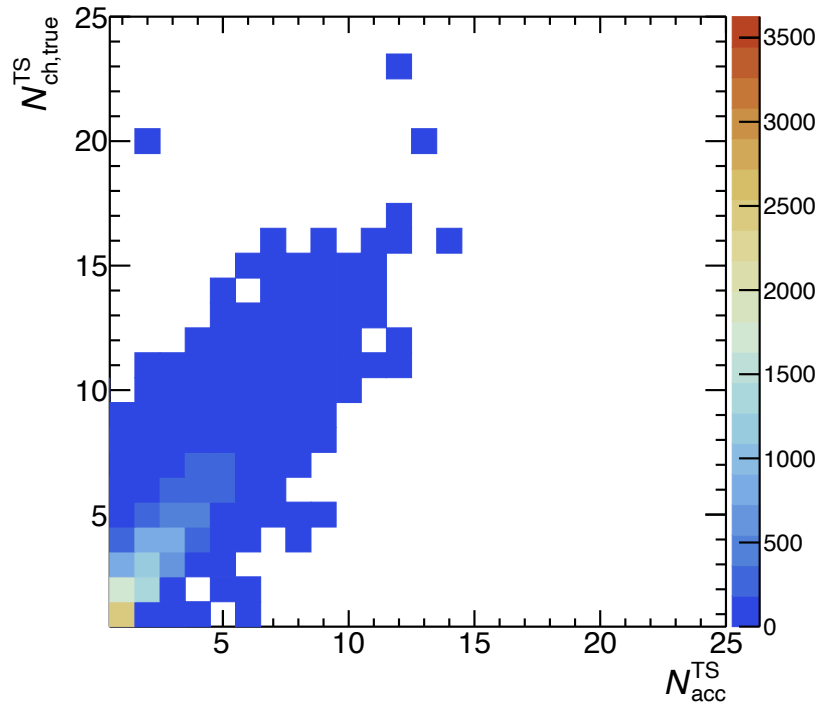
1D Unfolding of distributions N_{ch}^{TS}

Purpose: To obtain a better estimate of the true distribution of the multiplicity of charged particles from the development of experimental distributions.

$N_{ch,true}^{TS}$: True multiplicity in the Transverse region.
 N_{acc}^{TS} : Multiplicity distribution of measured events in the Transverse region.
 $P(N_{acc}^{TS} | N_{ch,true}^{TS})$: Multiplicity response matrix.



Multiplicity correlation matrices



$$5 < p_T^{\text{leading}} < 40 \text{ GeV}/c$$

Left: 2015 track cuts and right: hybrid track cuts

2D Unfolding of p_T spectra

NEW

First: Apply the tracking efficiency and secondary particle contamination

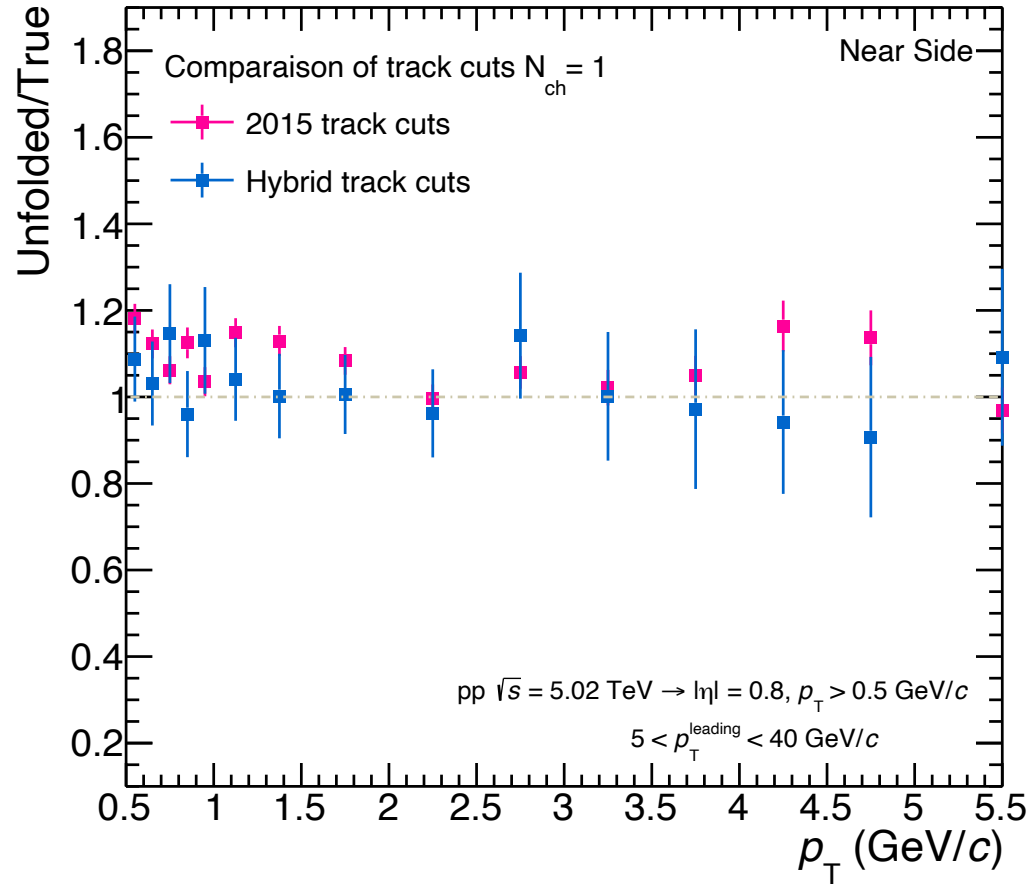
Second:

$$\left(\text{Multiplicity response matrix, } P(N_{\text{acc}}^{\text{TS}} | N_{\text{ch,true}}^{\text{TS}}) \right) \times \left(\text{Weight of the number of measured particles} \right)$$

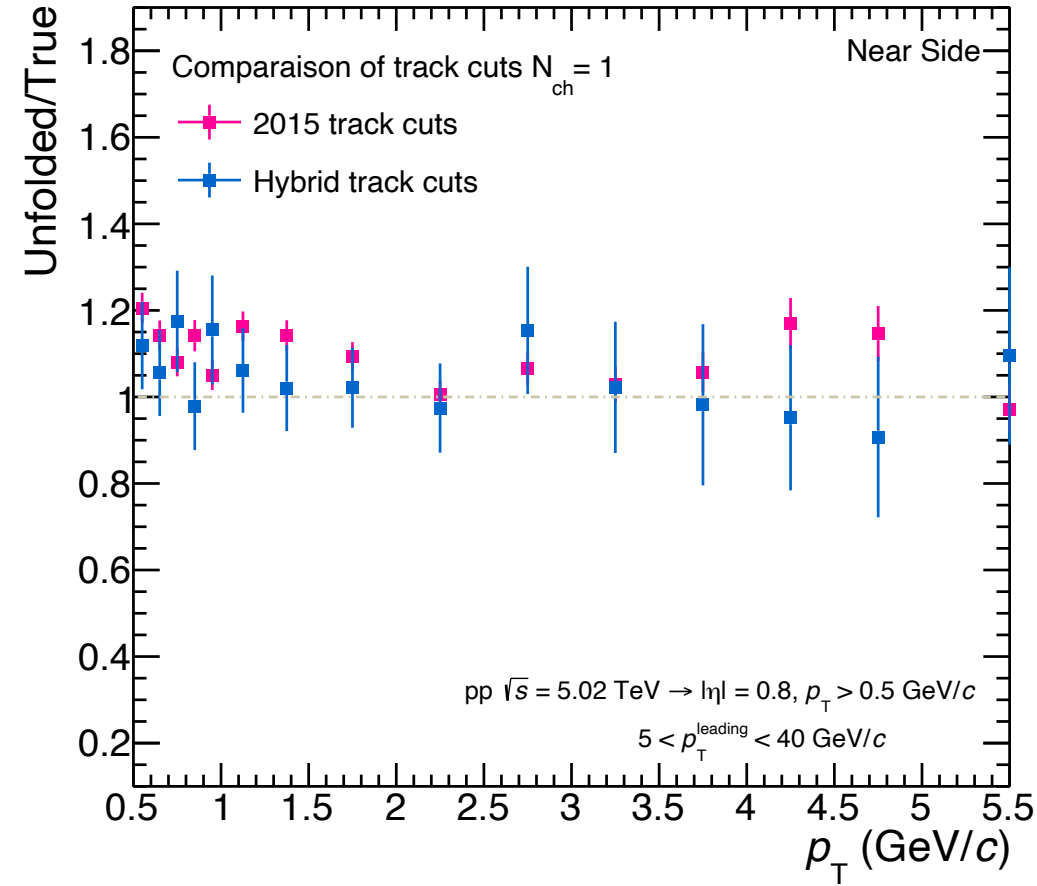
MC closure test

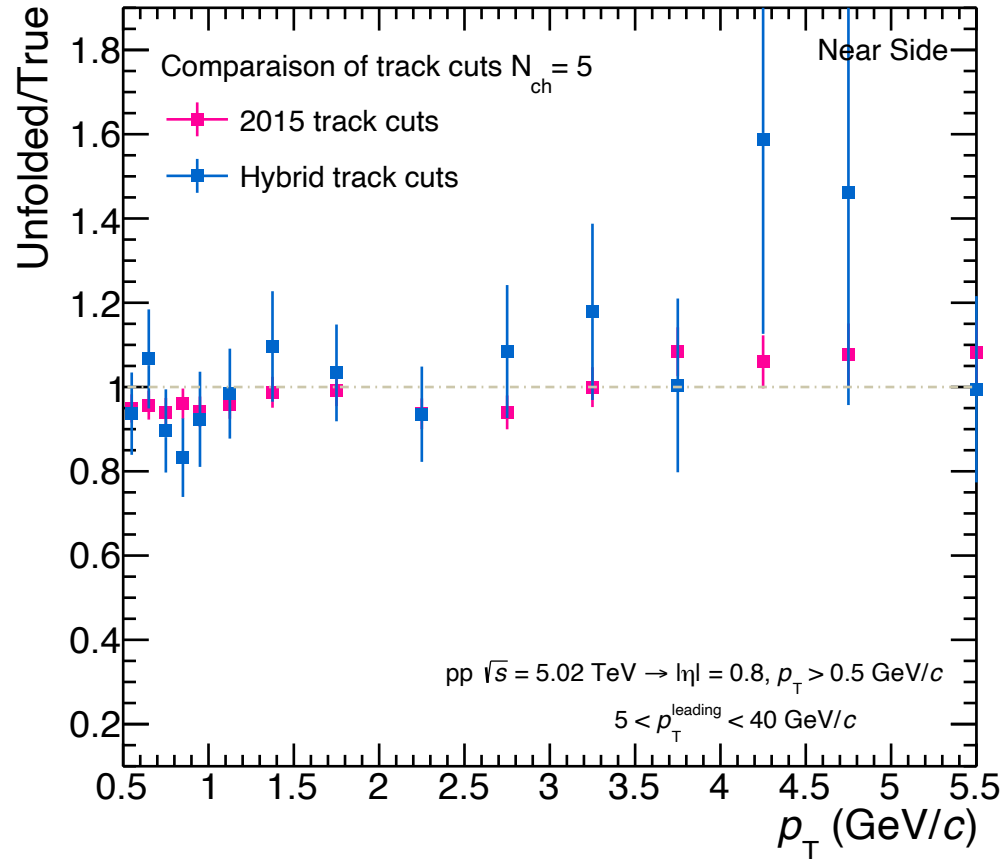
Normal and reverse method

Near Side

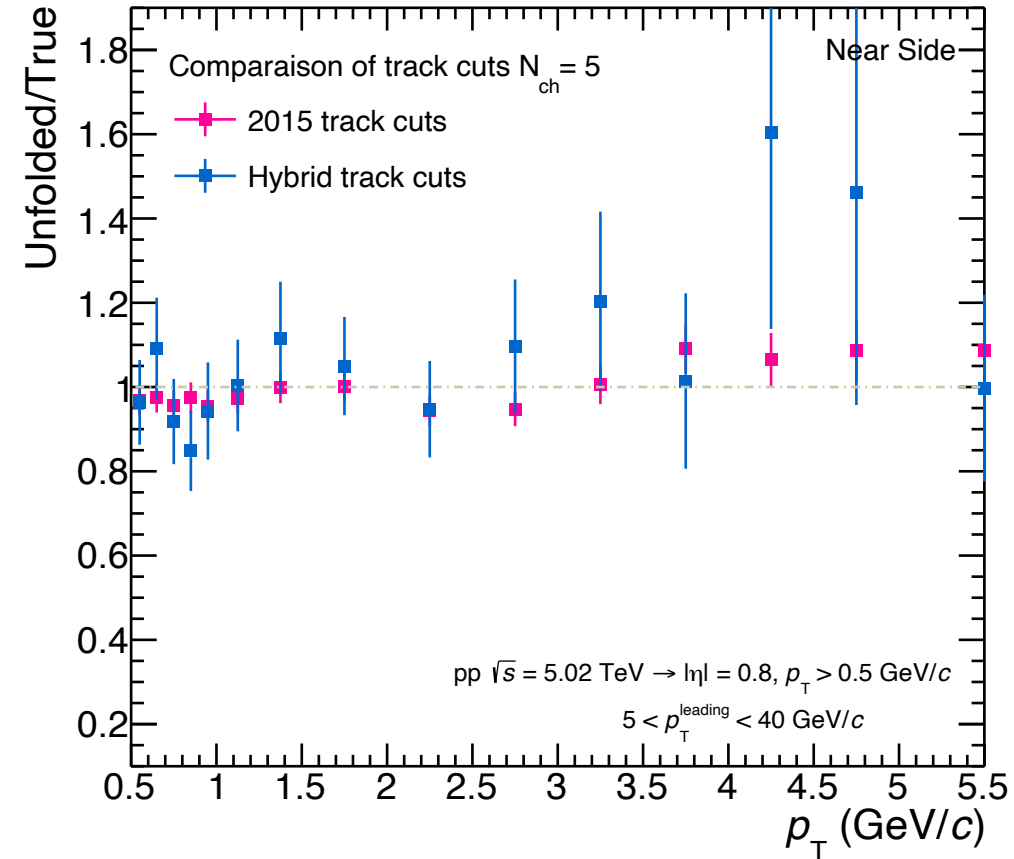


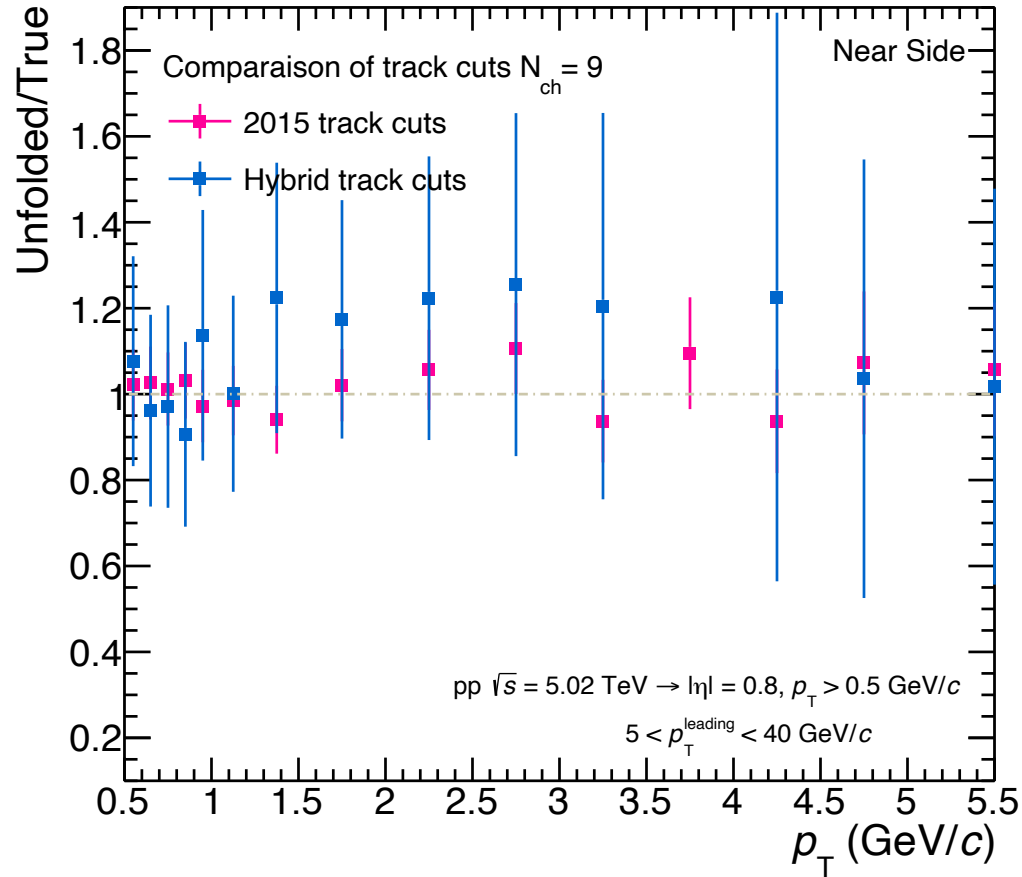
Reverse Method

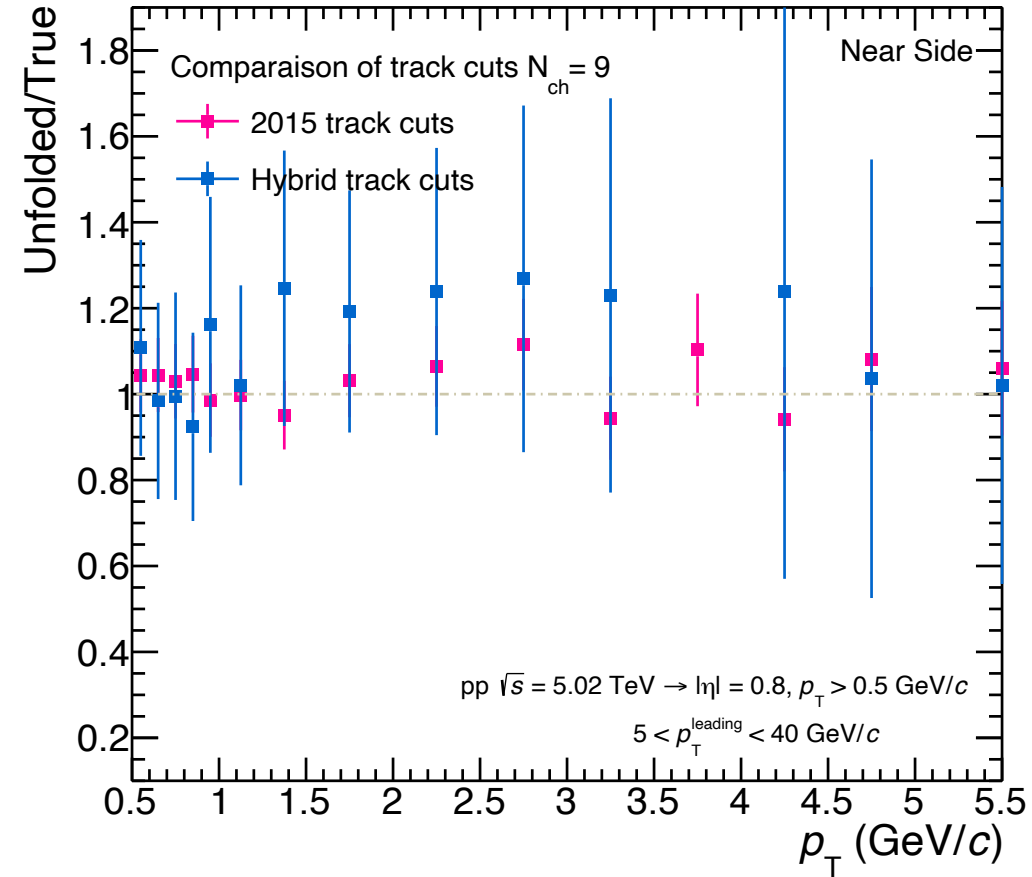


Reverse Method

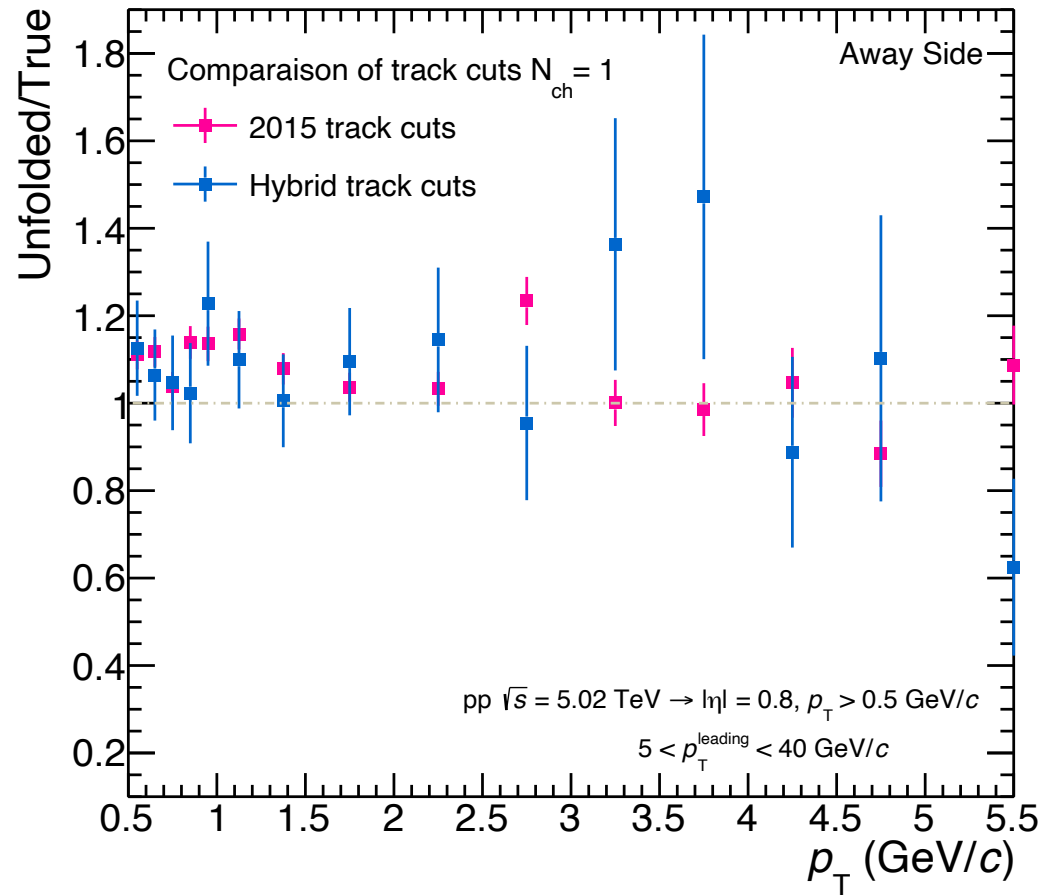





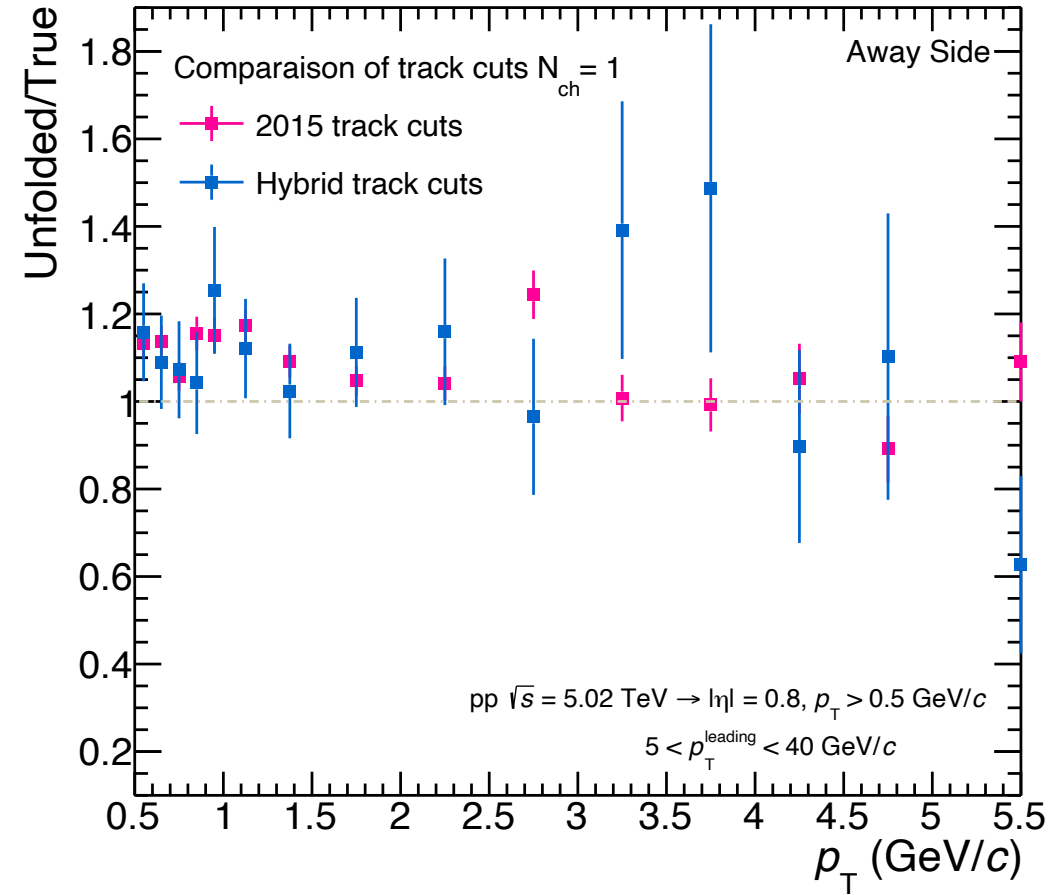
Reverse Method

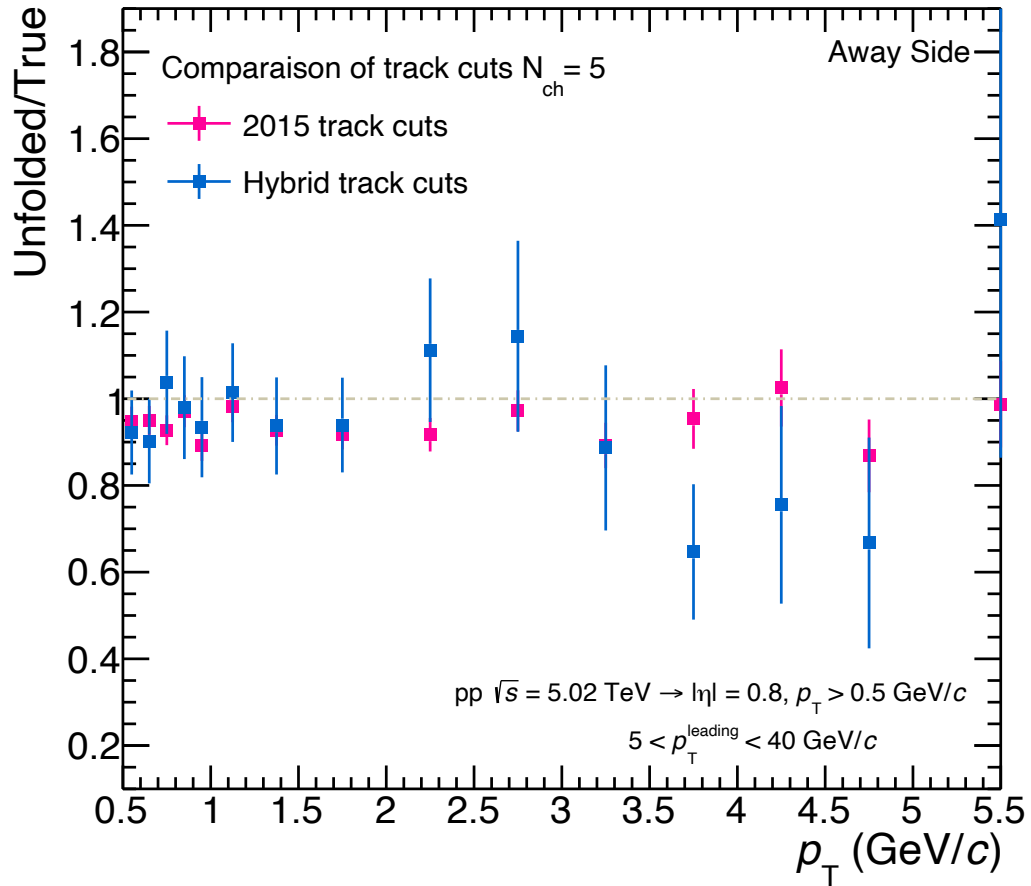


Away Side

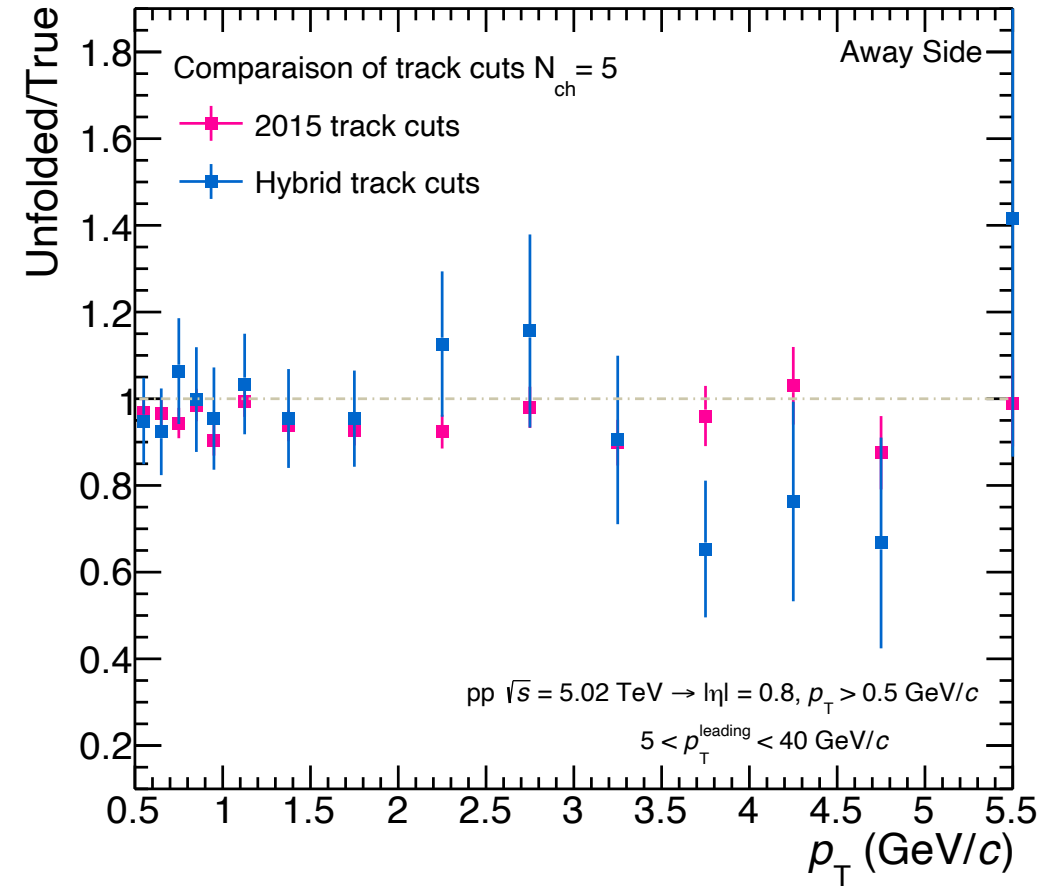


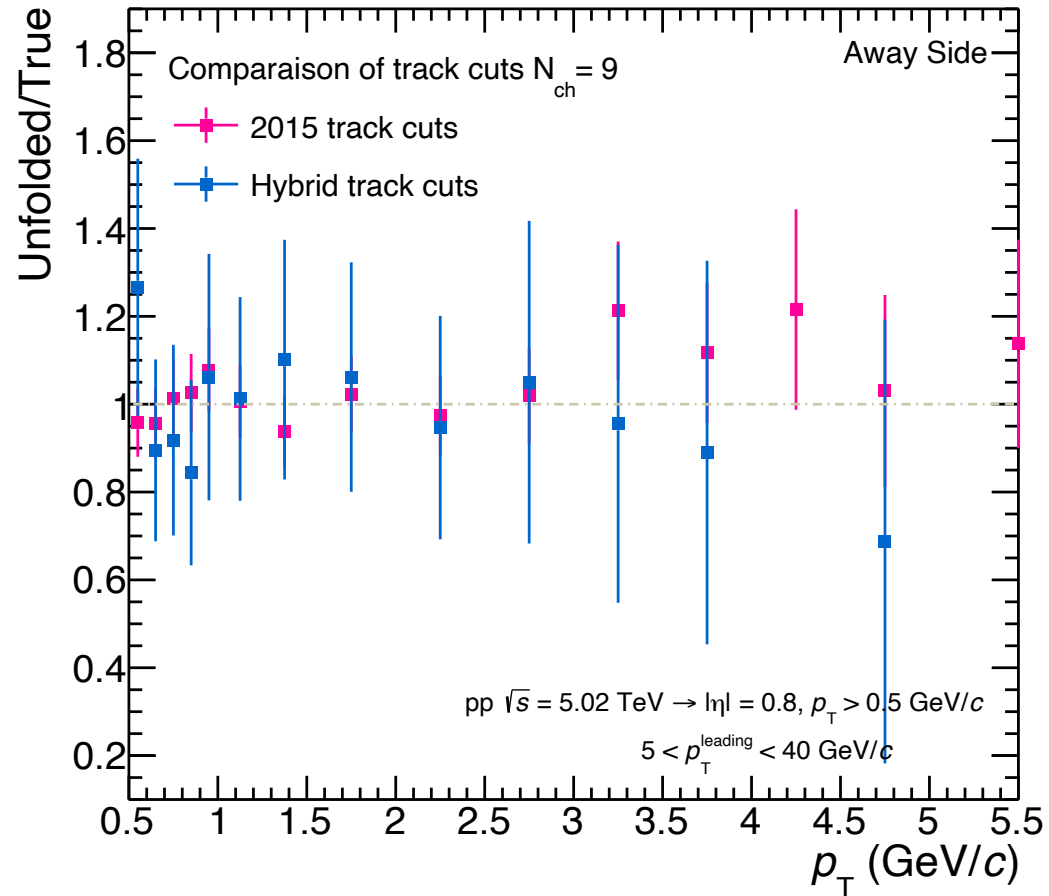
Reverse Method



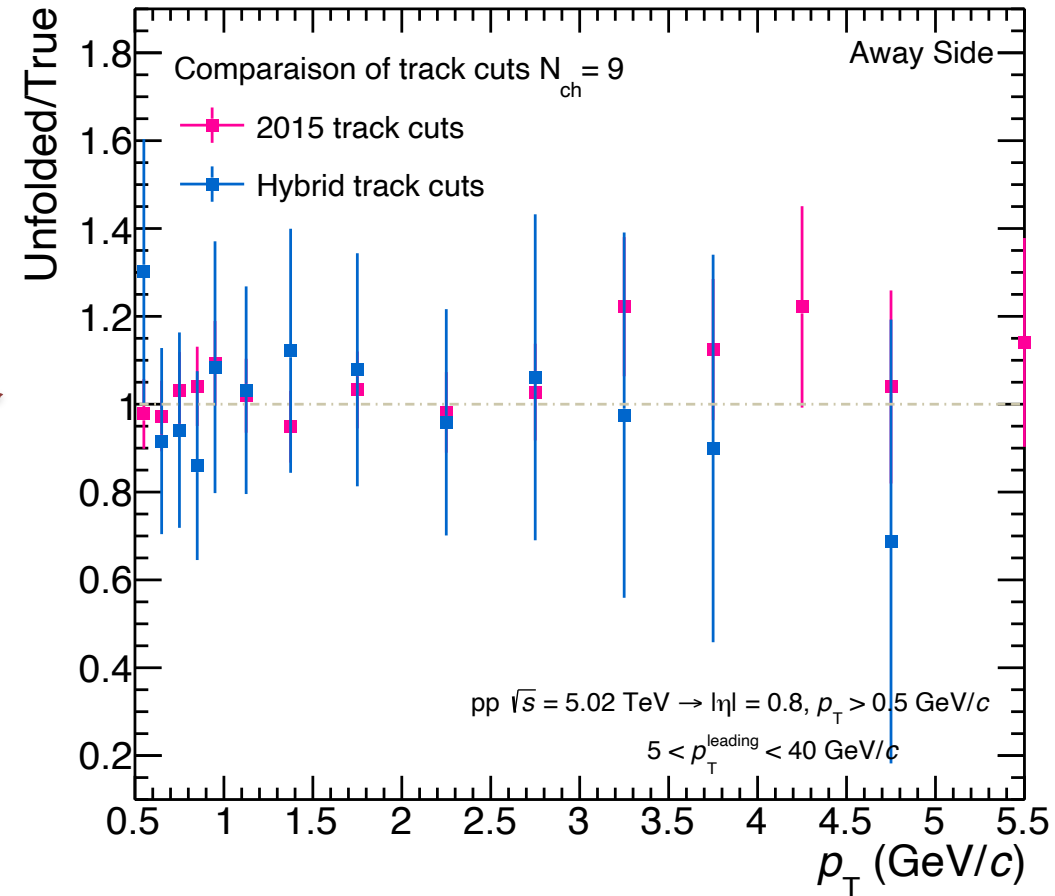


Reverse Method

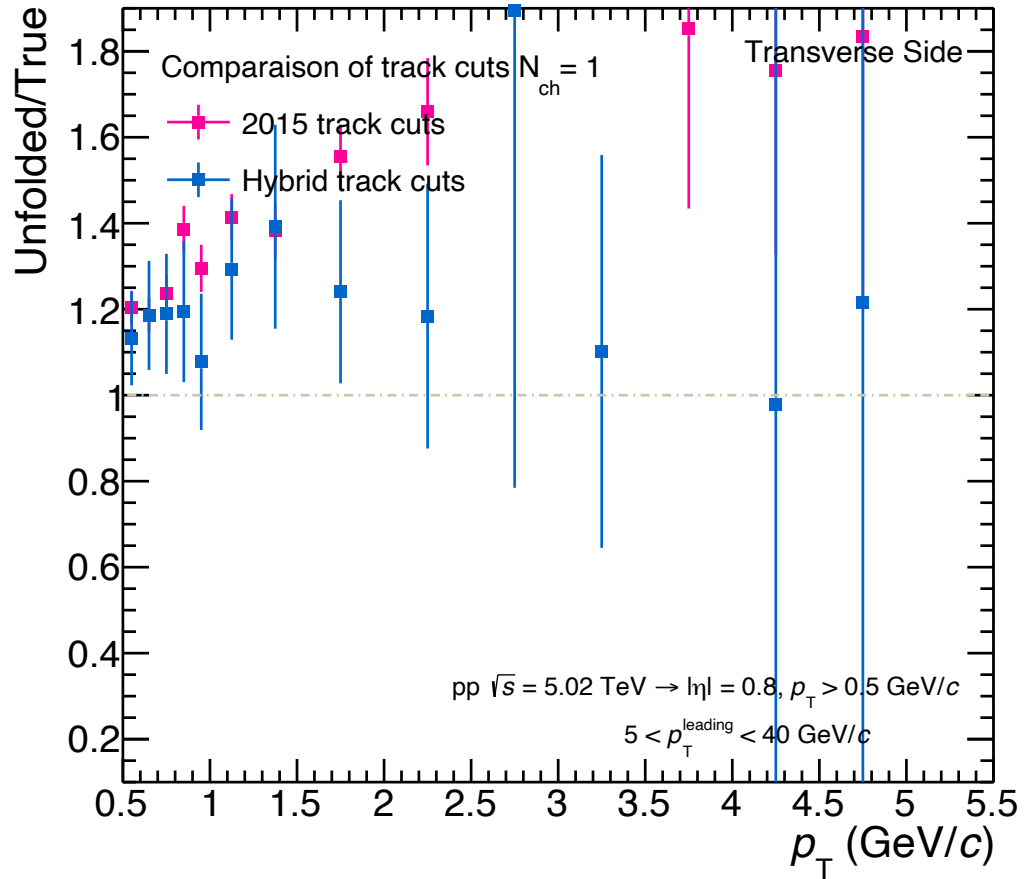





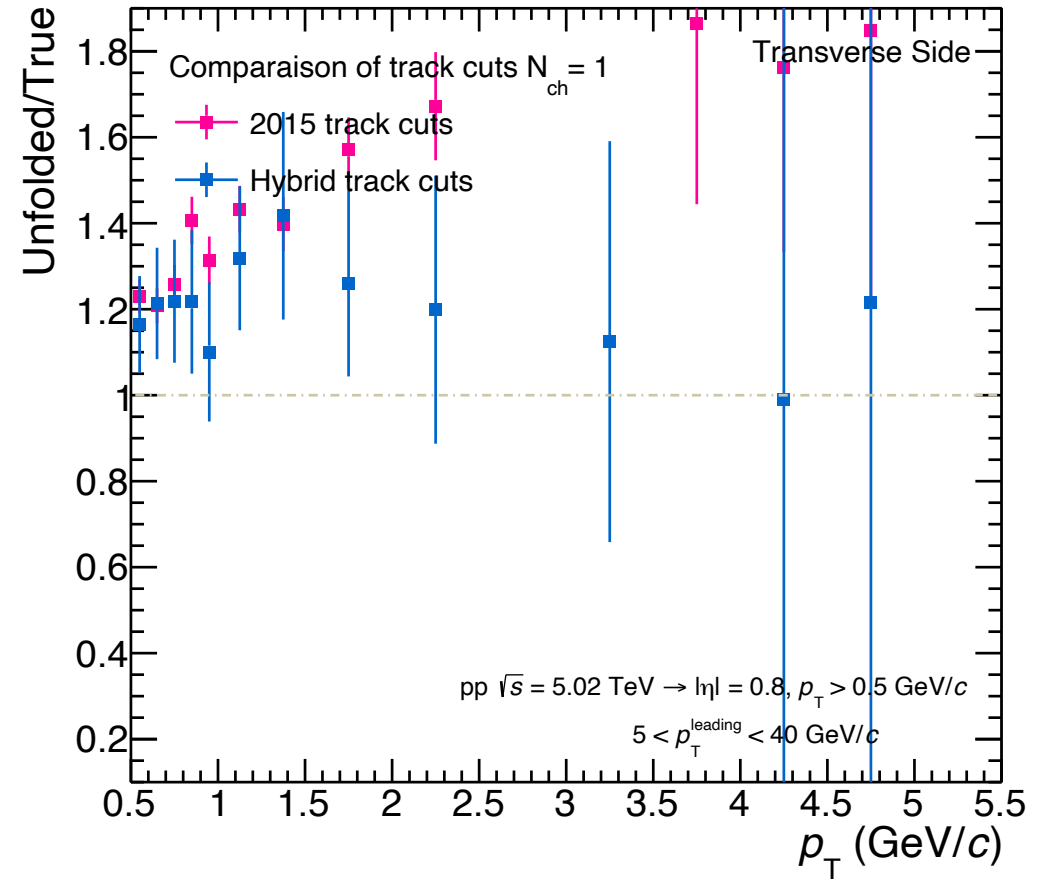
Reverse Method

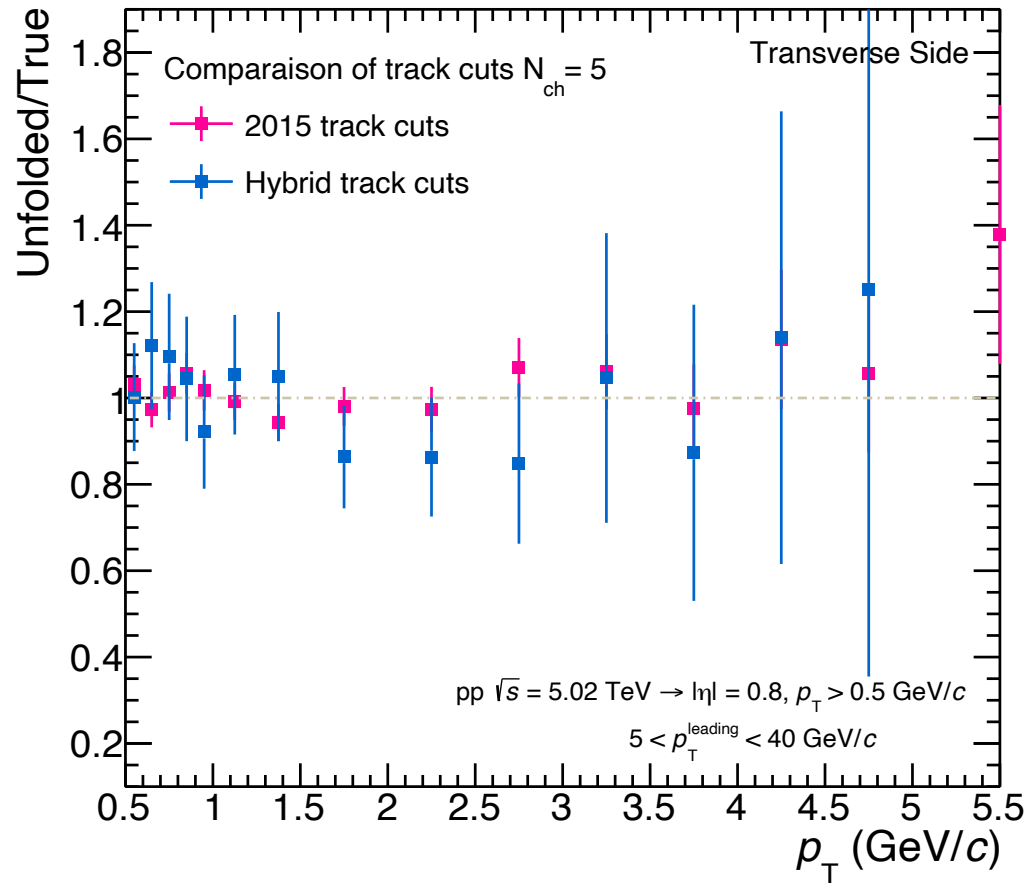


Transverse Side

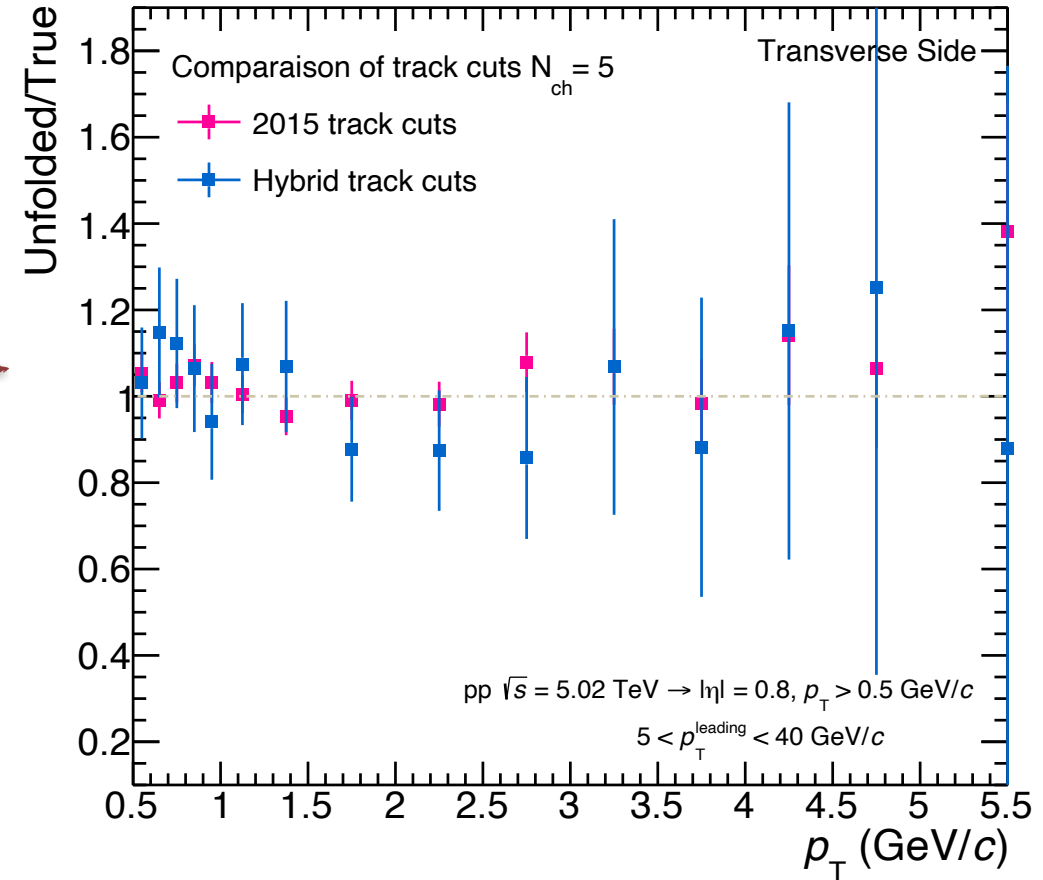


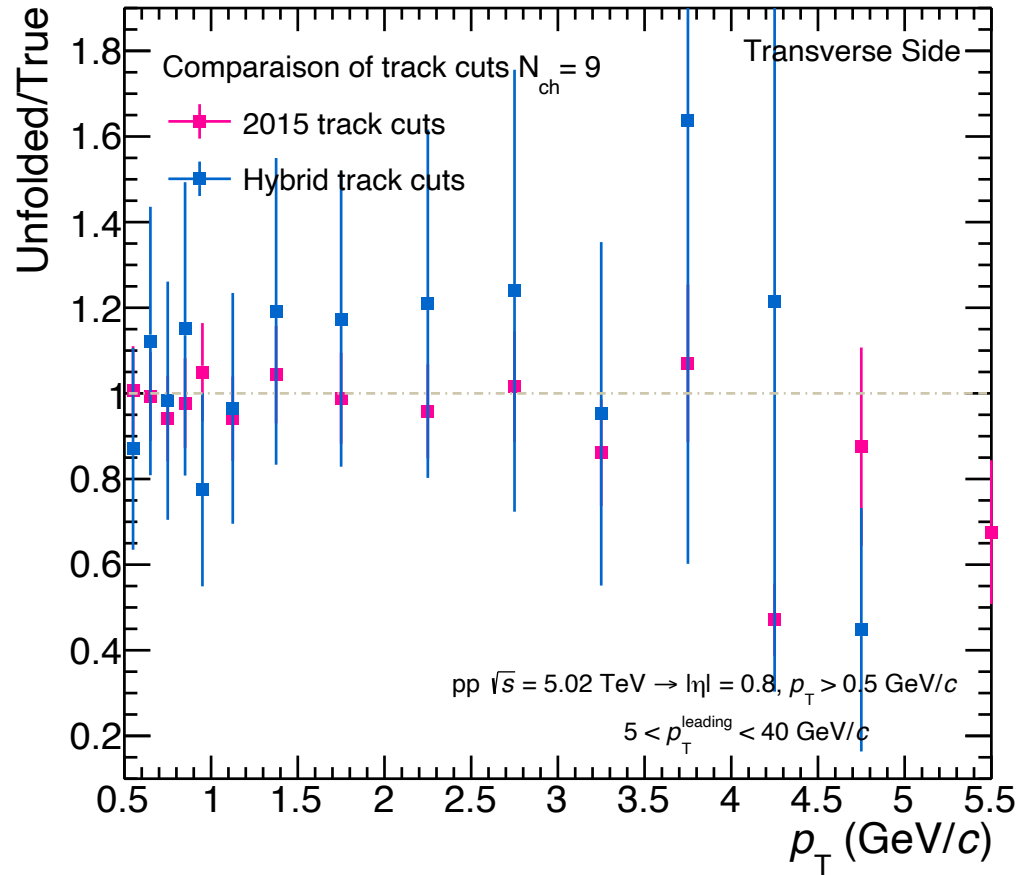
Reverse Method



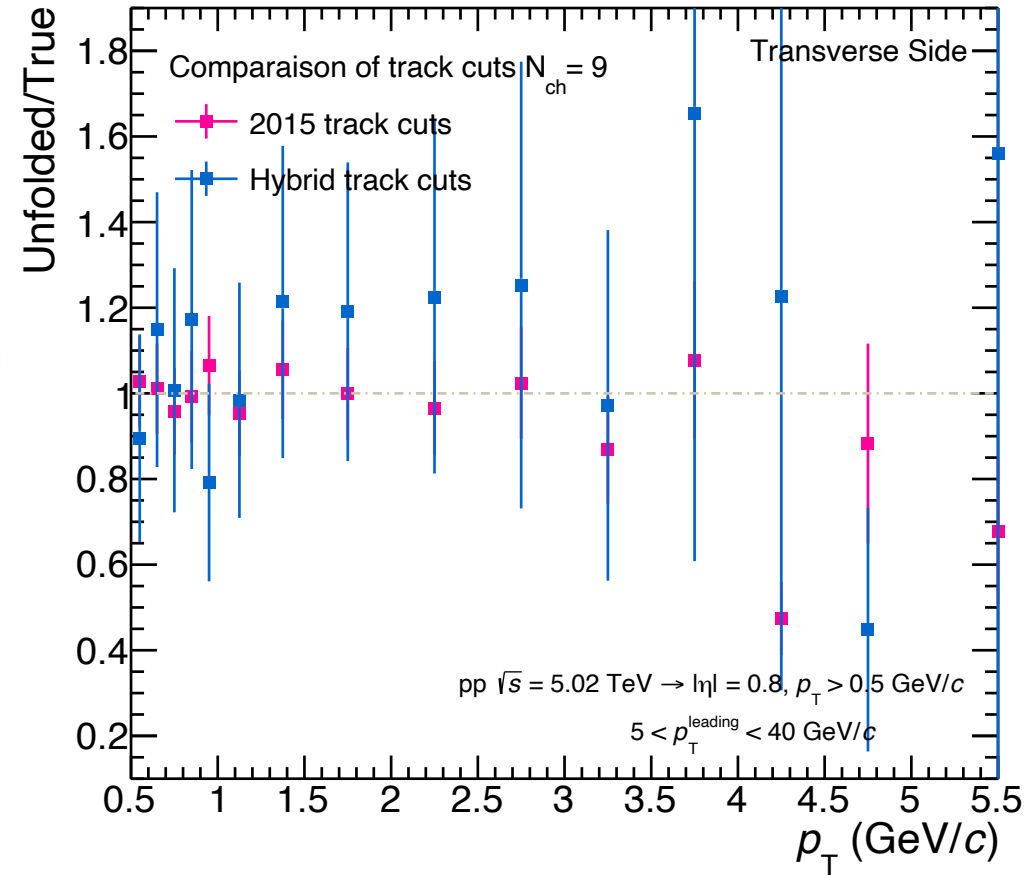


Reverse Method



Reverse Method



Thank you

