p_{T} spectra as a function of Multiplicity and Transverse Spherocity in pp collisions using a Bayesian Unfolding

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Change in Multiplicity Estimation

- So far we have use the COMBTPCITS 08 estimator, wich uses global tracklets from both detectors to obtain the measured probability.

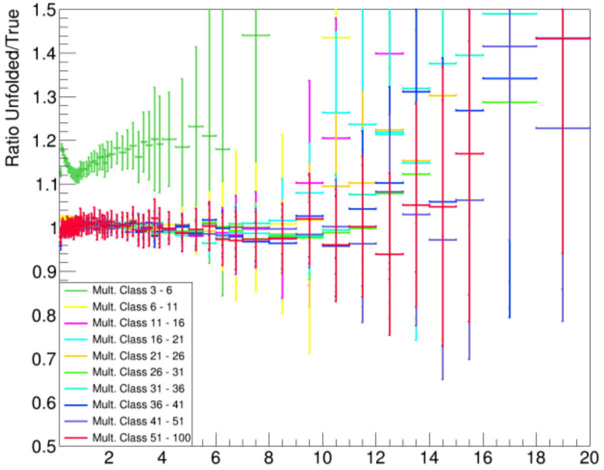
- In order to obtain better results al low multiplicity, we substitute them by just the number of tracks counted in the acceptance in our kinematical cut ($p_T > 0.15$ GeV/c).

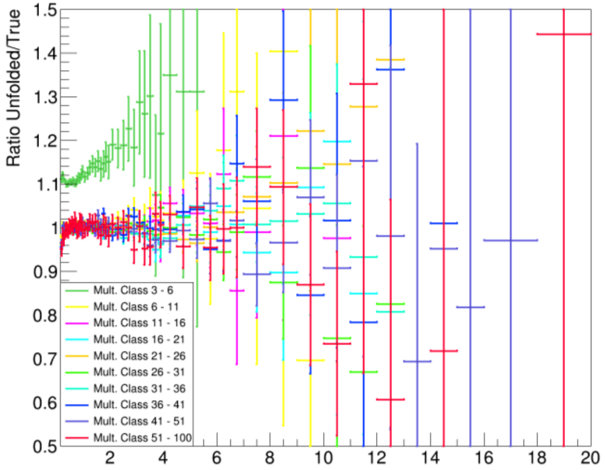
	mult08	tracks
N_{acc}	COMBTPCITS08 estimator	$p_T > 0.15$ GeV/c
N_{ch}	$p_T \geq 0$ GeV/c	$p_T > 0.15$ GeV/c

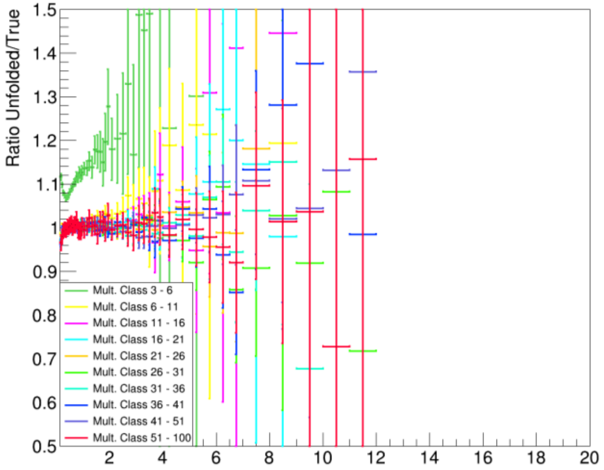
Invariant Yield Closure Test Comparison

1° Spherocity Class | 6° Spherocity Class | 10° Spherocity Class

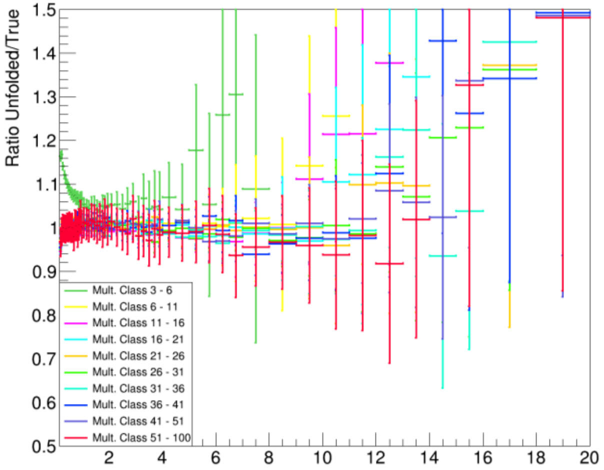
mult08

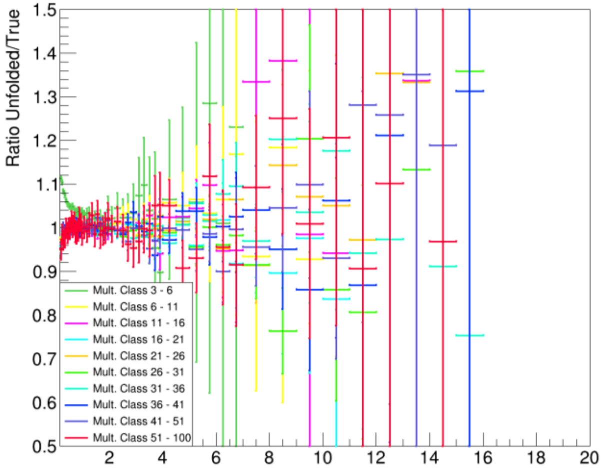


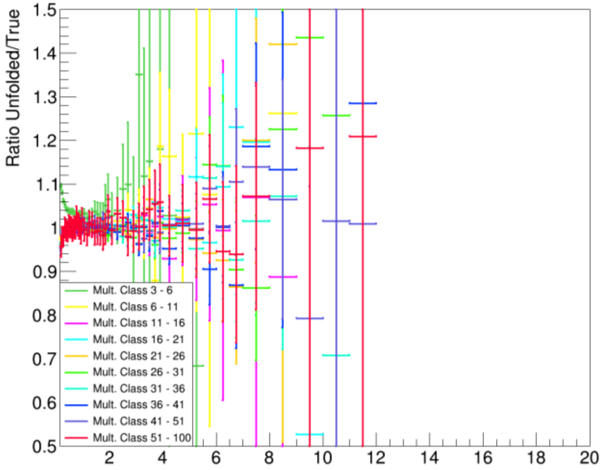




tracks







Mean pT as a function of Multiplicity Density

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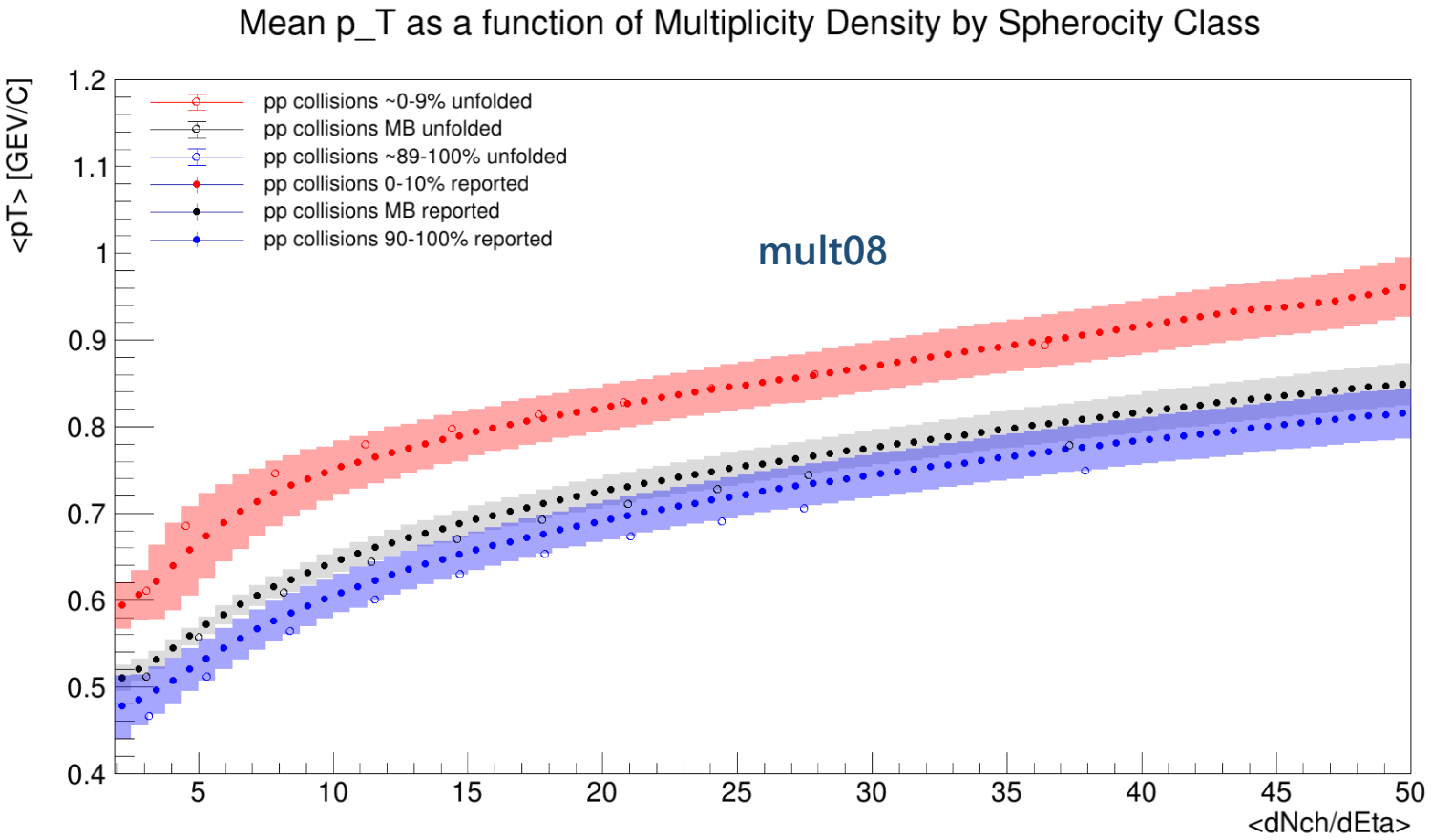

- Mean pT analysis was (mostly) sucesfully rewritten, with the most importart change in the particle density computing.

Mean pT as a function of Multiplicity Density

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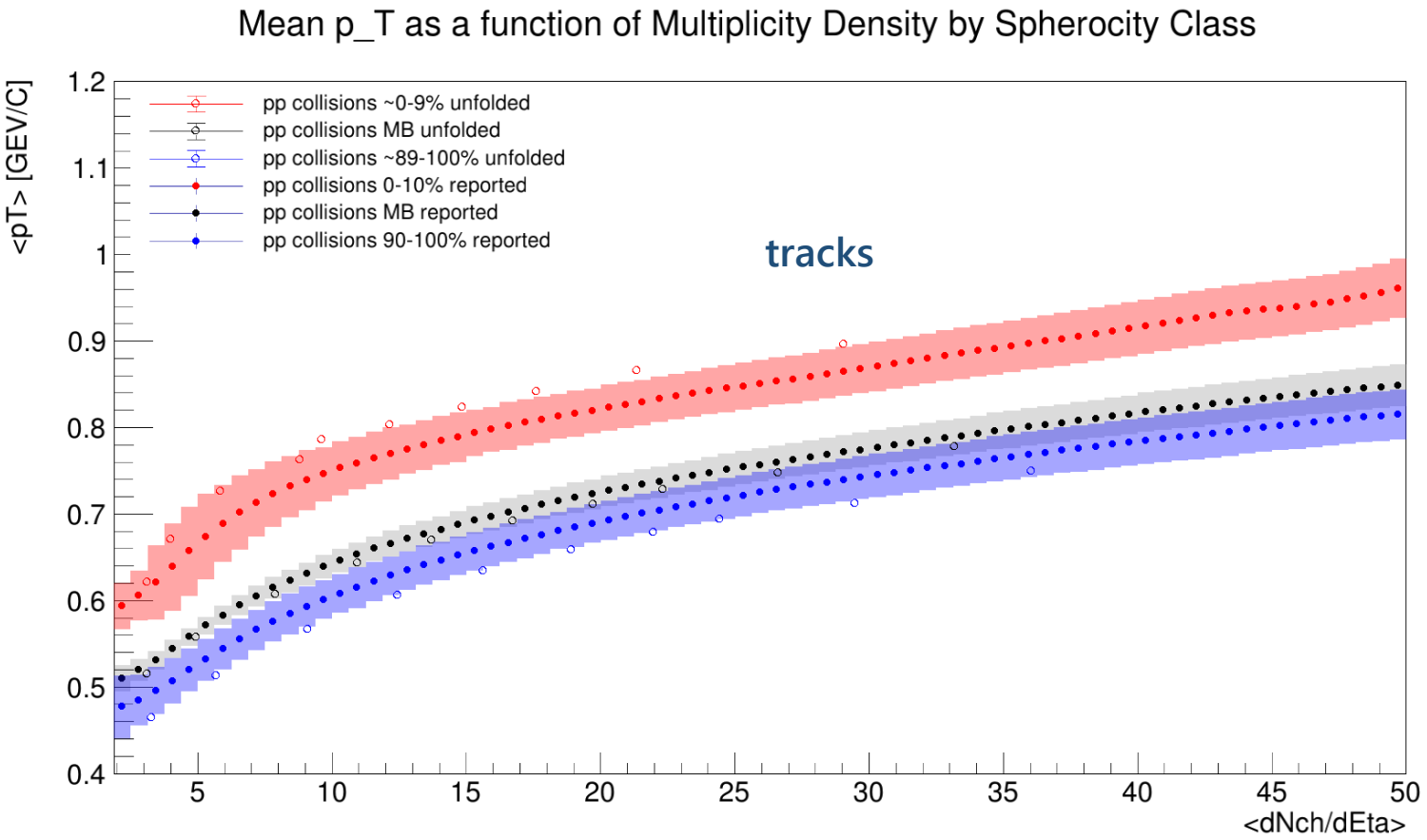

- Mean pT analysis was (mostly) sucesfully rewritten, with the most importart change in the particle density computing.
- Something is missing is the uncertinties.
- Now both cases are inside the range of error bar.

Extrapolation Contribution of <dN/dη>

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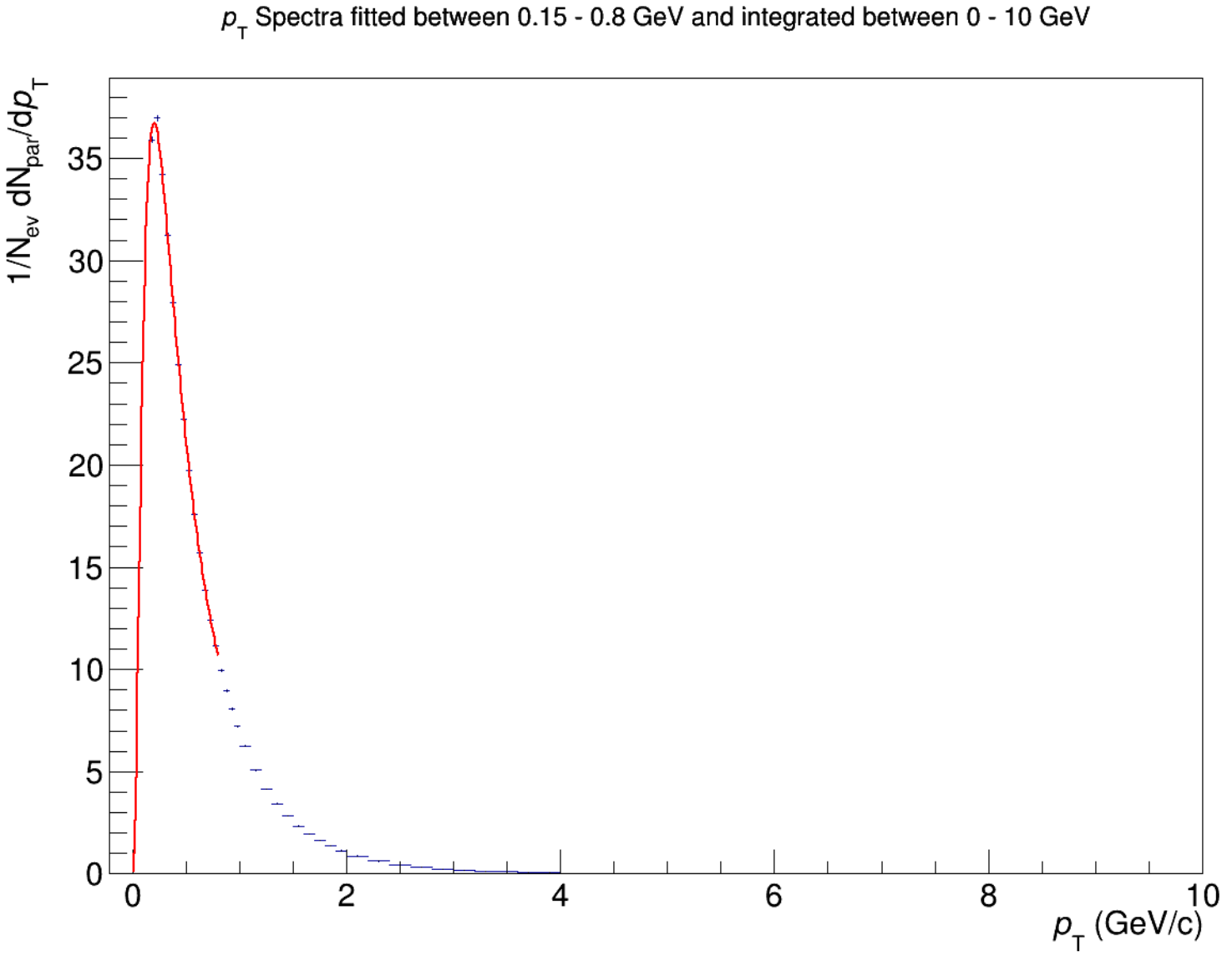
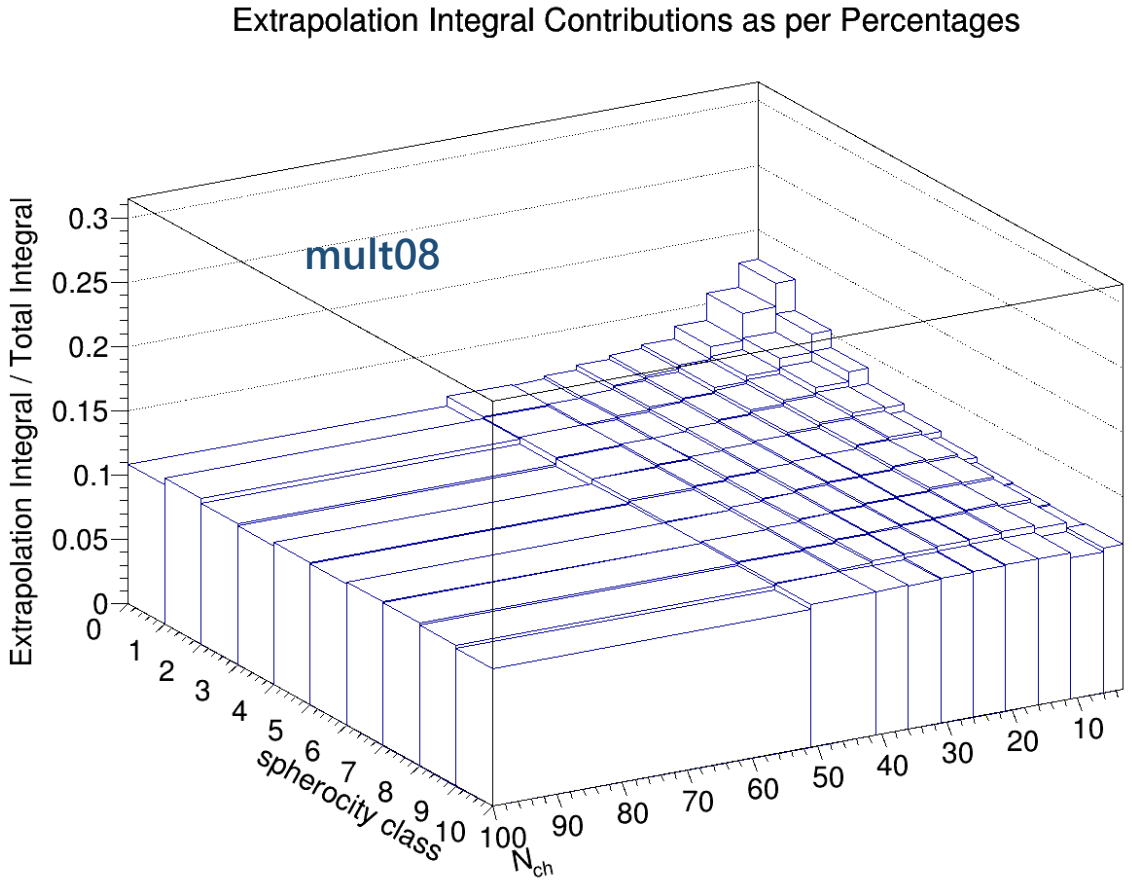
- Low pT using the Extrapolation integral $(0 - 0.15\ \mathrm{GeV})$.
- High pT using the Unfolded Result Sum $(0.15 - 10\ \mathrm{GeV})$.
- Divide by pseudorapidity range (1.6 units)



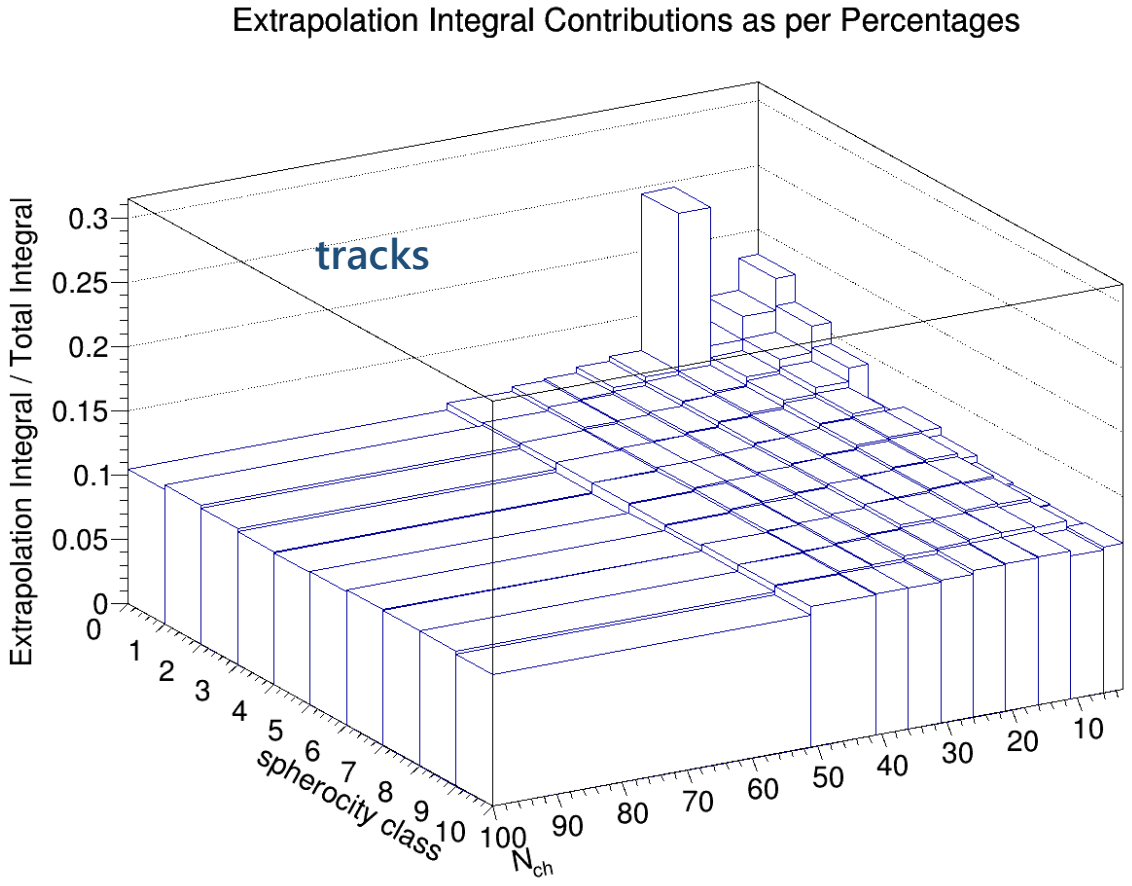
Extrapolation Contribution



$N_{ch} \setminus S_O$ class	1	4	7	10
$3-6$	17.6934%	12.7306%	11.3416%	11.2662%
$16-21$	12.7208%	12.2275%	11.9474%	11.3725%
$31-36$	11.6941%	11.6308%	11.5872%	11.1615%
$51-100$	10.8154%	10.8013%	11.1603%	10.6876%

[(3, 6), 11, (16, 21), 26, (31, 36), 41, (51, 100)]

Extrapolation Contribution



$N_{ch} \setminus S_O$ class	1	4	7	10
$3-6$	18.0636%	11.7158%	11.3298%	11.3555%
$16-21$	24.4895%	12.0212%	11.9175%	11.4824%
$31-36$	11.5111%	11.3234%	11.2783%	10.9479%
$51-100$	10.4627%	10.3509%	10.5584%	10.9479%

[(3, 6), 11, (16, 21), 26, (31, 36), 41, (51, 100)]

Conclusions

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- The new way of estimate the mean multiplicity density gives results in the range of the error bars.

- The error bars of my graphs in the mean pT axis (straighforward) and in the mean multiplicity density axis (probably changing the fit function) are next objective.

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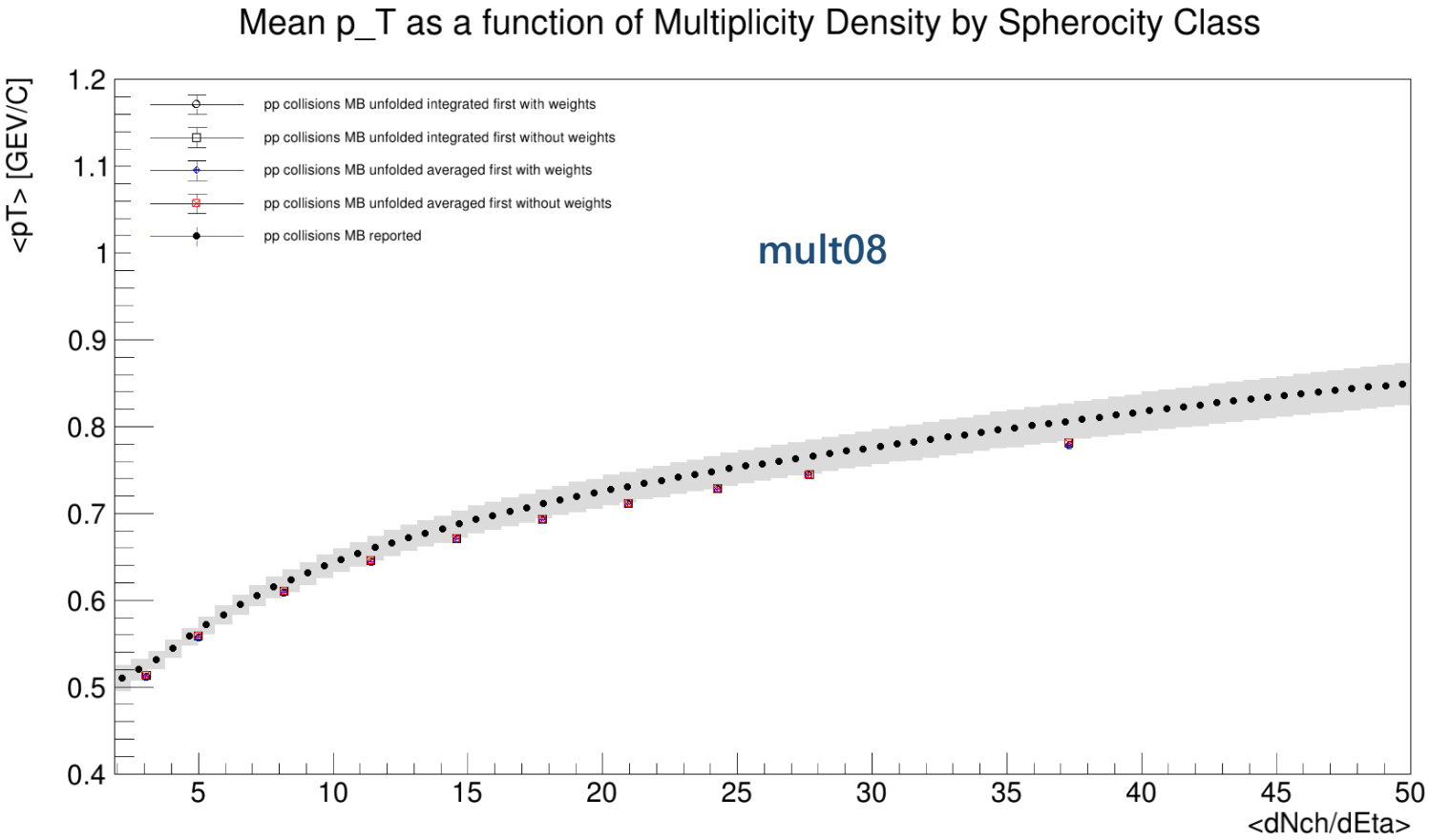
Back-up

Mean pT as a function of Multiplicity Density (Minimum Bias Cross-check)



Mean pT as a function of Multiplicity Density (Minimum Bias Cross-check)