

p_T spectra as a function of Multiplicity and Transverse Spherocity in pp collisions using a Bayesian Unfolding

J. David Romo

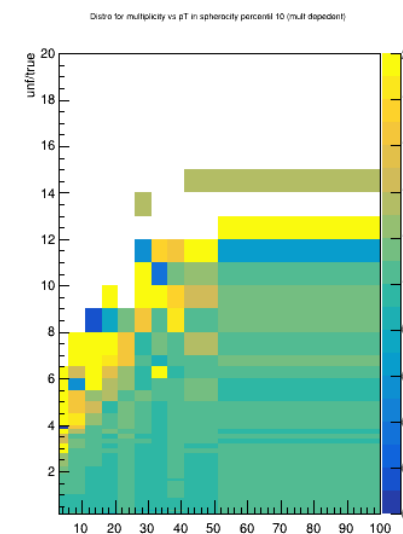
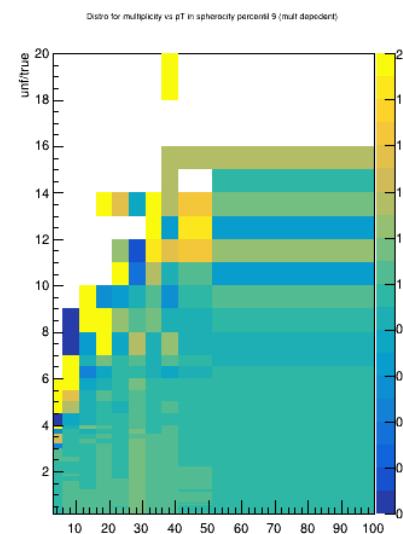
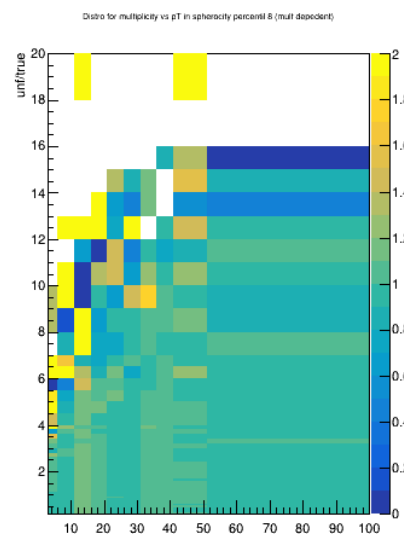
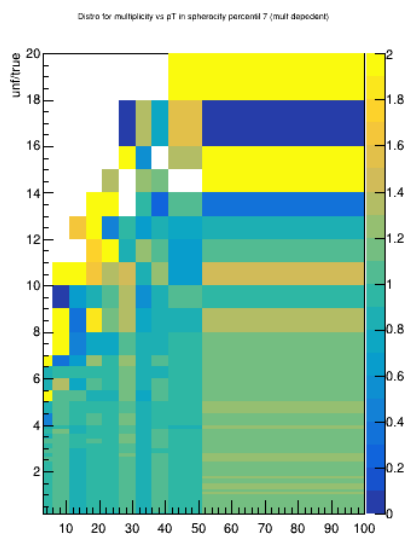
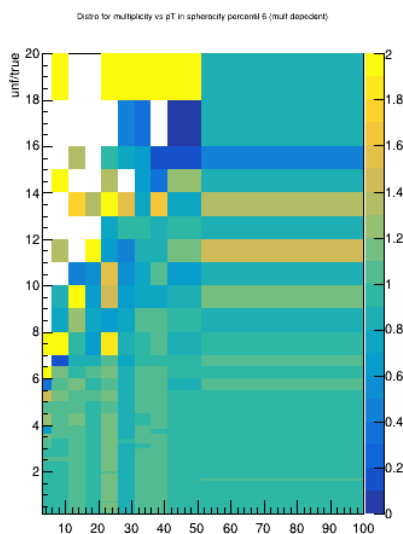
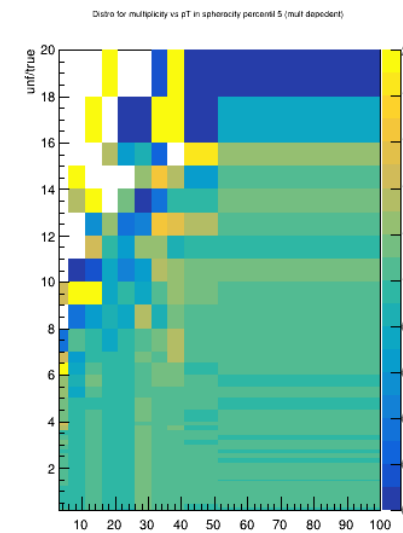
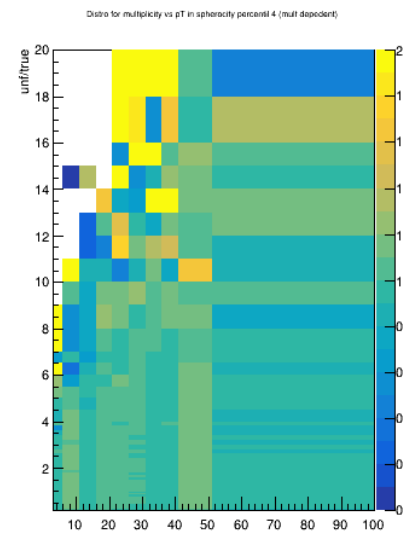
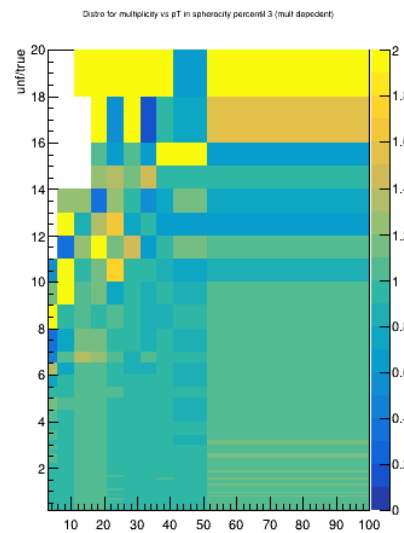
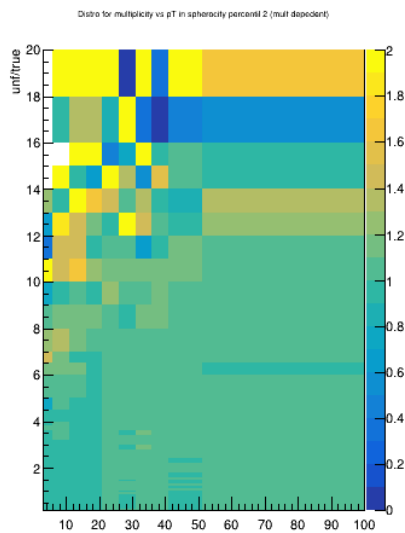
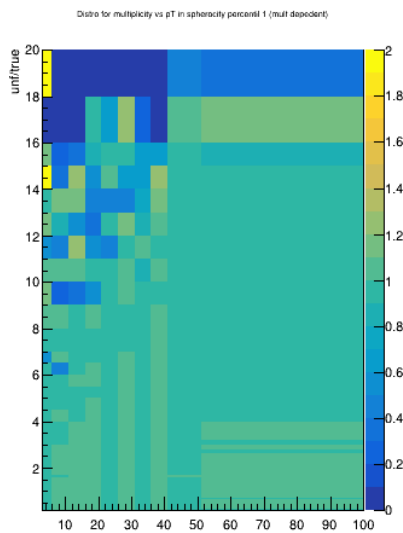
26/02/21



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Invariant Yield Closure Test (Trees)

File Edit View Options Tools Help

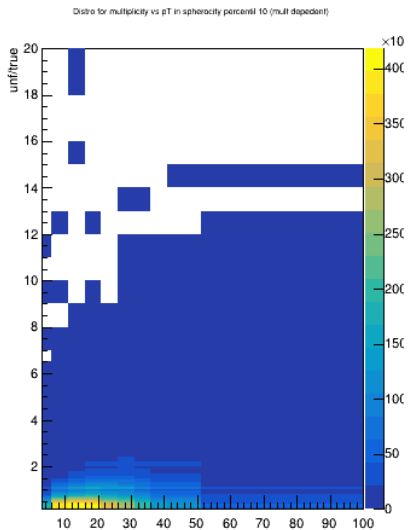
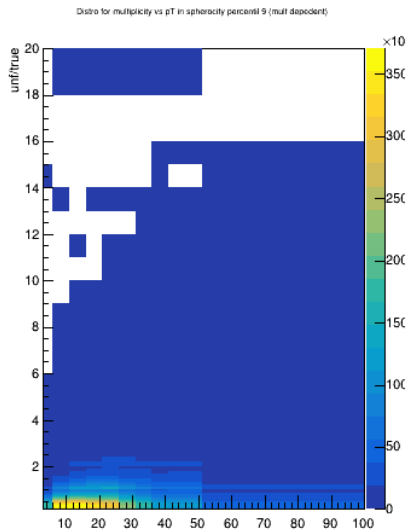
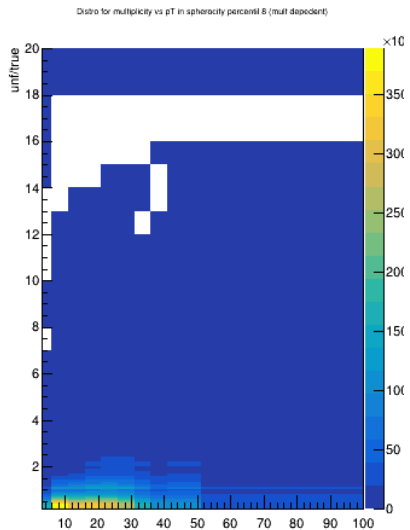
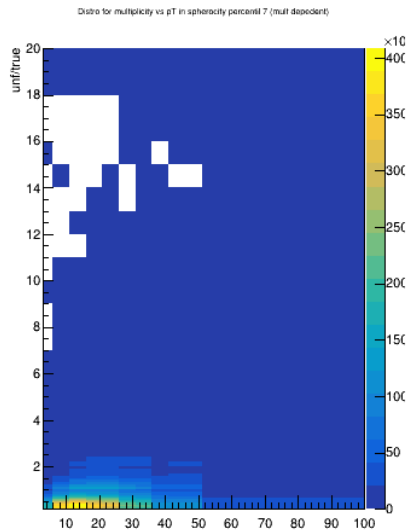
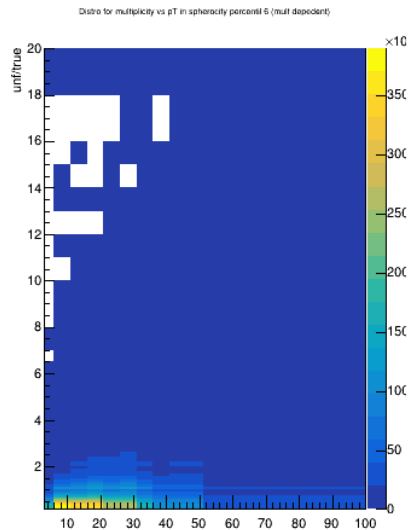
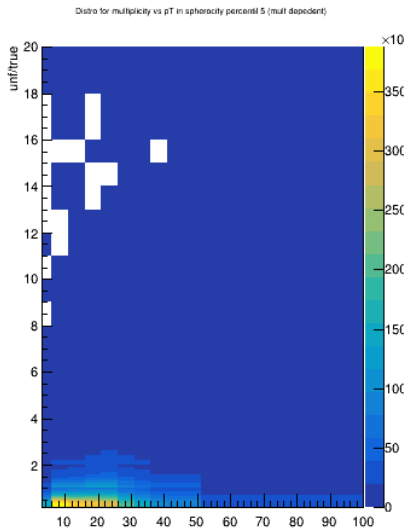
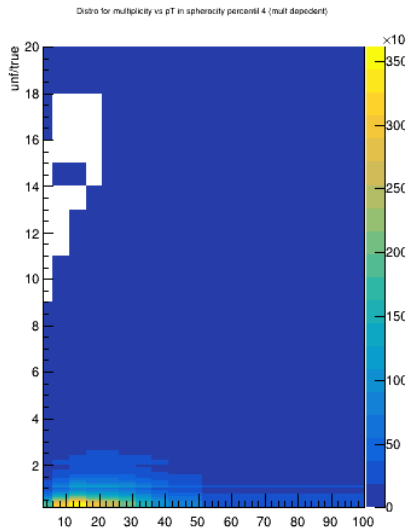
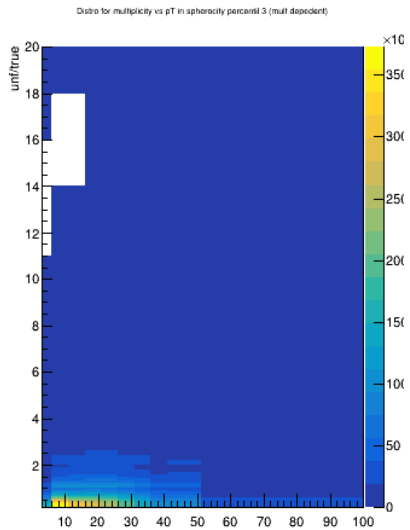
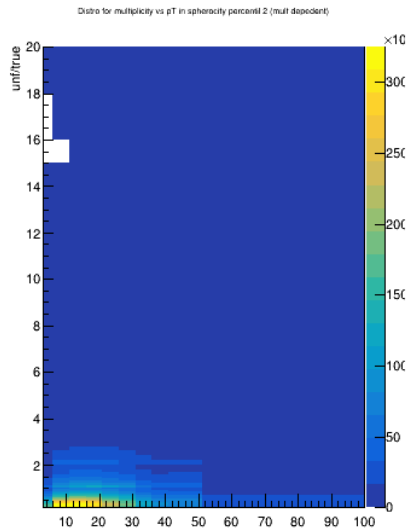
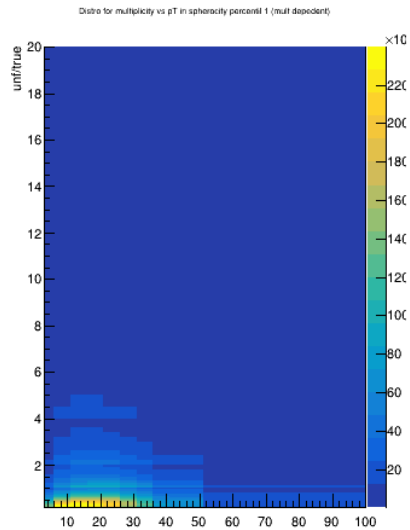
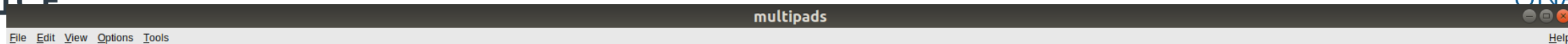


30 M events



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Particle Production True (Trees)



30 M events

Pseudoevents

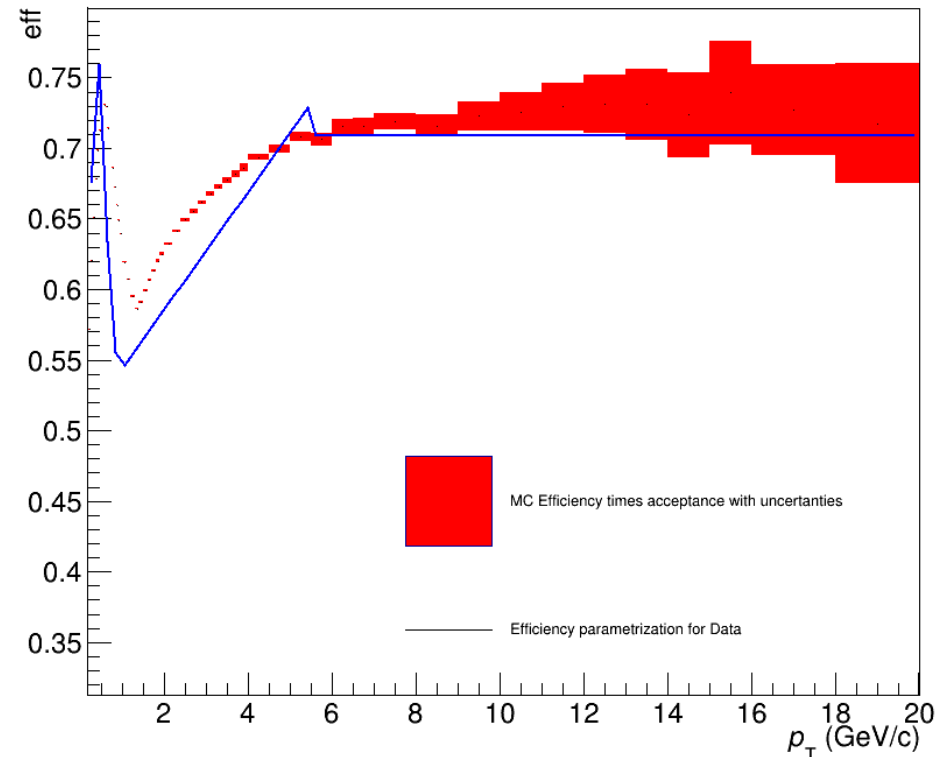
They are some of the regions with **the least** statistics at MC level!



We need **more** data!
(Pythia simulations)

We propose to generate pseudo-events (approximating the response of the detector) using the efficiency times acceptance parametrization (taken from Antonio, Ahsan, Gyula's work)

Efficiency for Pseudo-events

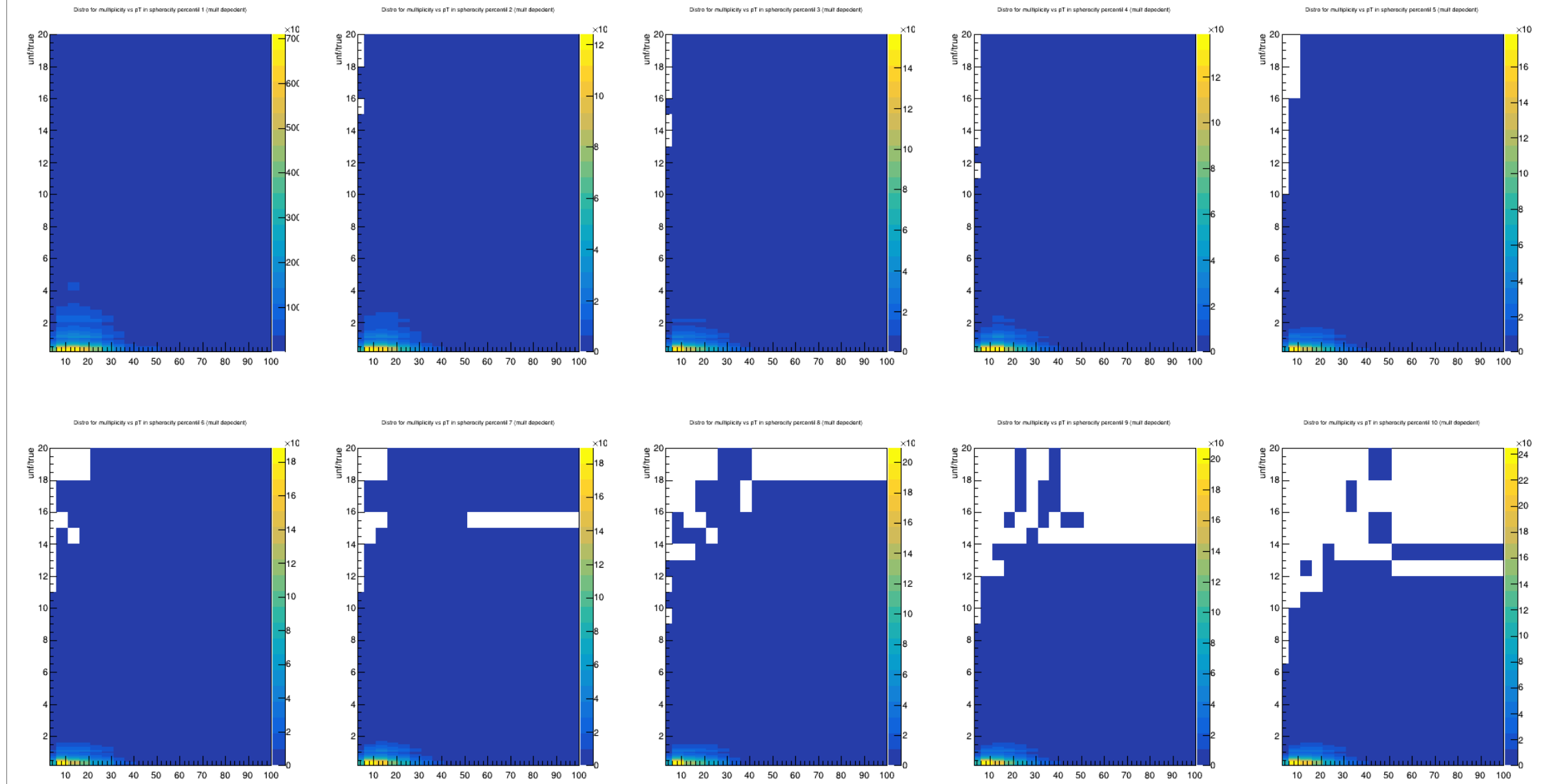




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Particle Production (Pseudoevents)

File Edit View Options Tools Help



900 M events



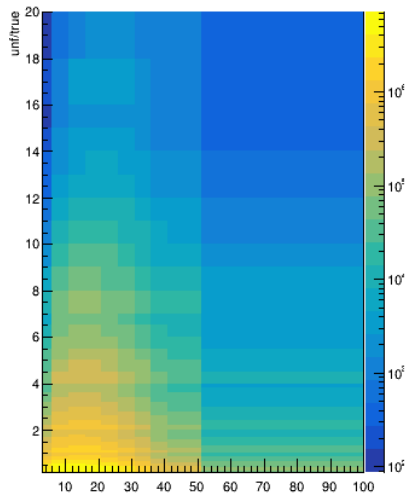
ALICE

Particle Production (Pseudoevents) log scale

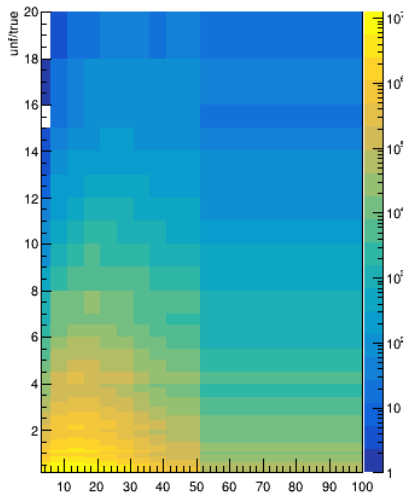
File Edit View Options Tools Help

multipads

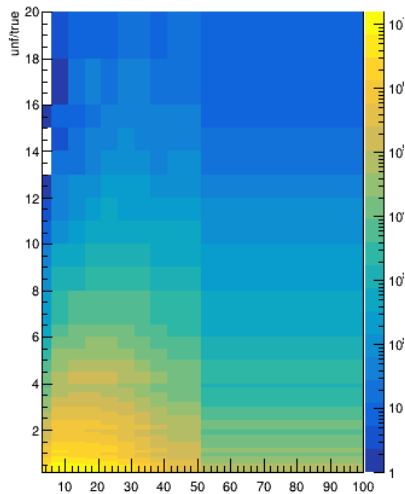
Distro for multiplicity vs pT in spherocity percentil 1 (mult dependant)



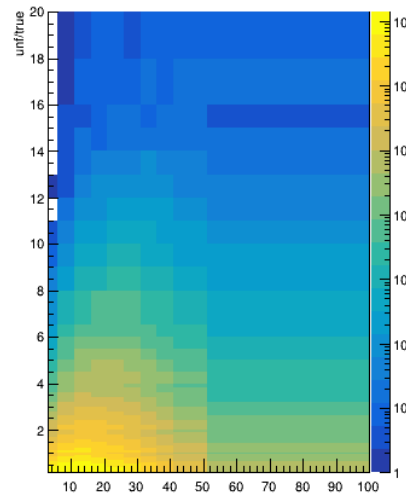
Distro for multiplicity vs pT in spherocity percentil 2 (mult dependant)



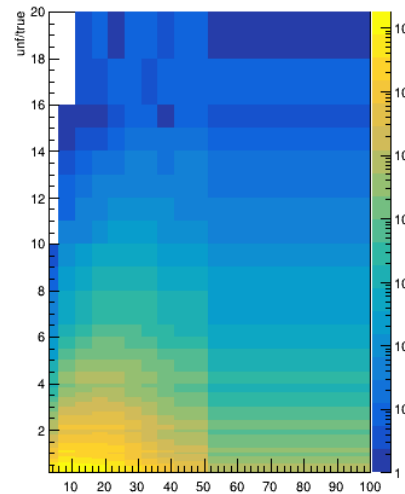
Distro for multiplicity vs pT in spherocity percentil 3 (mult dependant)



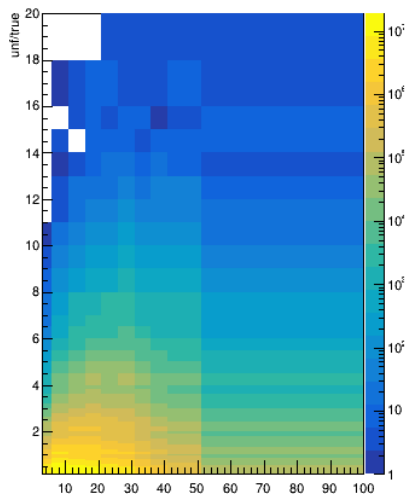
Distro for multiplicity vs pT in spherocity percentil 4 (mult dependant)



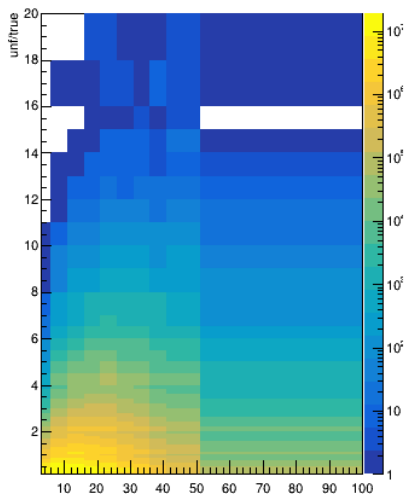
Distro for multiplicity vs pT in spherocity percentil 5 (mult dependant)



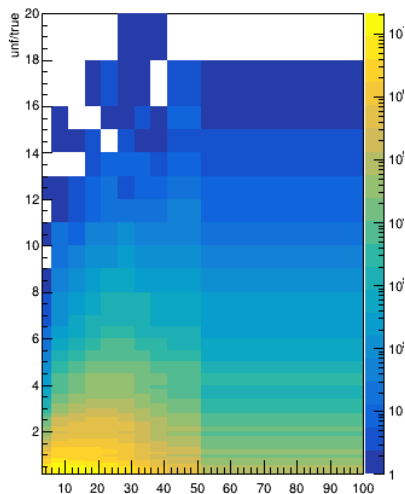
Distro for multiplicity vs pT in spherocity percentil 6 (mult dependant)



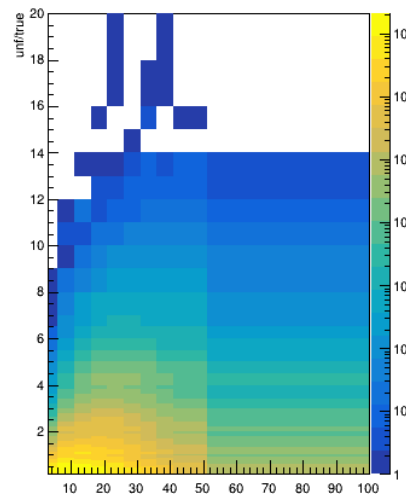
Distro for multiplicity vs pT in spherocity percentil 7 (mult dependant)



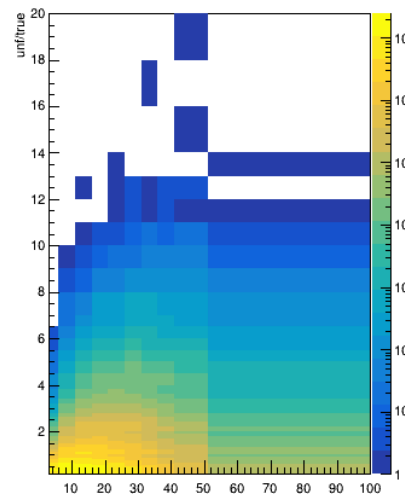
Distro for multiplicity vs pT in spherocity percentil 8 (mult dependant)



Distro for multiplicity vs pT in spherocity percentil 9 (mult dependant)



Distro for multiplicity vs pT in spherocity percentil 10 (mult dependant)



900 M events

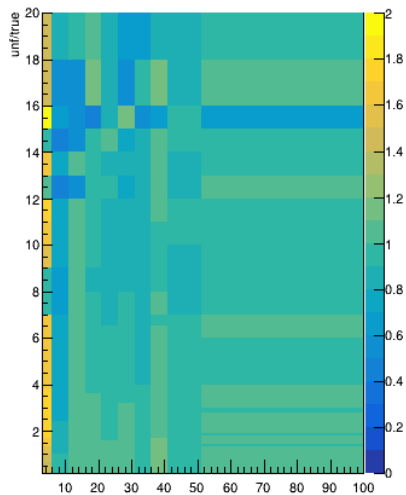


ALICE

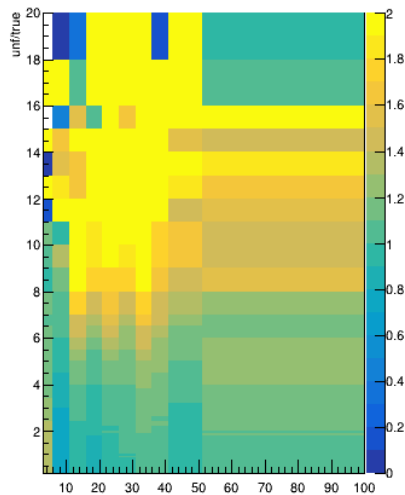
Sphericity Percentiles (Multiplicity Dependent) Preprocessing

File Edit View Options Tools Help

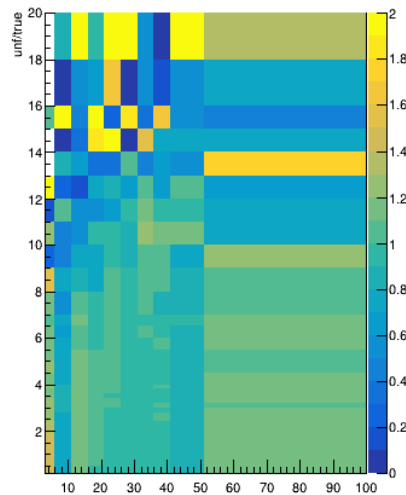
Distro for multiplicity vs pT in sphericity percentil 1 (mult dependent)



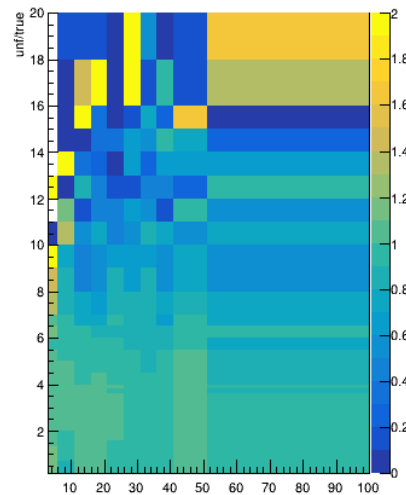
Distro for multiplicity vs pT in sphericity percentil 2 (mult dependent)



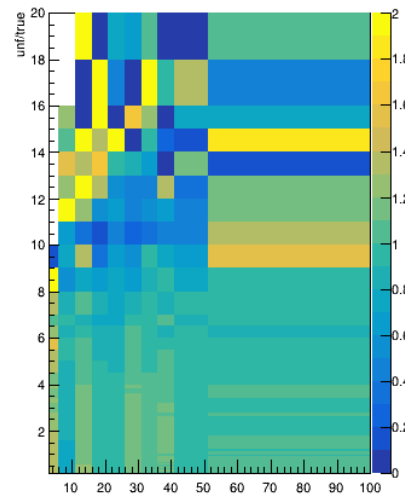
Distro for multiplicity vs pT in sphericity percentil 3 (mult dependent)



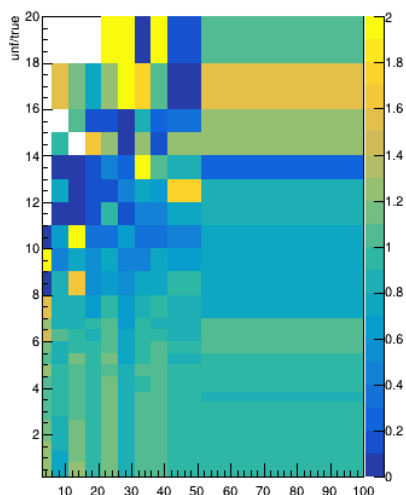
Distro for multiplicity vs pT in sphericity percentil 4 (mult dependent)



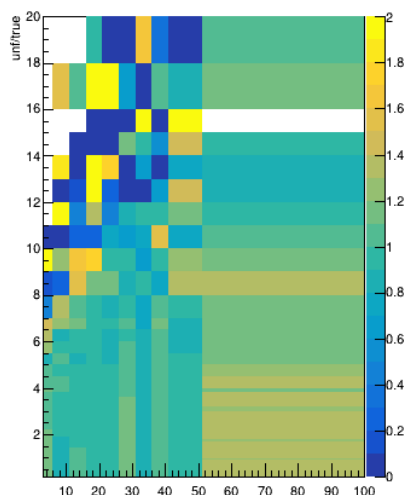
Distro for multiplicity vs pT in sphericity percentil 5 (mult dependent)



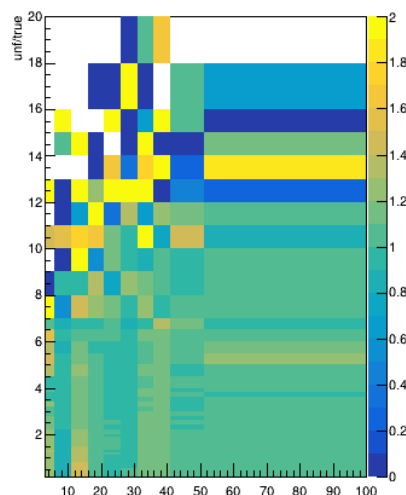
Distro for multiplicity vs pT in sphericity percentil 6 (mult dependent)



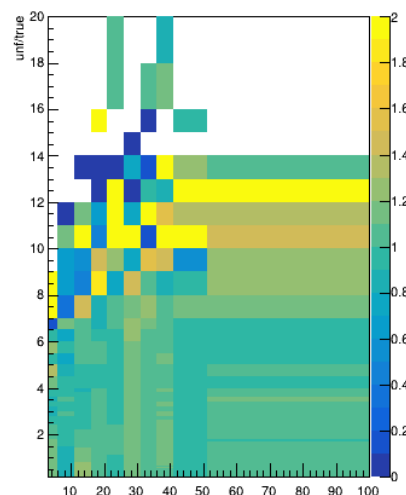
Distro for multiplicity vs pT in sphericity percentil 7 (mult dependent)



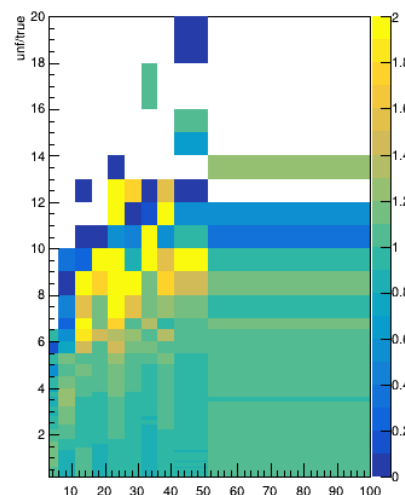
Distro for multiplicity vs pT in sphericity percentil 8 (mult dependent)



Distro for multiplicity vs pT in sphericity percentil 9 (mult dependent)

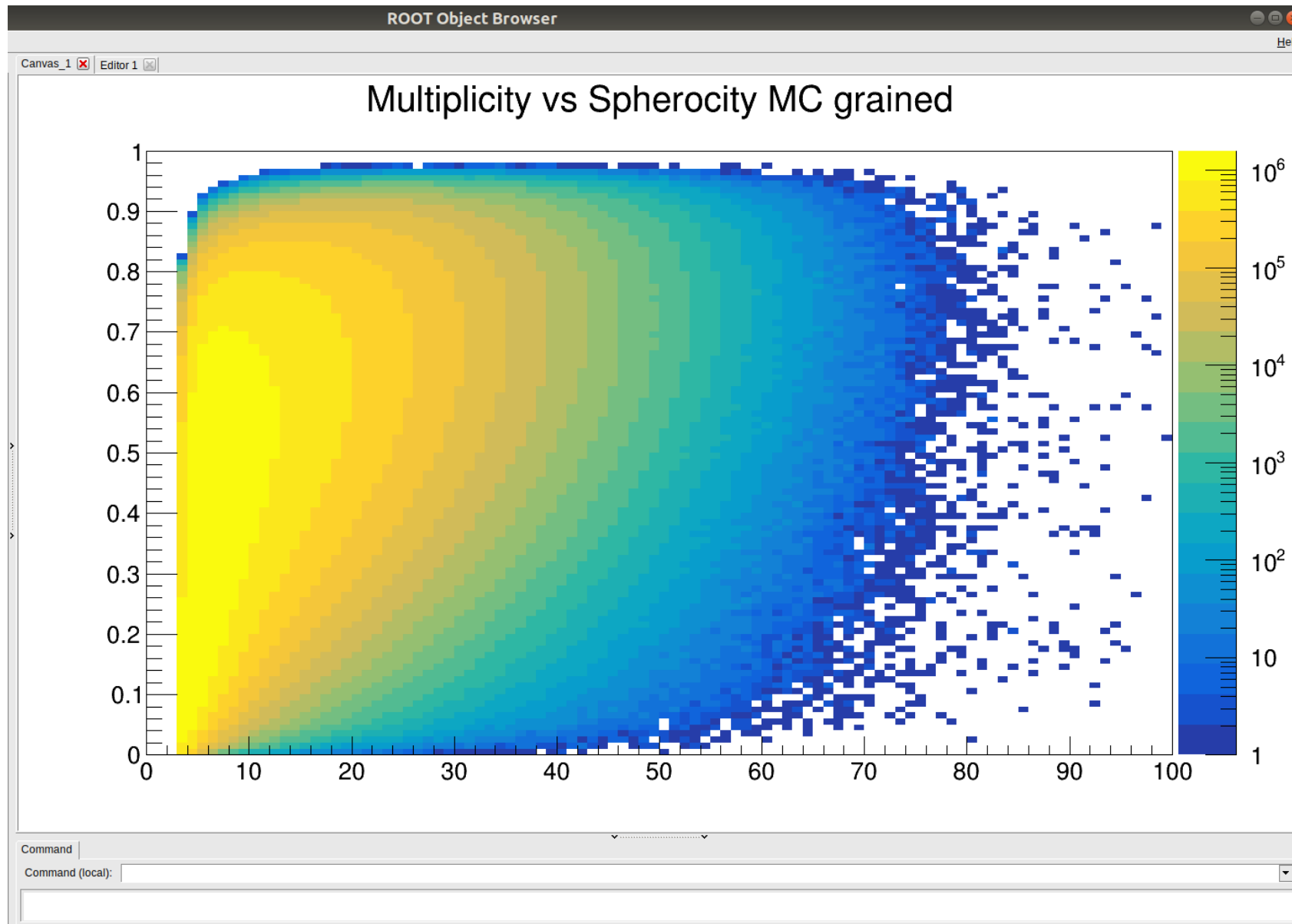


Distro for multiplicity vs pT in sphericity percentil 10 (mult dependent)



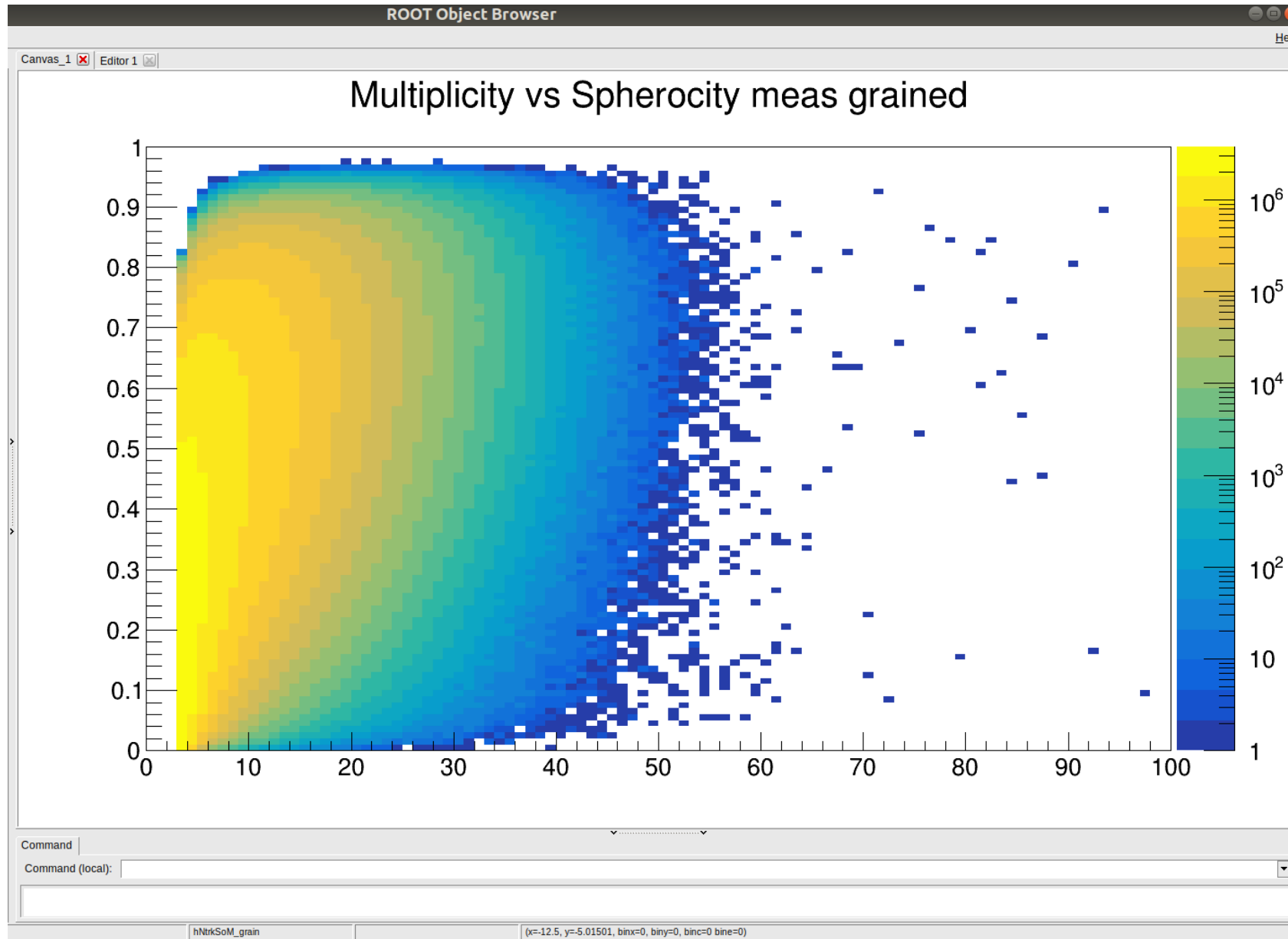
900 M events

Sphericity vs Mult MC (Pseudoevents)



*900 M
events*

Sphericity vs Mult meas(Pseudoevents)



900 M events