

32bit vs 64bit

Au+Au Run19 19 GeV

2025 Hard Probes PWG Data QA - Jets

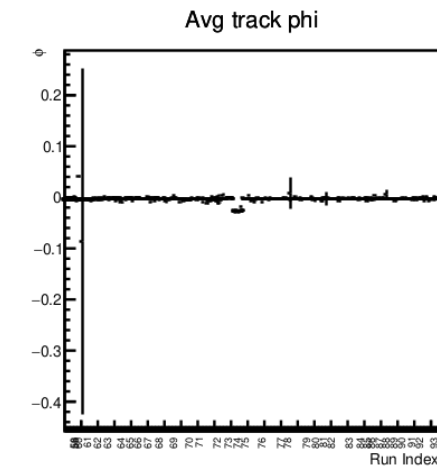
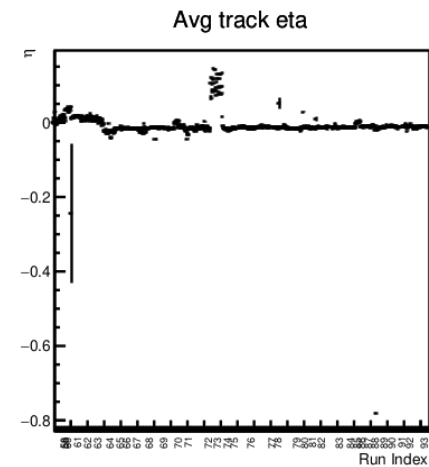
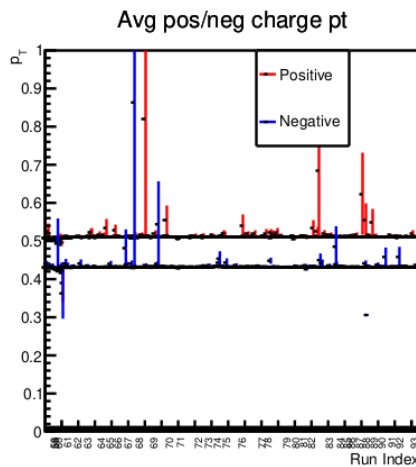
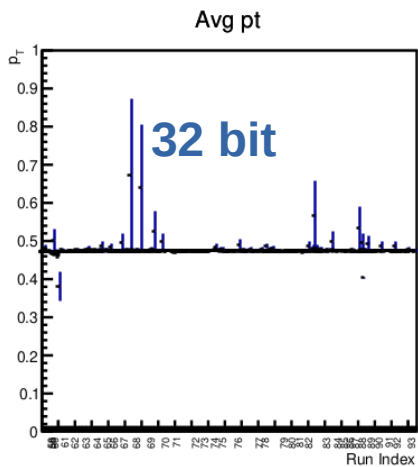
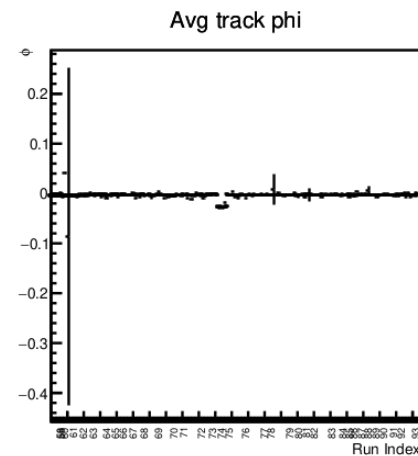
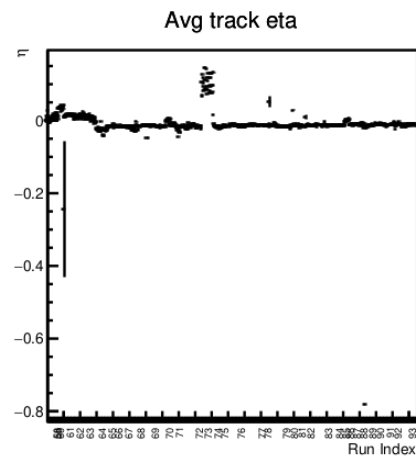
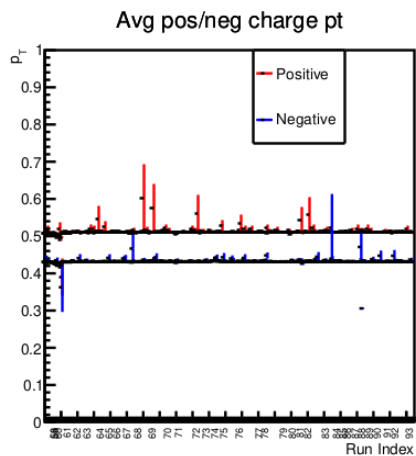
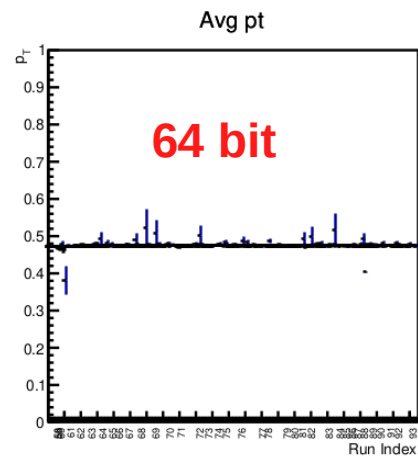
Jitka Mrazkova

9/4/2025

Dataset + selection criteria

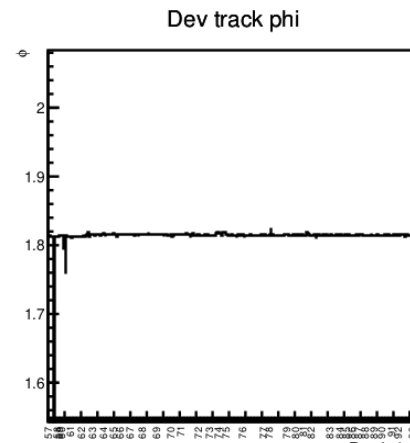
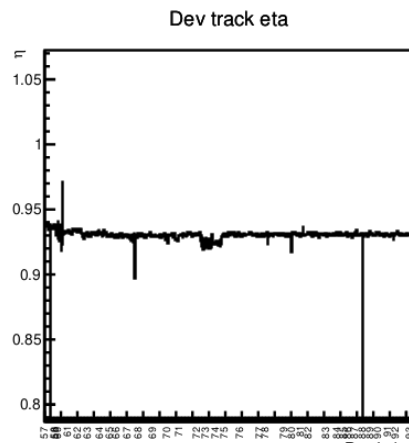
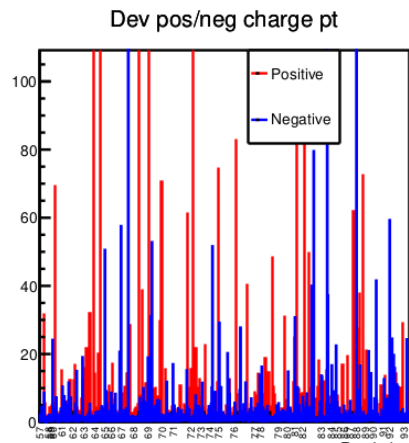
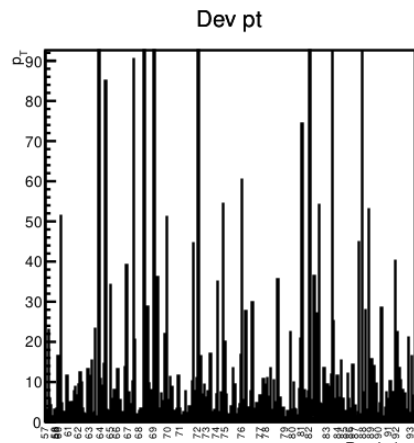
- Days: 60 - 93
- Runs: 20060001 - 20093036
- Total: 1125
- Event-level:
 - $|z_{\text{vertex}}| < 100$ cm
 - Positive ranking
 - $v_r < 2$ cm
 - $|VPD v_z - TPC v_z| < 6$ cm
- Track-level primaries
- Charged Jet: Primary tracks $p_T > 0.2$ GeV/c, leading track $p_T > 2$ GeV/c, $n_{\text{hit}} > 15$ & $n_{\text{hit-ratio}} > 51\%$, $|\eta| < 1.4$; $|\eta| < 1 - R$, $p_T > 5$ GeV/c, anti-kt, $R = 0.4$
- Full Jet: $|\eta| < 1.0$, BEMC Hadronic Correction = 100 %, $E_T > 0.2$ GeV after correction, Same jet criteria

Track Kinematics

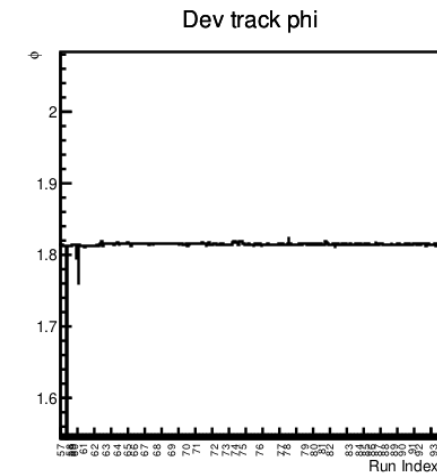
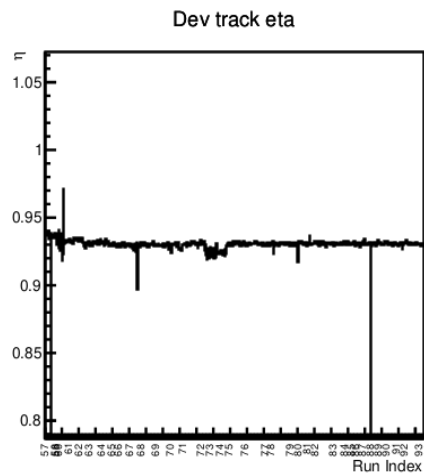
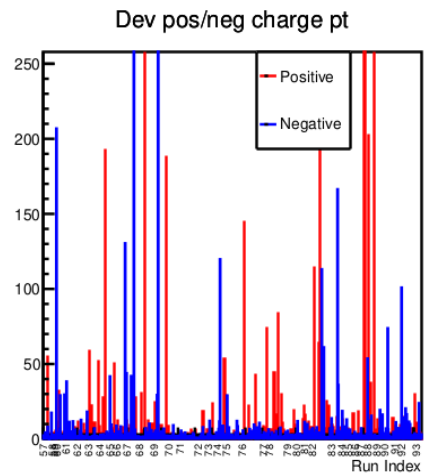
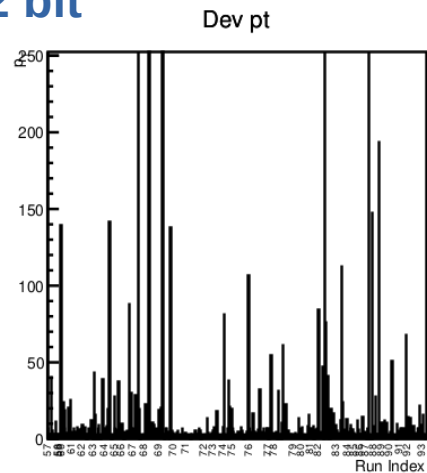


Track Kinematics

64 bit

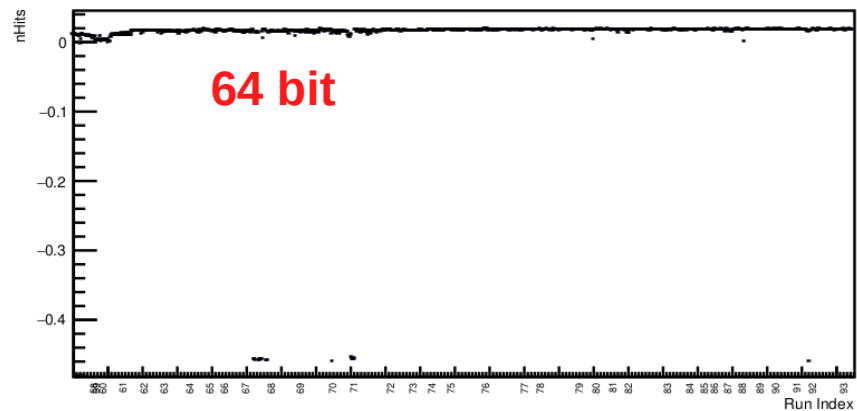


32 bit

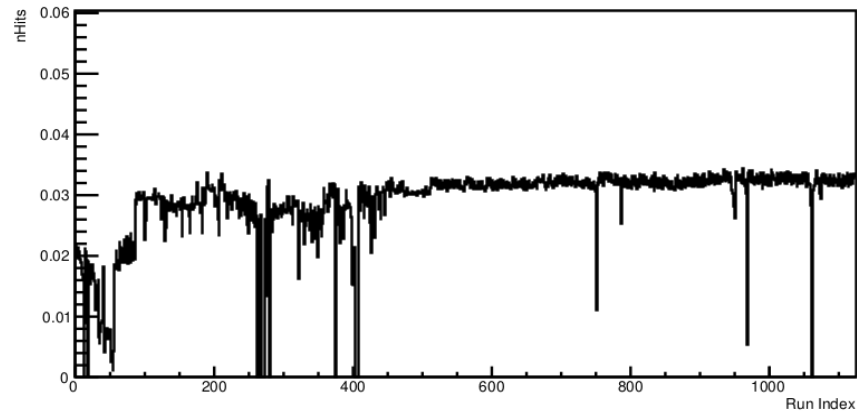


EMC hits

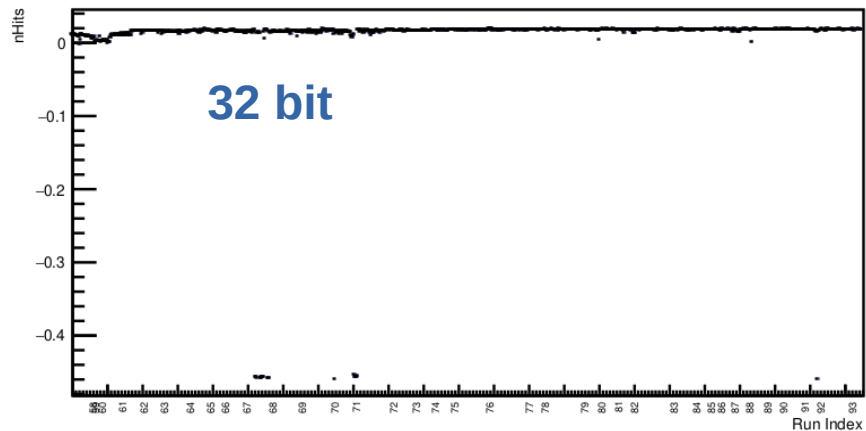
Avg EMC hit



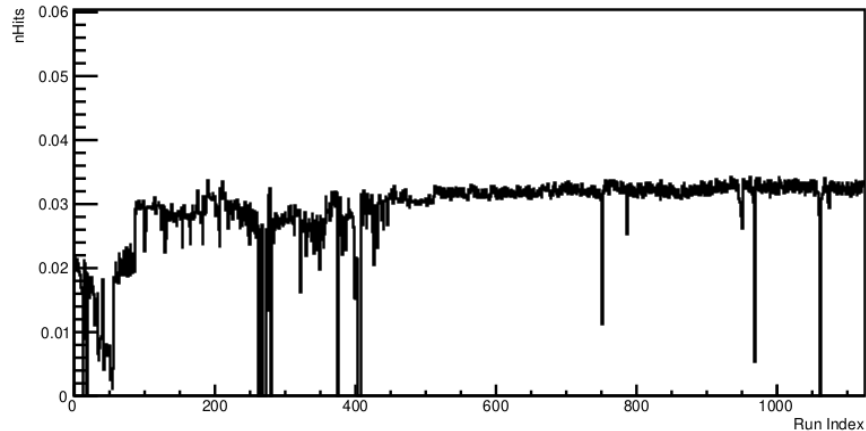
EMC hit > 200 MeV



Avg EMC hit

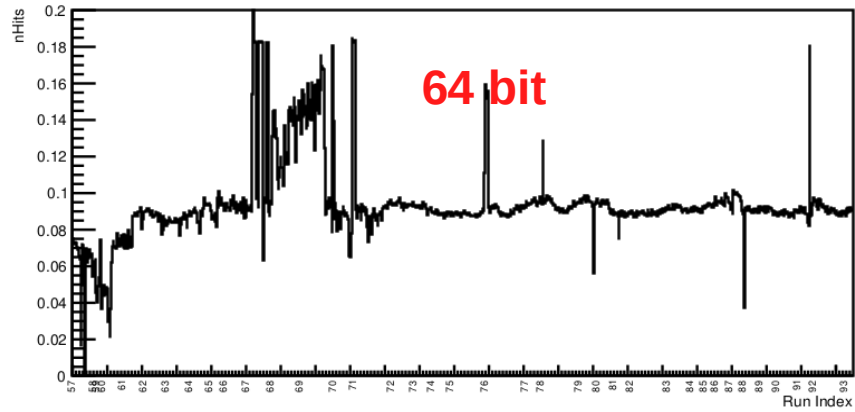


EMC hit > 200 MeV

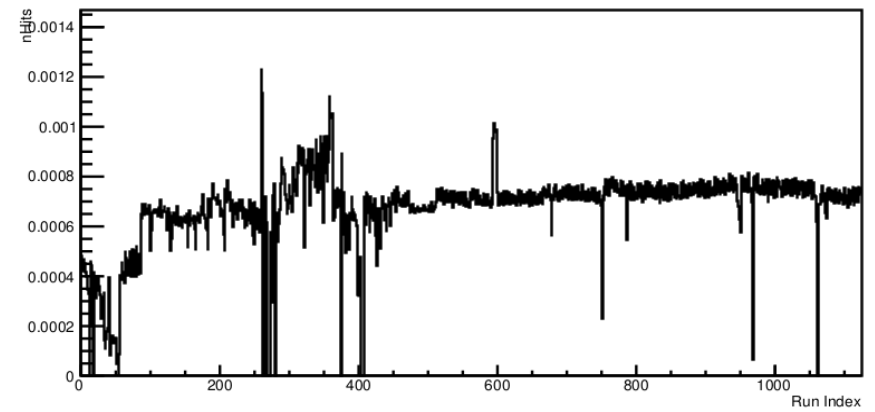


EMC hits

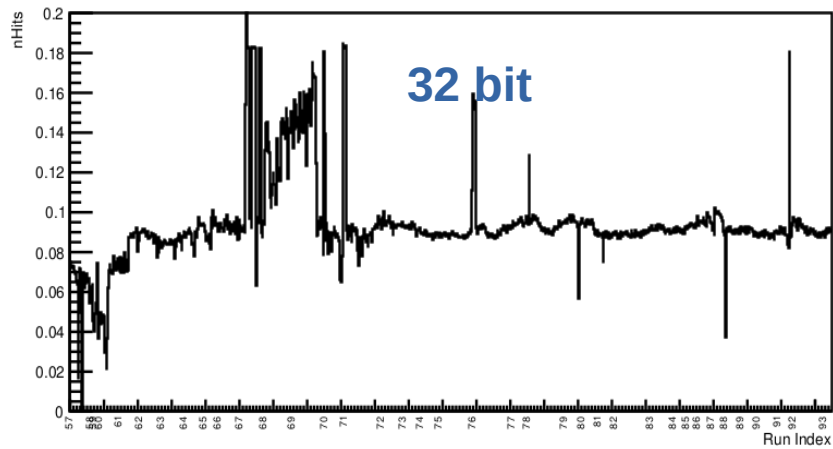
Dev EMC hit



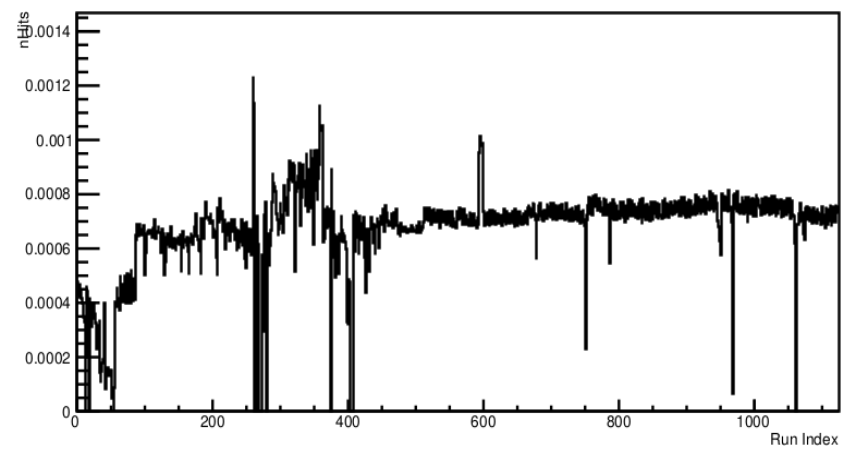
EMC hit > 1 GeV



Dev EMC hit

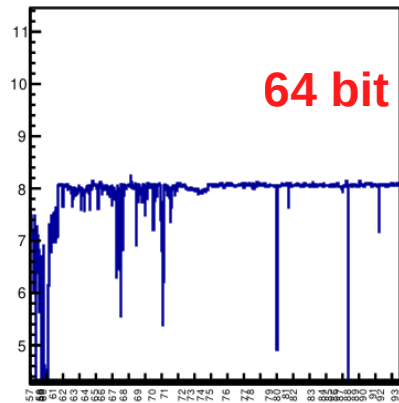


EMC hit > 1 GeV

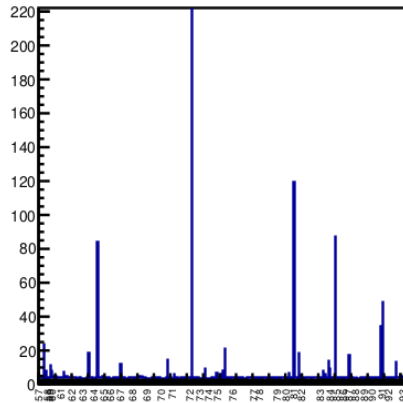


Charged Jets

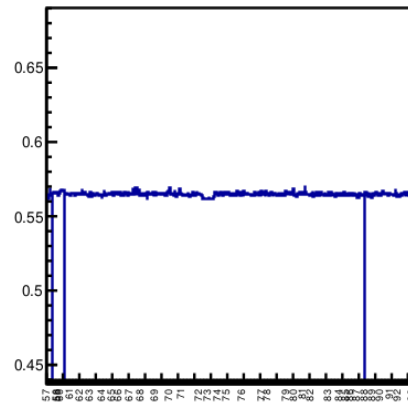
Dev #charged jets



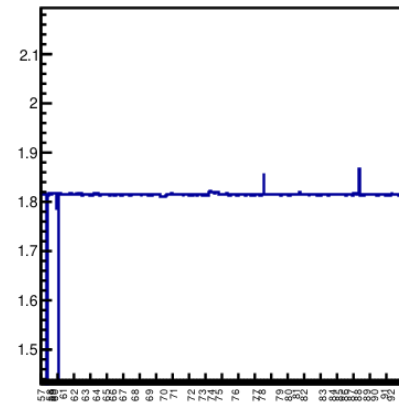
Dev charged jets pt



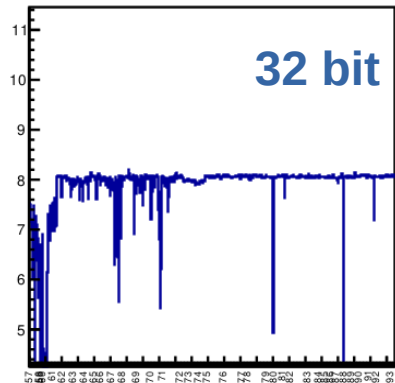
Dev charged jets eta



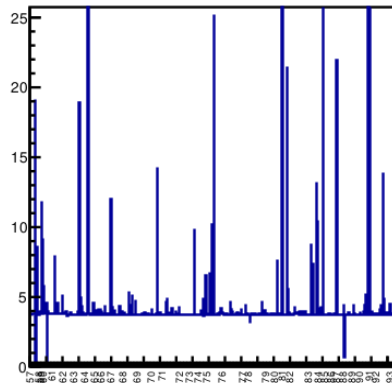
Dev charged jets phi



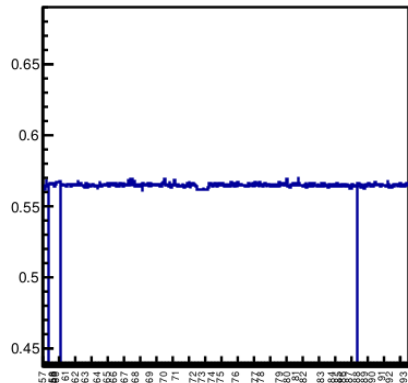
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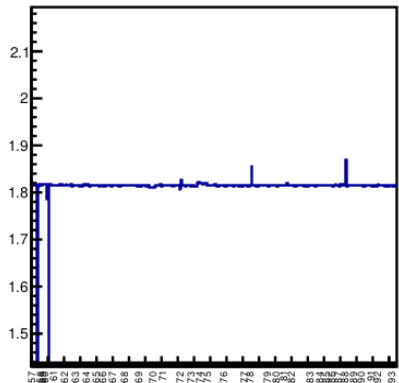
Dev charged jets pt



Dev charged jets eta

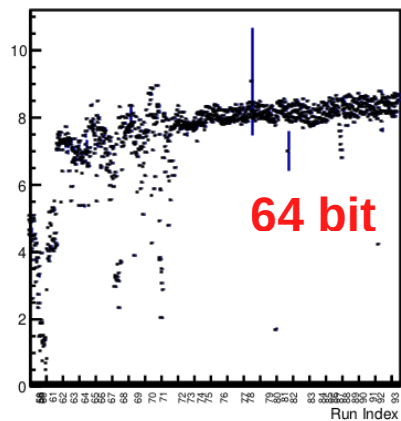


Dev charged jets phi

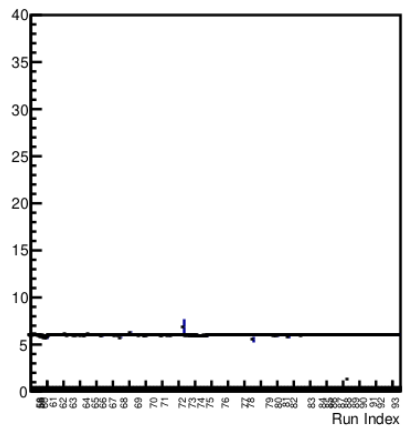


Charged Jets

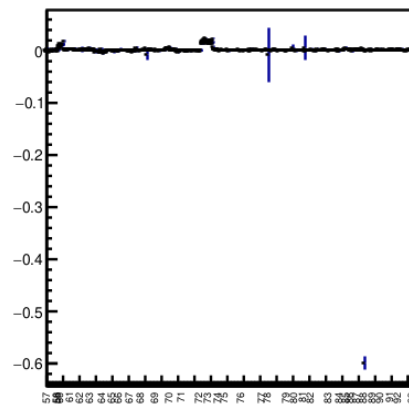
Average number of charged jet



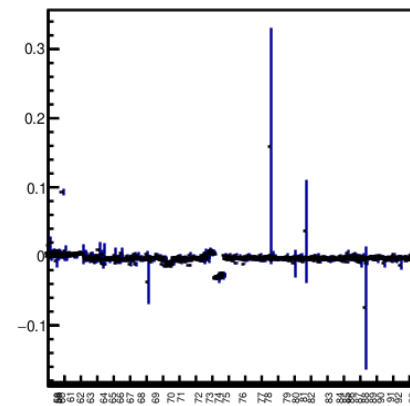
Average charged jet pt



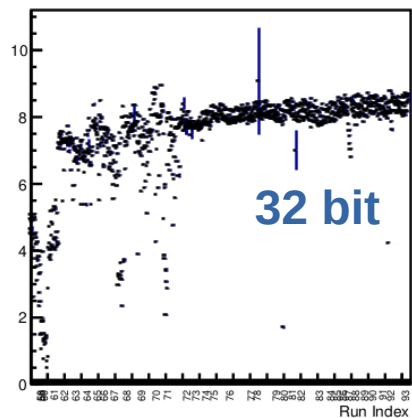
Average charged jet eta



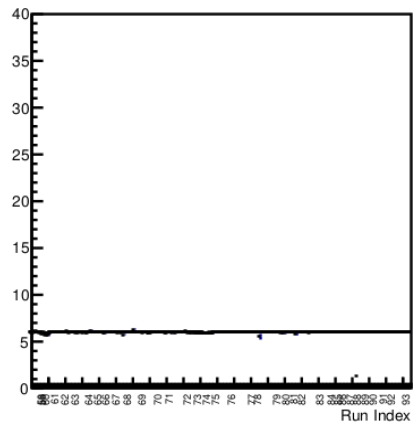
Average charged jet phi



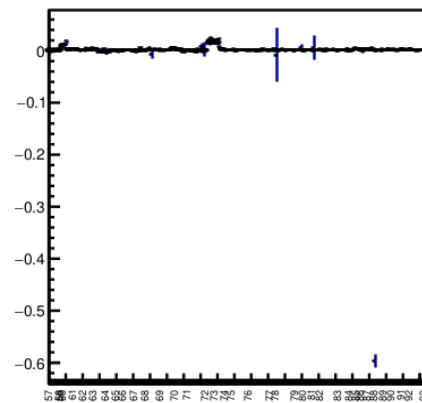
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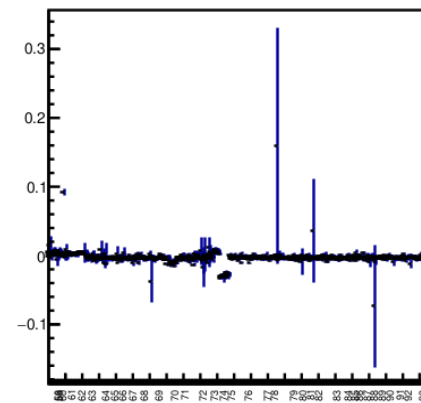
Average charged jet pt



Average charged jet eta

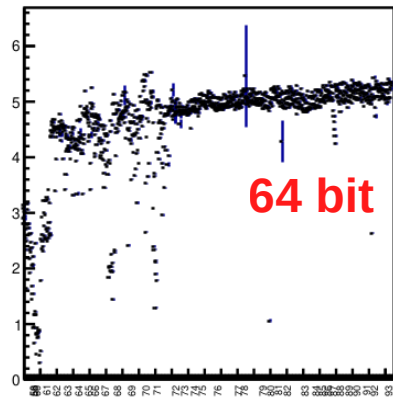


Average charged jet phi

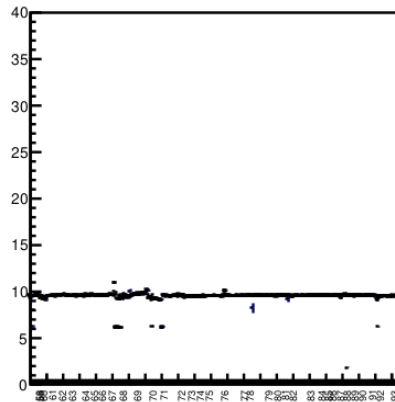


Full Jets

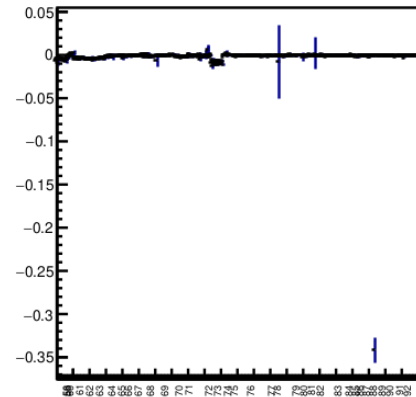
Average number of full jet



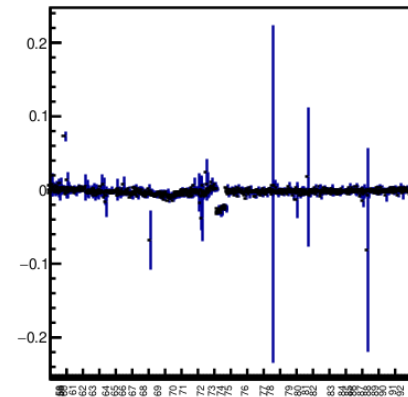
Average full jet pt



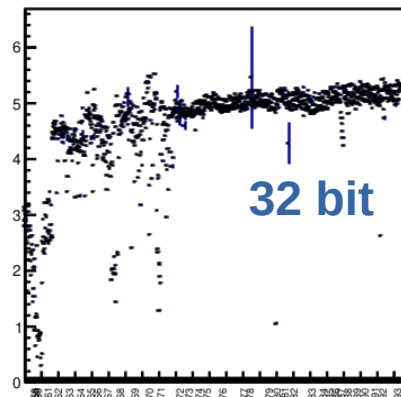
Average full jet eta



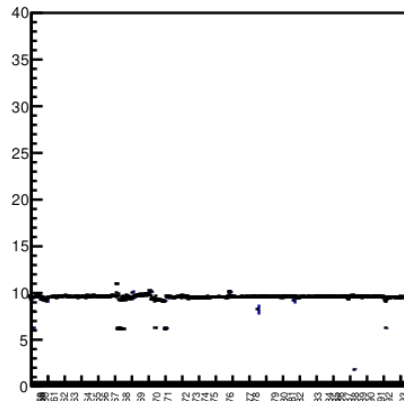
Average full jet phi



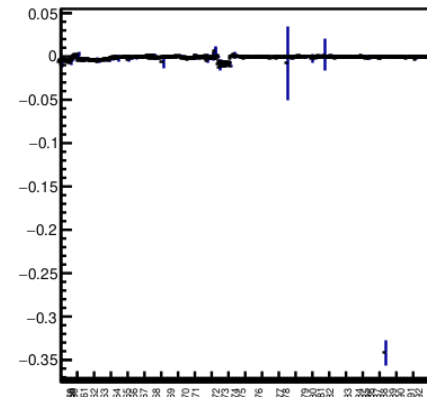
Average number of full jet



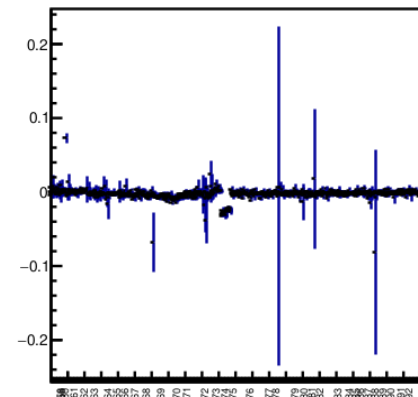
Average full jet pt



Average full jet eta

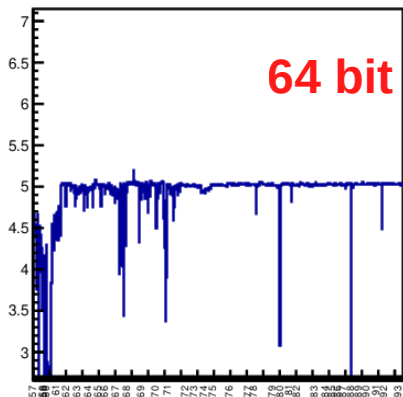


Average full jet phi

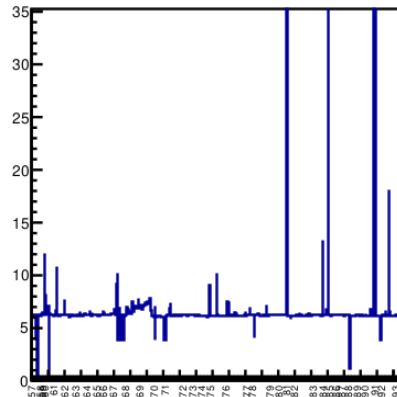


Full Jets

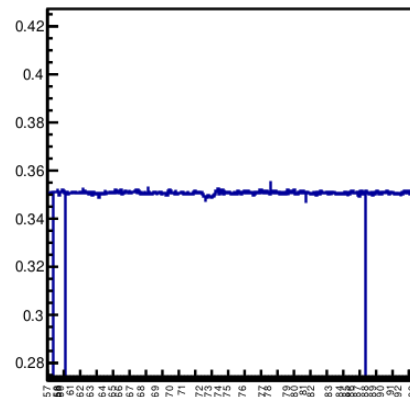
Dev #full jets



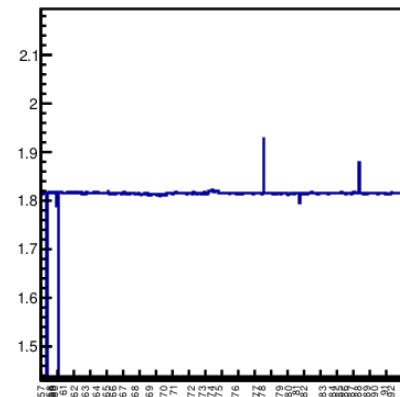
Dev full jets pt



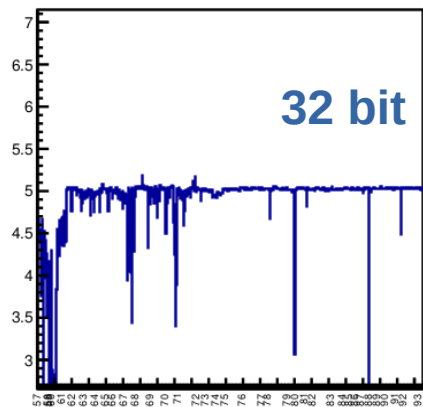
Dev full jets eta



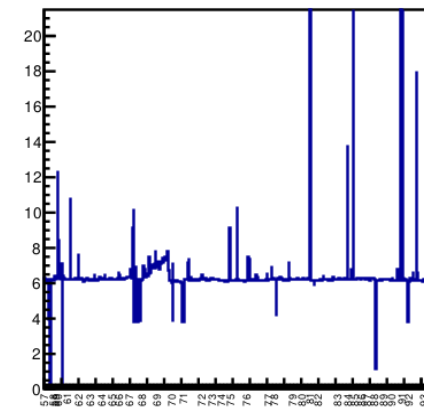
Dev full jets phi



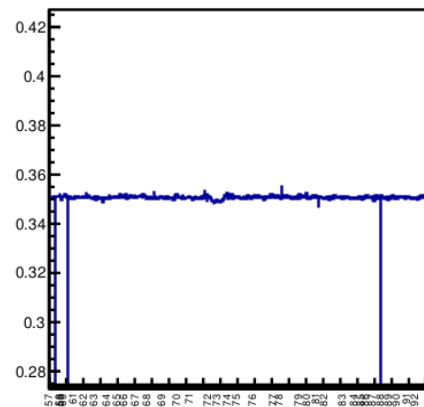
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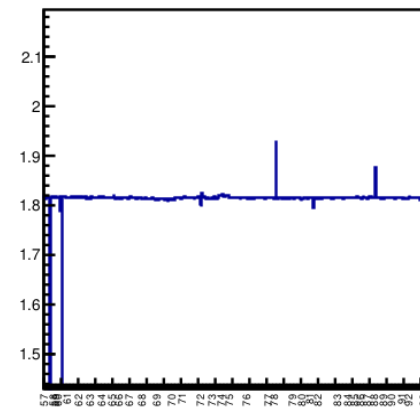
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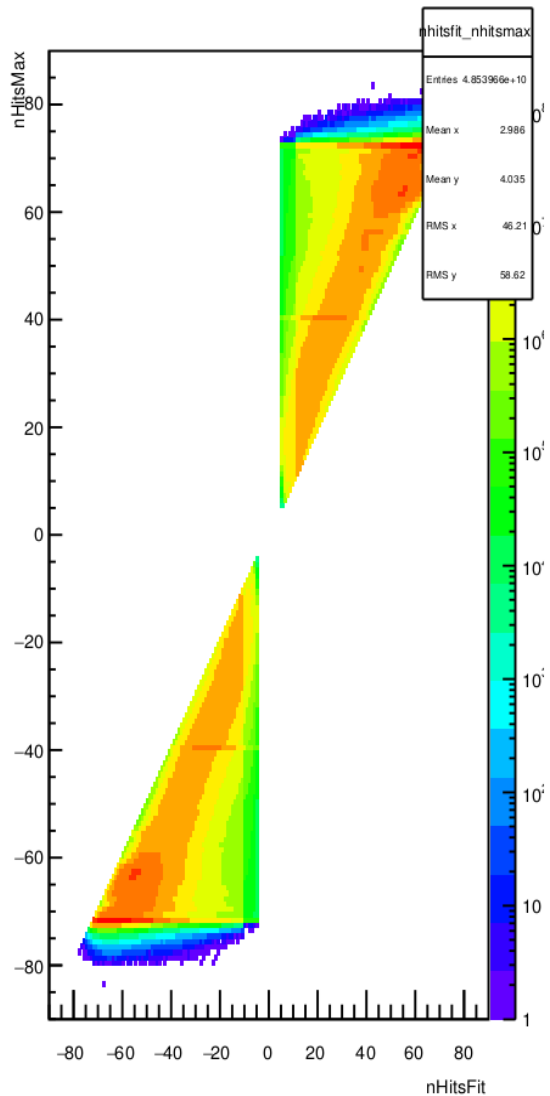
Dev full jets eta



Dev full jets phi



nHitsFit vs nHitsMax

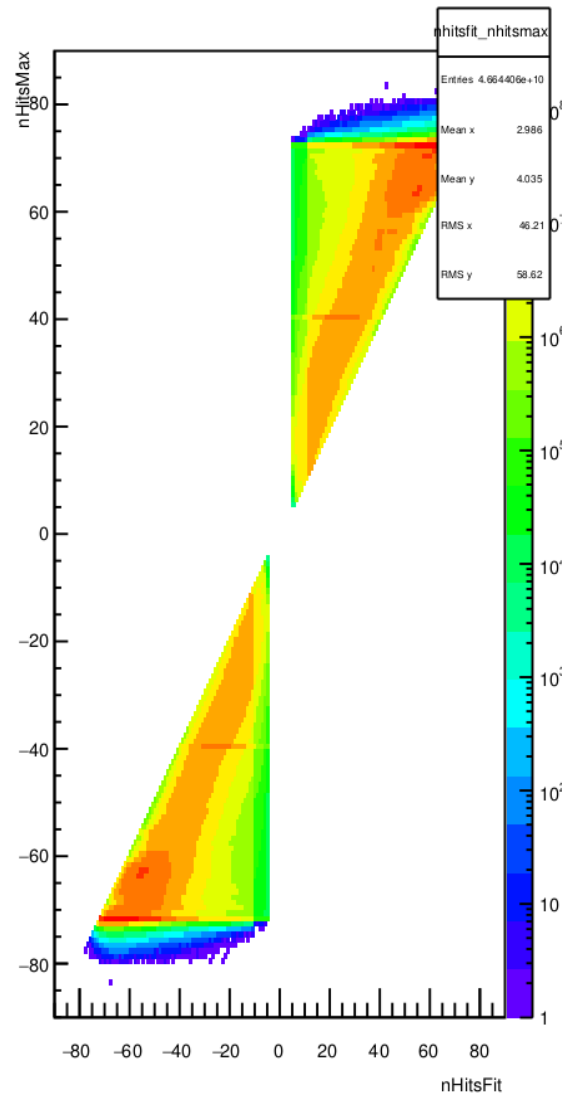


64 bit

Nhits Max Distributions

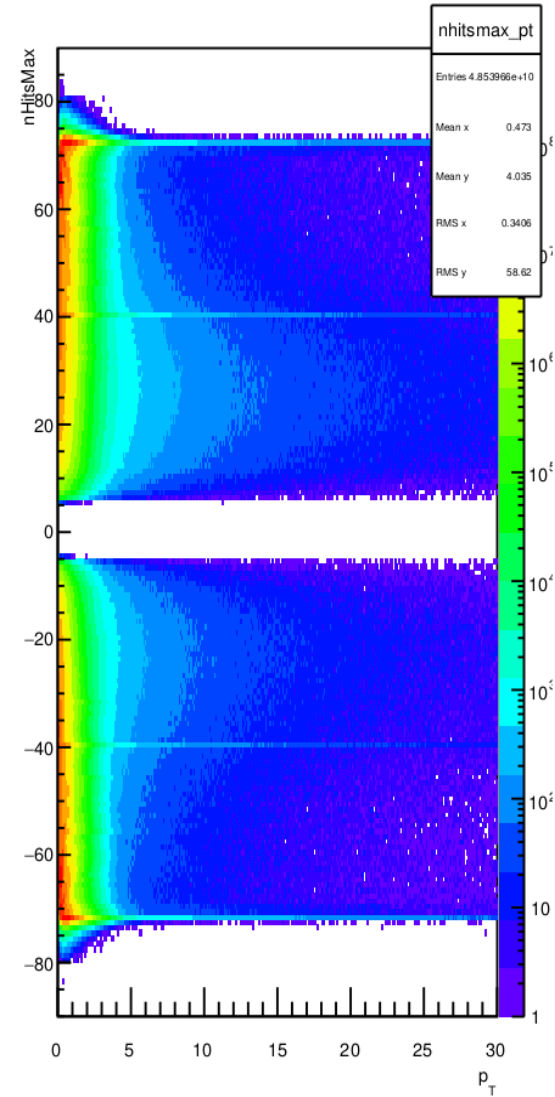
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nHitsFit vs nHitsMax



nHits Distributions

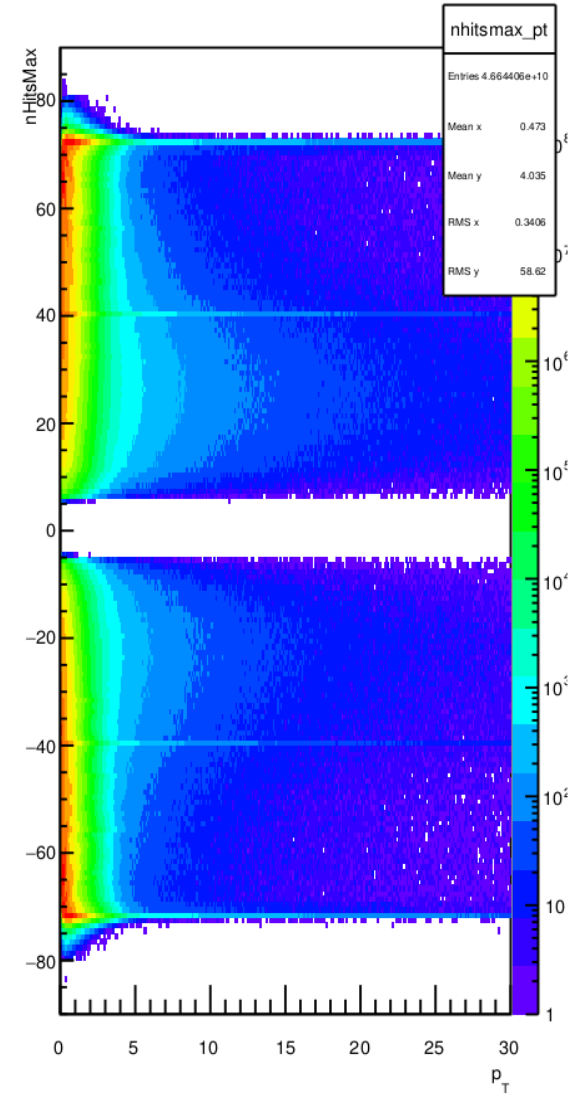
nHitsmax vs p_T



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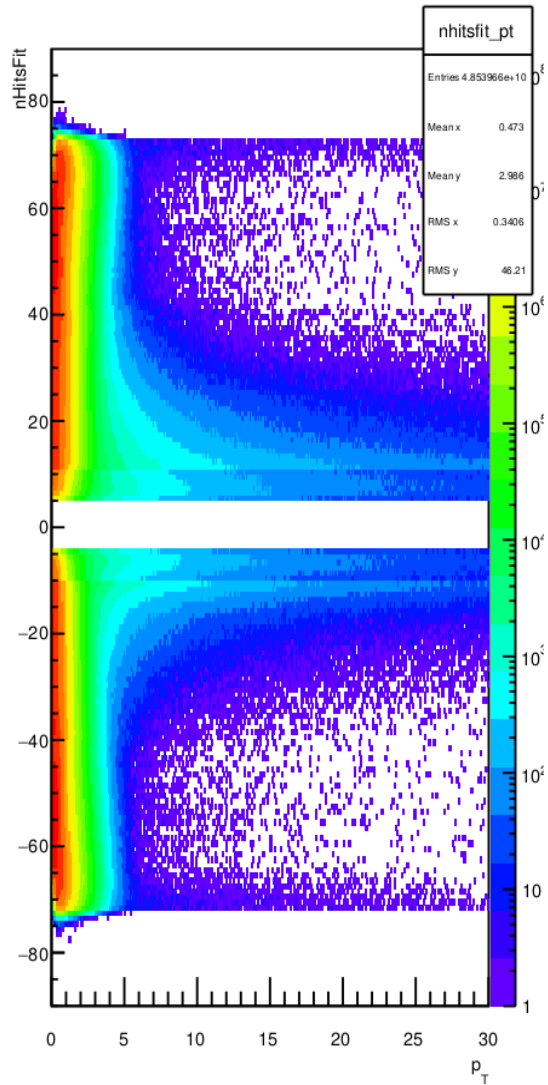
nHitsmax vs p_T

32 bit



nHits Distributions

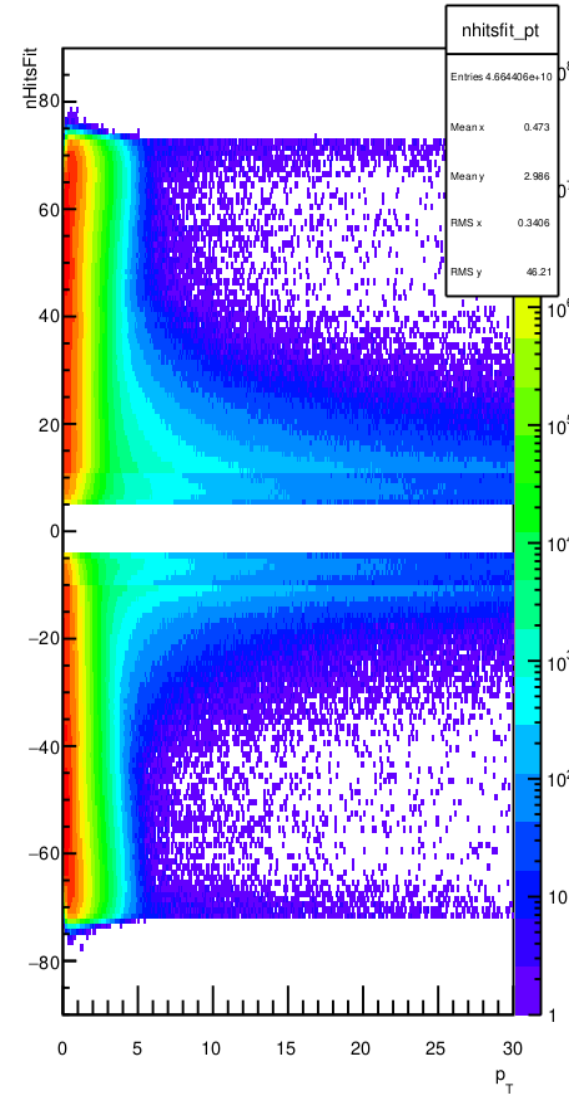
nHitsfit vs pt



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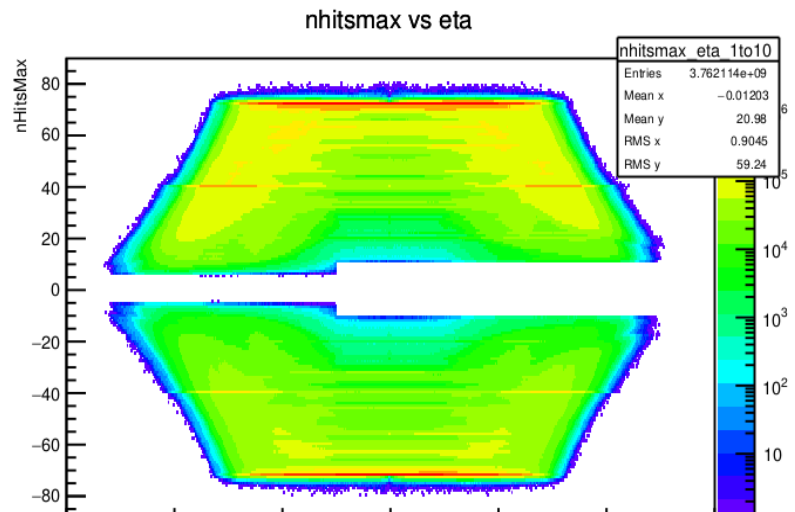
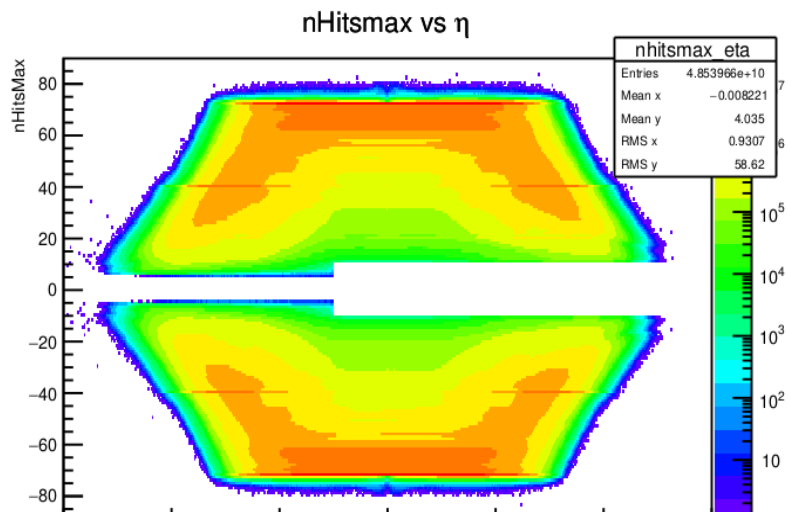
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nHitsfit vs pt

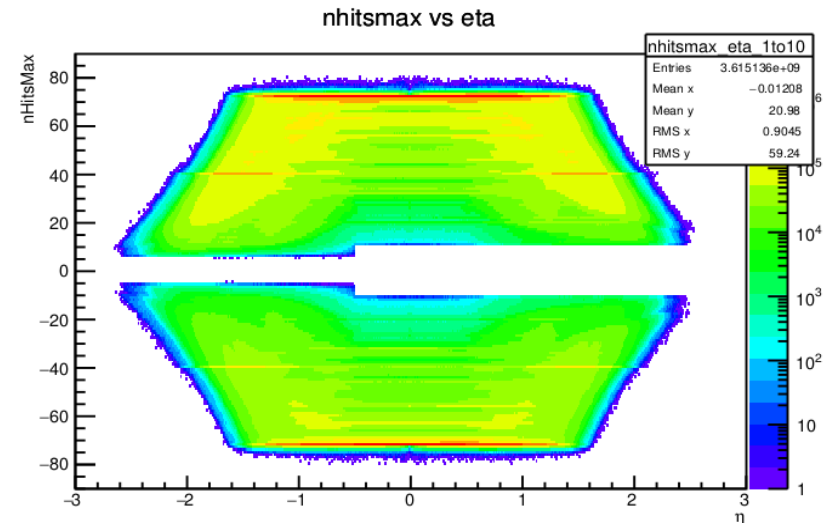
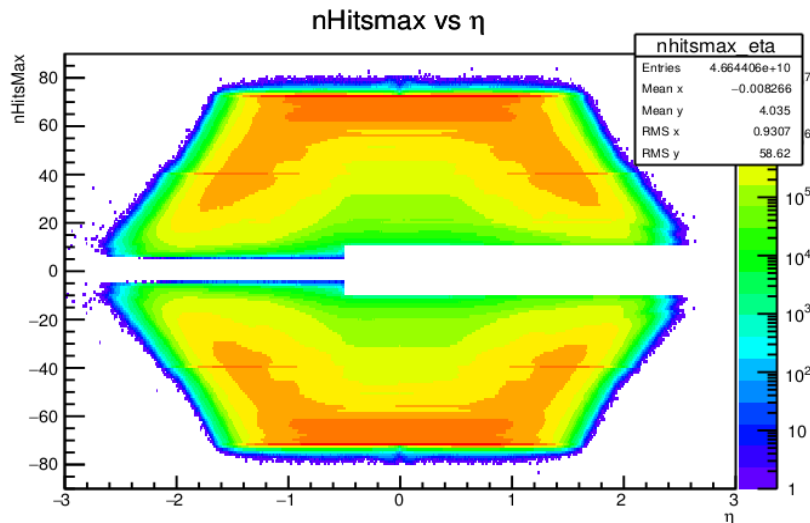


nHitsFit Distributions

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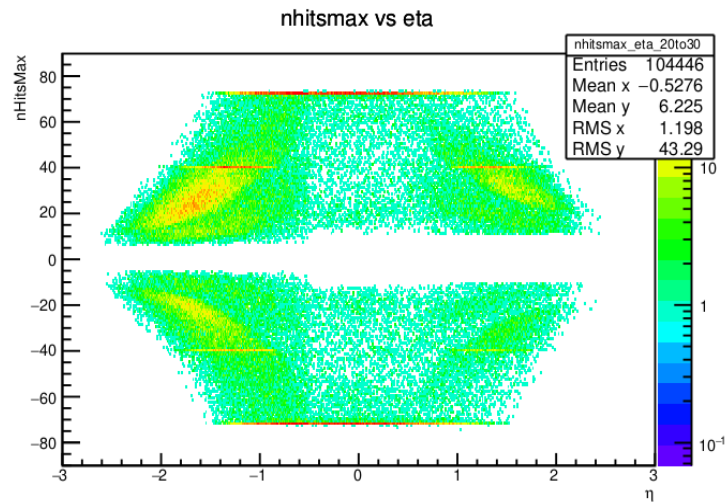
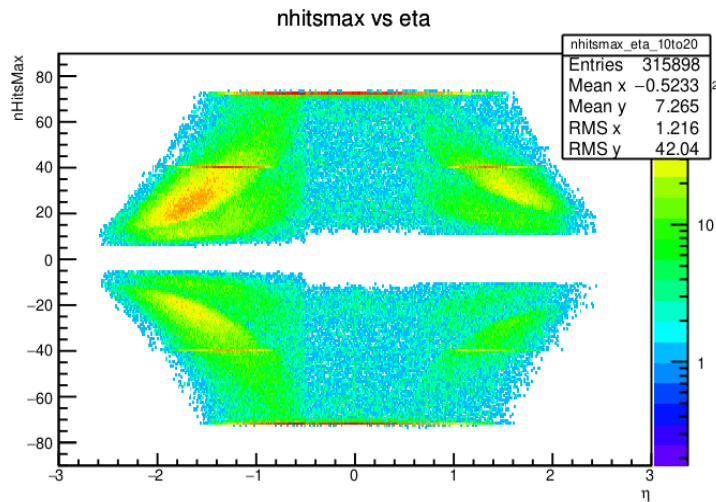


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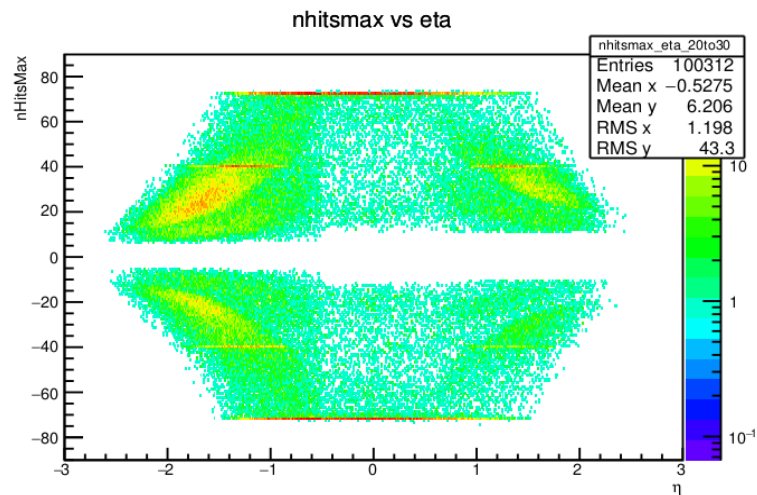
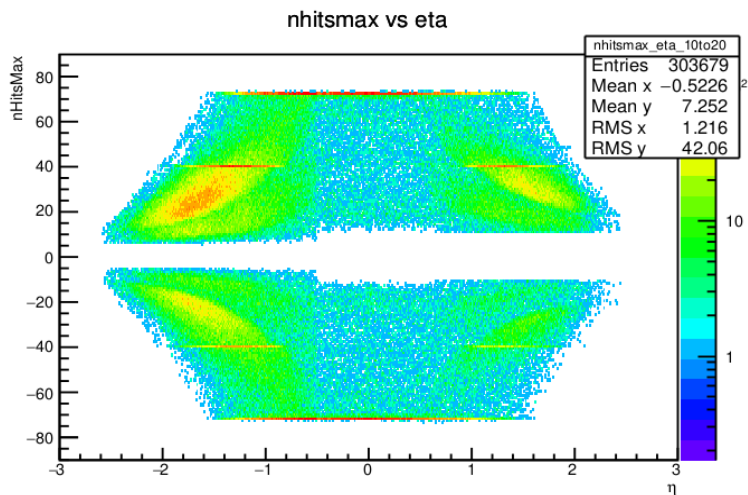


nHitsFit Distributions

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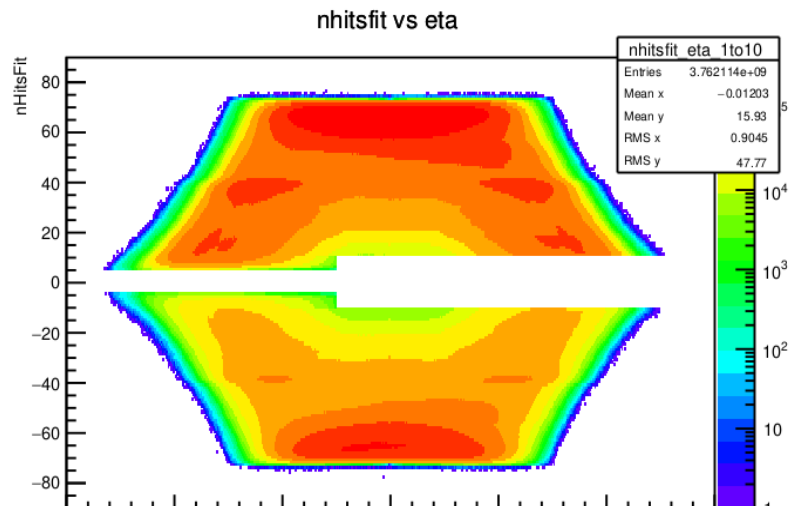
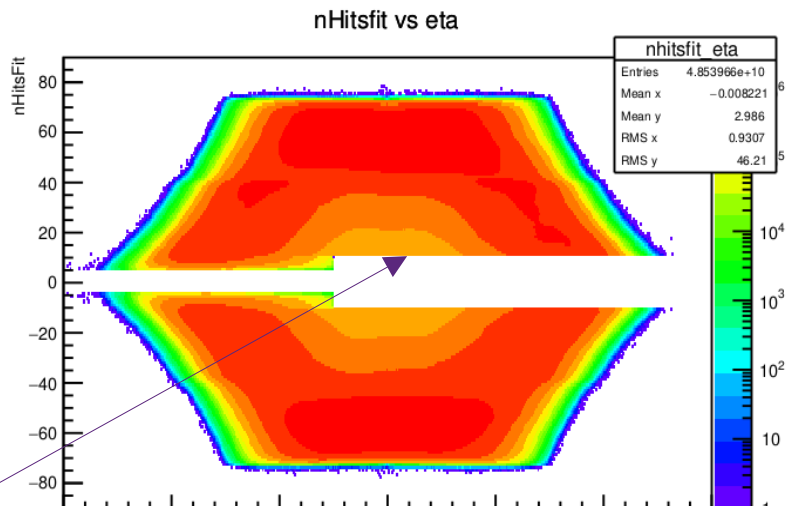


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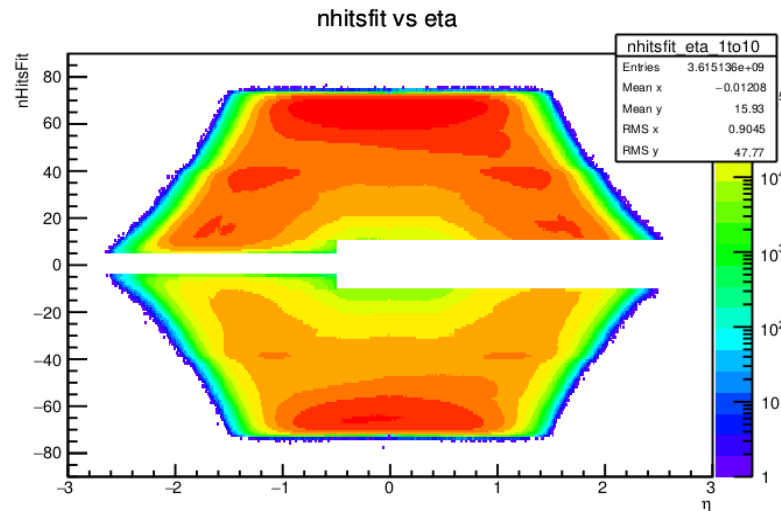
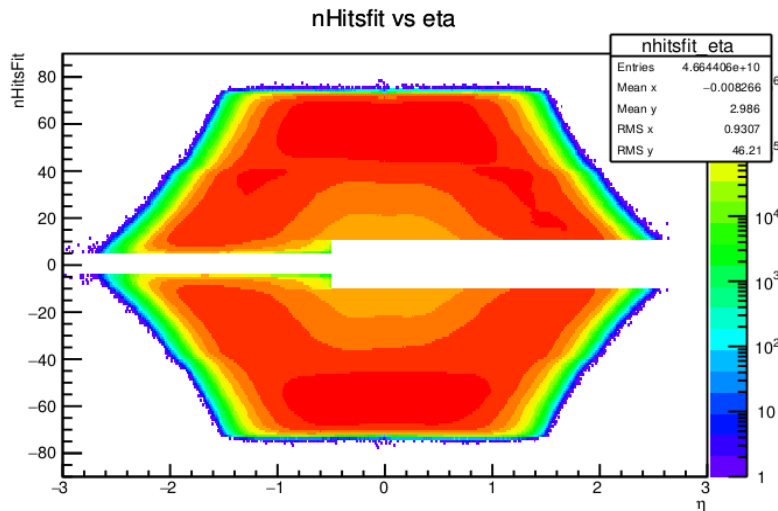
nHitsMax Distributions

64 bit



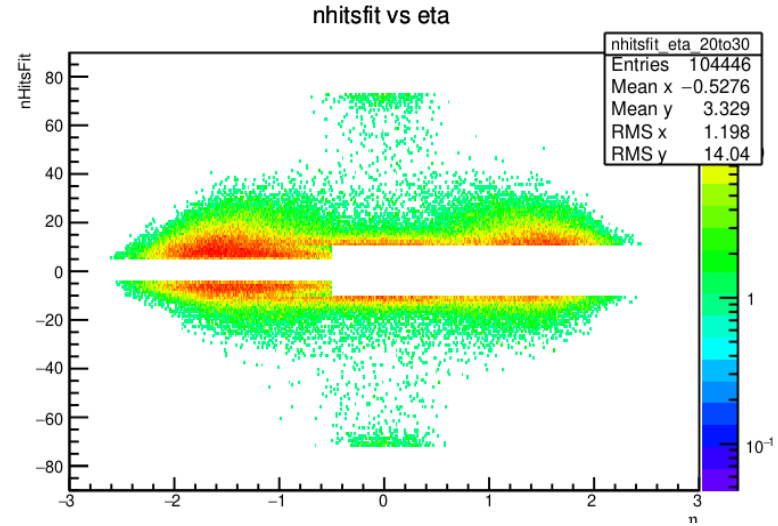
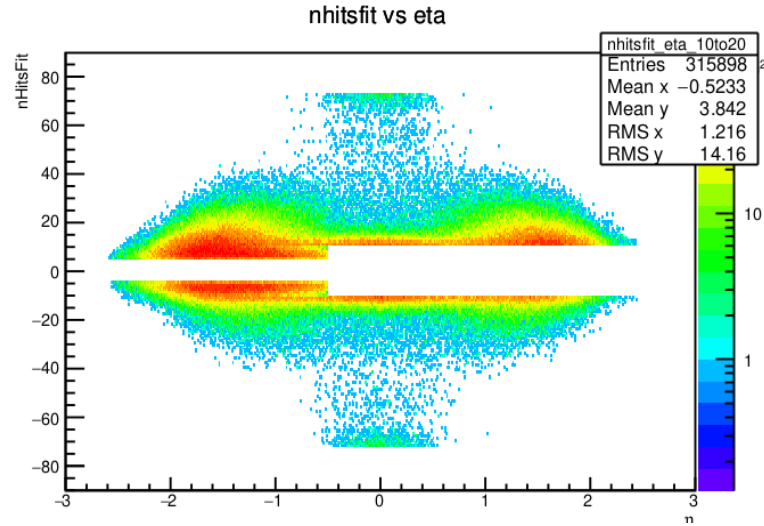
the gap ?

32 bit

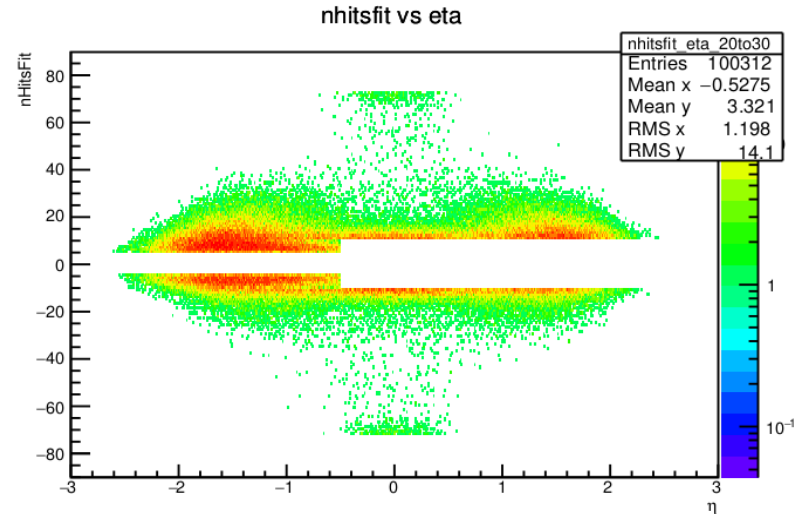
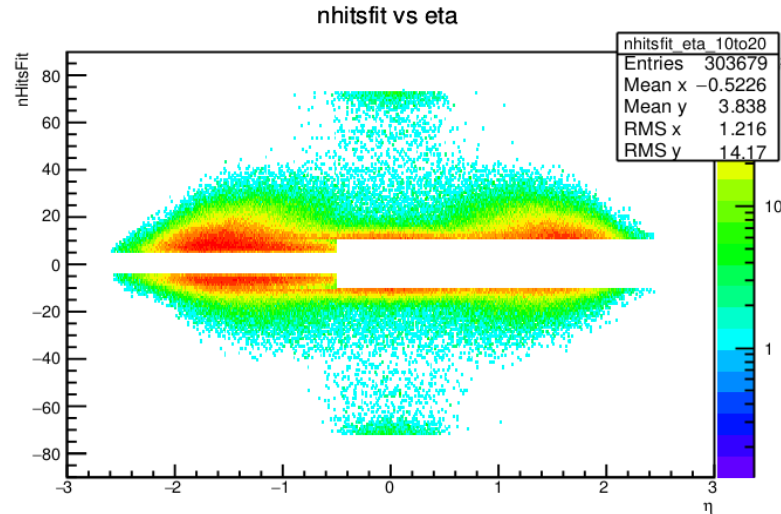


nHitsMax Distributions

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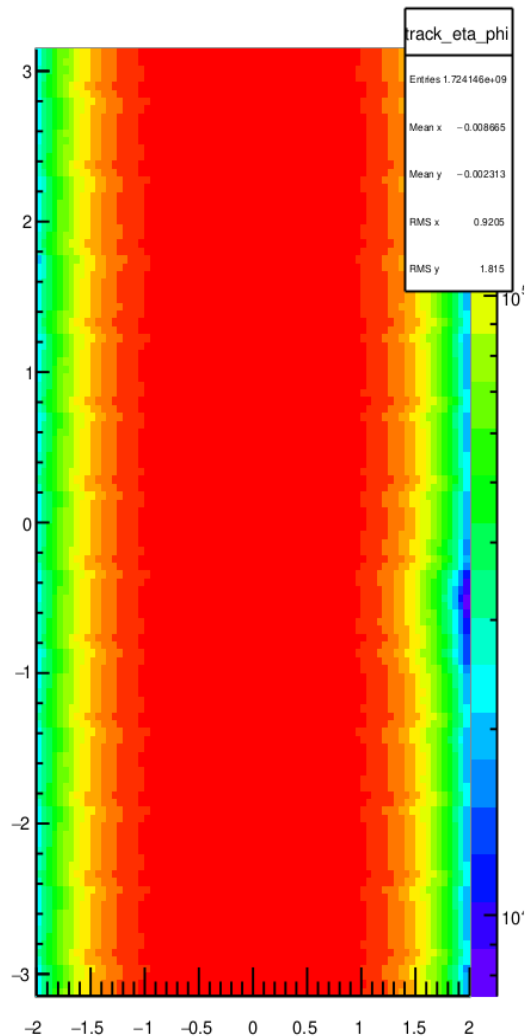


32 bit



Track Kinematics

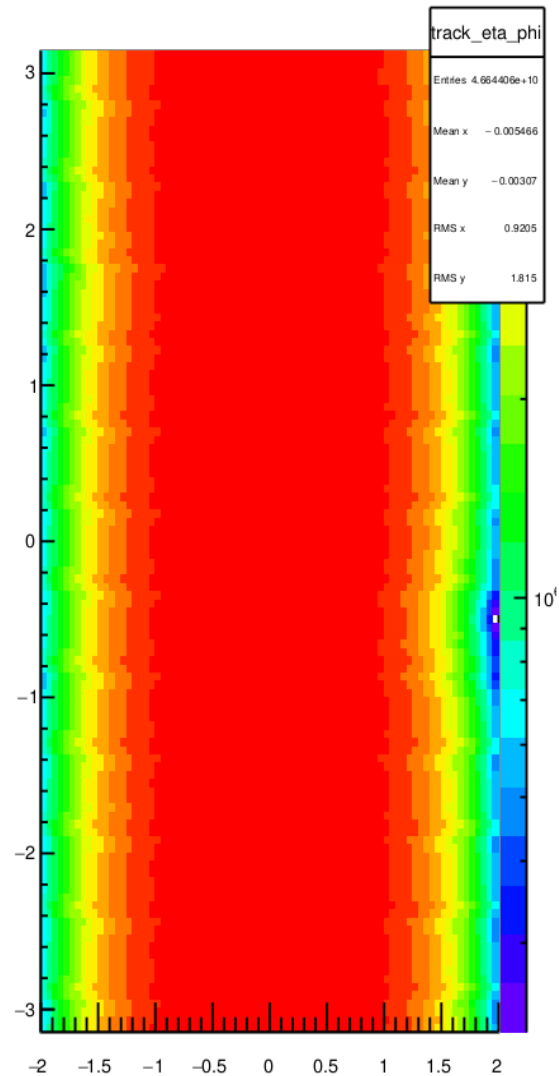
η - ϕ distribution of tracks



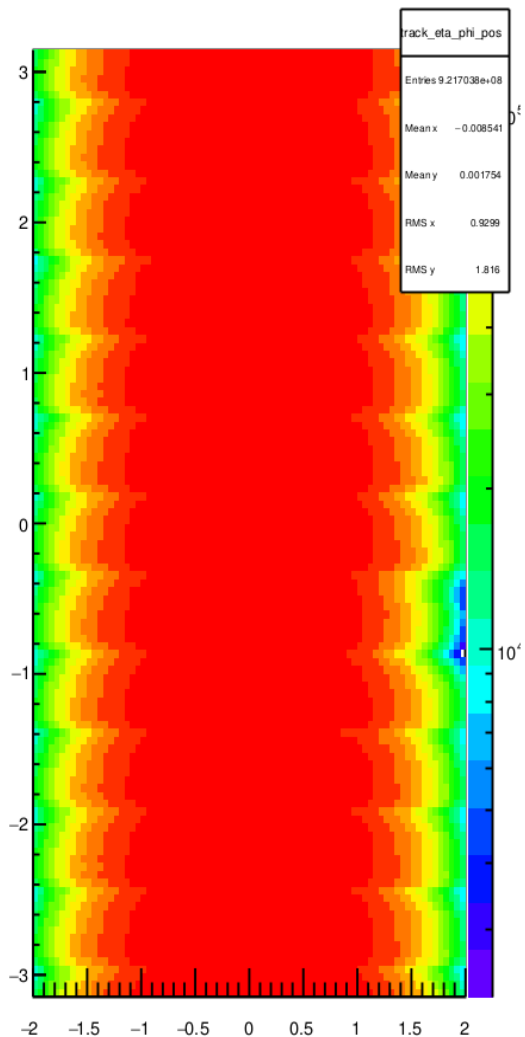
64 bit

32 bit

η - ϕ distribution of tracks



η - ϕ distribution of positive tracks

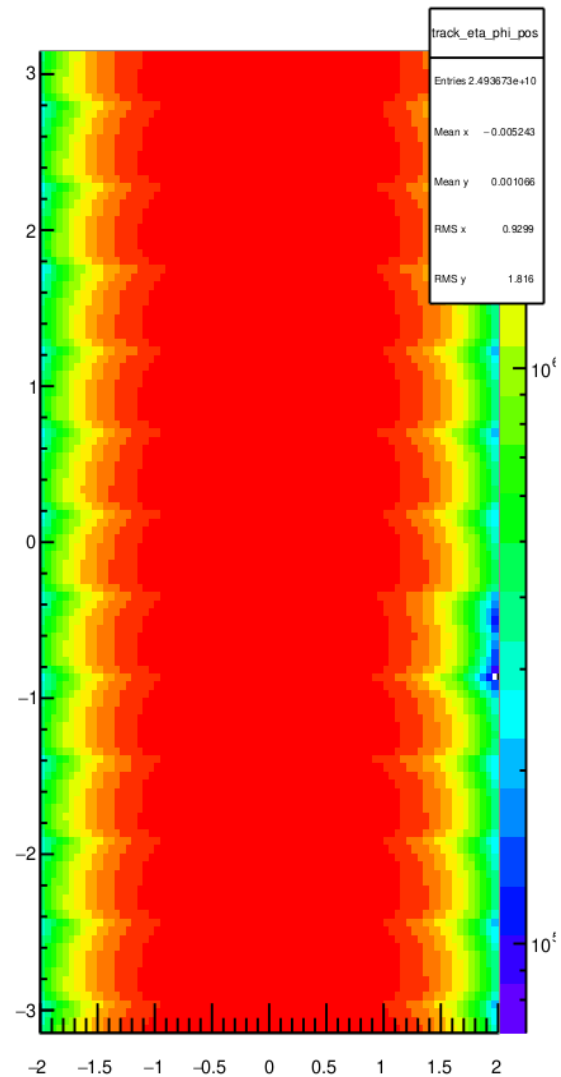


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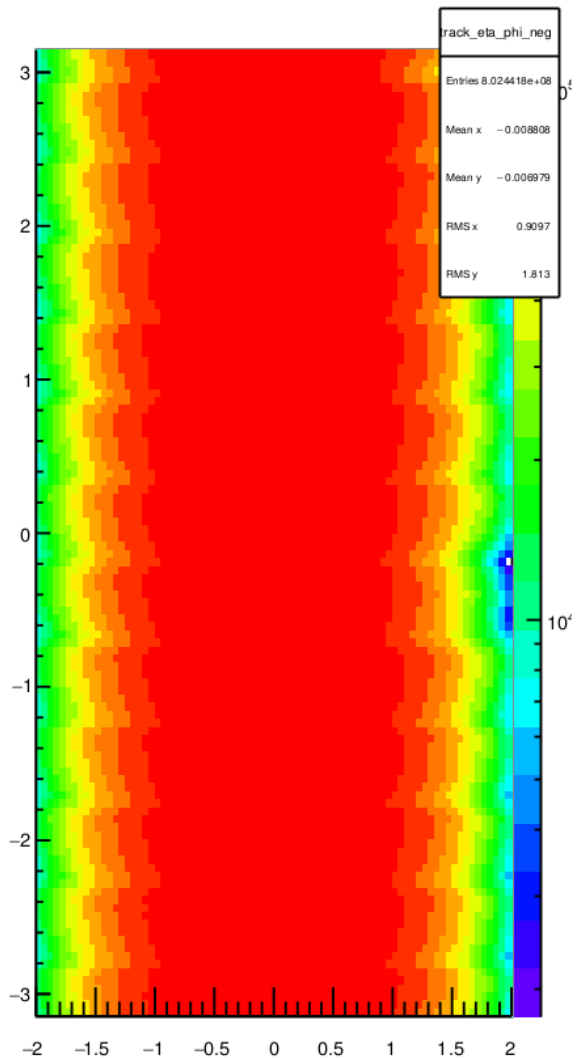
Track Kinematics

32 bit

η - ϕ distribution of positive tracks



η - ϕ distribution of negative tracks

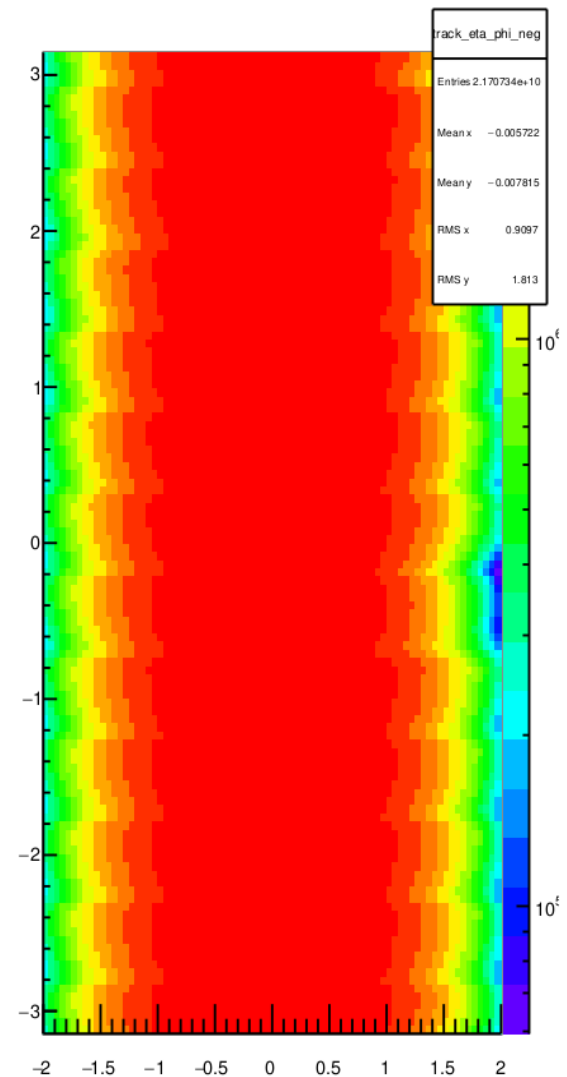


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Track Kinematics

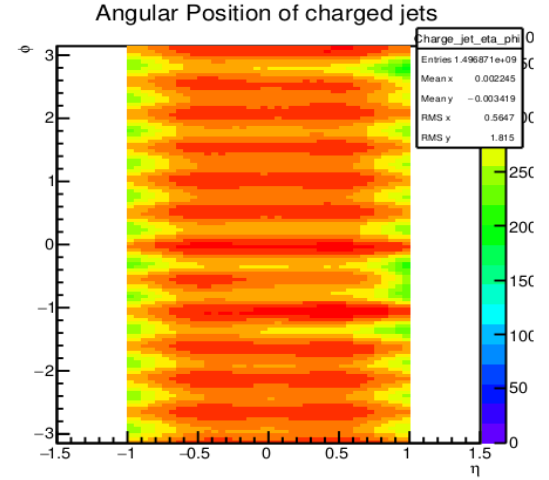
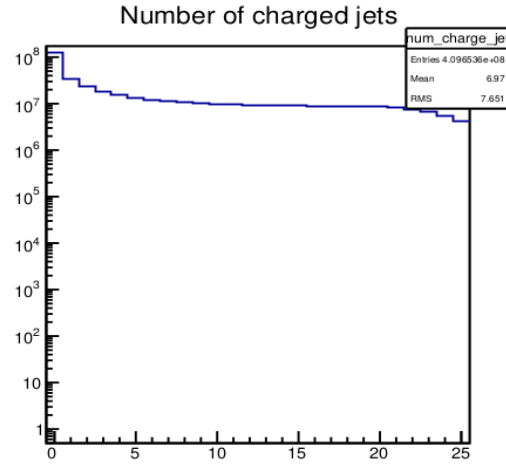
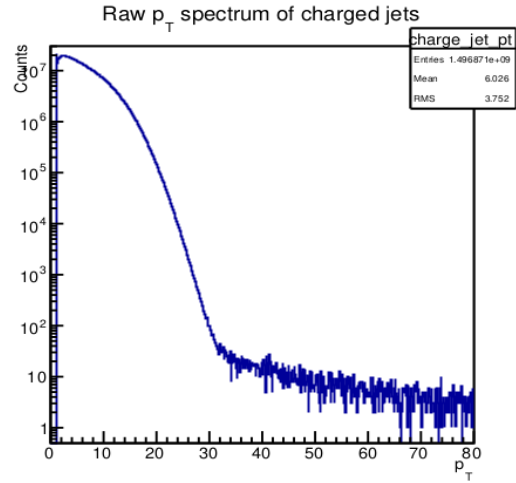
32 bit

η - ϕ distribution of negative tracks

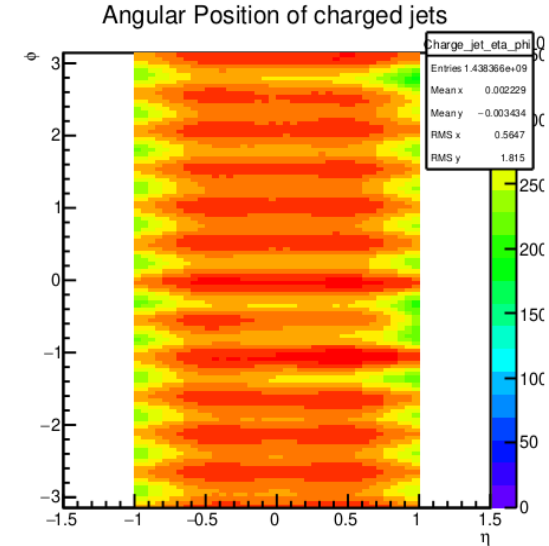
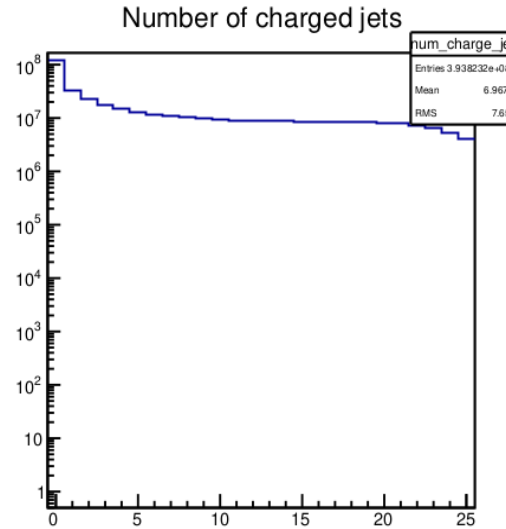
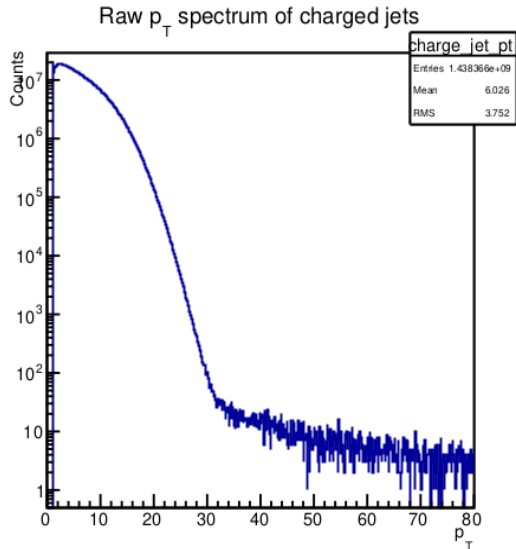


Jet Kinematics

64 bit

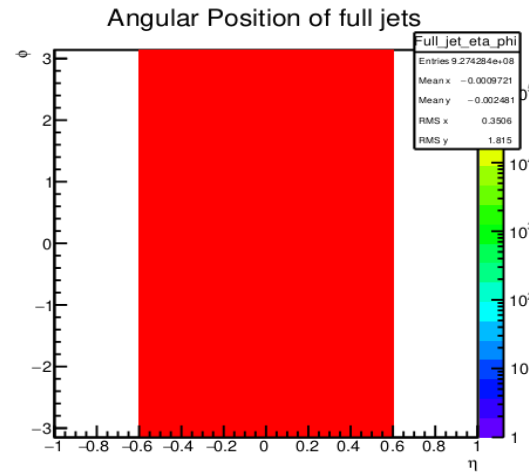
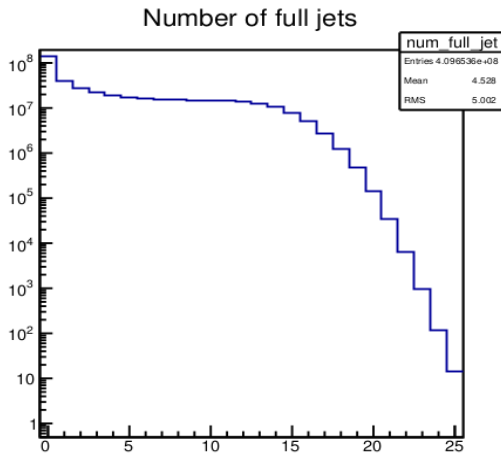
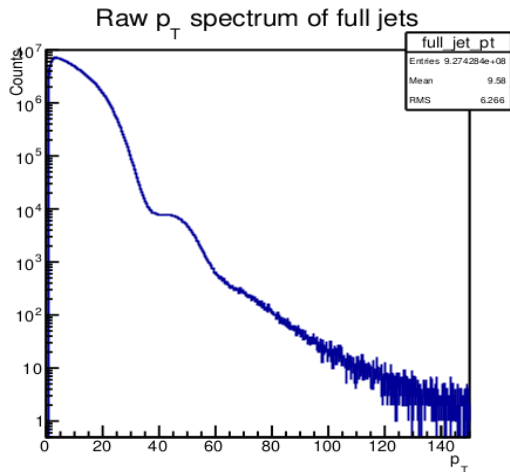


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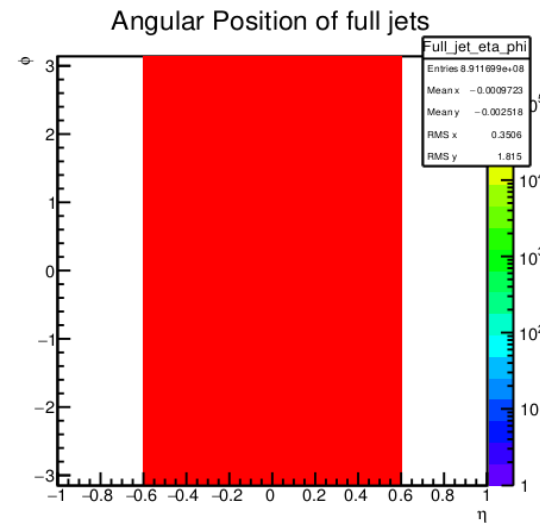
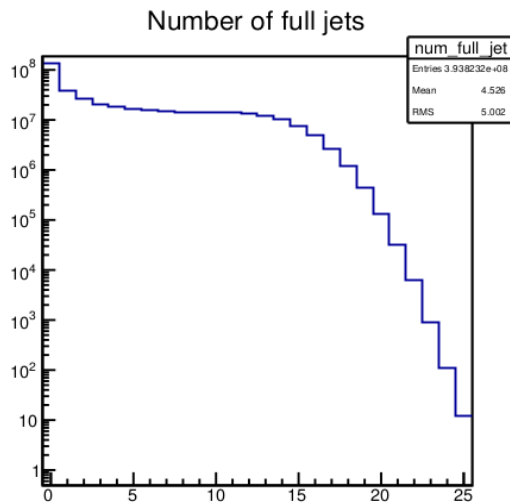
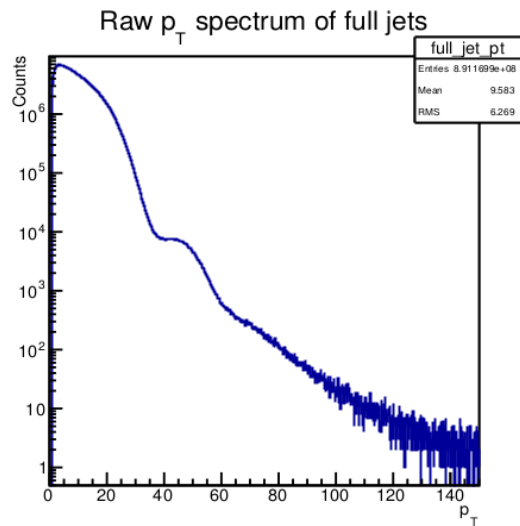


Jet Kinematics

64 bit

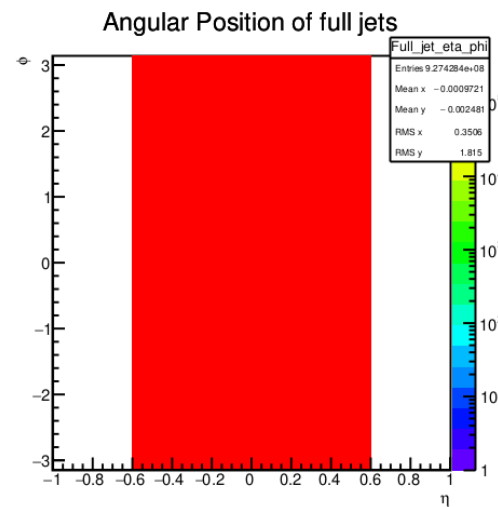
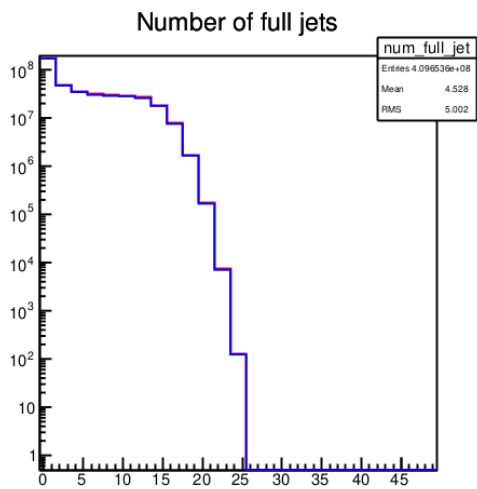
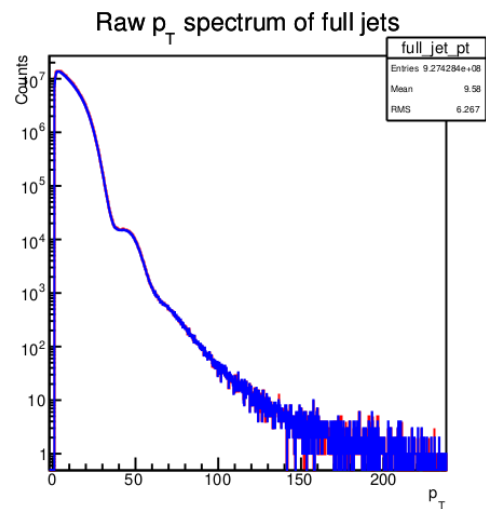
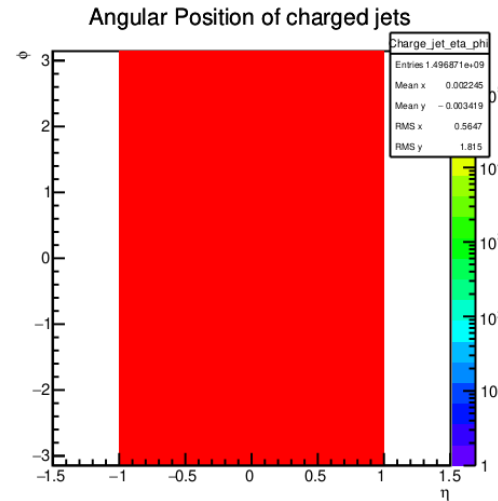
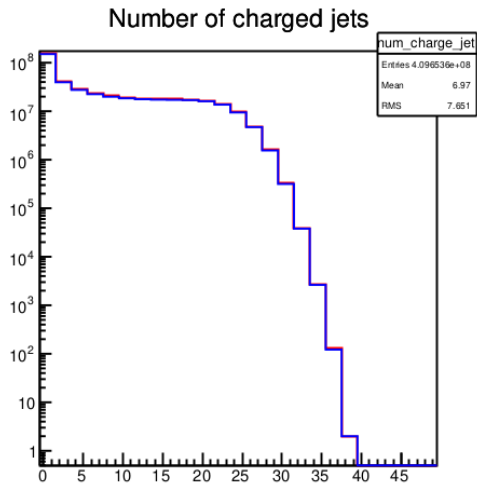
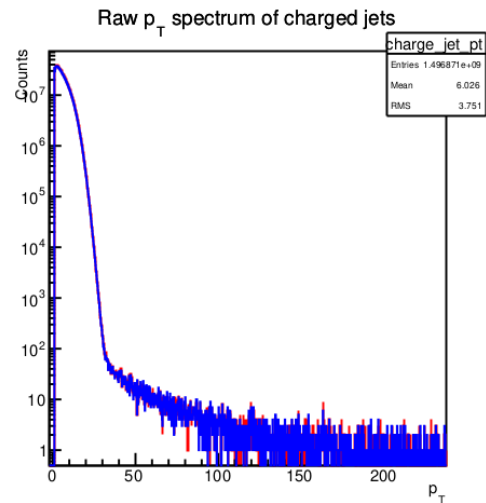


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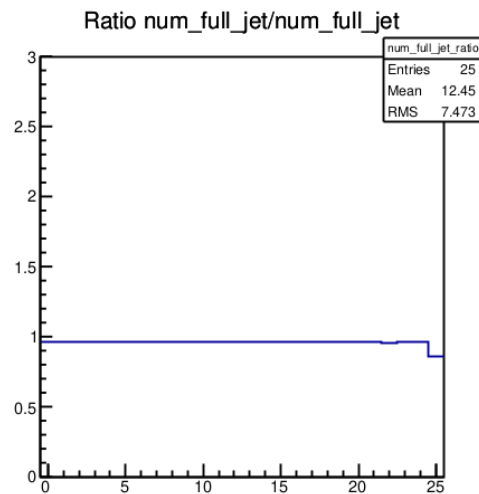
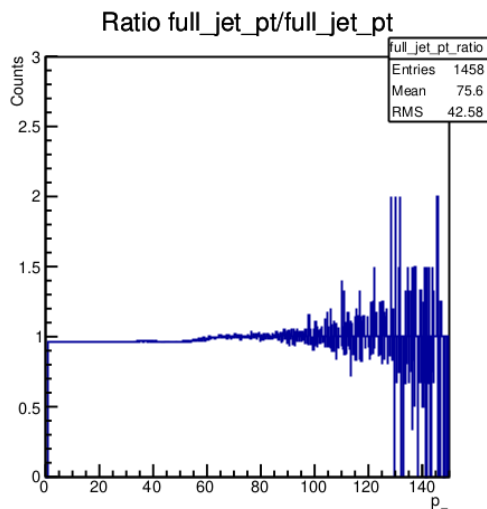
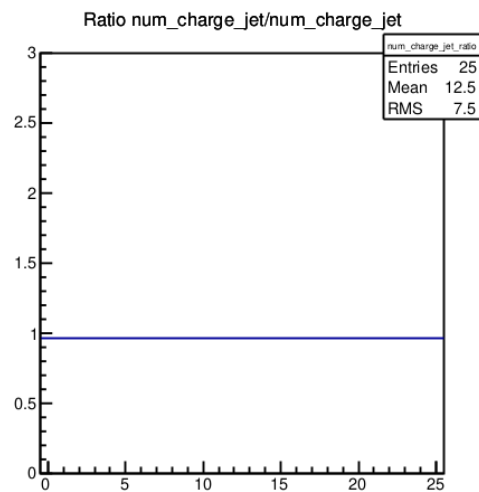
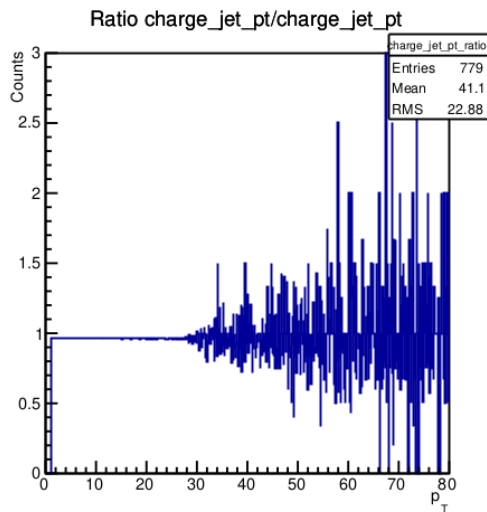
Jet Kinematics

64 bit
32 bit



Jet Kinematics ratios

64 bit / 32 bit



Jet Kinematics ratios

64 bit / 32 bit

rebinned

