



p+p 200 GeV, 2024 Hard Probes PWG Data QA

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Yale

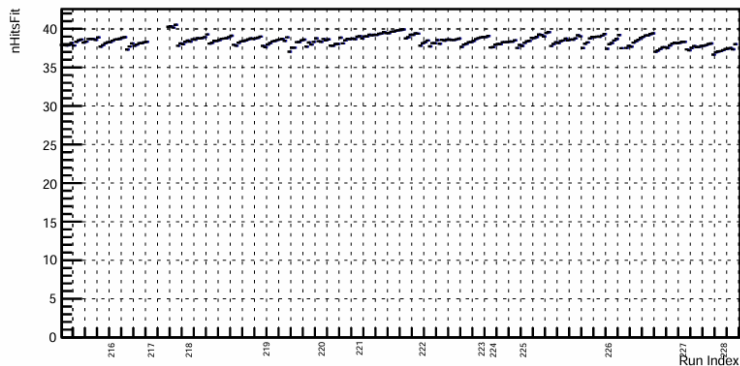
Dataset + selection criteria

- Days 215-228
- Runs: 25215010-2522806
- Total: 280
- Event-level:
 - $|z_{\text{vertex}}| < 100$ cm
 - [Positive ranking](#)
 - $v_T < 2$ 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, $n_{\text{hit}} > 15$ & $n_{\text{hit-ratio}} > 51\%$, $|\eta| < 1.4$; $|\eta| < 1 - R$, $p_T > 1$ 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
 - New: Selection on having a charged track > 1 GeV

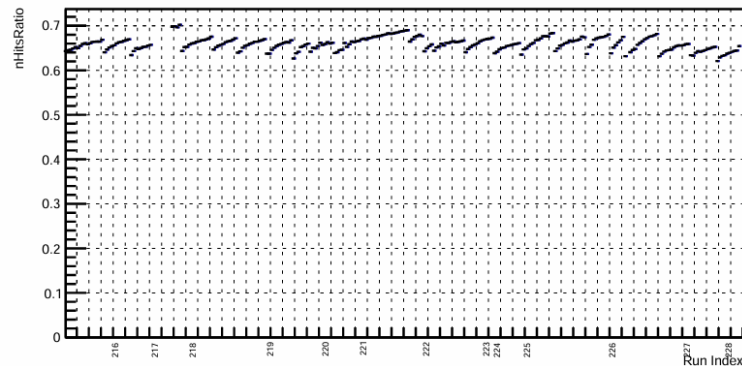
Radial runs

Track Quality

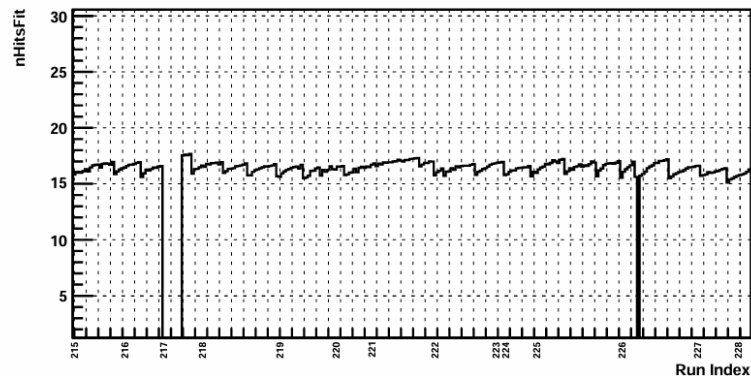
Avg track nhit



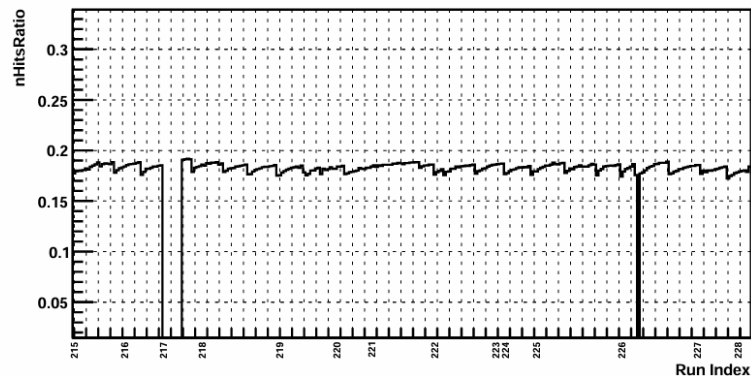
Avg track nhitratio



Dev track nhit

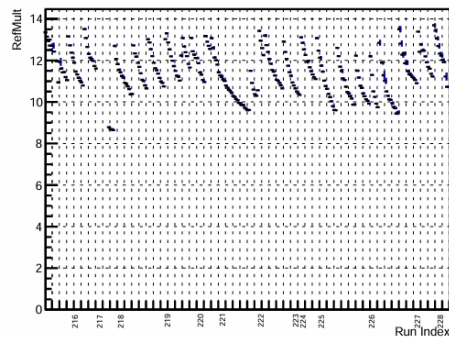


Dev track nhitratio

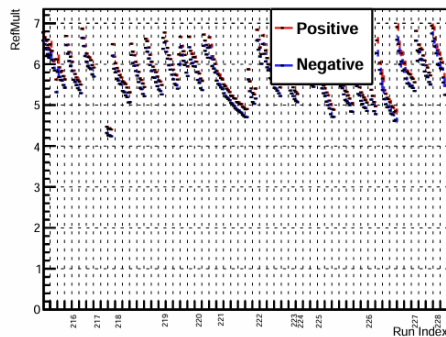


Track Multiplicity

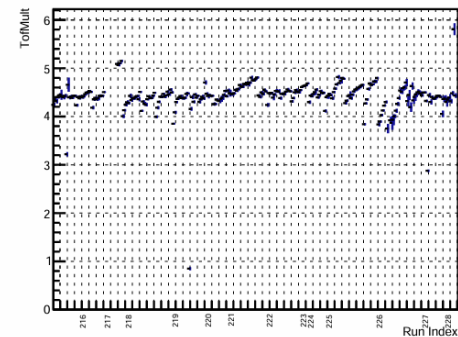
Avg overall



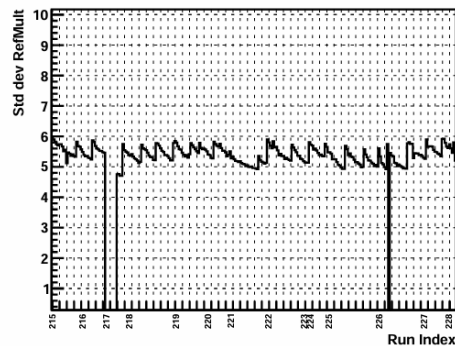
Avg pos/neg charge



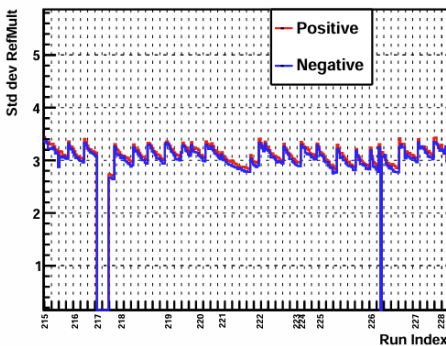
Avg tofmult



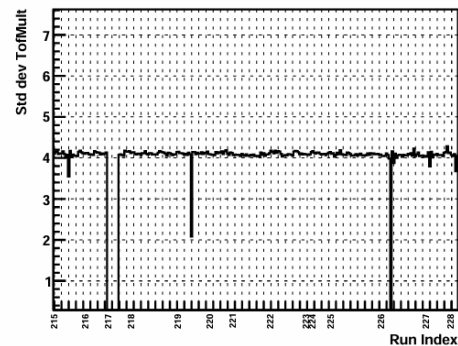
Dev overall



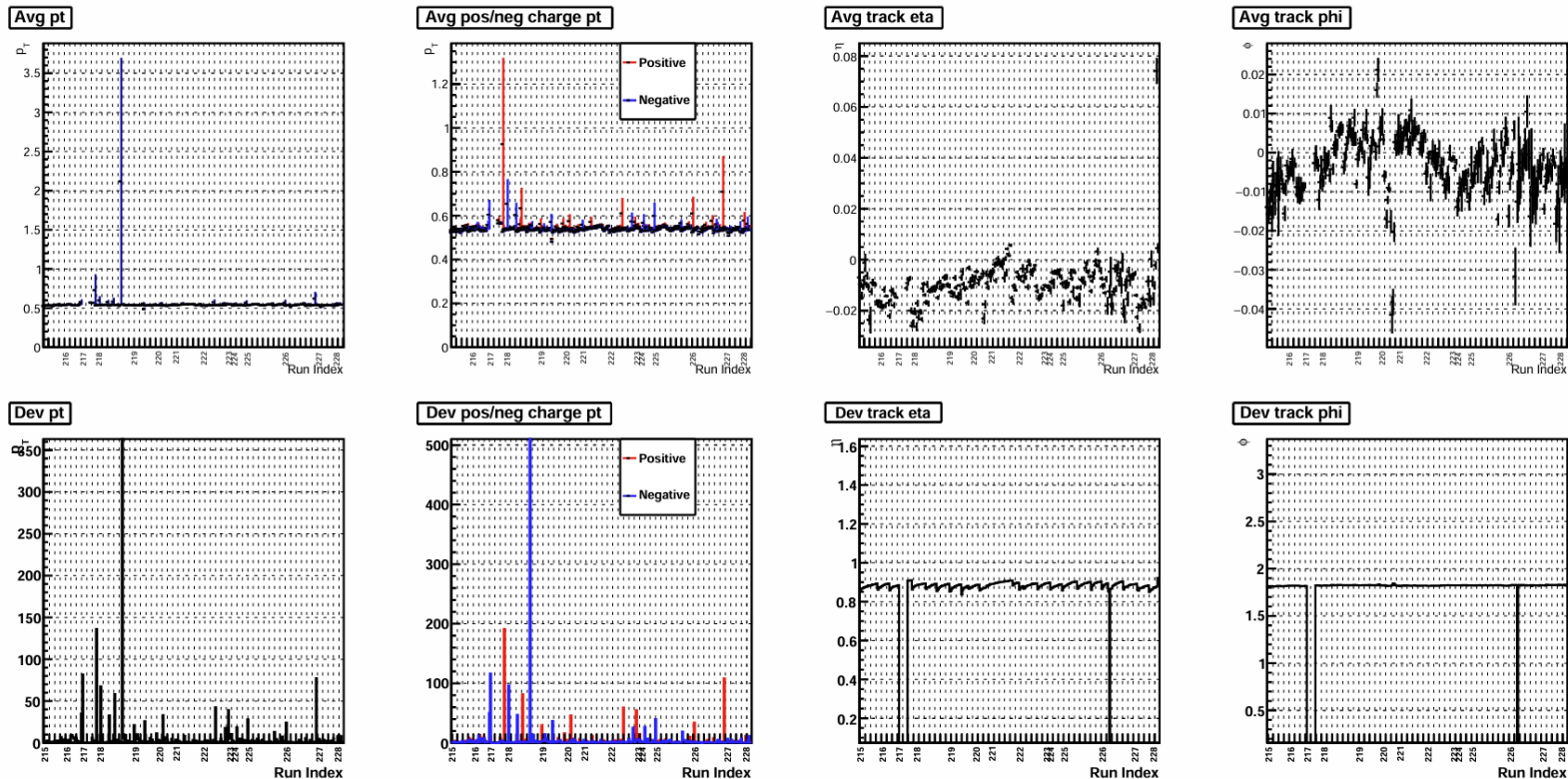
Dev pos/neg charge



Dev tofmult

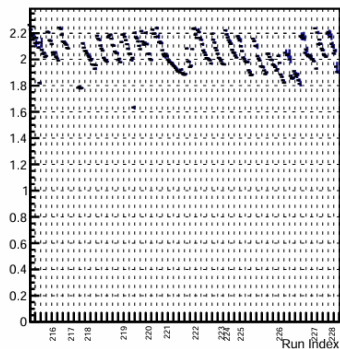


Track Kinematics

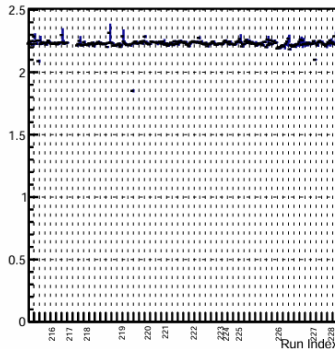


Charged Jets

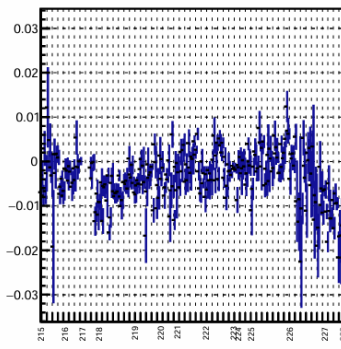
Average number of charged jet



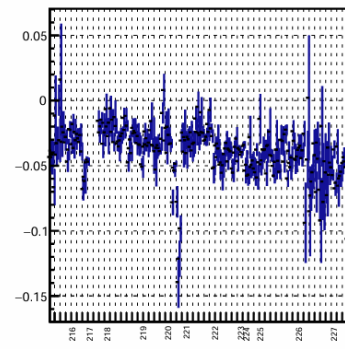
Average charged jet pt



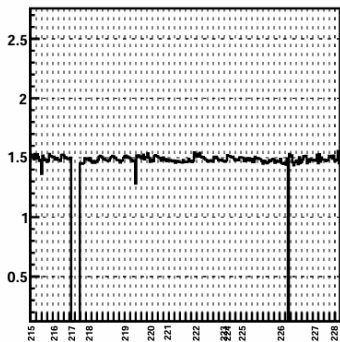
Average charged jet eta



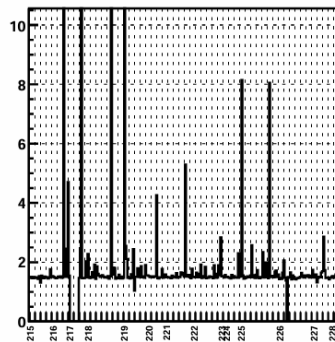
Average charged jet phi



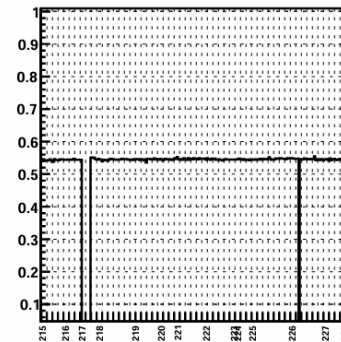
Dev #charged jets



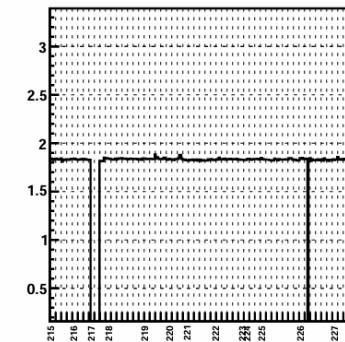
Dev charged jets pt



Dev charged jets eta

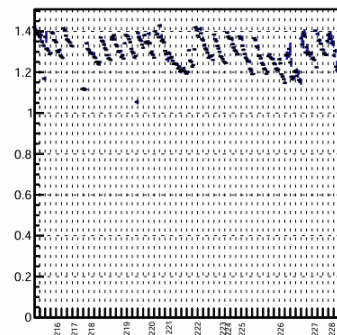


Dev charged jets phi

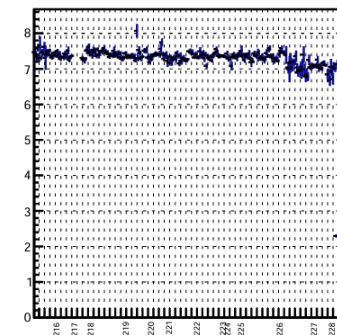


Full Jets

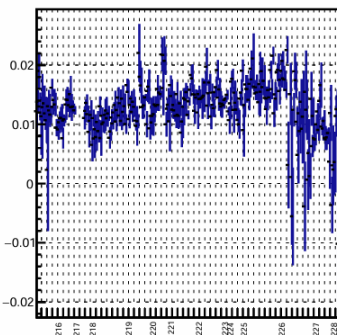
Average number of full jet



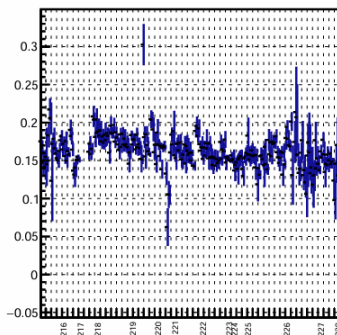
Average full jet pt



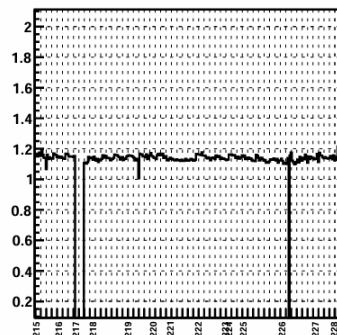
Average full jet eta



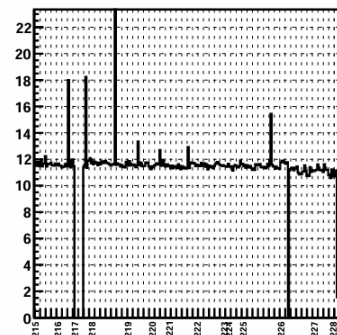
Average full jet phi



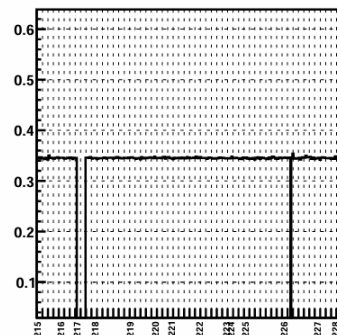
Dev #full jets



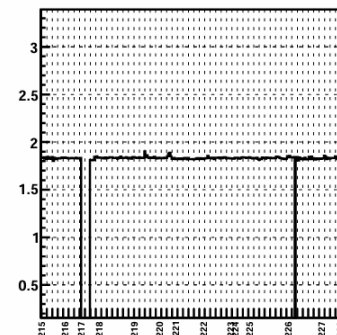
Dev full jets pt



Dev full jets eta

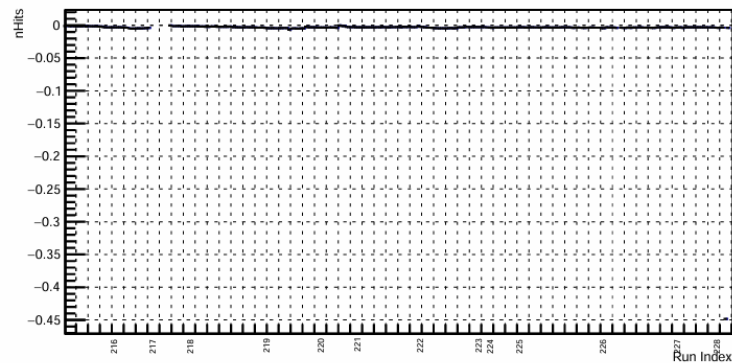


Dev full jets phi

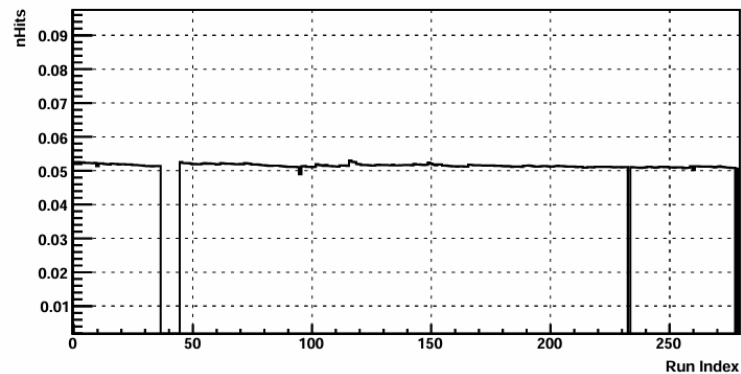


EMCal Stats

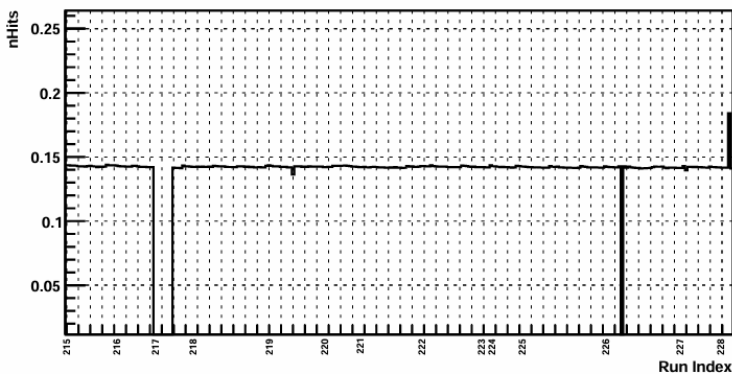
Avg EMC hit



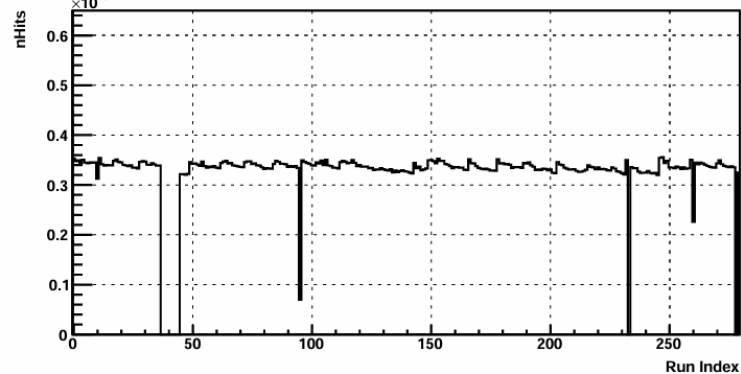
EMC hit > 200 MeV



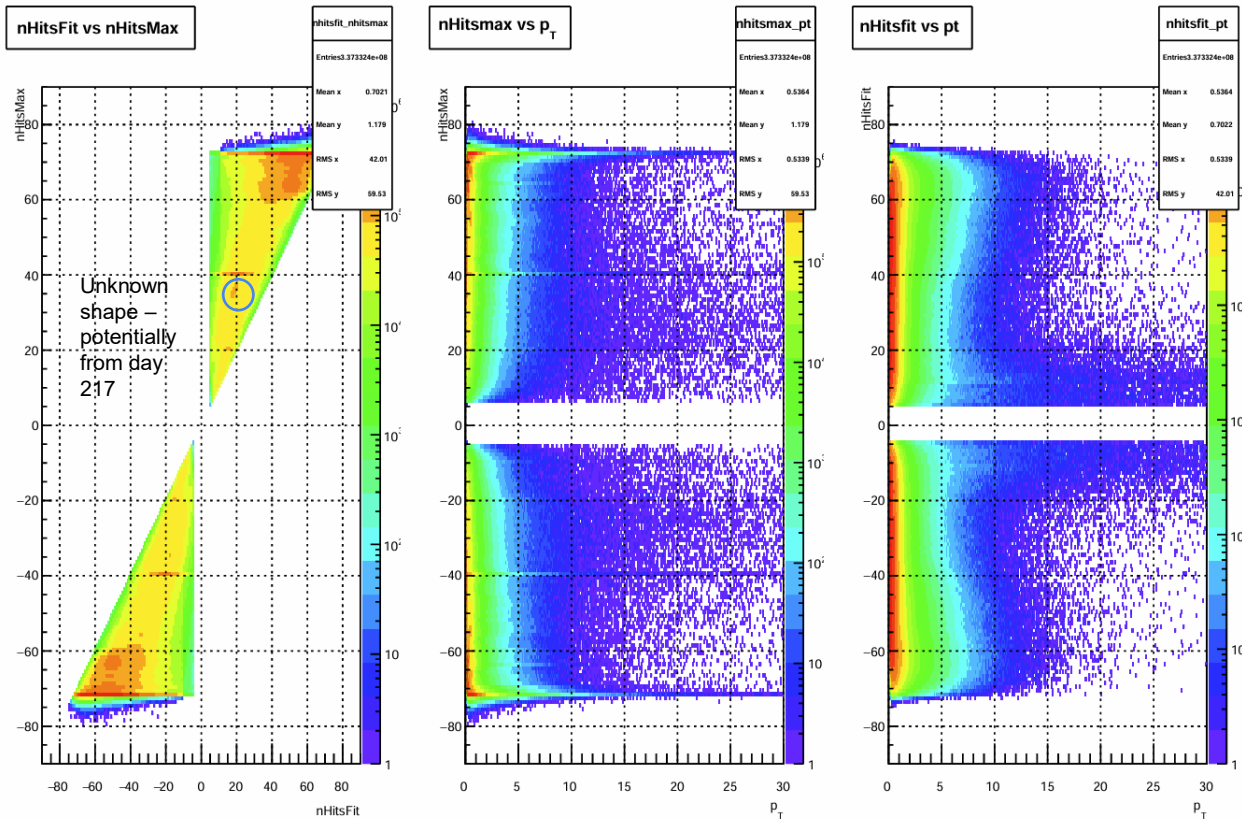
Dev EMC hit



EMC hit > 1 GeV

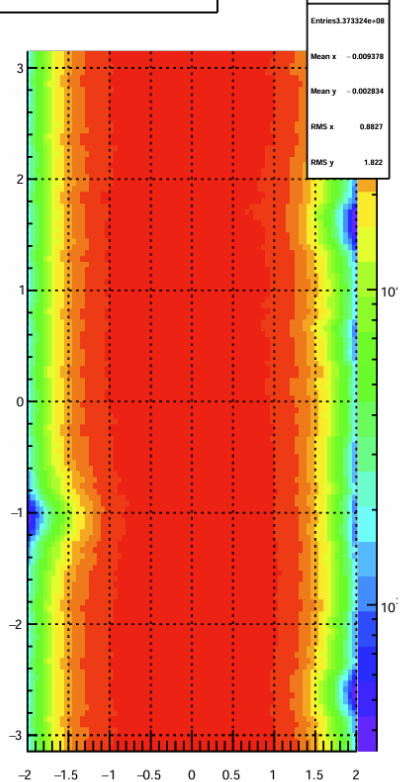


Track Quality

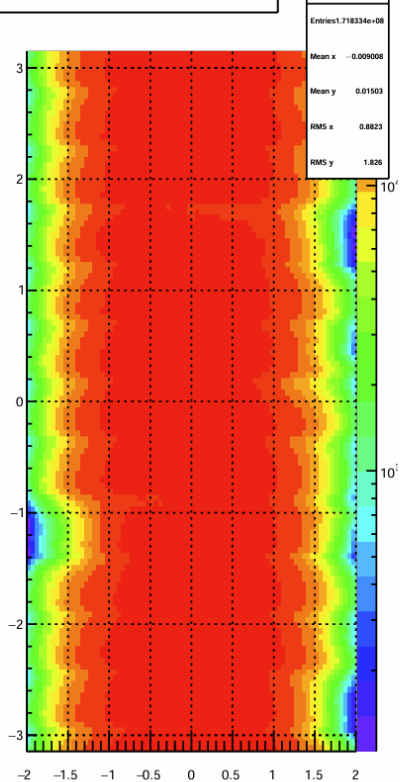


Track Kinematics

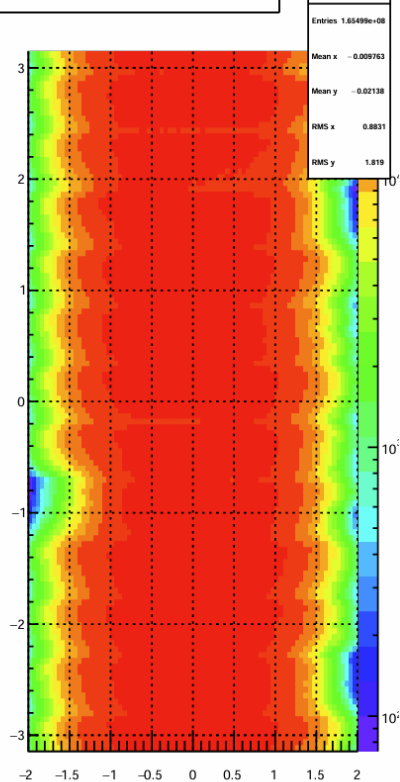
η - ϕ distribution of tracks



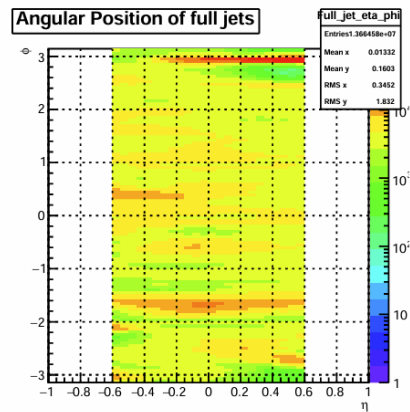
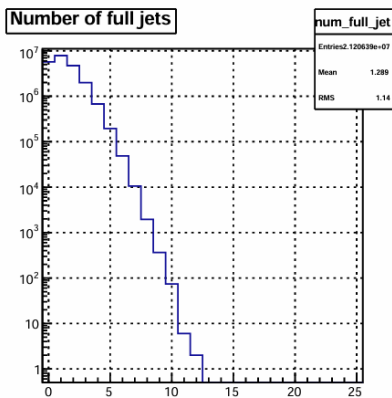
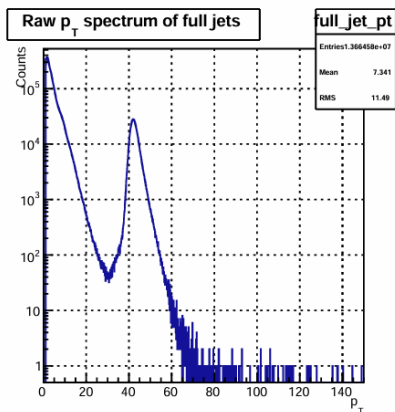
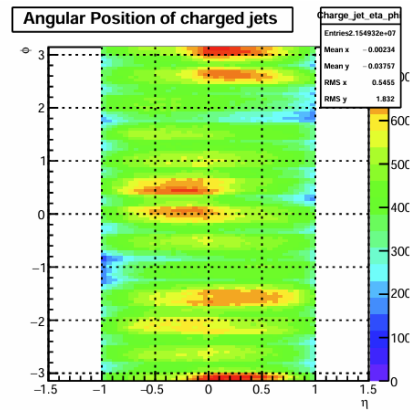
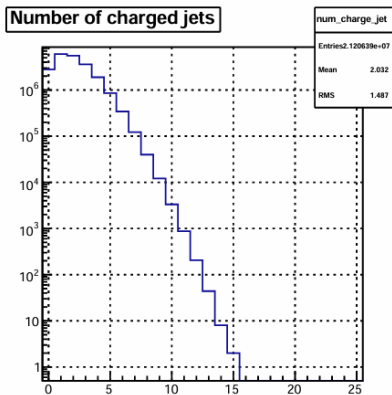
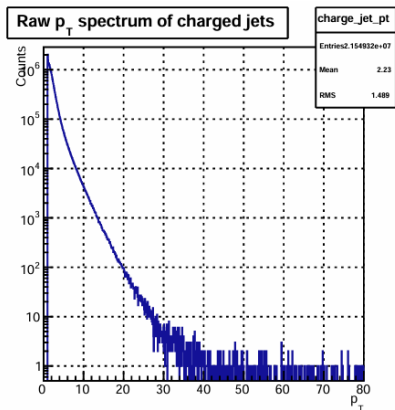
η - ϕ distribution of positive tracks



η - ϕ distribution of negative tracks



Jet Kinematics



Flagged runs

Flagged Runs (Variables outside 5 sigma):

25216029, 25218037, 25218061, 25218063, 25219006, 25220029, 25226033,
25226065, 25228005

Purple = Explanation in shift log for abnormal behavior

Day 217

-Several issues, mentioned in shift log that for several runs there were no tracks in event display, resolved from 25217031 on, but two runs past that still flagged

25217016, 25217017, 25217018, 25217019, 25217021, 25217023, 25217027,
2517029, 25217034, 25217042