

AuAu 2024 Hard Probes PWG Data QA

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10/18/2024

Yale

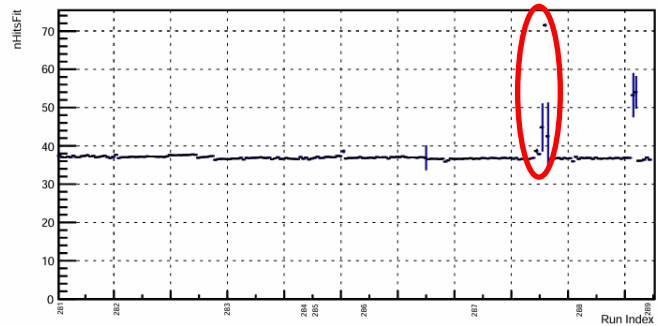
Dataset + selection criteria

- Days 280-289
- Runs: 25280025-25289017
- 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, $n_{\text{hit}} > 15$ & $n_{\text{hit-ratio}} > 51\%$, $|\eta| < 1.4$; $|\eta| < 1 - R$, $p_T > 5$ 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

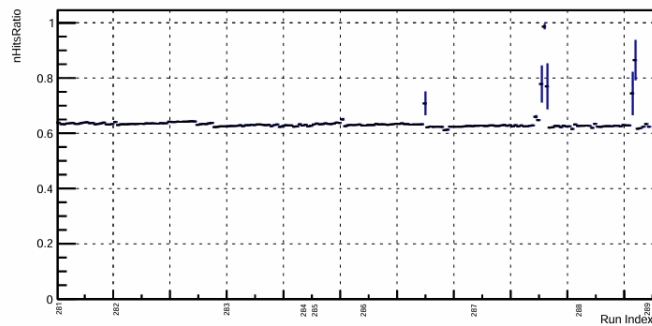
Track Quality

25287031-25287035

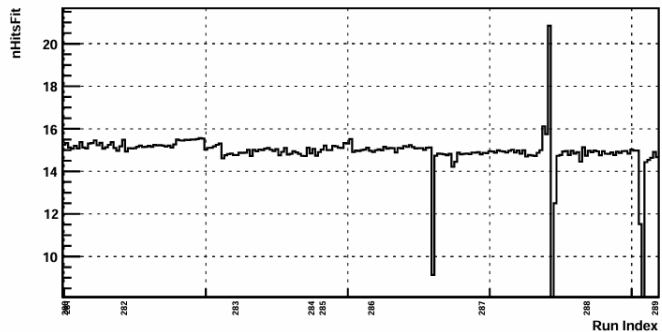
Avg track nhit



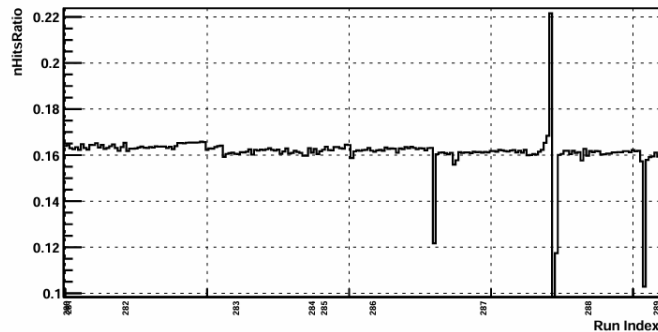
Avg track nhitratio



Dev track nhit

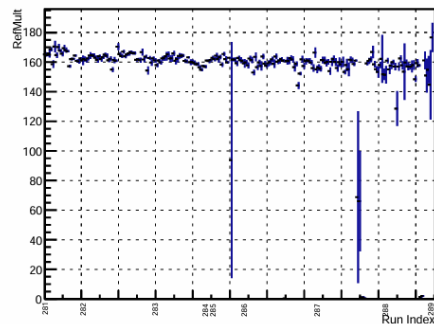


Dev track nhitratio

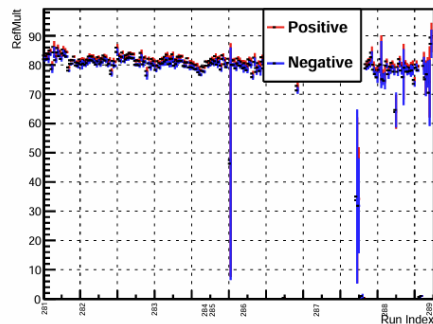


Track Multiplicity

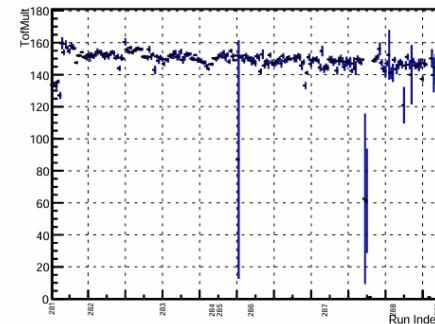
Avg overall



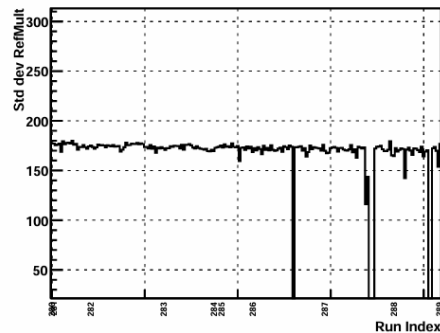
Avg pos/neg charge



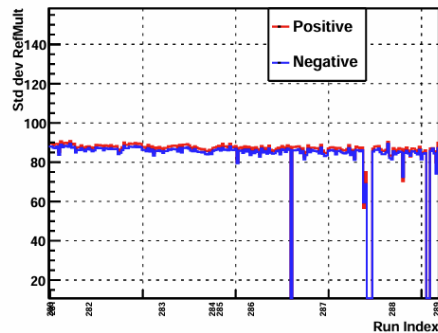
Avg tofmult



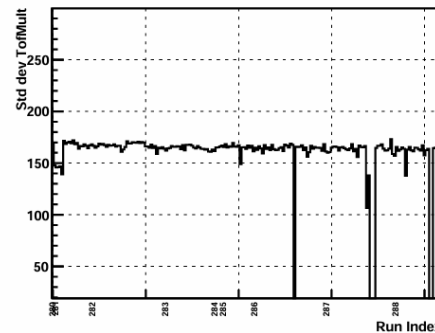
Dev overall



Dev pos/neg charge

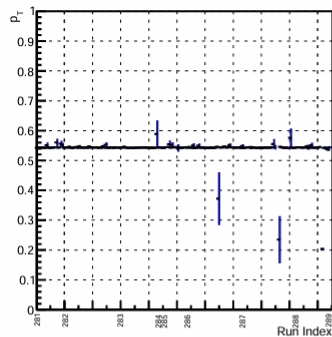


Dev tofmult

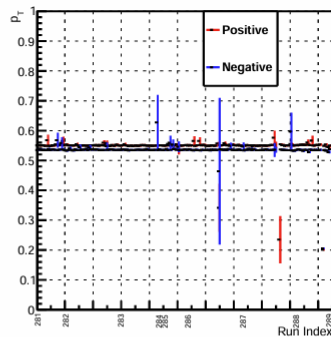


Track Kinematics

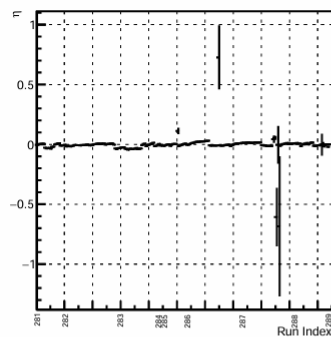
Avg pt



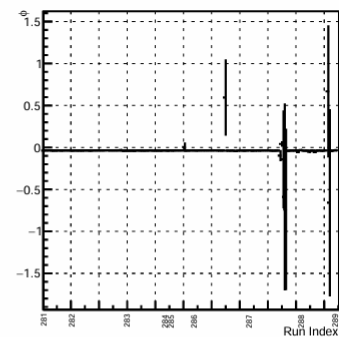
Avg pos/neg charge pt



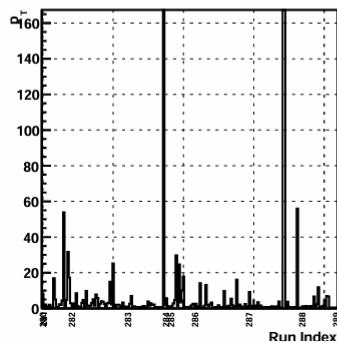
Avg track eta



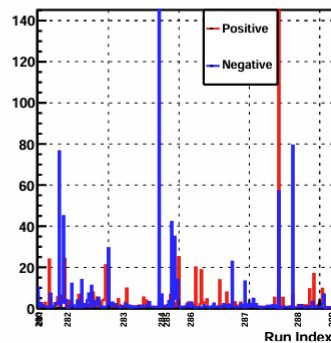
Avg track phi



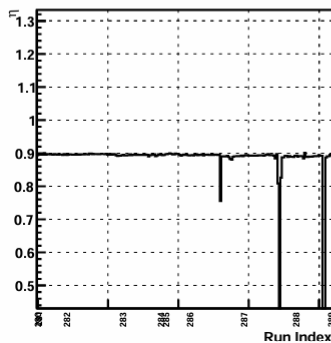
Dev pt



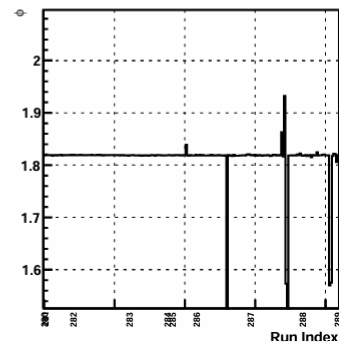
Dev pos/neg charge pt



Dev track eta

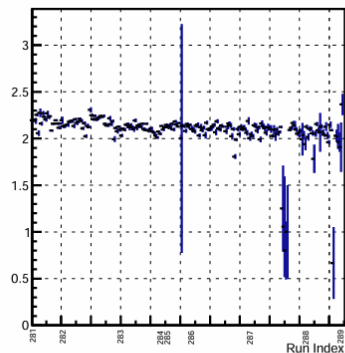


Dev track phi

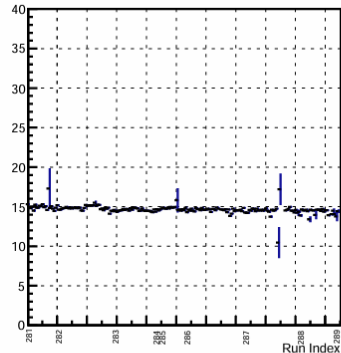


Charged Jets

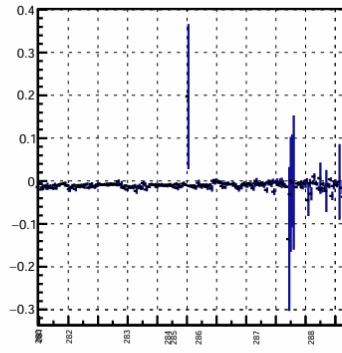
Average number of charged jet



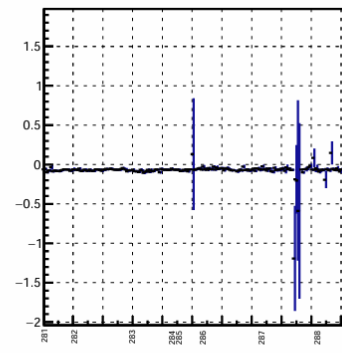
Average charged jet pt



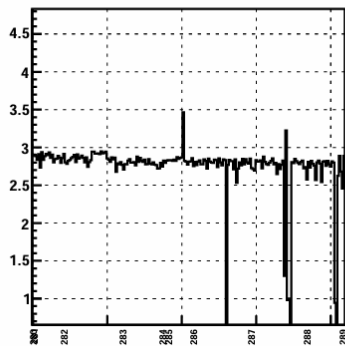
Average charged jet eta



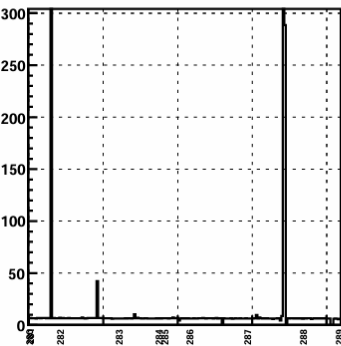
Average charged jet phi



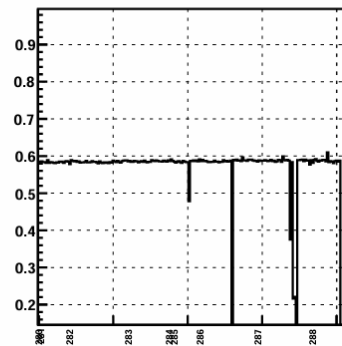
Dev #charged jets



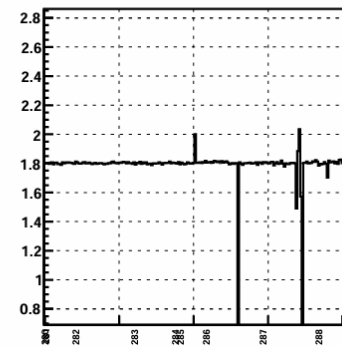
Dev charged jets pt



Dev charged jets eta

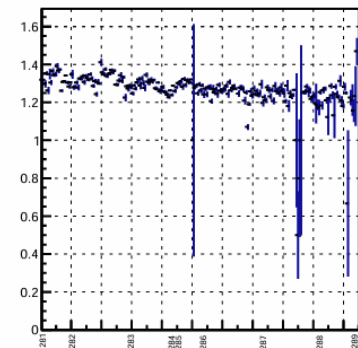


Dev charged jets phi

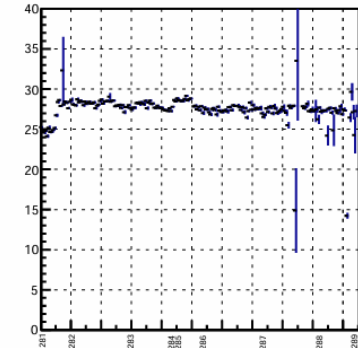


Full Jets

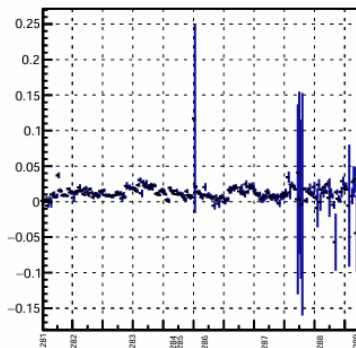
Average number of full jet



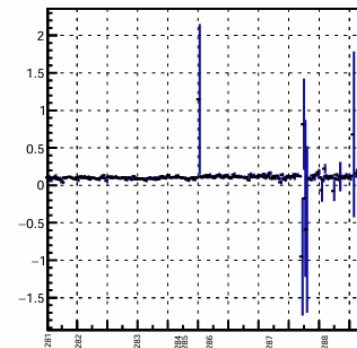
Average full jet pt



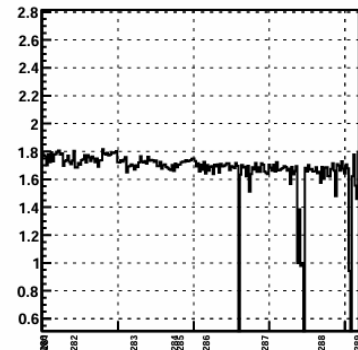
Average full jet eta



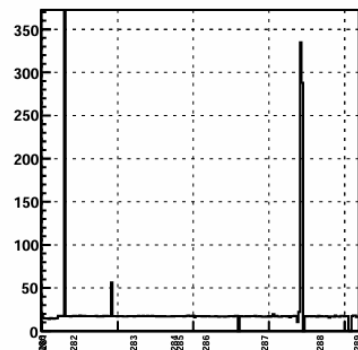
Average full jet phi



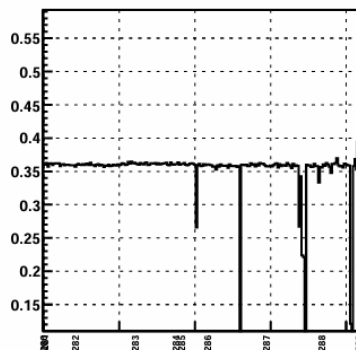
Dev #full jets



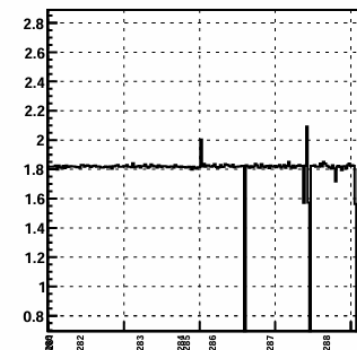
Dev full jets pt



Dev full jets eta

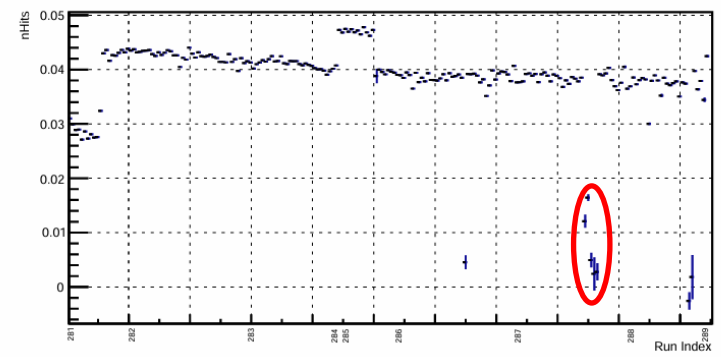


Dev full jets phi

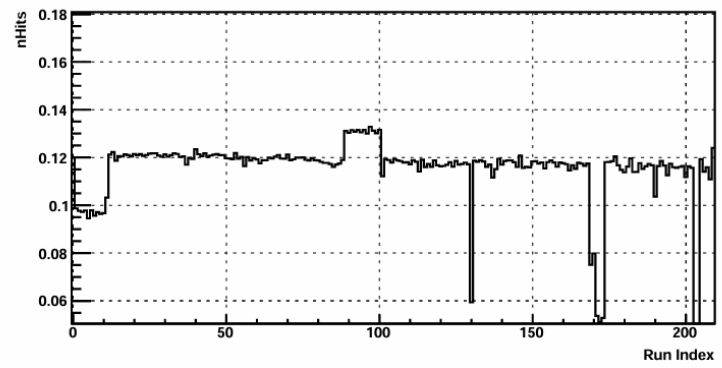


EMCal Stats

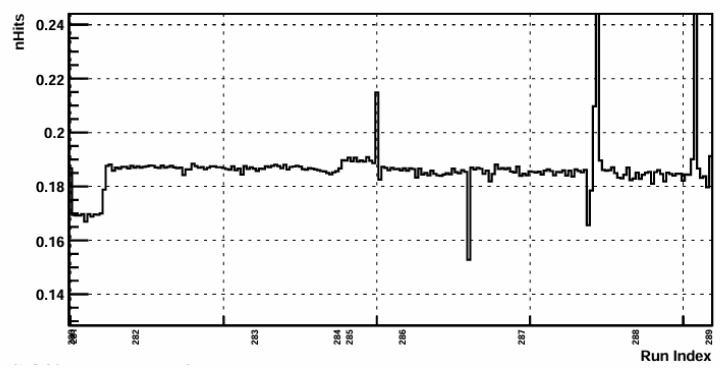
Avg EMC hit



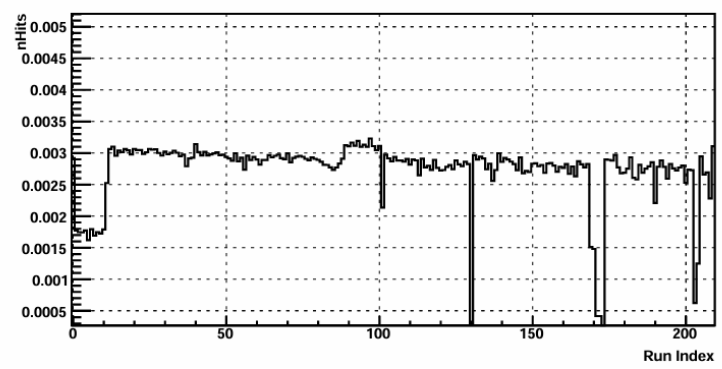
EMC hit > 200 MeV



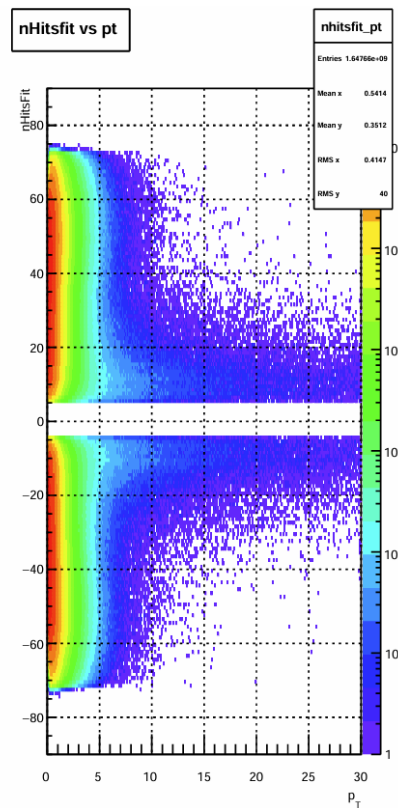
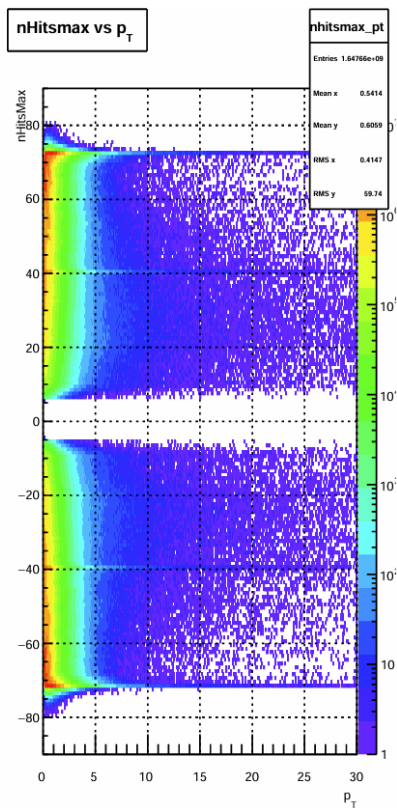
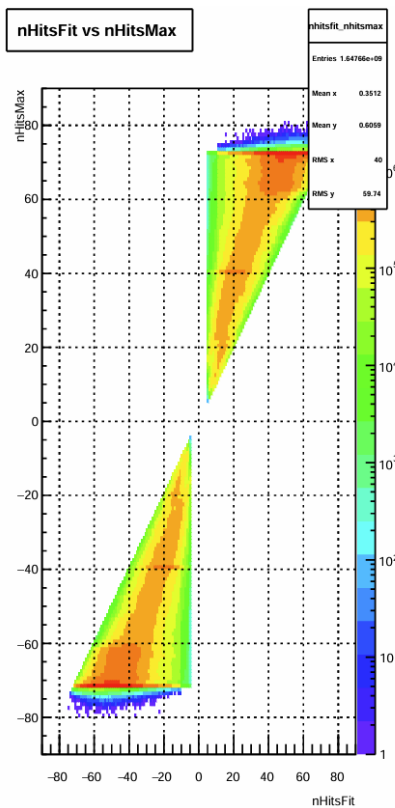
Dev EMC hit



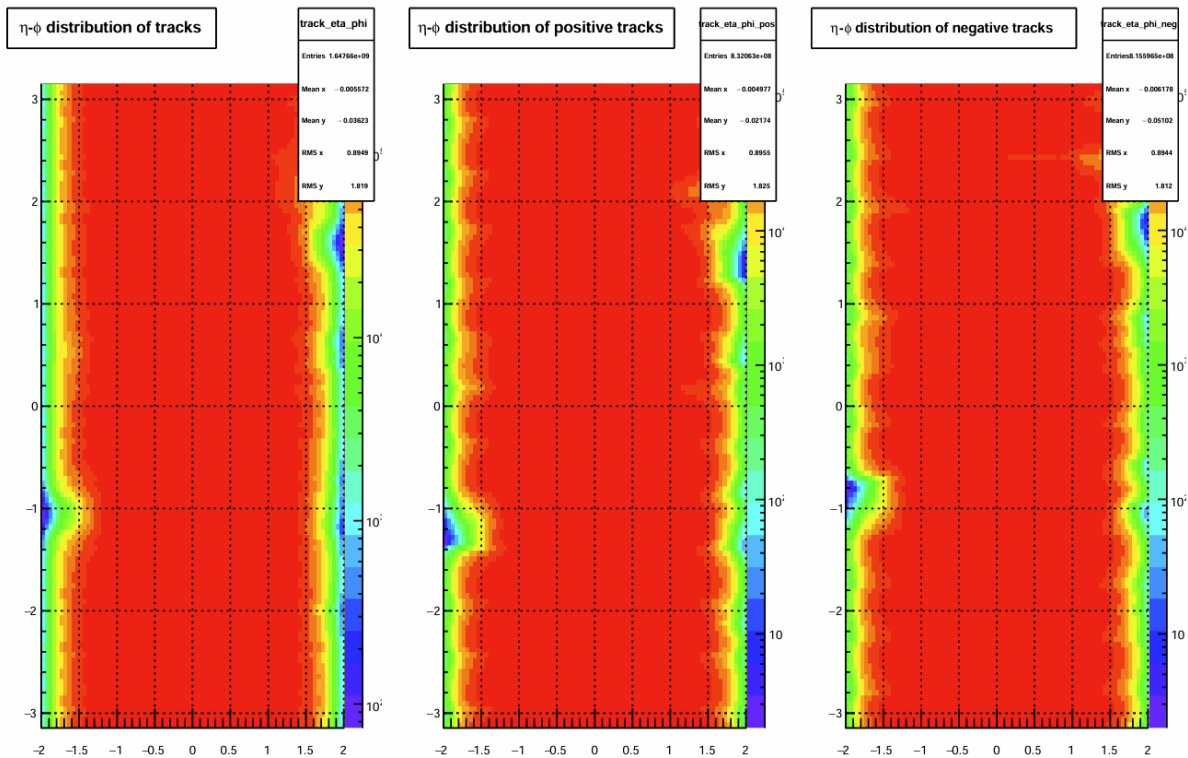
EMC hit > 1 GeV



Track Quality

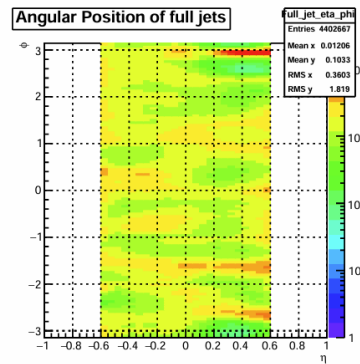
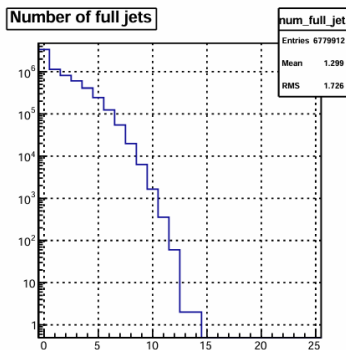
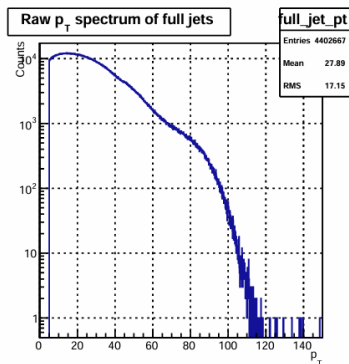
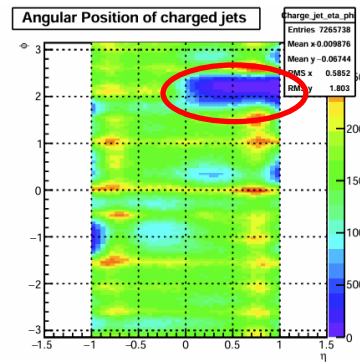
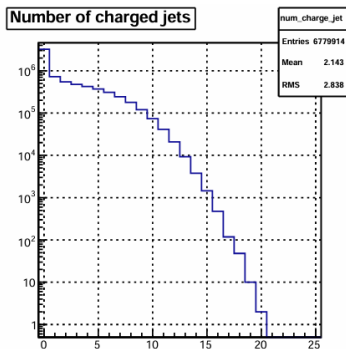
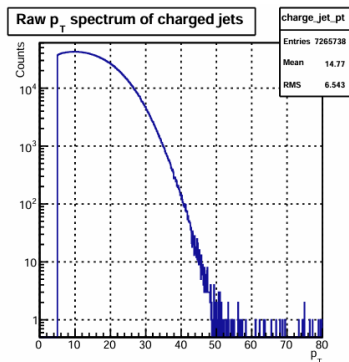


Track Kinematics



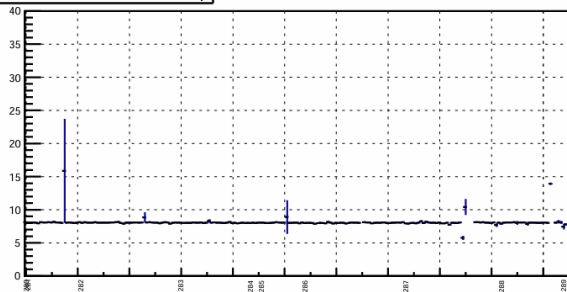
Jet Kinematics

Cold Patch in TPC around sector 23-24

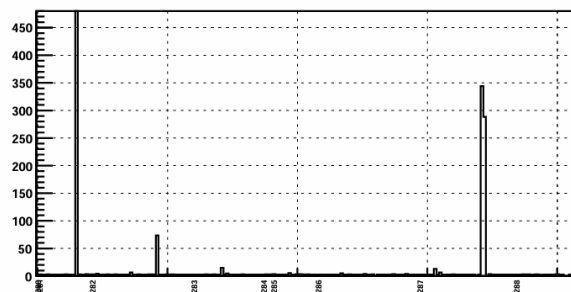


Background Sub

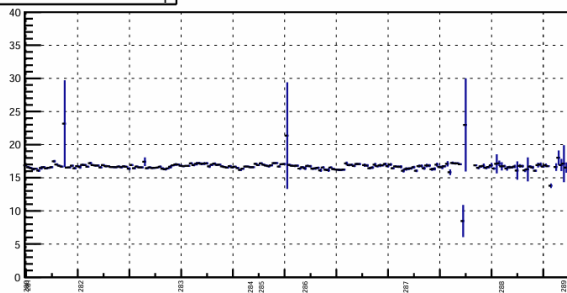
Average charged jet bkg. sub. p_T



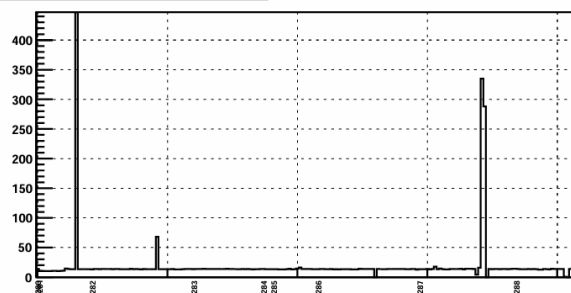
Dev Background Subtracted charged jets pt



Average full jet bkg. sub. p_T



Dev Background Subtracted full jets pt



Flagged runs

Flagged Runs (Variables outside 5 sigma):

Purple = Run ended early or problem noted in shift log

25281045, 25283042, **25285035**, 25286032, 25287031, 25287033, 25287034,
25287035, 25287038, **25288018**, 25288037, 25288038