

Beam halo tracks from data

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DESY/UniHH Tracker Alignment Meeting

19/01/2010

Outline:

- Data samples and selection
 - A few distributions

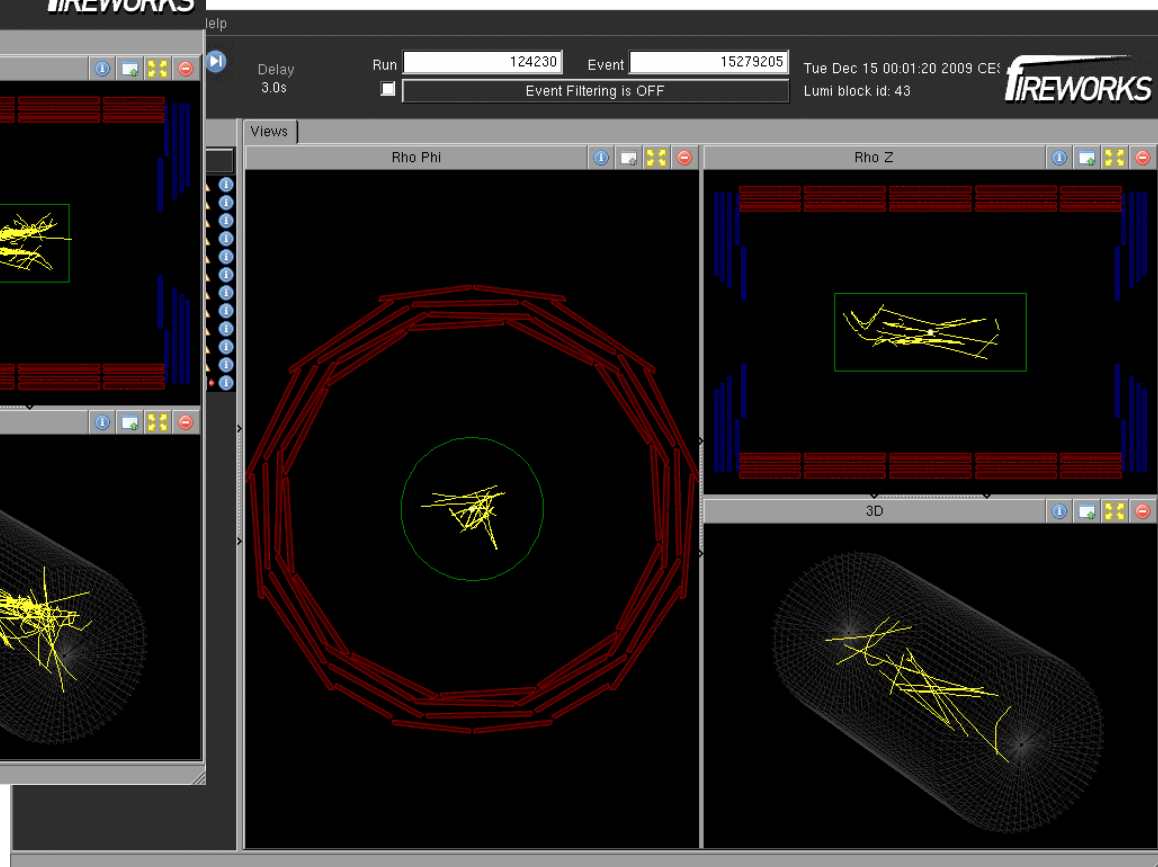
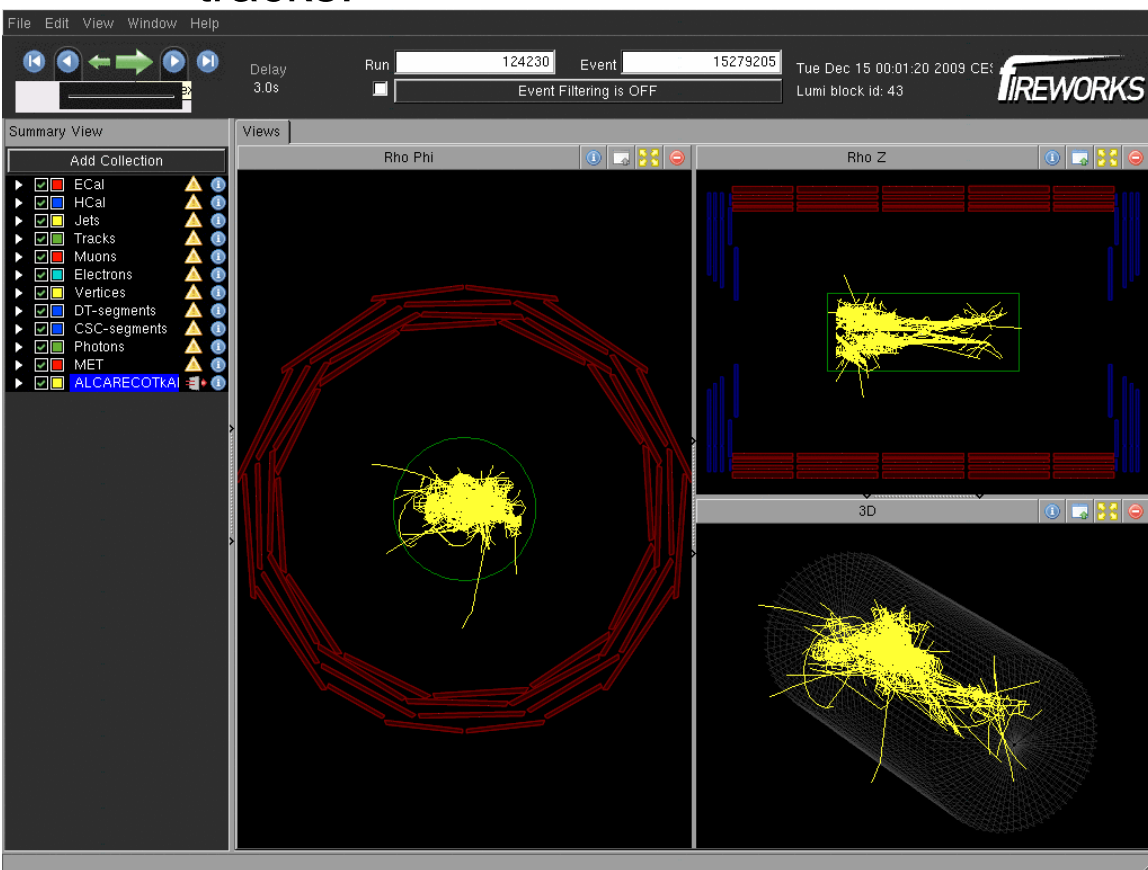
Data samples and selection

- Runs 124009, 124020, 124022, 124230
 - ALCARECO from E. Migliore:
 - '/store/user/emiglior/ALCARECO/16Dec09/TkAlBeamHalo_124009.root',
 - '/store/user/emiglior/ALCARECO/16Dec09/TkAlBeamHalo_124020.root',
 - '/store/user/emiglior/ALCARECO/16Dec09/TkAlBeamHalo_124022.root',
 - '/store/user/emiglior/ALCARECO/16Dec09/TkAlBeamHalo_124230.root',
 - # events: 84751 (selected by PhysDecl bit) → 231213 tracks
- MC sample produced with CMSSW 312 by Gaelle B.
 - /TkBeamHalo/Summer09-STARTUP31X_StreamTkAlBeamHalo-v1/ALCARECO

Run 124230 Evt 125279205

- All ALCARECOTkAlBeamHalo tracks:

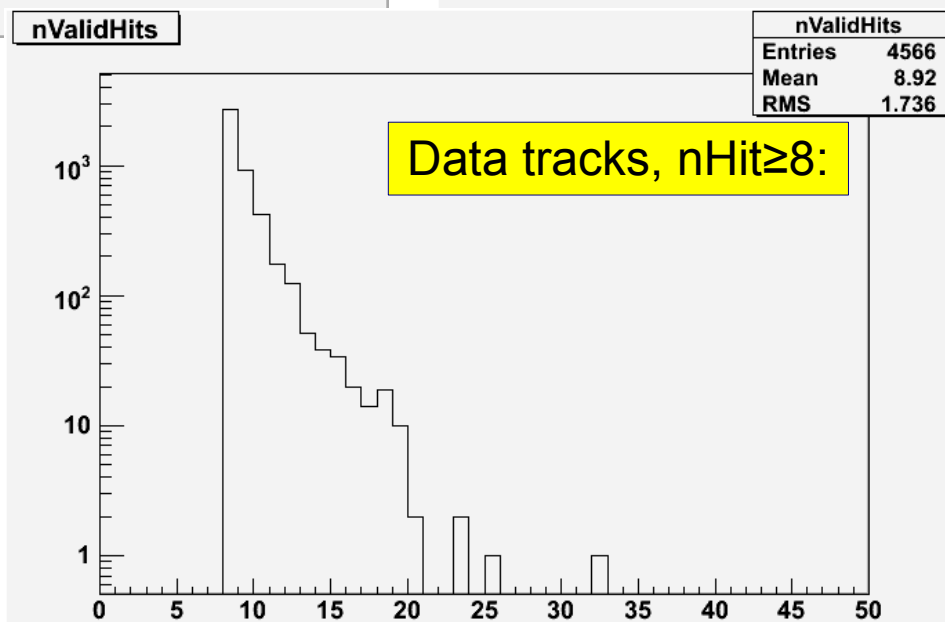
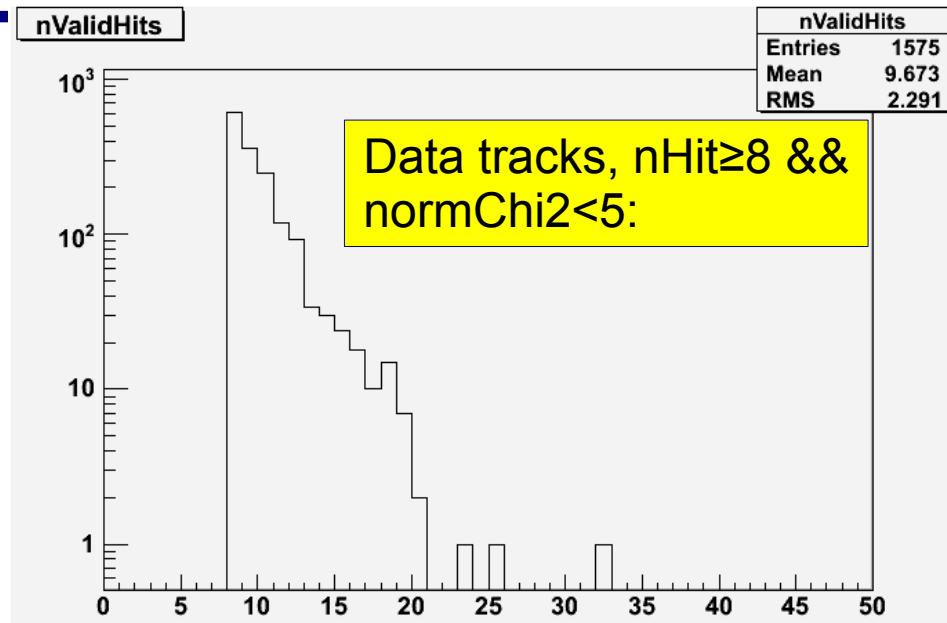
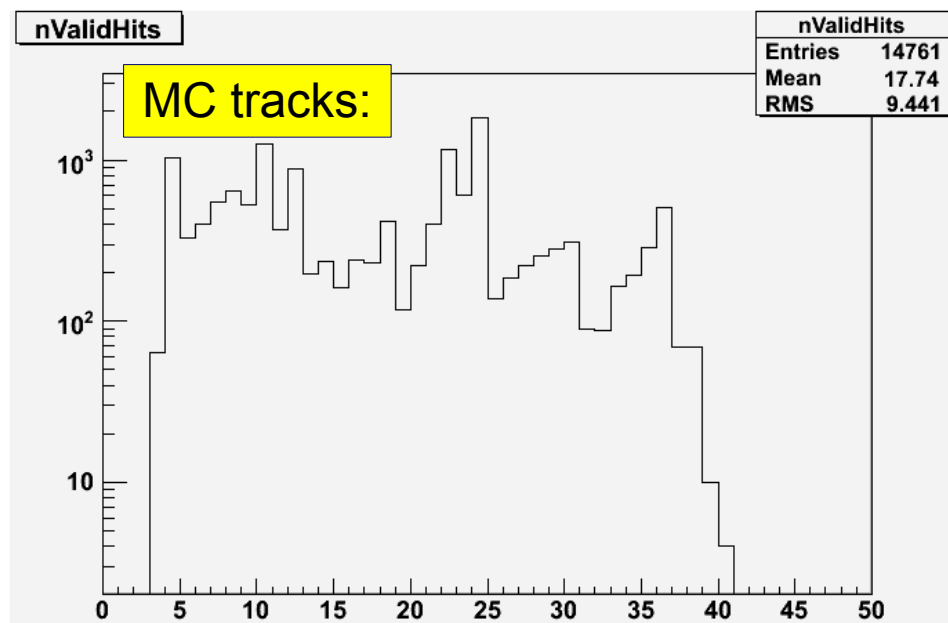
- Only $p > 5\text{GeV}$ tracks:



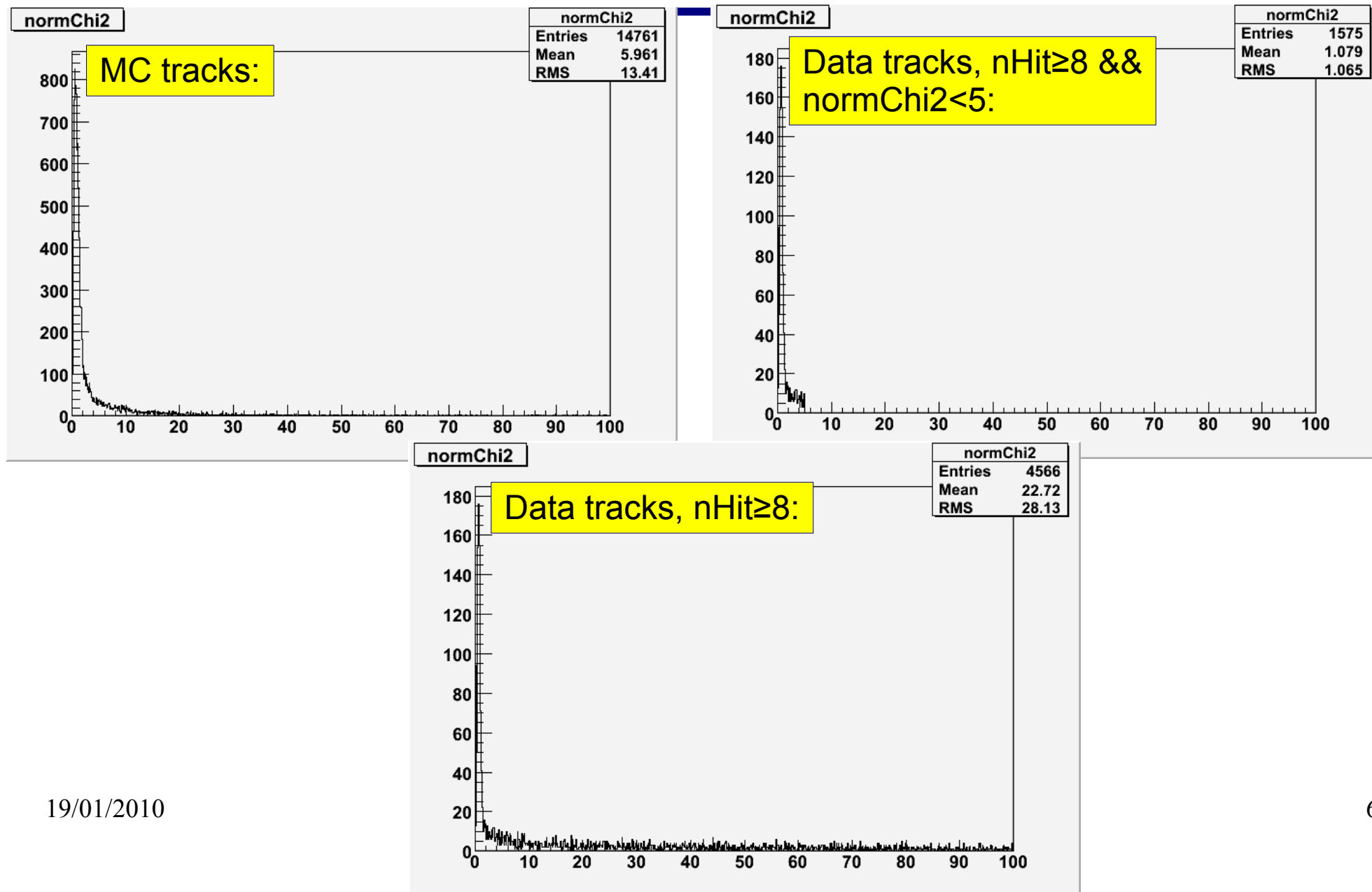
Track selection

- The trigger selection (L1 bits: 36 || 37 || 38 || 39 || 42 || 43) do not select efficiently beam halo tracks:
 - Events: 84751 $\rightarrow$ 42, Tracks: 231213 $\rightarrow$ 2702
 - Track distributions do not seem like beam halo:
<http://indicobeta.cern.ch/conferenceDisplay.py?confId=79478>
- In the following distributions, no trigger selection is applied, but track selection is:
 - nHitMin = 8, or
 - nHitMin = 8 && normChi2Max=5.

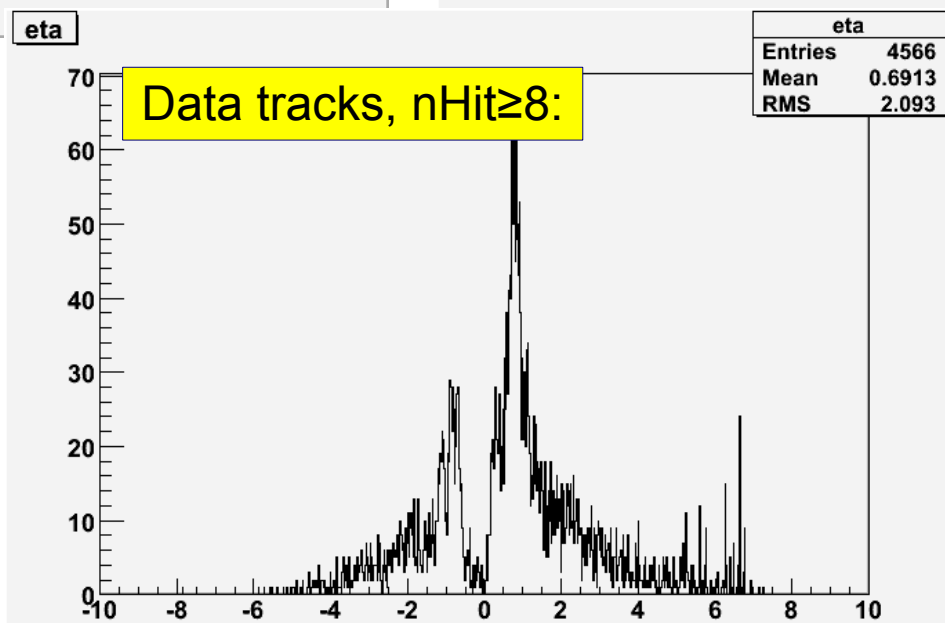
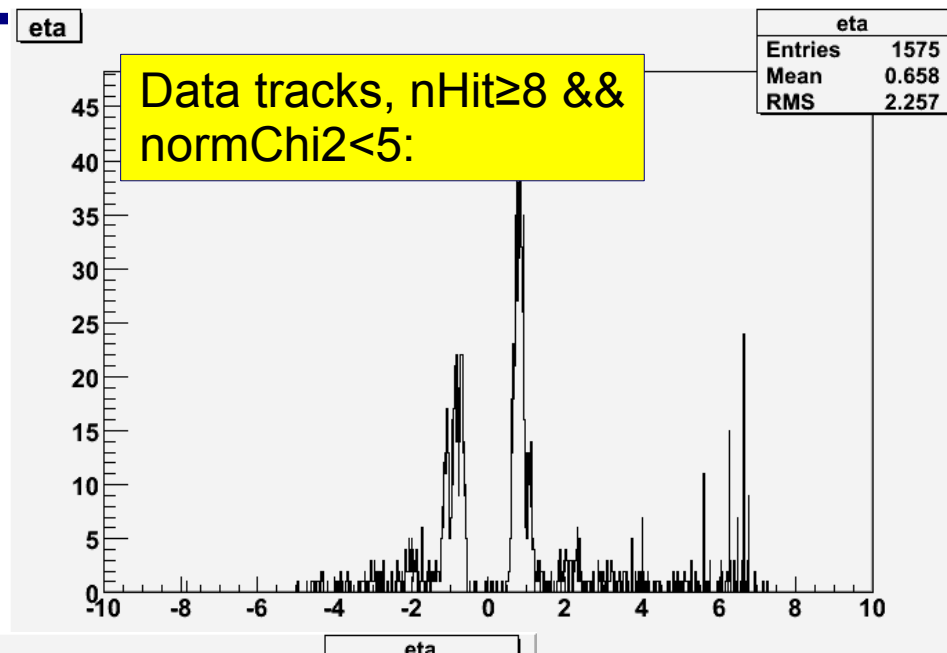
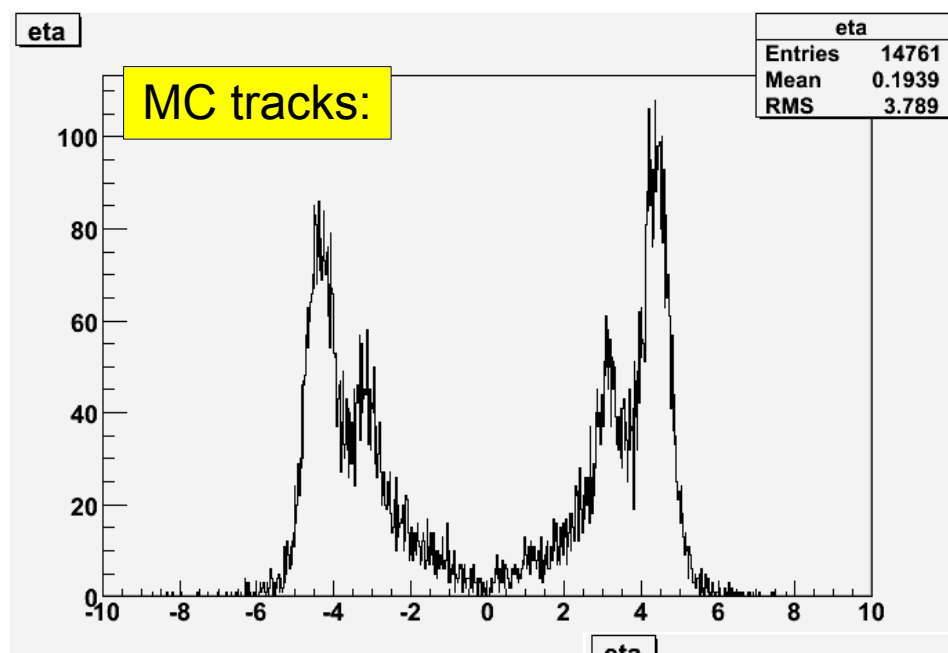
Track variables: nValidHits



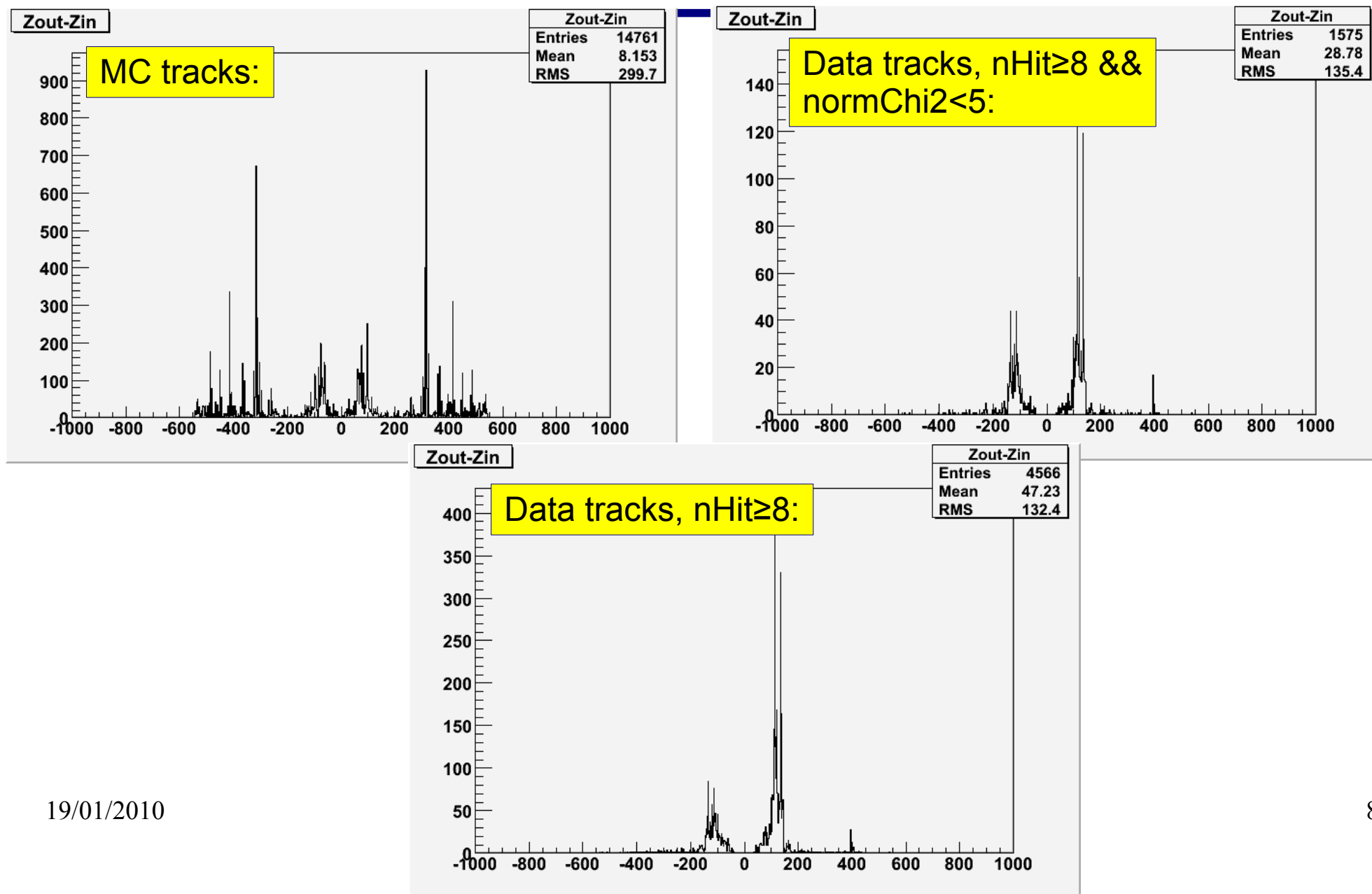
Track variables: normChi2



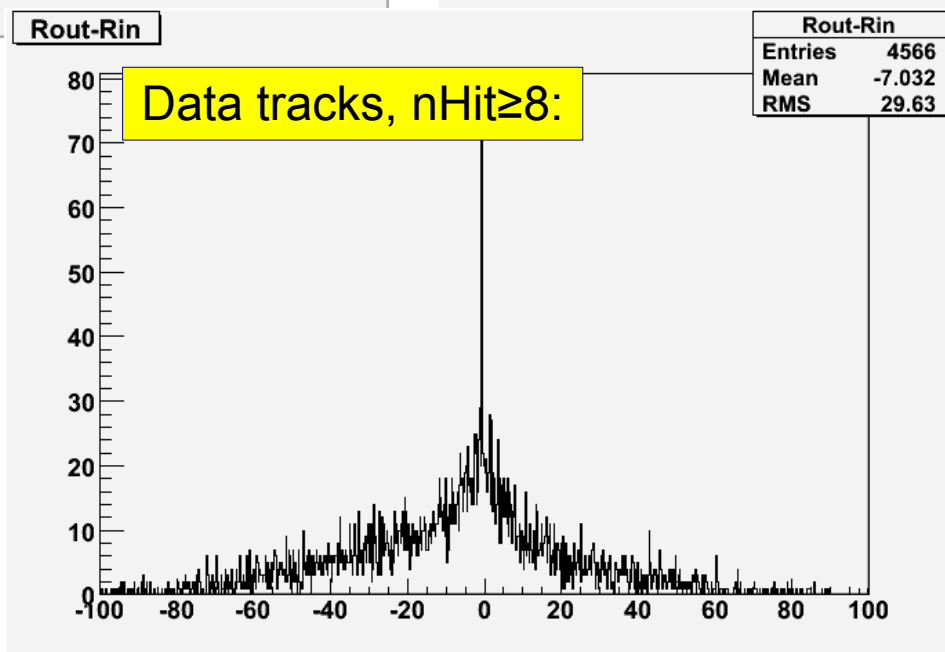
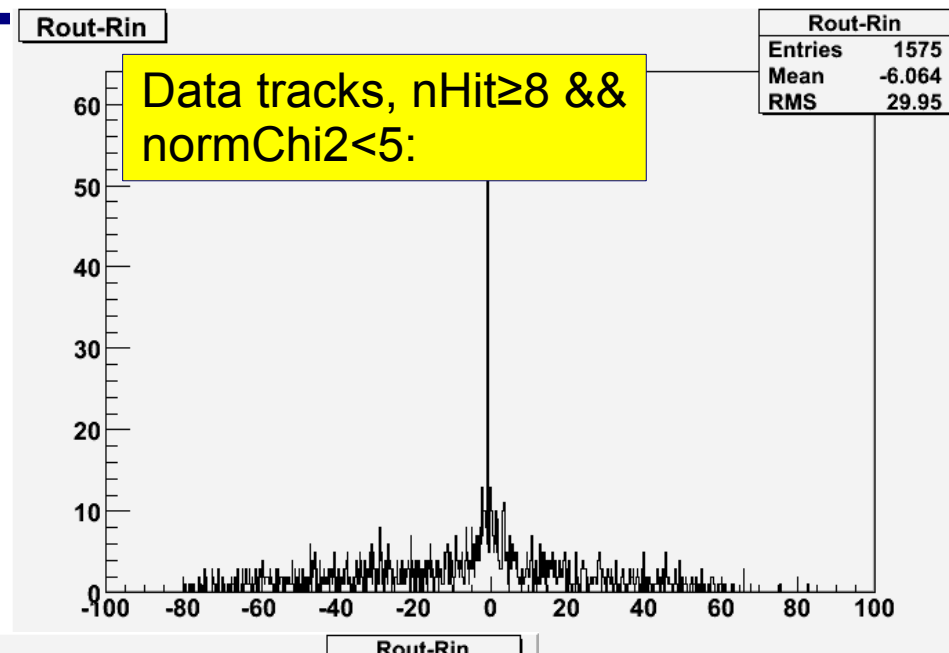
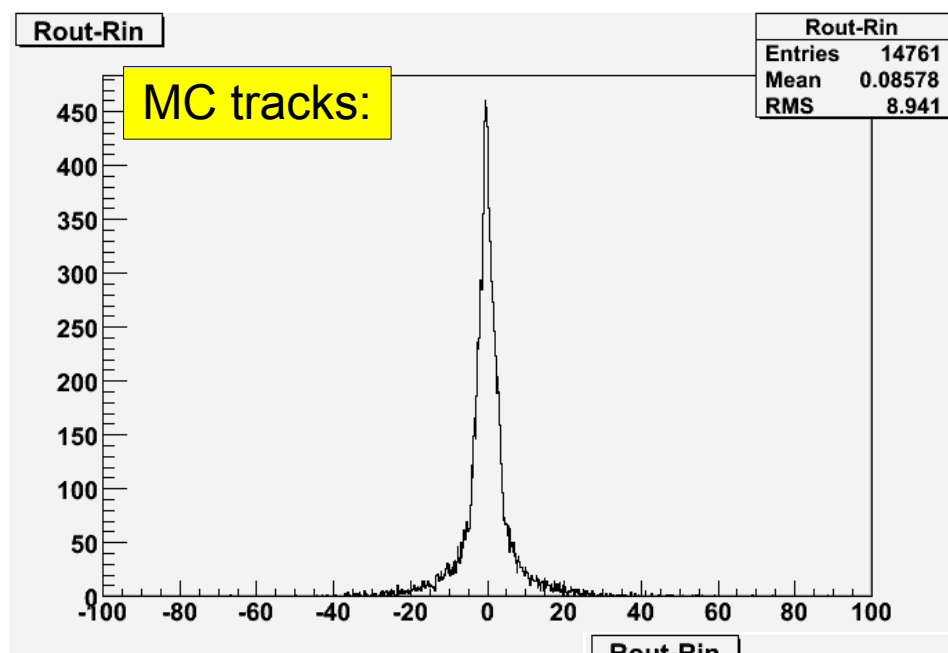
Track variables: eta



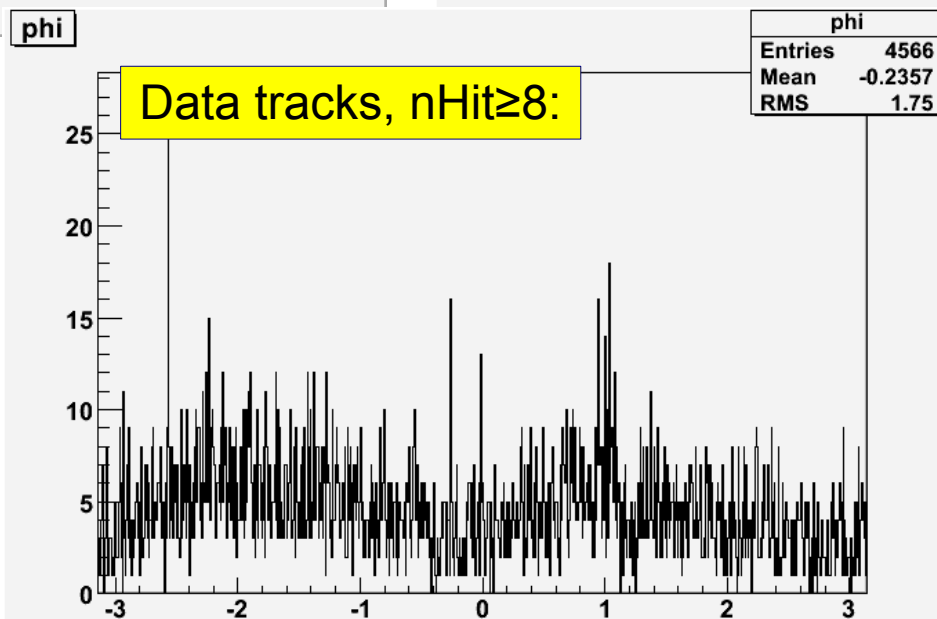
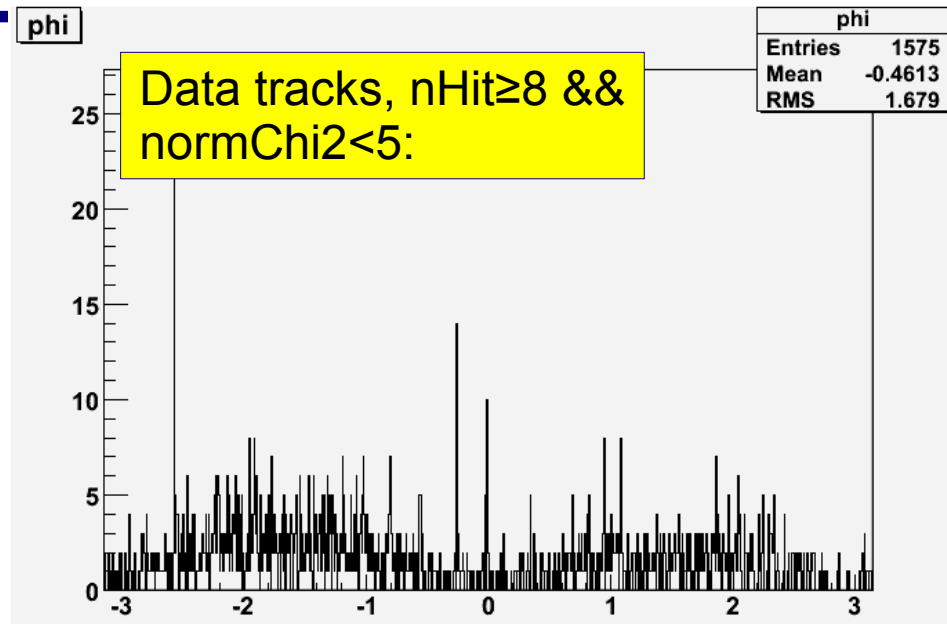
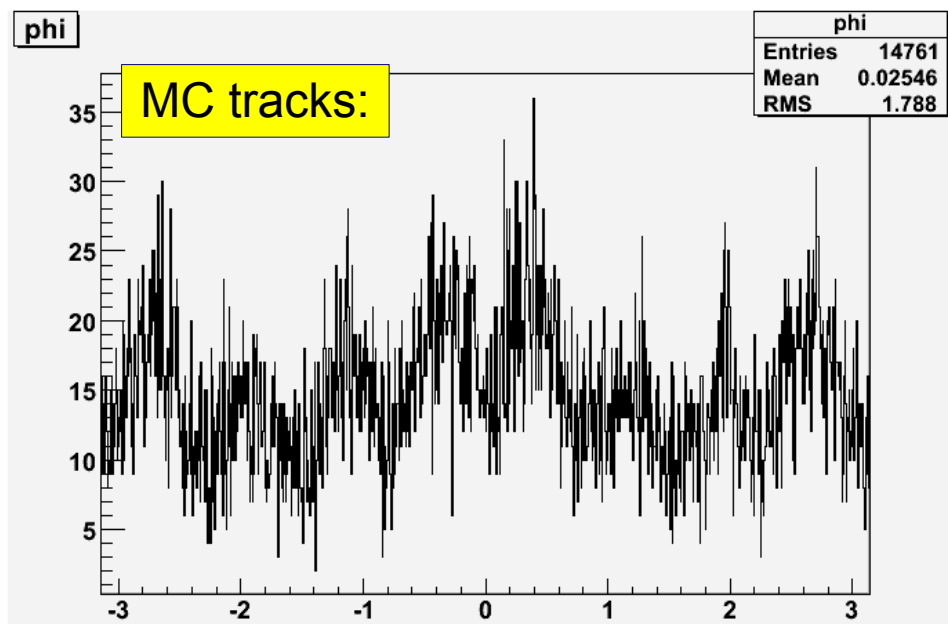
Track variables: Zin-Zout



Track variables: Rin-Rout



Track variables: phi



Track variables: p

