Run 66615, B=3.8 T

Aim to:

-have a quick look to reconstruction, provide first quantitative estimates of 'good' muon candidates at different level of reconstructions (in muon system, in central Tracker) in a 'typical' CRAFT run

Run 66615:

- first "reasonably long" run @ B=3.8 T, with all sub-dets in DAQ

~1,3 M trigger, ~ 1 h data taking, ~ 400 Hz (~240 Hz DTTF)

Analysis performed on official reco dataset:

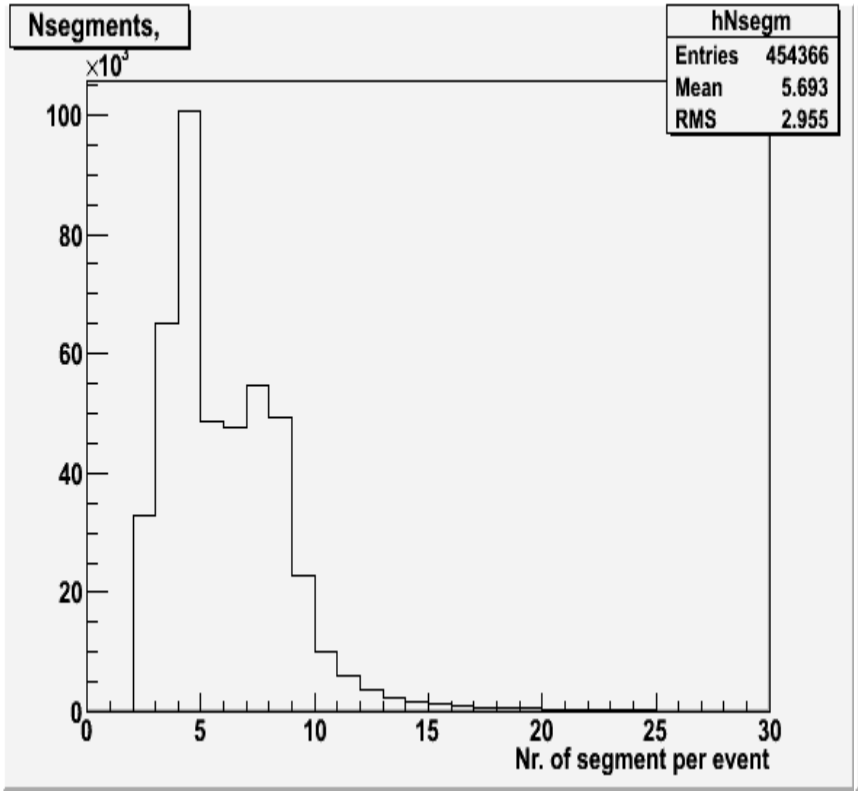
/Cosmics/Commissioning08-PromptReco-v2/RECO

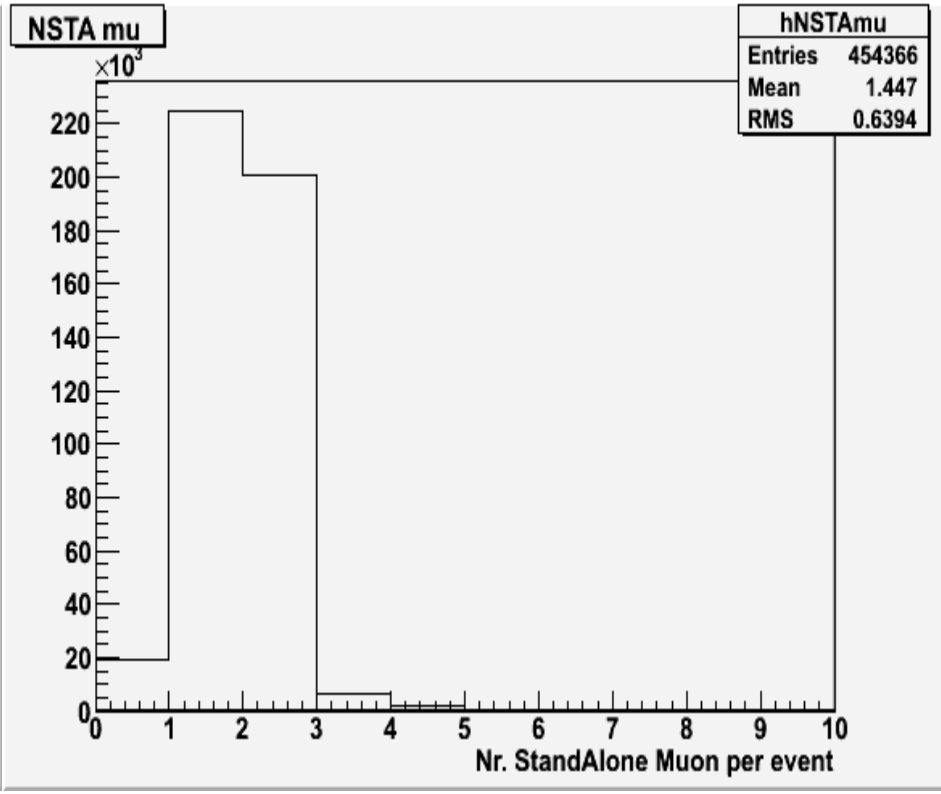
=> 670,000 reco events found in this dataset

Local Reco & Muon STA reconstruction

~454,000 events with at least 2 ‘good’ muon segments in DT chambers
[for details , see Gresele’s talk on CRUZET4 data given @ joint muon DPG-POG
13-Oct: http: //indico.cern.ch/conferenceDisplay.py?confId=42597]

Reconstructed StandAlone Muons

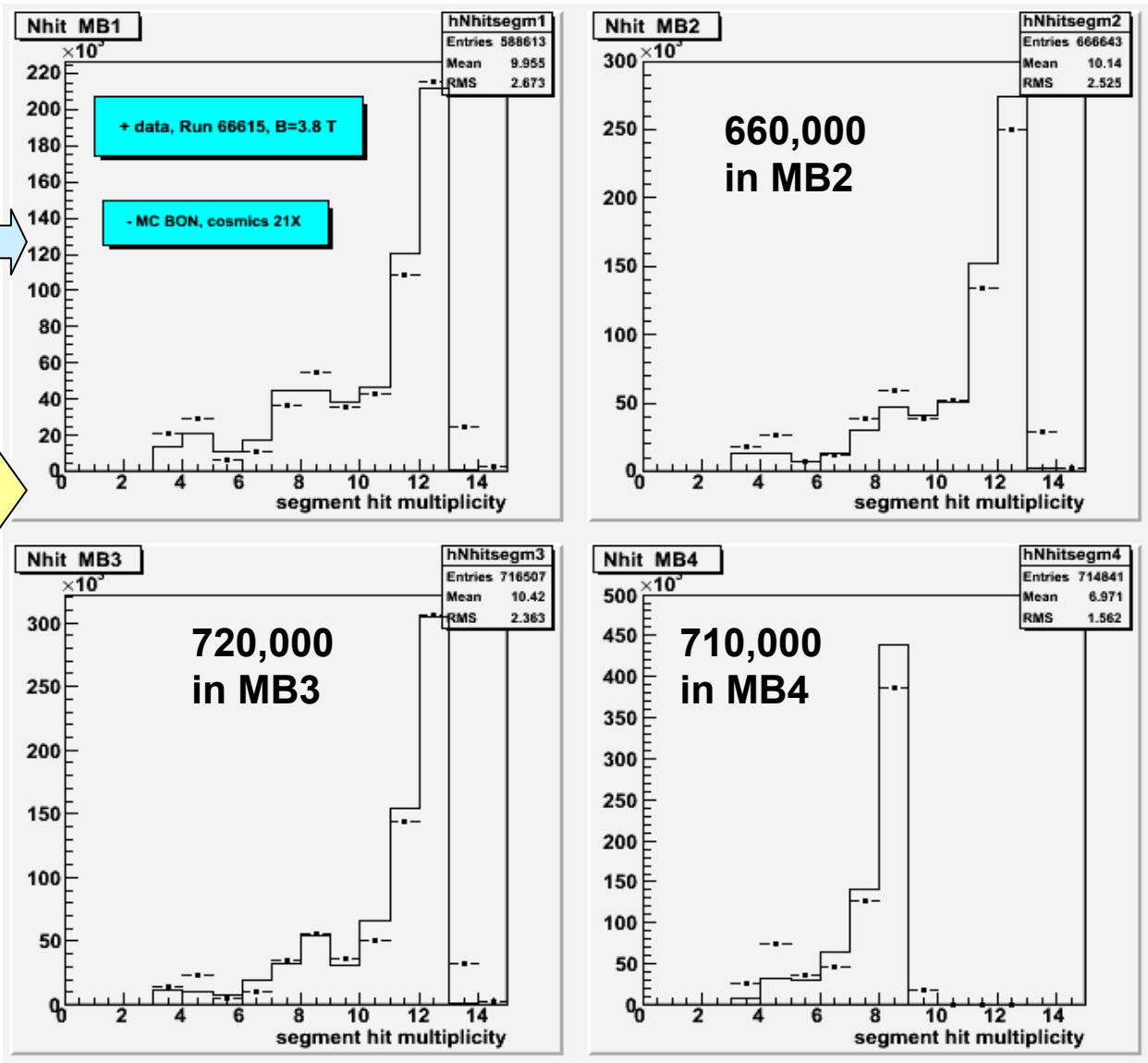




Local Reco: segments

590,000 segments in MB1

Segments in MB1/2/3/4 (all wheels)

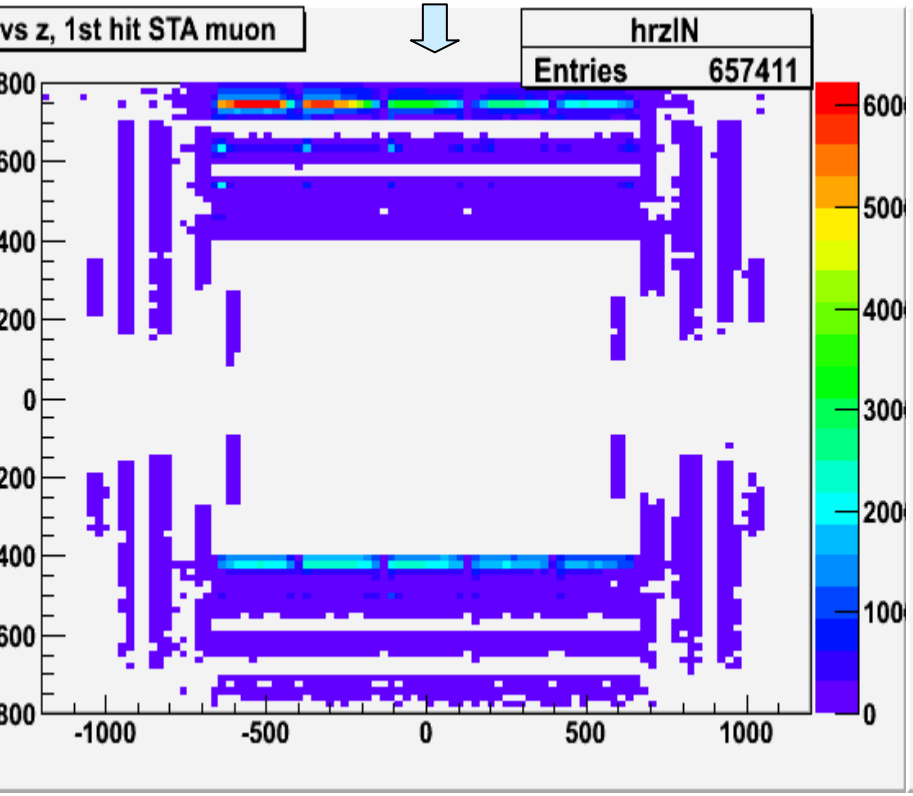


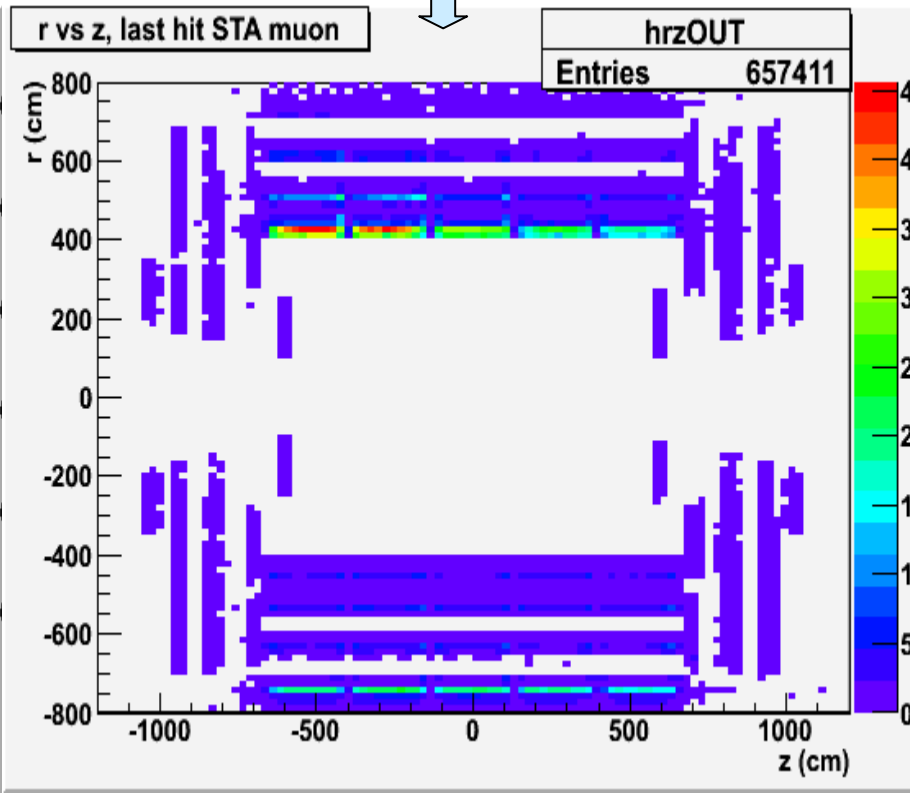
StandAlone Reco

~660,000 StandAlone Tracks ("legs" of the cosmic muon)

"entry" point (1st hit)

"exit point" (last hit)

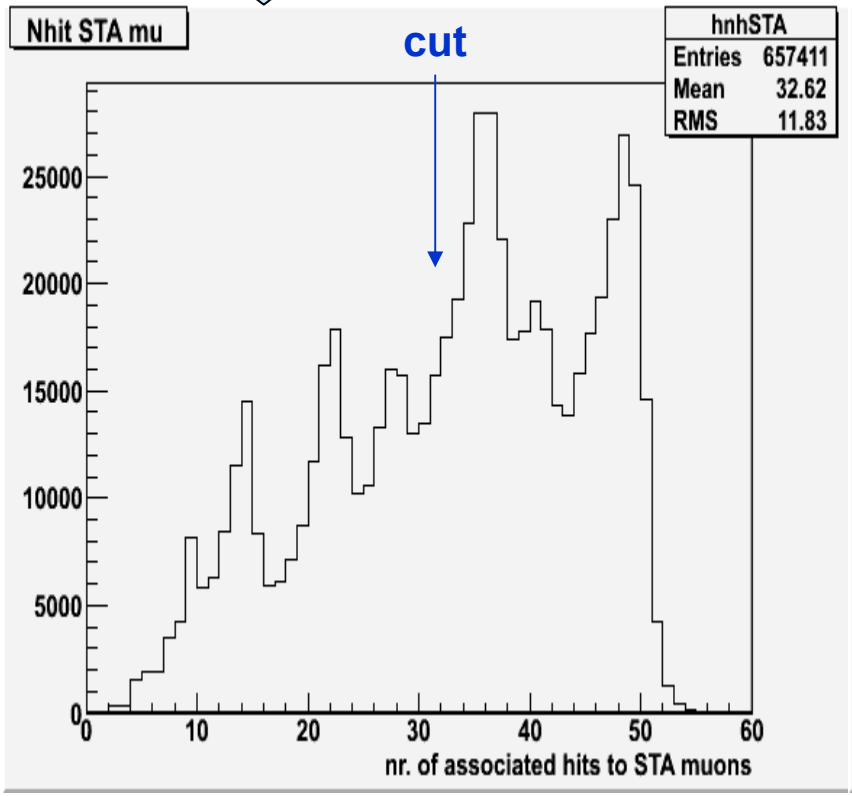


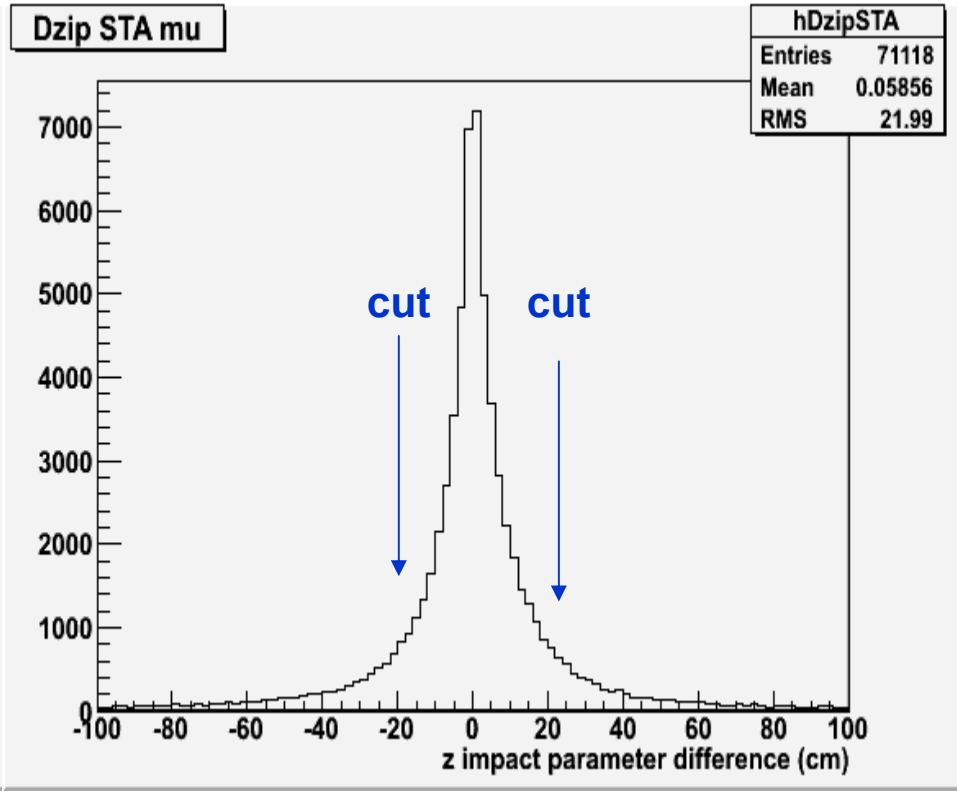


STA reco

Associated hits multiplicity of CosmicStandAlone muons

71,100 events have 2 reconstructed muon legs, both with at least 30 associated hits ($\Rightarrow \geq 3$ chambers used in the fit)

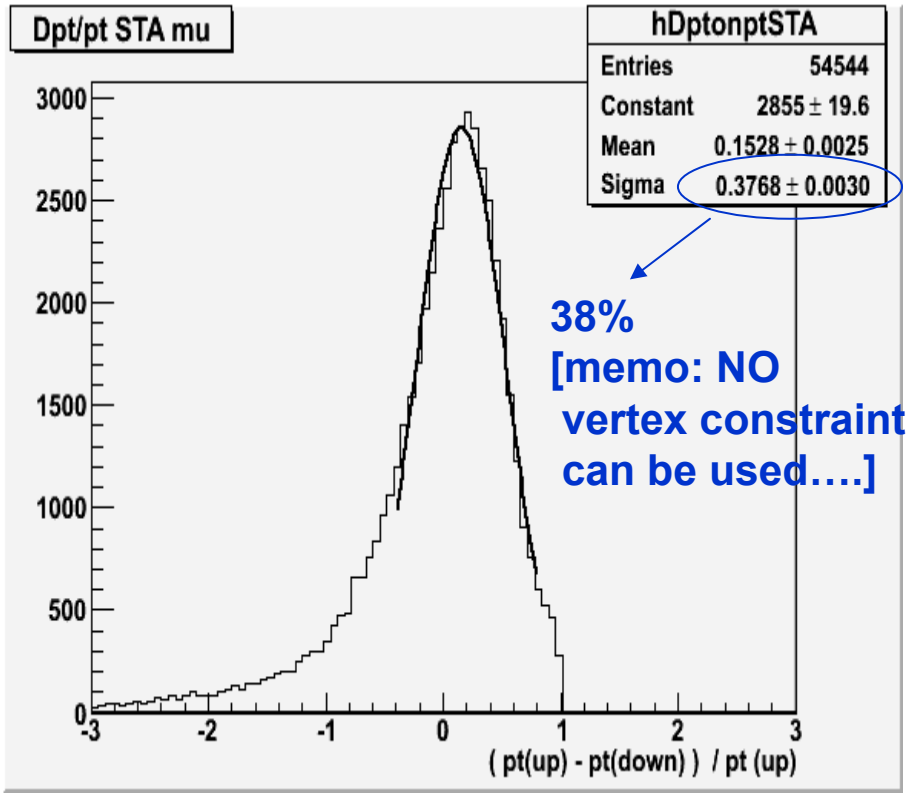




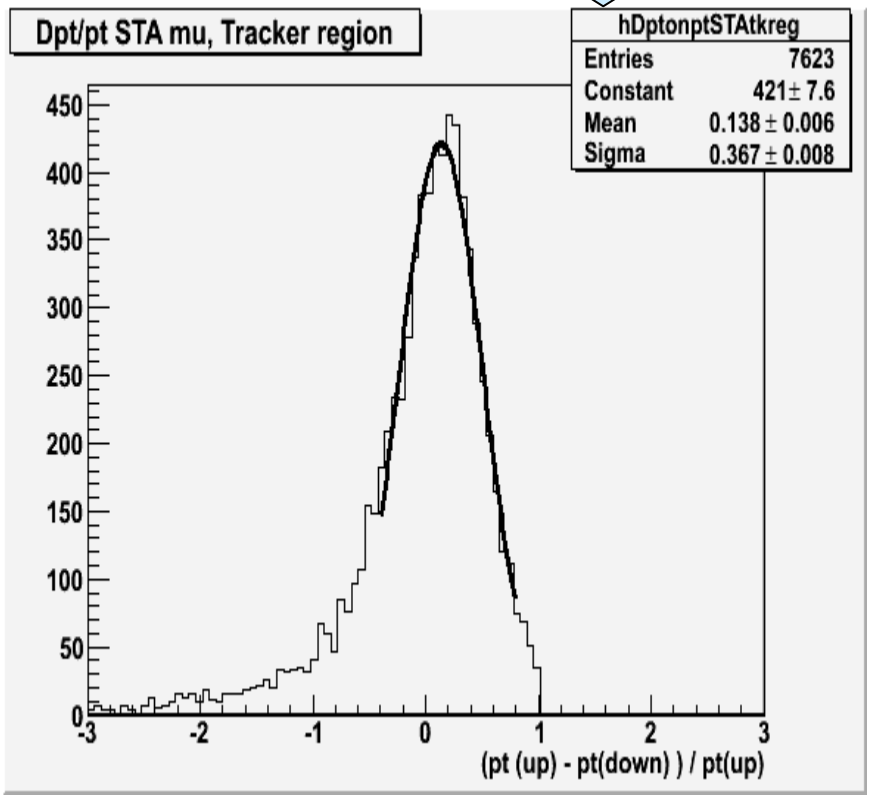
require good z matching (± 20 cm; next slide)…

STA reco

54,400 events with 2 “well reconstructed” legs



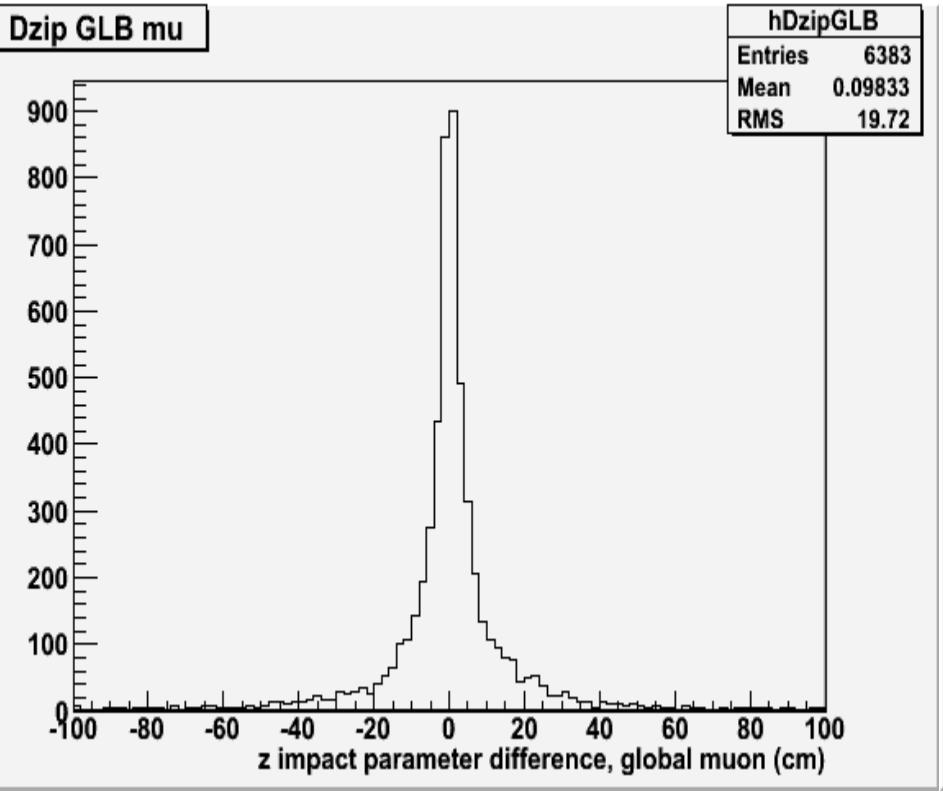
7,600 events with legs in “Tracker region” [here rather Arbitrary defined as r(i.p.) < 100 cm z(i.p.) < 250 cm]

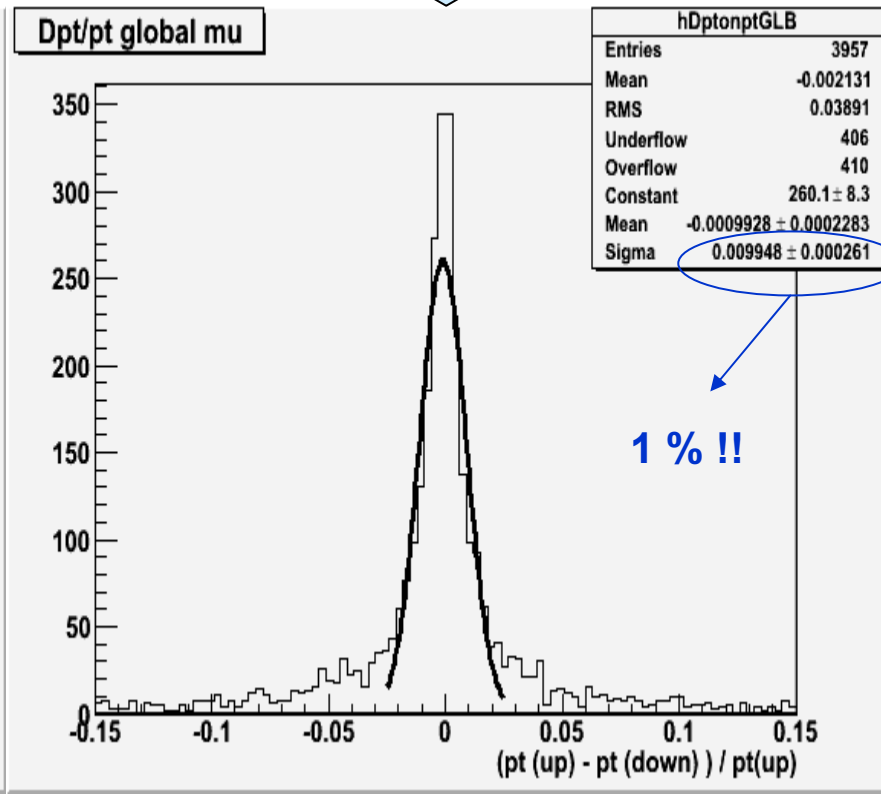


Global Cosmic Muon reco

6,800 events with
2 Global Muon tracks reconstructed

~4,000 events with Δz matching ($\pm$ 10 cm)





Pt global muon spectrum

Pt of the upper muon leg: