

TKR Electron/Gamma hits: native m.s. MC - Data Detailed Comparison

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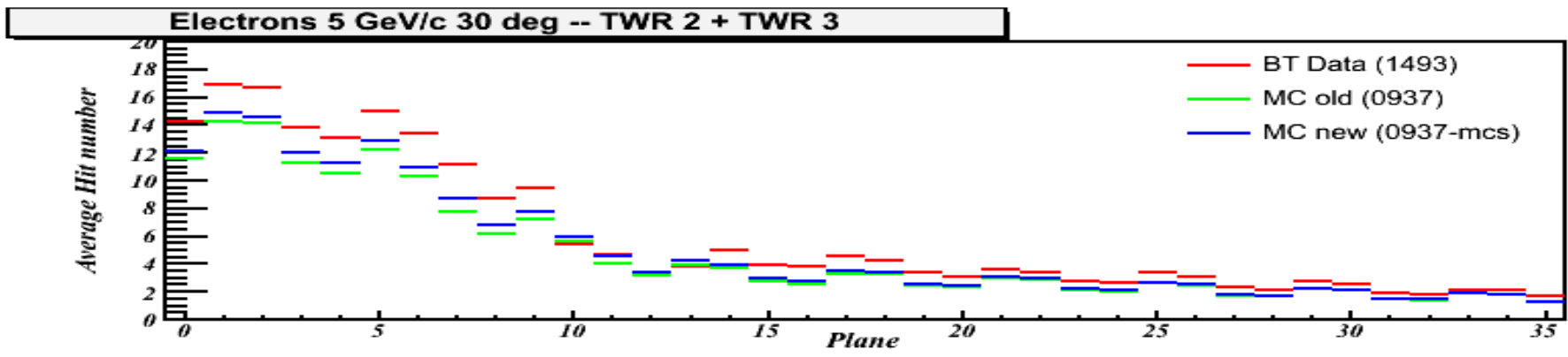
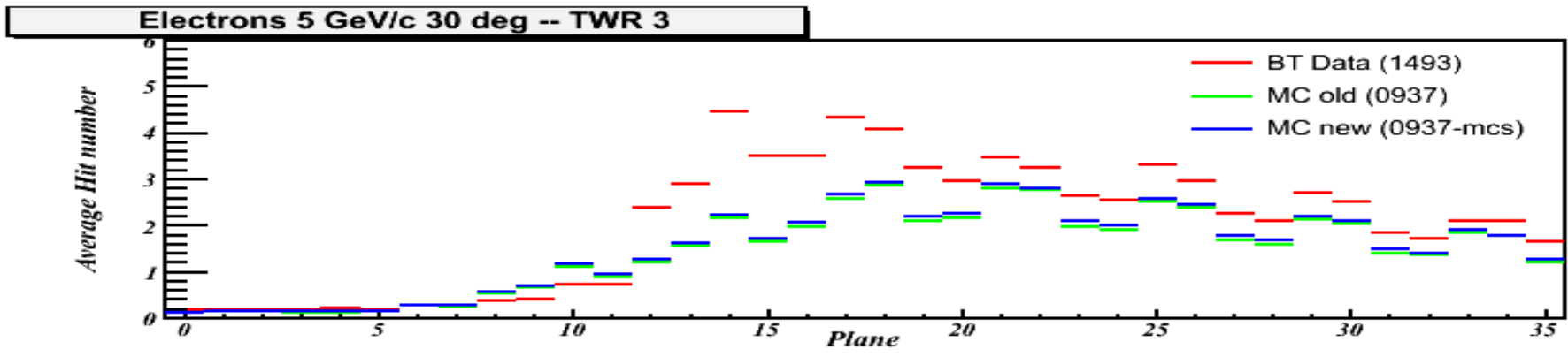
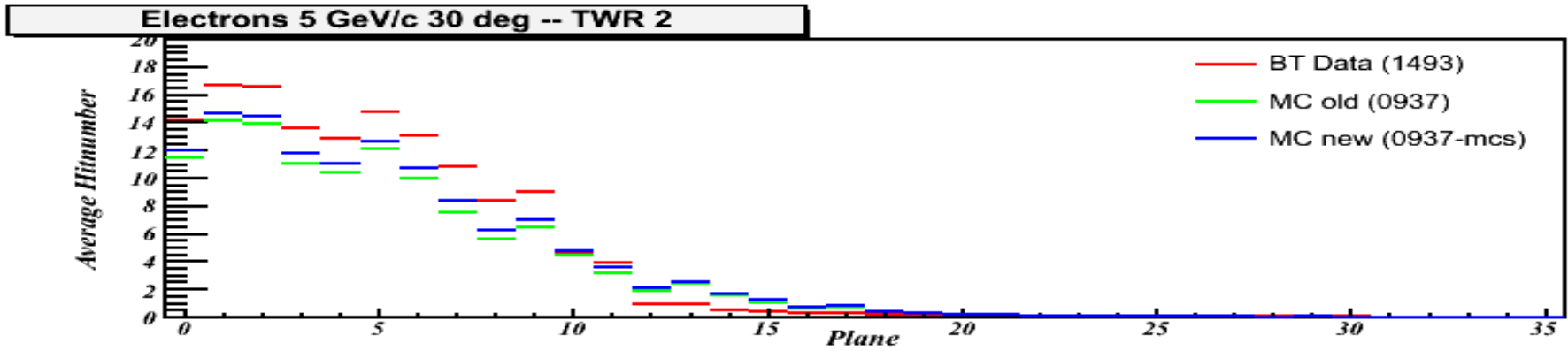
TKR Hits in electron/gamma runs

- **The TKR hits have been studied**
 - Whole TKR
 - Front TKR (plane > 12) thin planes
 - Back TKR (plane ≤ 12) thick and light planes
- **The BT and Merit root files have been used**
- **The CU has been used as standalone detector, i.e. no geometrical cuts have been imposed**
 - **Electron Cuts:**
 - At least one track
 - Last layer in the track == Layer 0 (Tkr1LastLayer == 0)
 - GTCC Fifo is not full (EventGtccFifo==0)
 - CalRawEnergy > 300 to reject pion like events
 - CalRawEnergy cut to reject double particles
 - **Gamma Cuts: Class A.1... see Bari's PSF vrvs talk**

Analysis sample

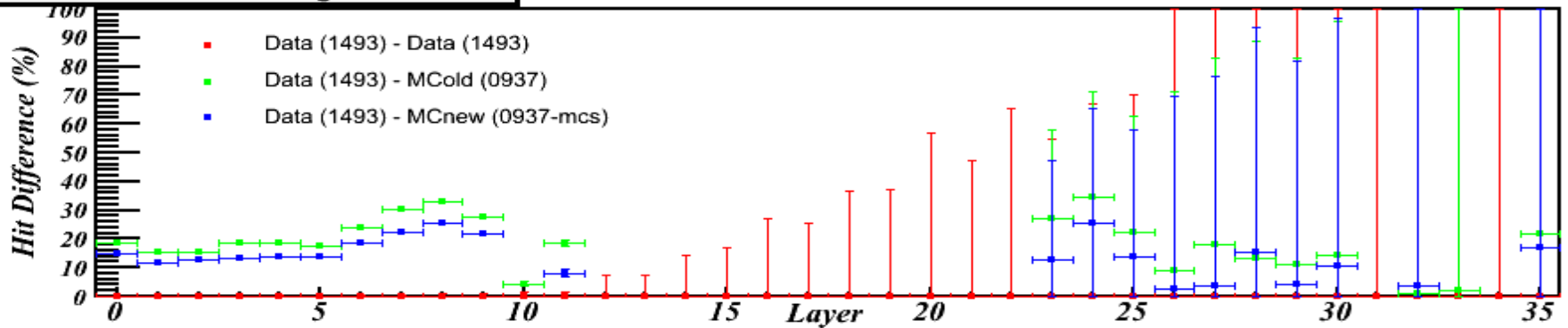
	<u>Electrons</u> 5 GeV/c - 30deg (201mm, 13mm, - 4.7mm)	<u>Protons</u> 6 GeV/c - 0 deg (561mm, 13mm, 0mm)	<u>Fullbrems</u> 2.5 GeV/c - 30 deg (201mm, 13mm, -48mm)
BT DATA	700001493	700001423	700001223
MC old	BT-0937	BT-1423	BT-1223
MC new (native Multiple Scattering)	BT-0937-mcs	BT-1423-mcs	BT-1223-mcs

BT DATA - MC old - MC new Hit Multiplicity layer by layer

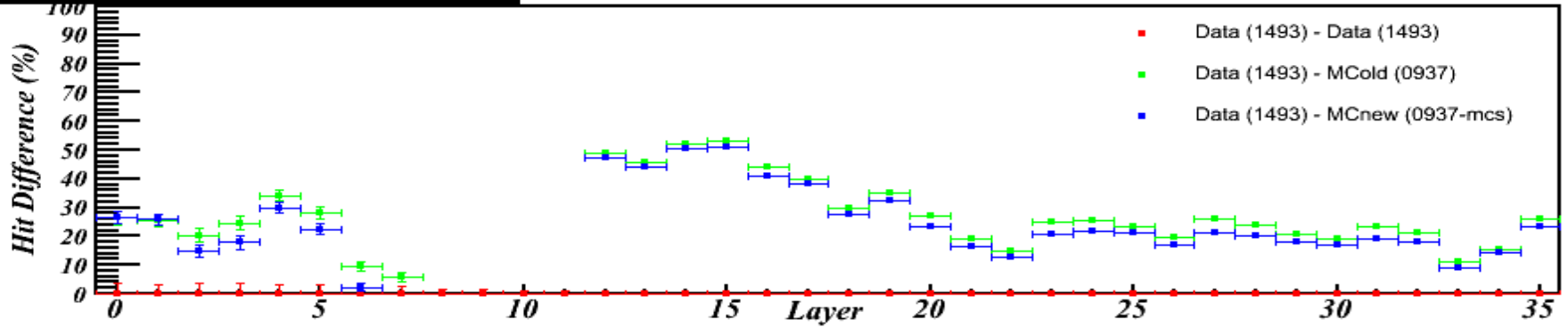


BT DATA – MC old – MC new Hit Differences

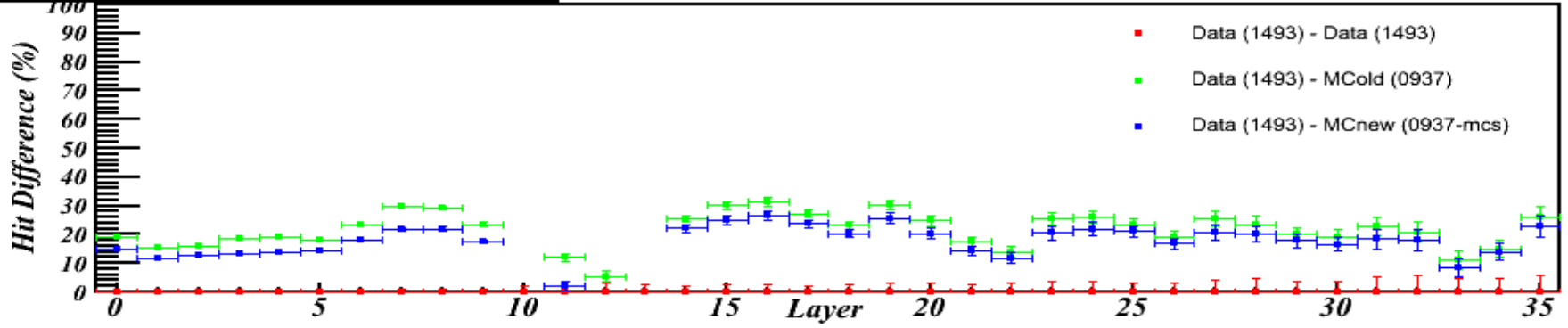
Electrons 5 GeV/c 30 deg -- TWR 2



Electrons 5 GeV/c 30 deg -- TWR 3

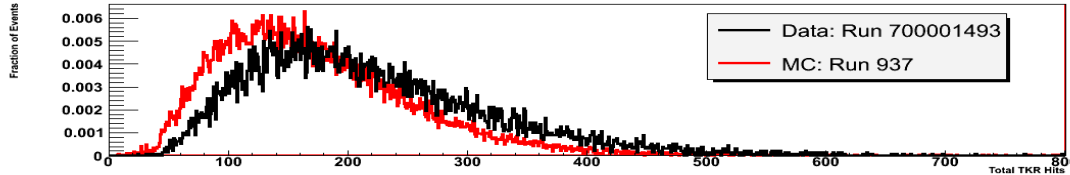
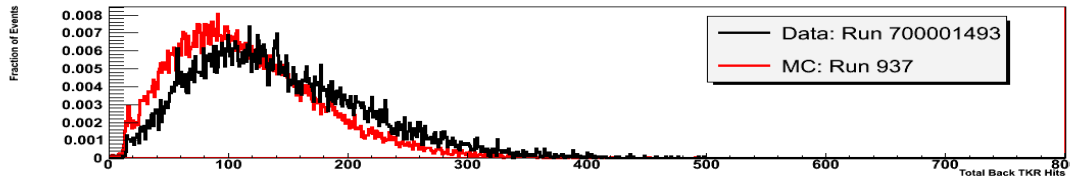
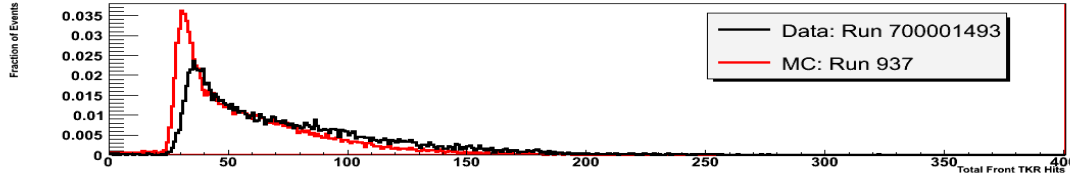


Electrons 5 GeV/c 30 deg -- TWR 2+3



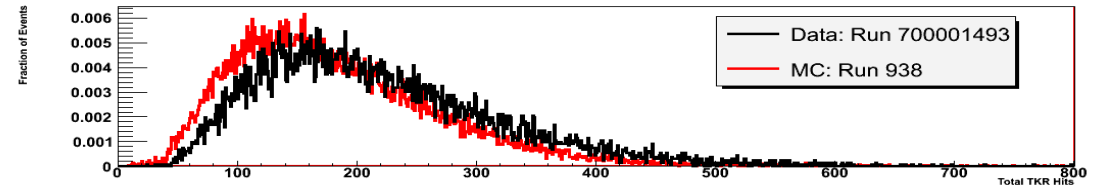
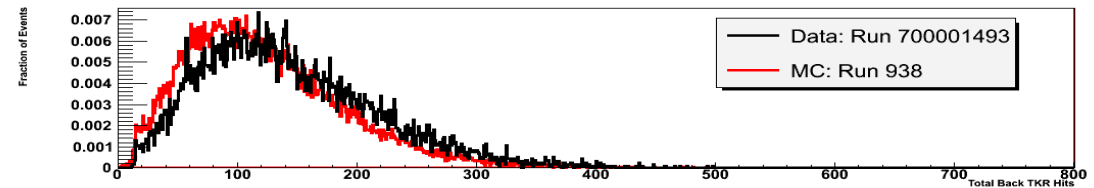
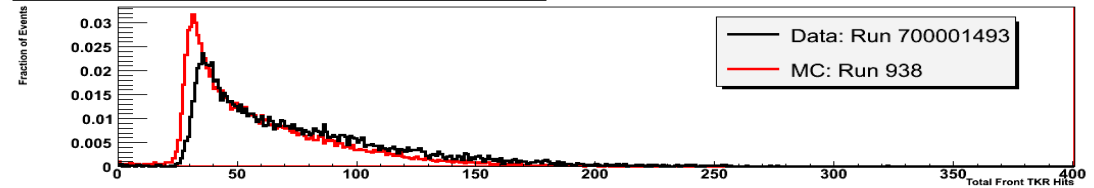
Front, Back and Total Hits Distributions

Front, Back and Total TKR Hits, Electron Beam Momentum (GeV/c) = 5, Angle (deg) = 30



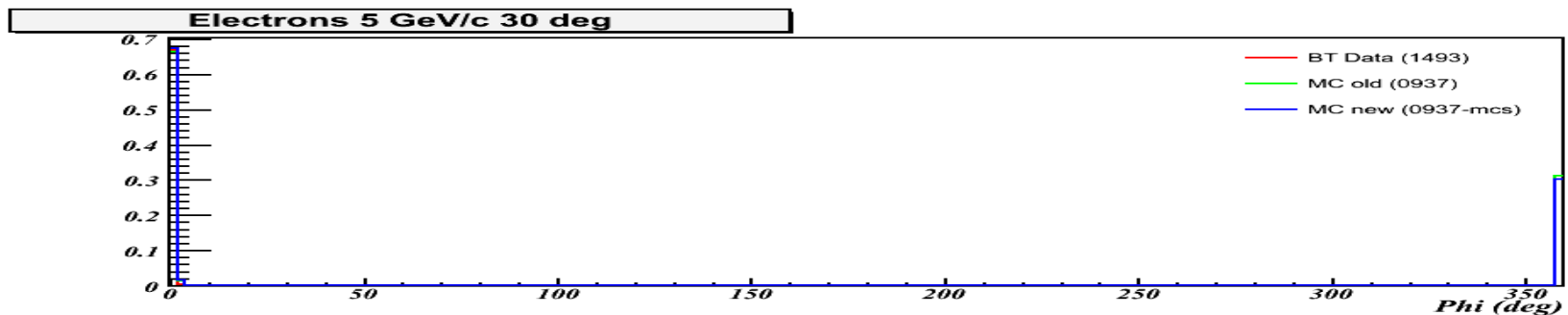
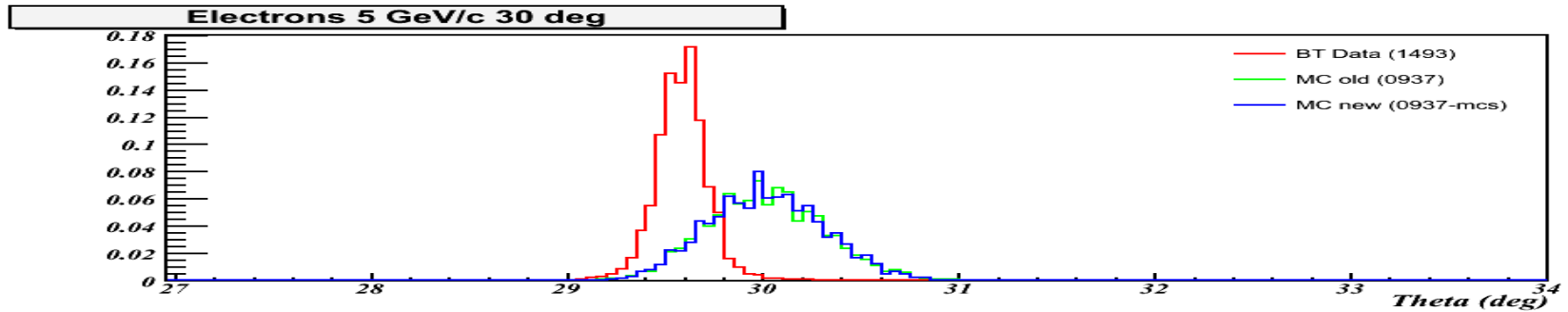
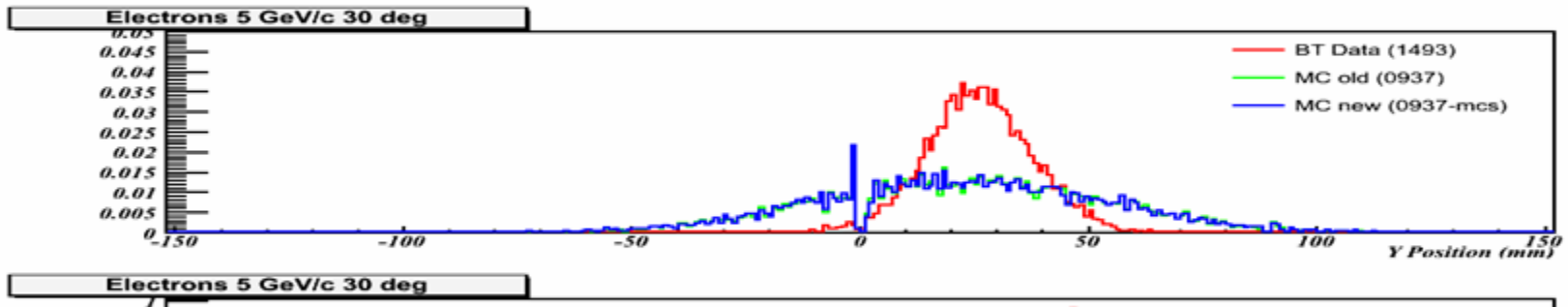
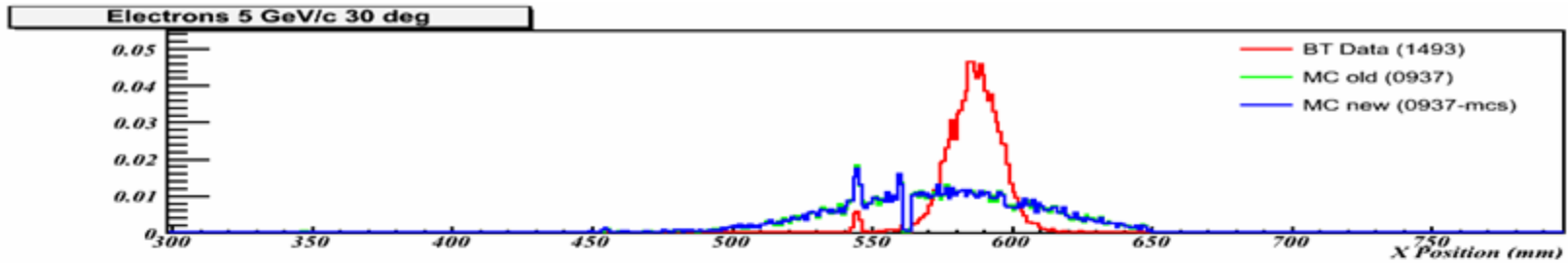
← Previous MC

Front, Back and Total TKR Hits, Electron Beam Momentum (GeV/c) = 5, Angle (deg) = 30



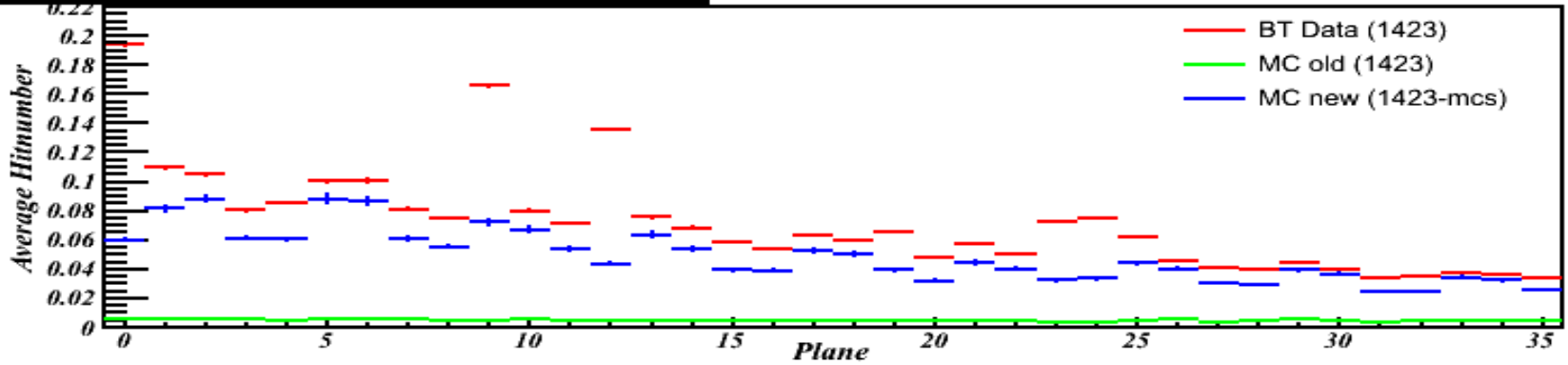
Native m.s. MC →

BT DATA – MC old – MC new Track position at first hit

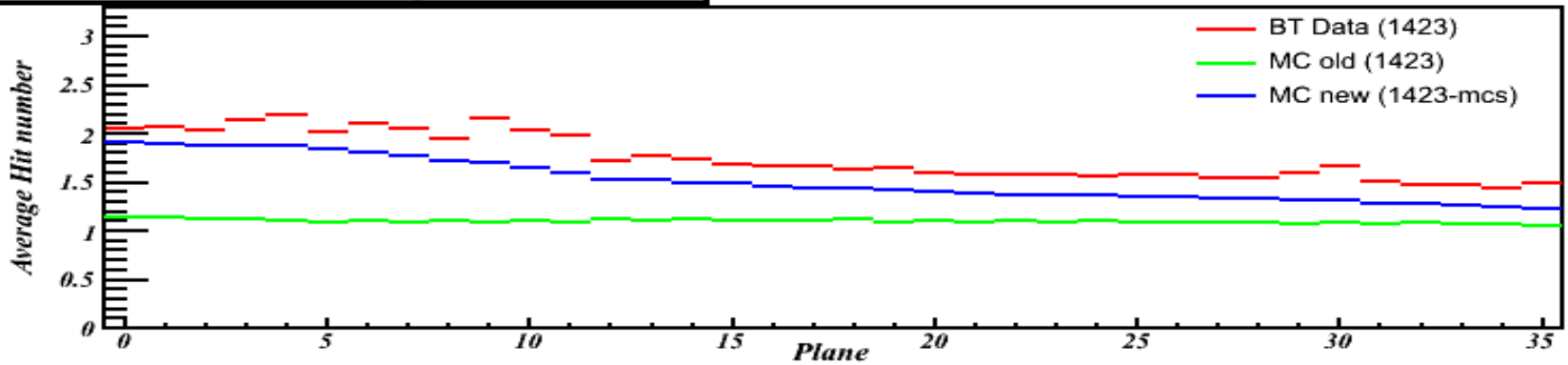


BT DATA – MC old – MC new Hit Multiplicity layer by layer

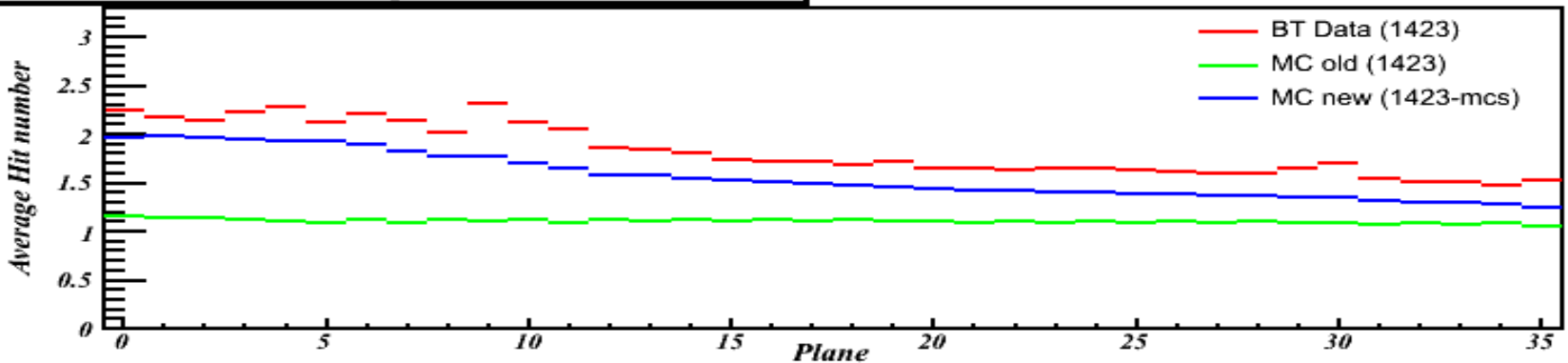
Protons 6 GeV/c 0 deg -- TWR 2



Protons 6 GeV/c 0 deg -- TWR 3

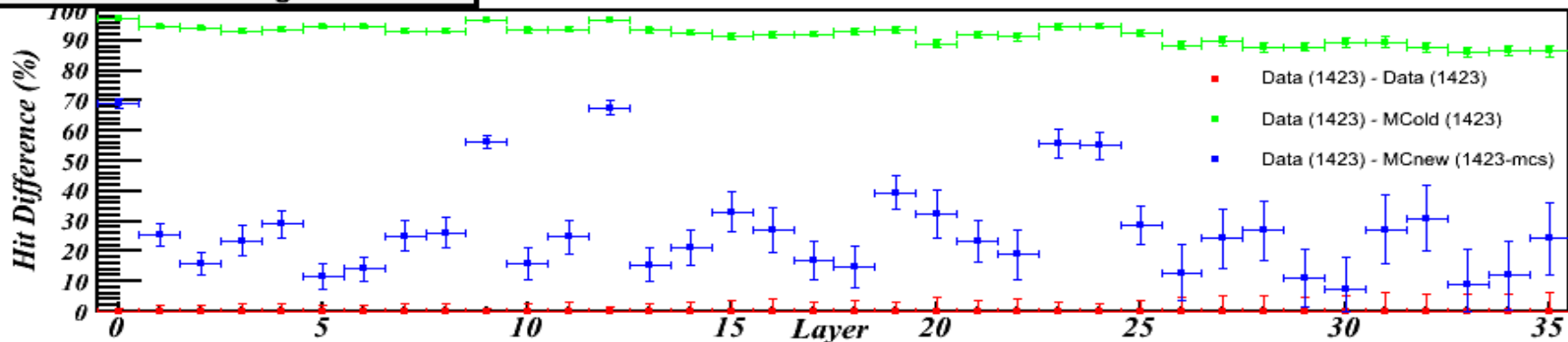


Protons 6 GeV/c 0 deg -- TWR 2 + TWR 3

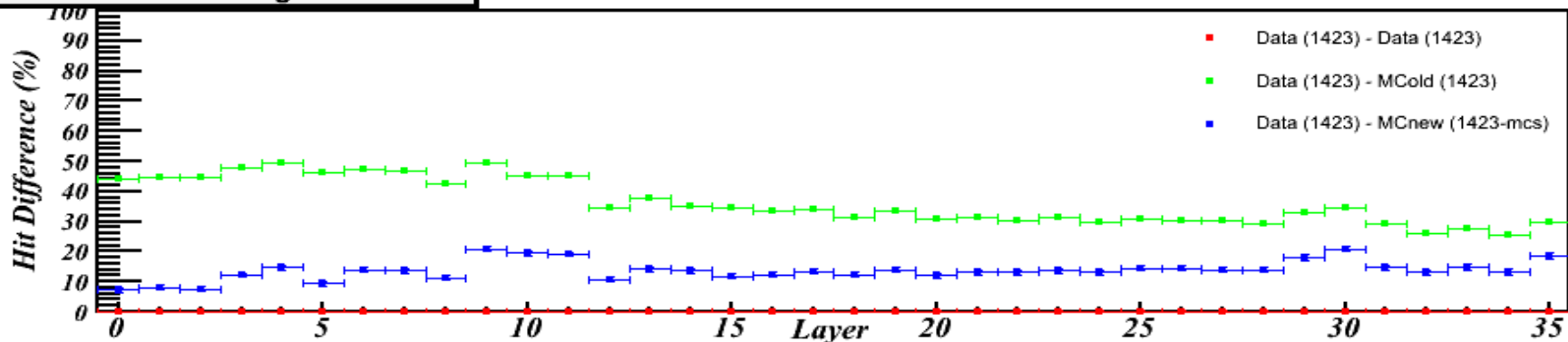


BT DATA – MC old – MC new Hit Differences

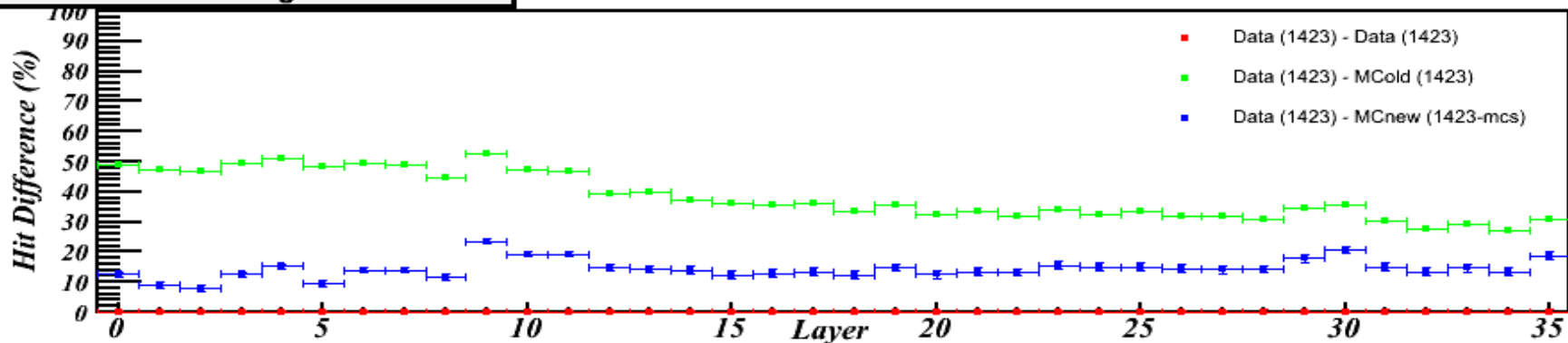
Protons 6 GeV/c 0 deg -- TWR 2



Protons 6 GeV/c 0 deg -- TWR 3

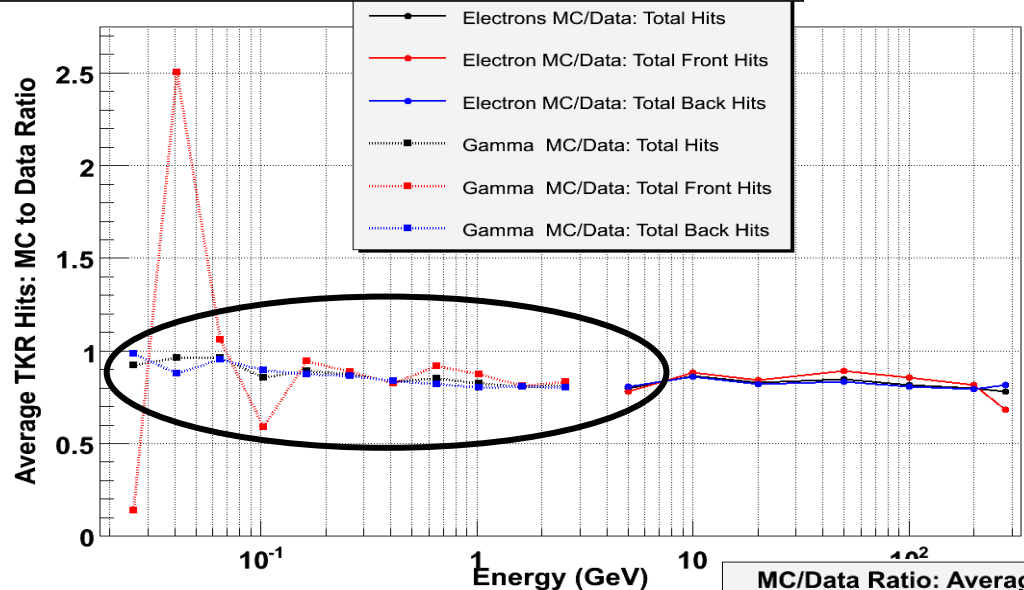


Protons 6 GeV/c 0 deg -- TWR 2+3



MC to Data Ratio at 30 deg

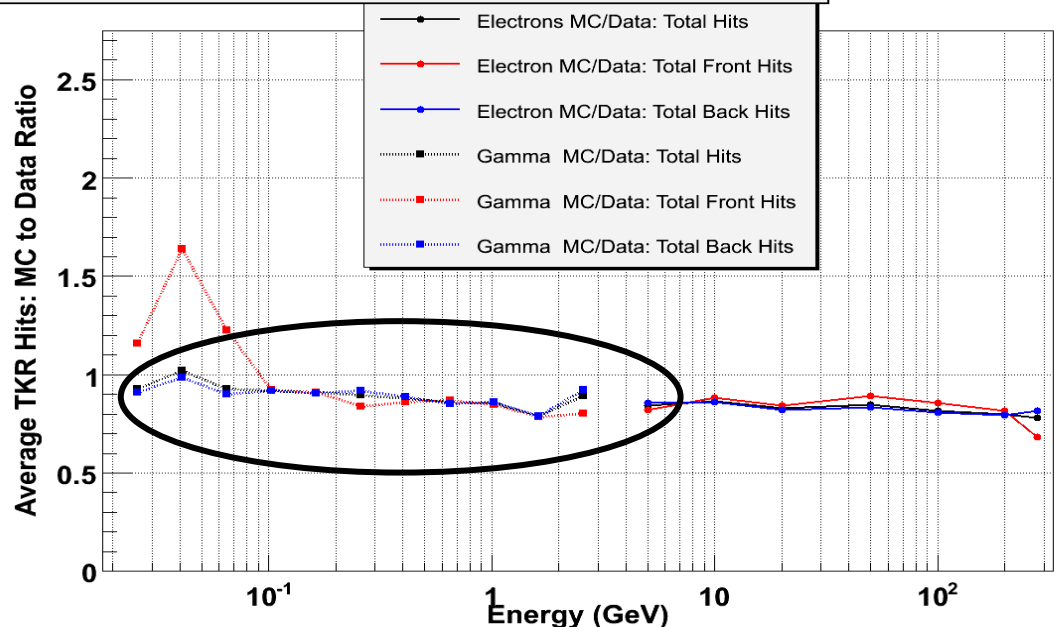
MC/Data Ratio: Average TKR Hit Vs Energy, Angle = 30 deg



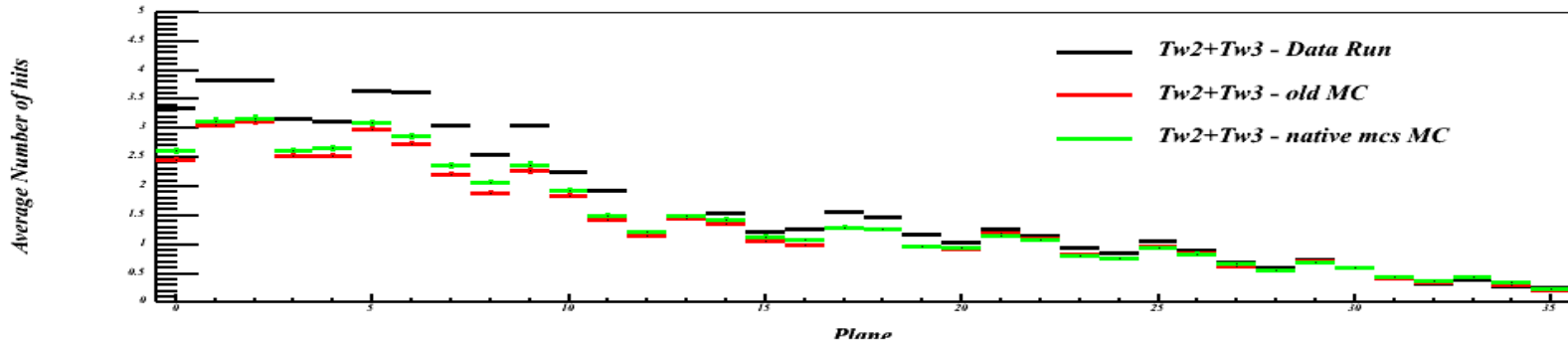
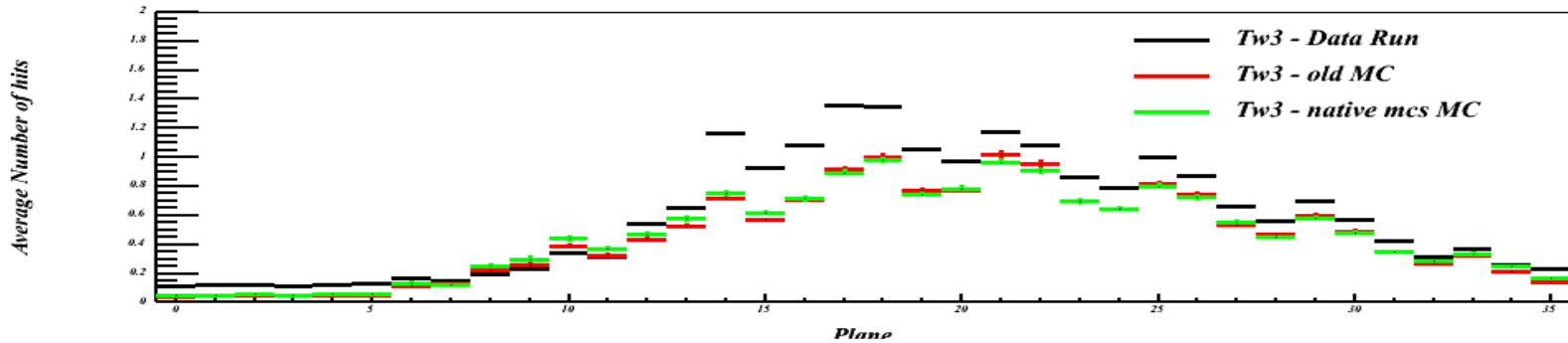
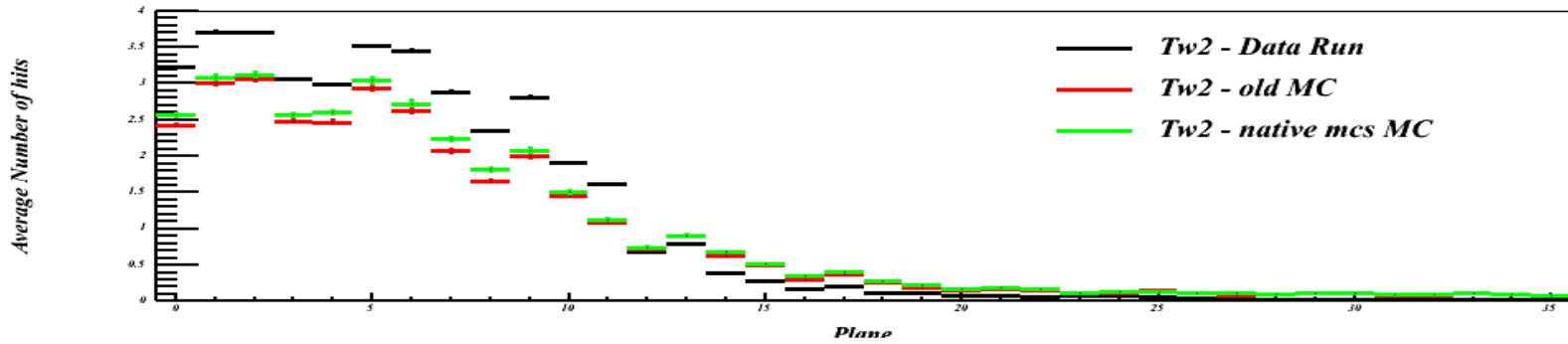
← Previous MC

Native m.s. MC →

MC/Data Ratio: Average TKR Hit Vs Energy, Angle = 30 deg



Gamma Hit profile



Gamma hit profile Vs Energy bins

