

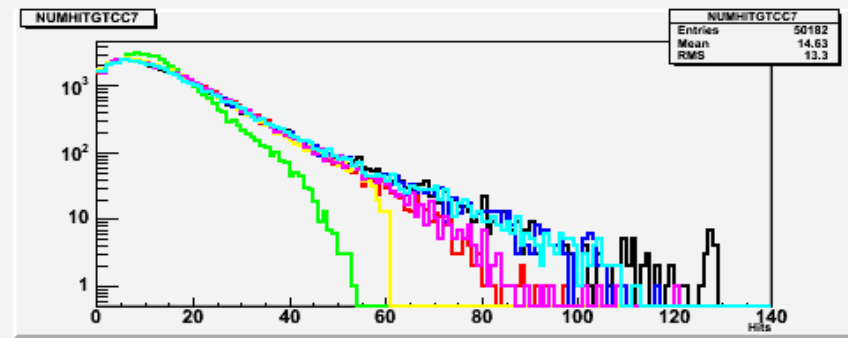
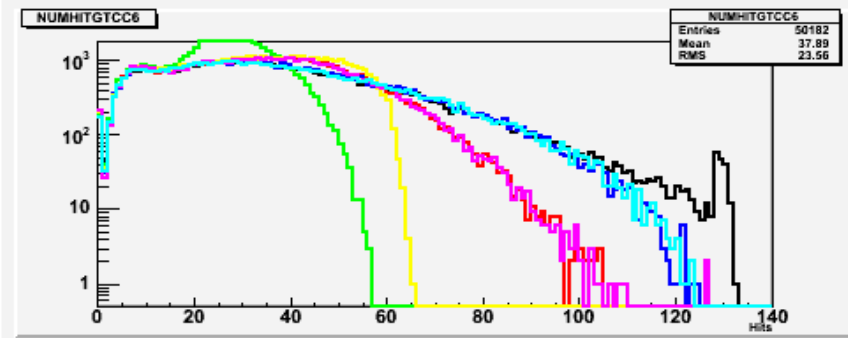
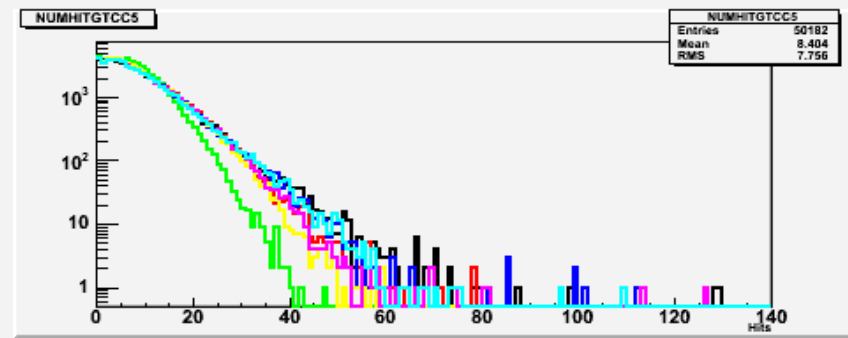
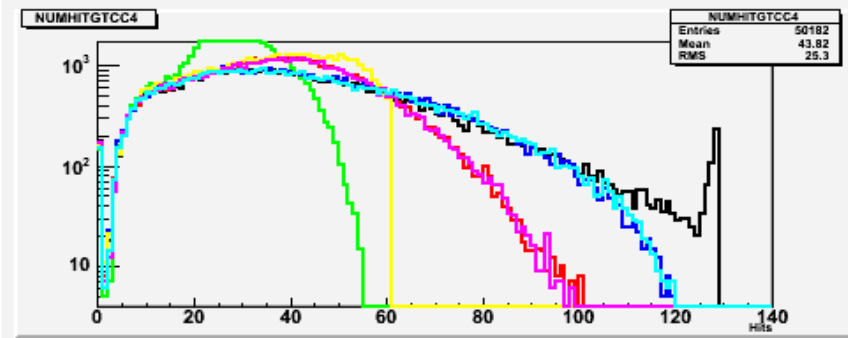
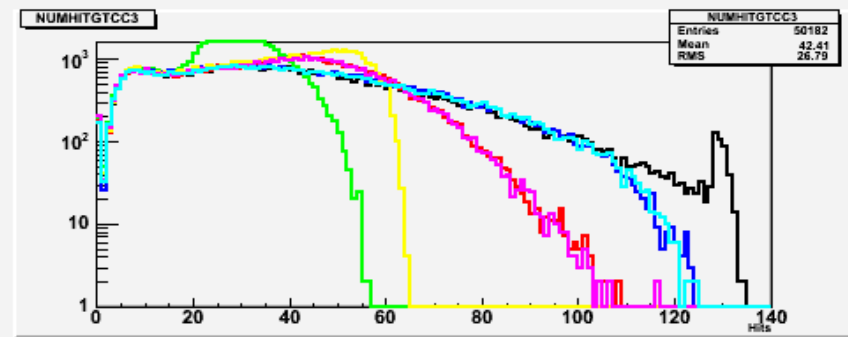
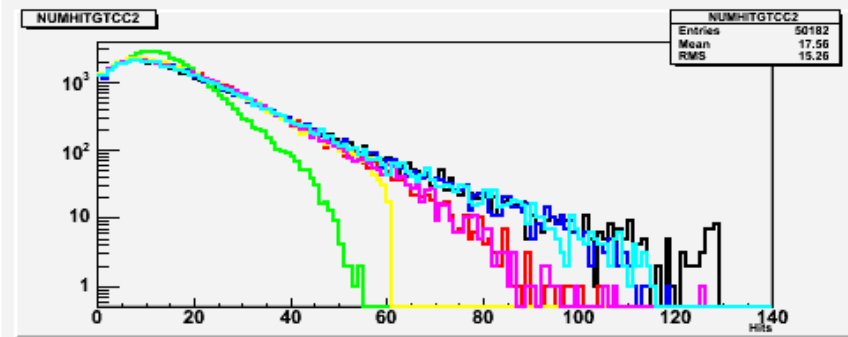
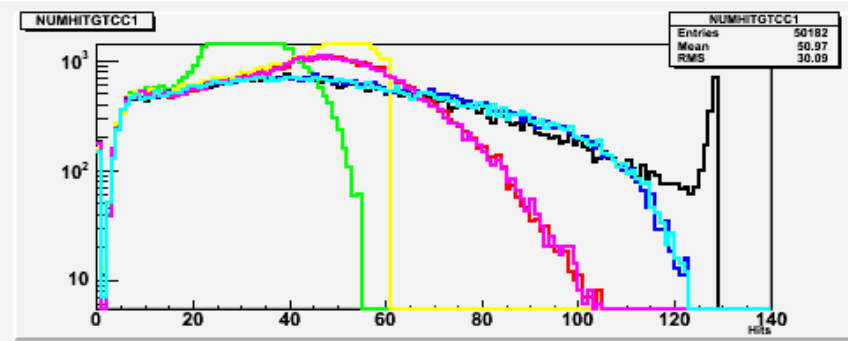
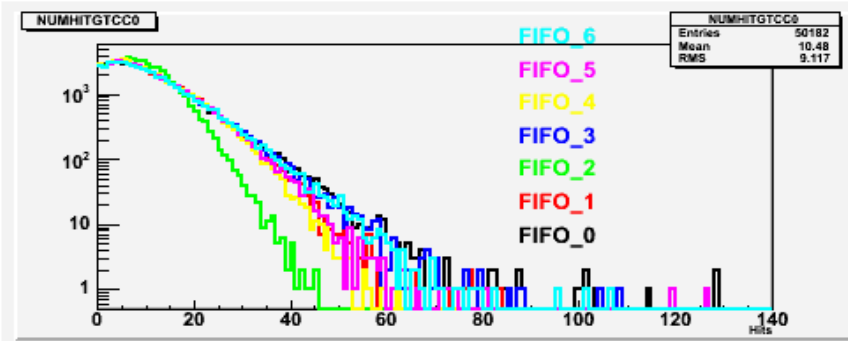
SPS Beamtest 2006

Daily Meeting

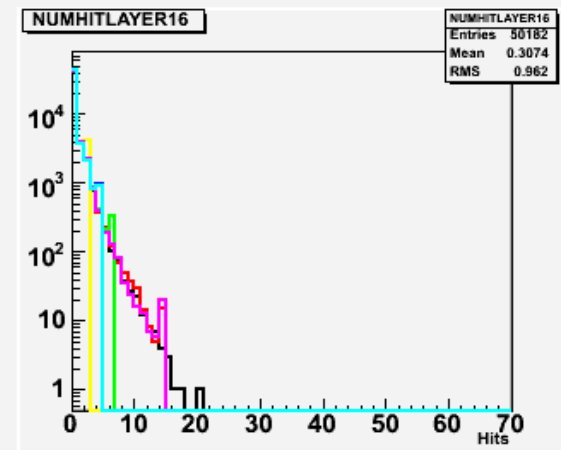
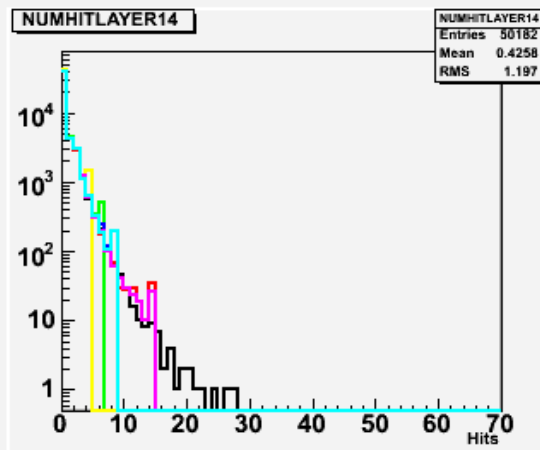
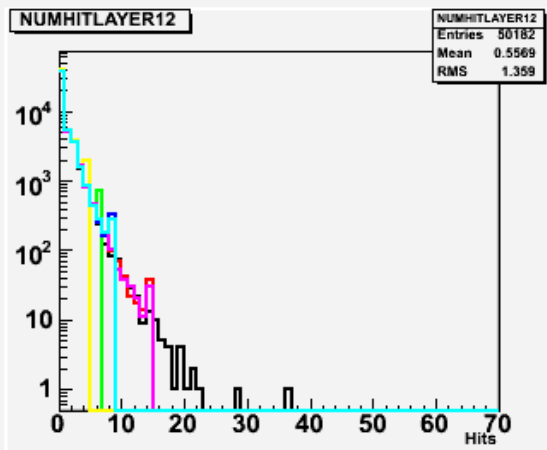
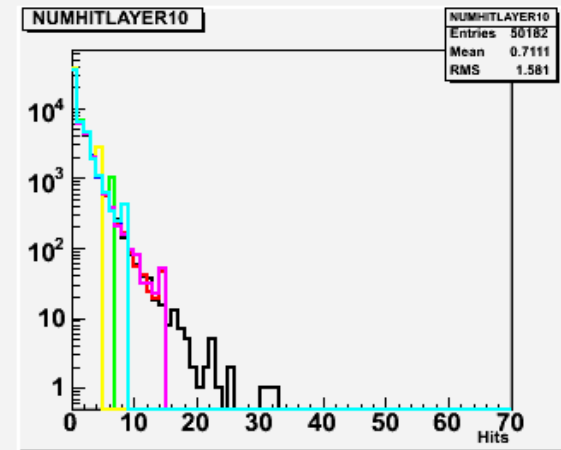
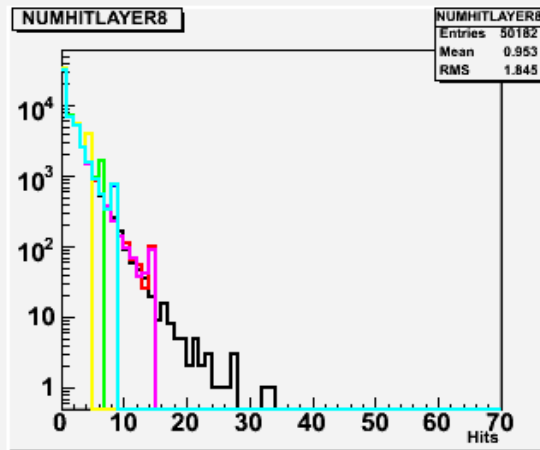
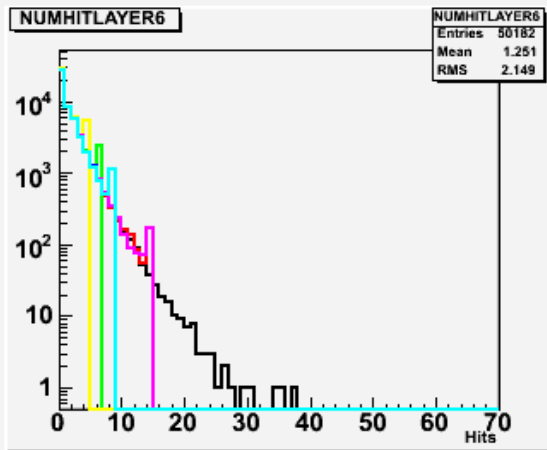
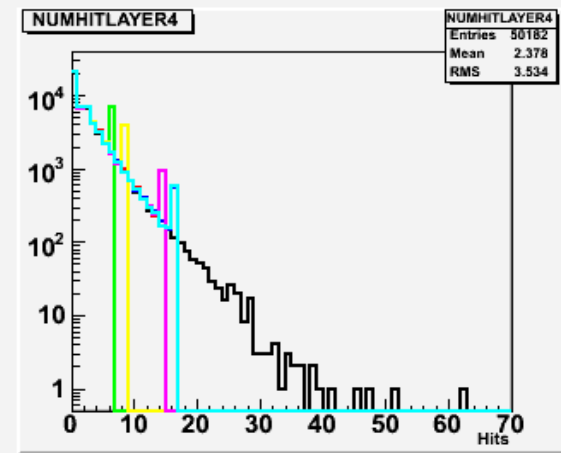
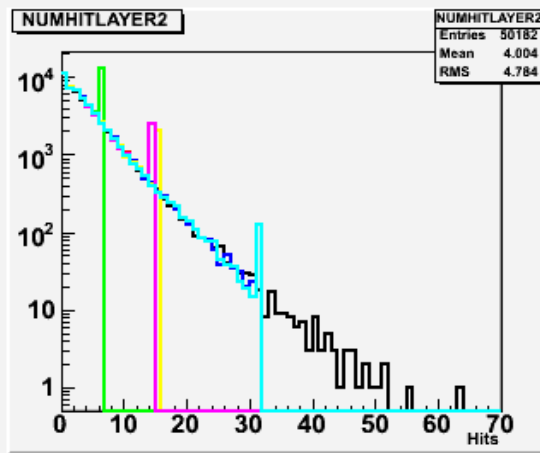
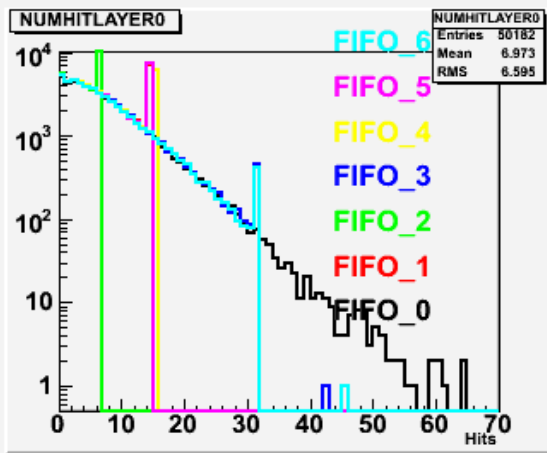
Preliminary study of the different FIFO configurations

FIFO	Almost Full	Max Hit Plane	Schema	Run
0	64	64	CU_BT	700002239
1	64	14	CU_BT_TkrFM8_FIFO_1	700002240
2	64	6	CU_BT_TkrFM8_FIFO_2	700002241
3	64	Tree 1 (high)	CU_BT_TkrFM8_FIFO_3	700002242
4	64	Tree 2 (low)	CU_BT_TkrFM8_FIFO_4	700002243
5	122	14	CU_BT_TkrFM8_FIFO_5	700002244
6	122	Tree 1 (high)	CU_BT_TkrFM8_FIFO_6	700002245

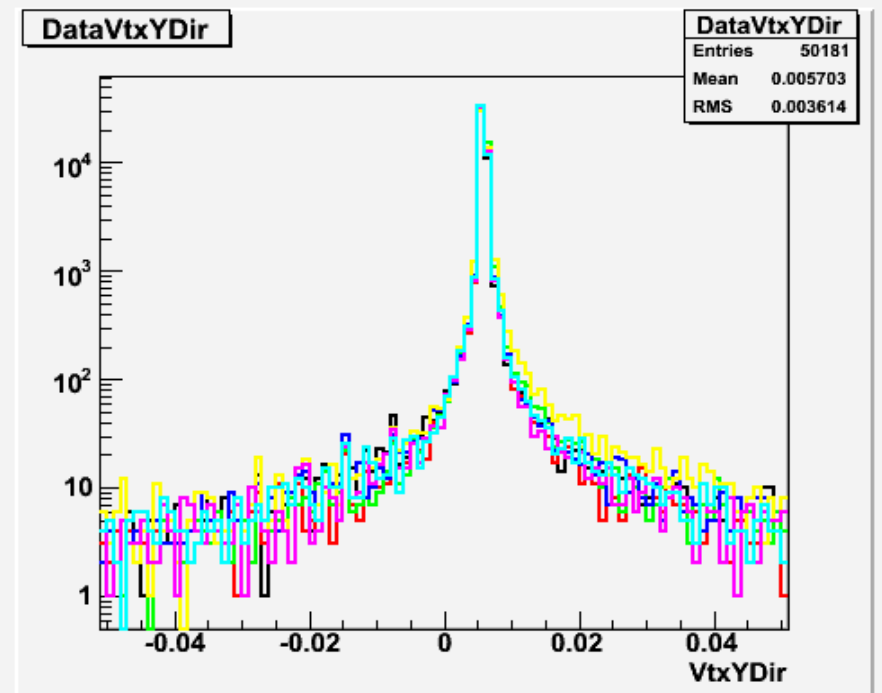
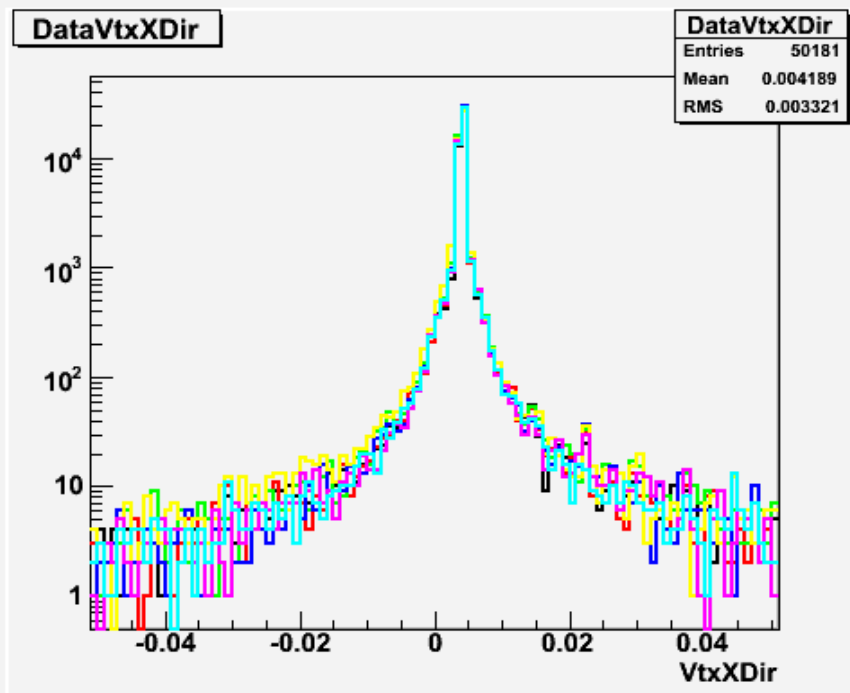
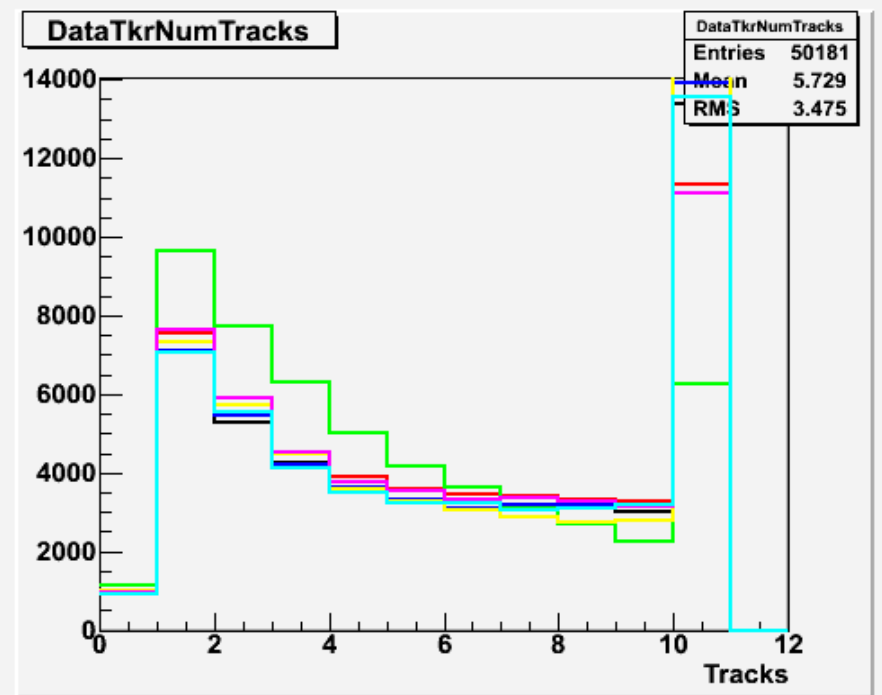
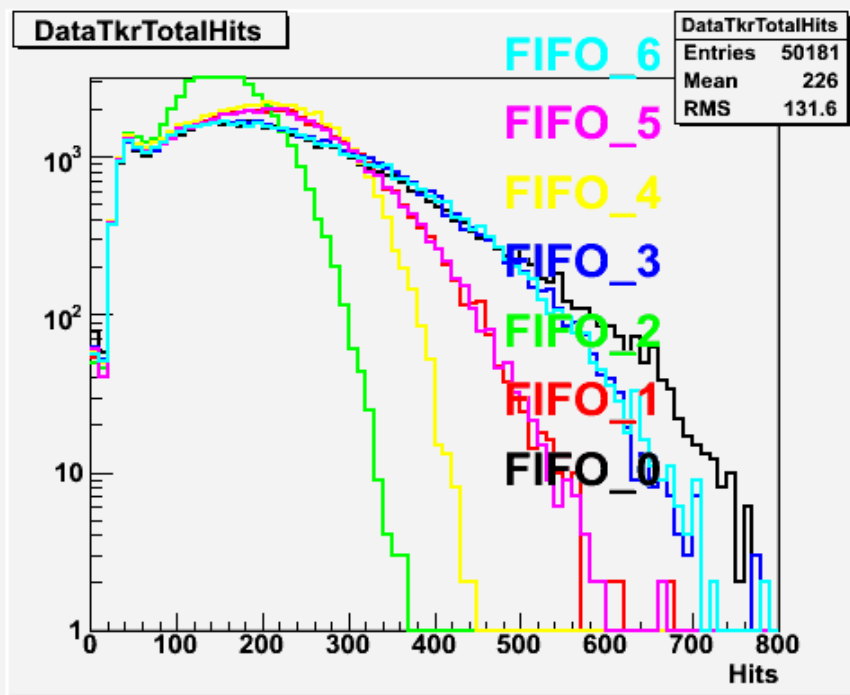
Hits per GTCC



GTCC_2 – Hits per GTRC

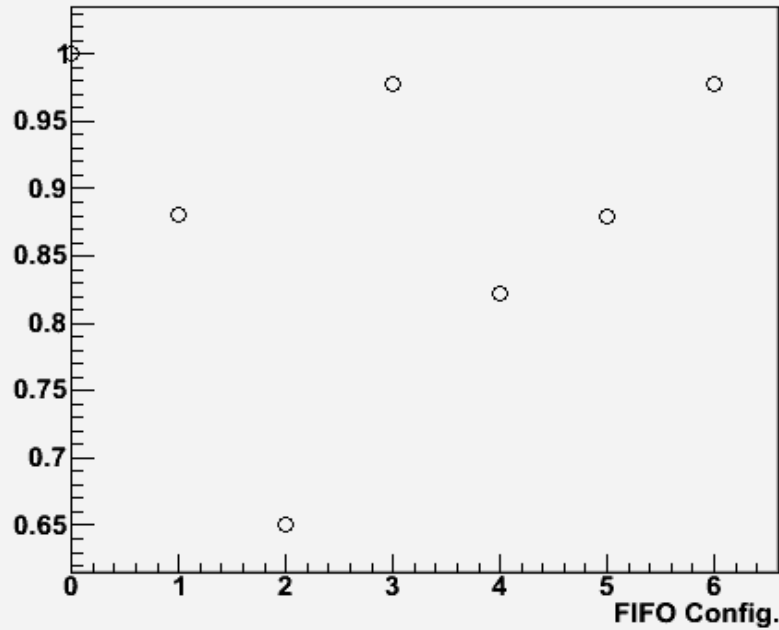


Effect on Tkr global variables

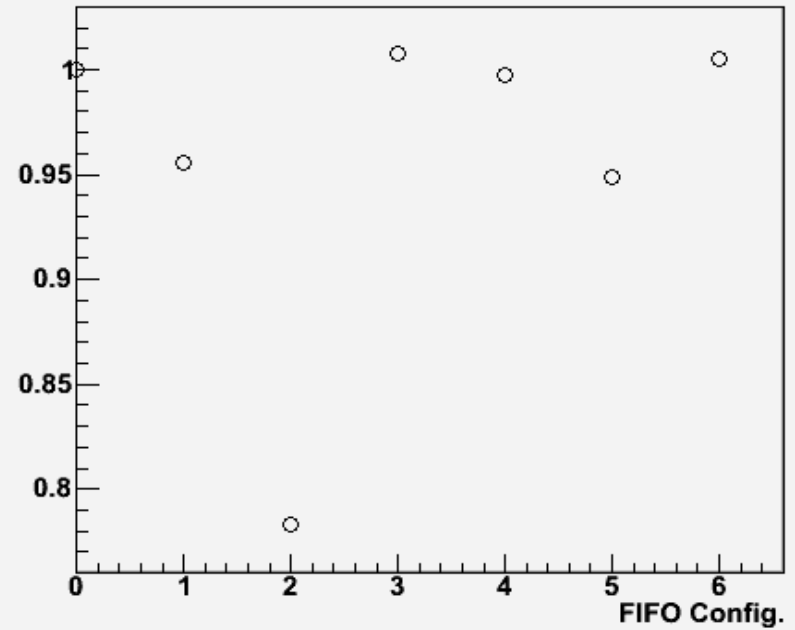


Tkr variables MEAN

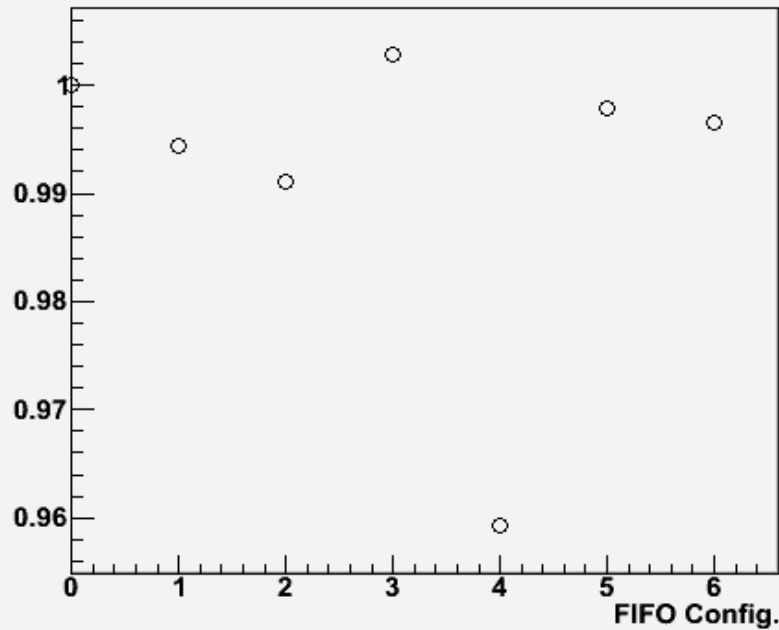
TkrTotalHitsMean : FIFO_i/FIFO_0



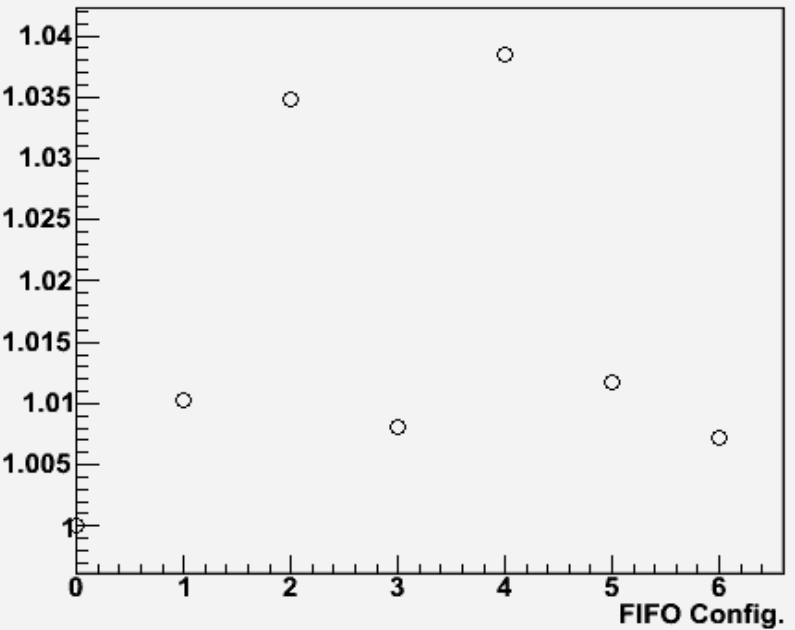
TkrNumTracksMean : FIFO_i/FIFO_0



VtxXdirMean : FIFO_i/FIFO_0

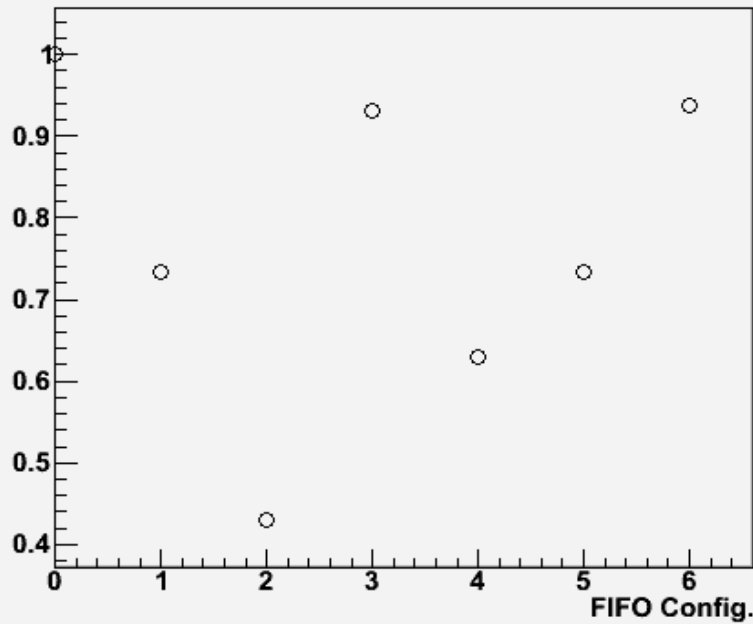


VtxYdirMean : FIFO_i/FIFO_0

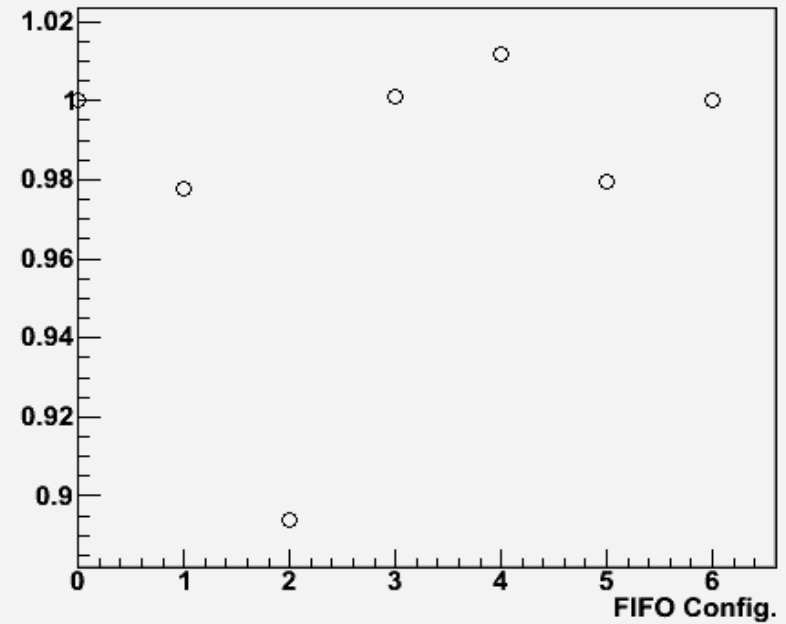


Tkr variables RMS

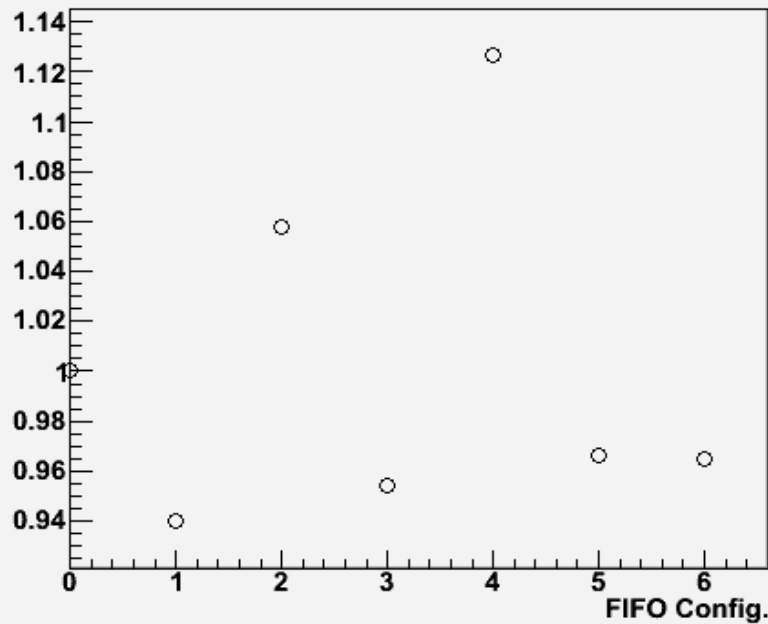
TkrTotalHitsRMS : FIFO_i/FIFO_0



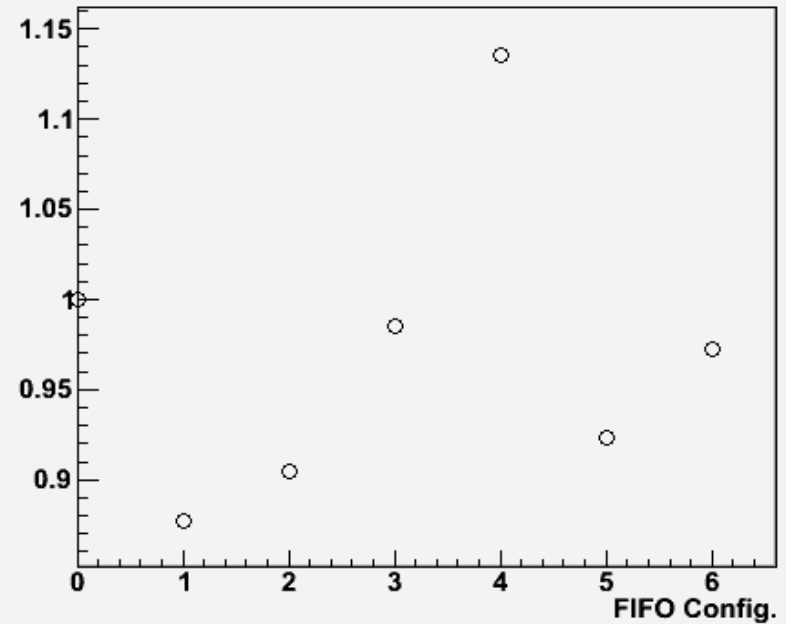
TkrNumTracksRMS : FIFO_i/FIFO_0



VtxXdirRMS : FIFO_i/FIFO_0

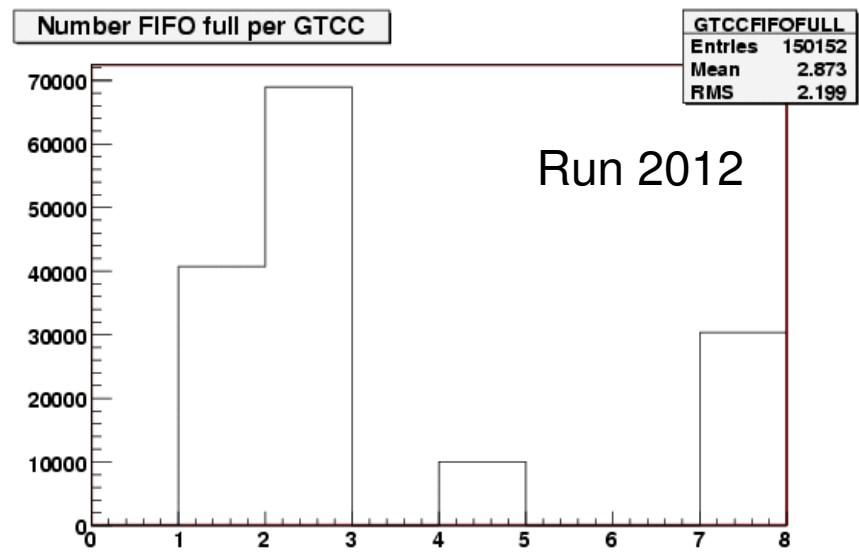
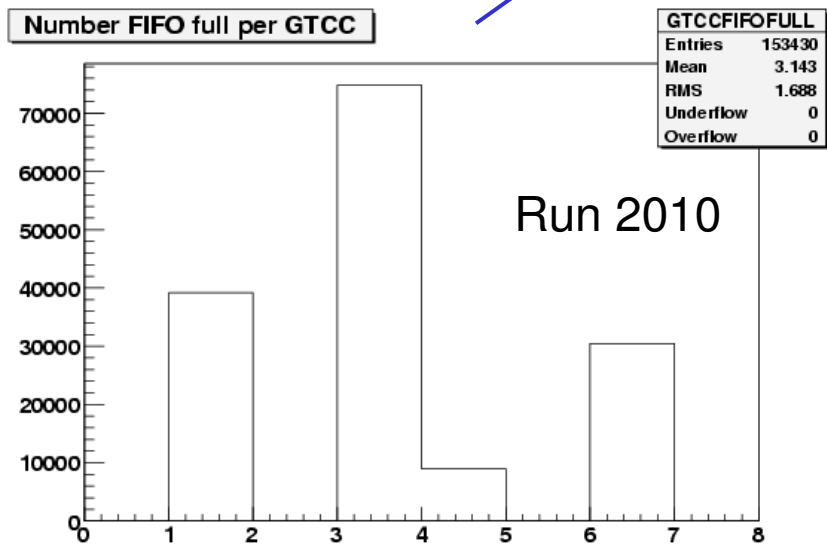
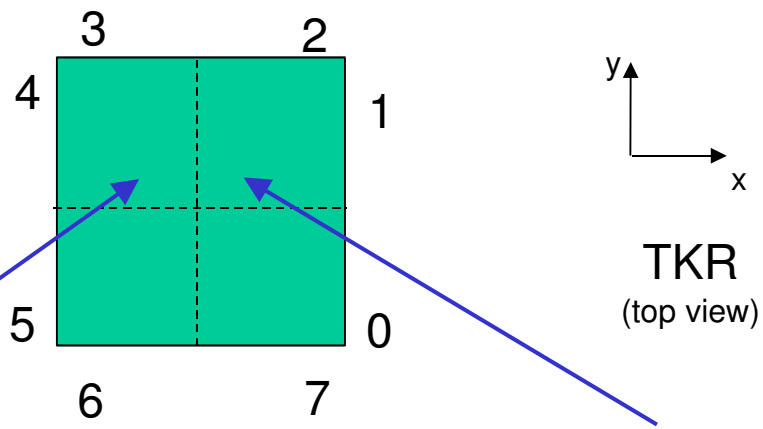


VtxYdirRMS : FIFO_i/FIFO_0



Geometrical consideration

- The fraction of Fifo Full event depend beam impact point and angle.
- At 0° typically only 4 GTCCs have error events → clear consequence of small beam size.



Timing consideration

There are 2 distinct class of events with GTCC Fifo Full error:

- 3) Events with more than 128 hits per GTCC.
- 2) Events too close each other.

The fraction of these events depends on the “almost full” flag on the GTCC registers.

In standard operation at beamtest this flag was set to guaranty 64 hit for the next event and in fact there are **no fifo full evts with less than 64 hit**.

Setting this flag to 122 (runs 2244-2247) eliminate this class of events, but impacts on dead time.

