TOF Trigger Status

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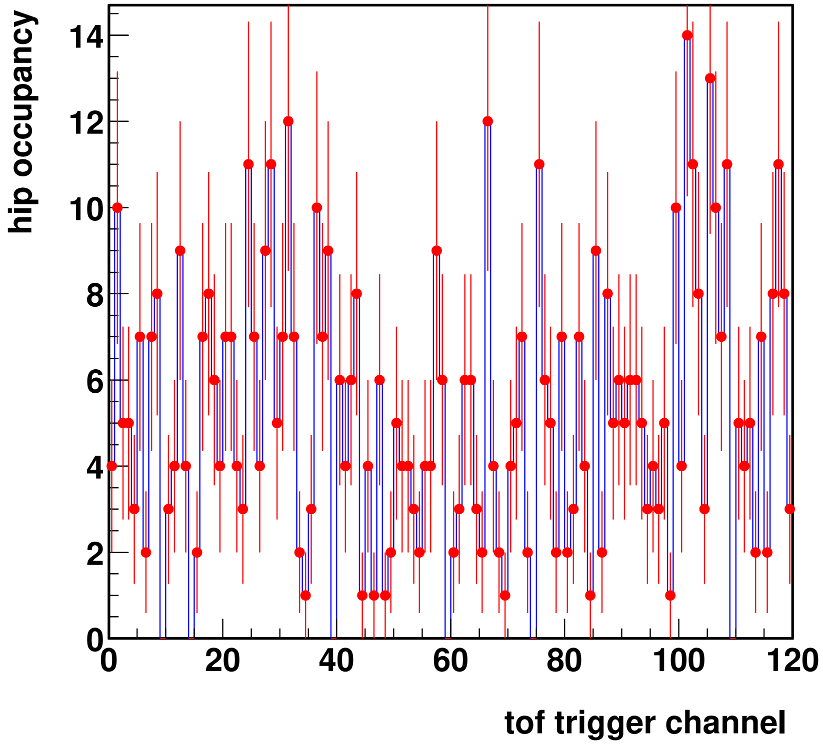
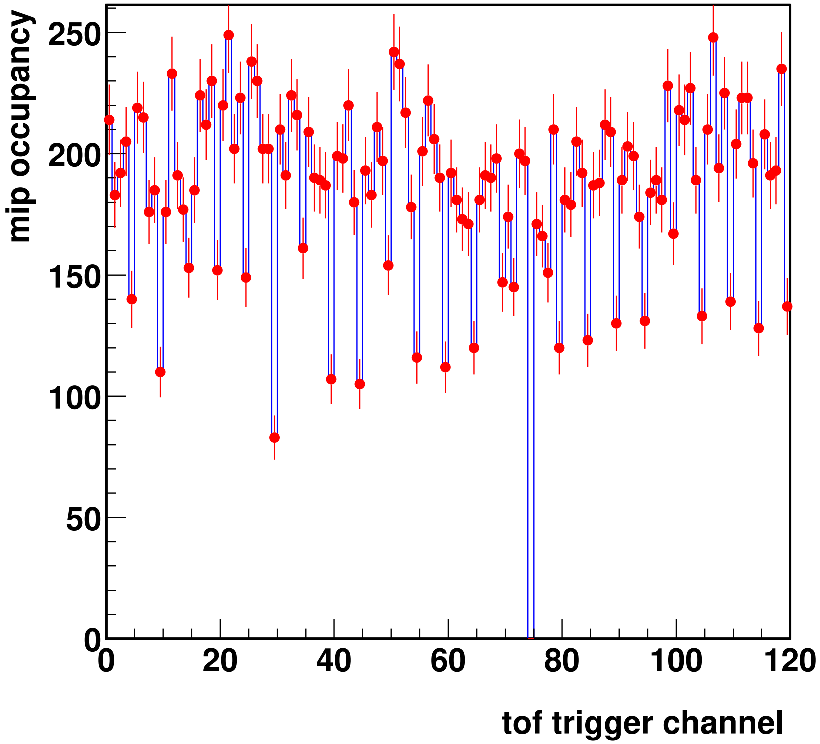
TOF Trigger is working!

Hip Occupancy:

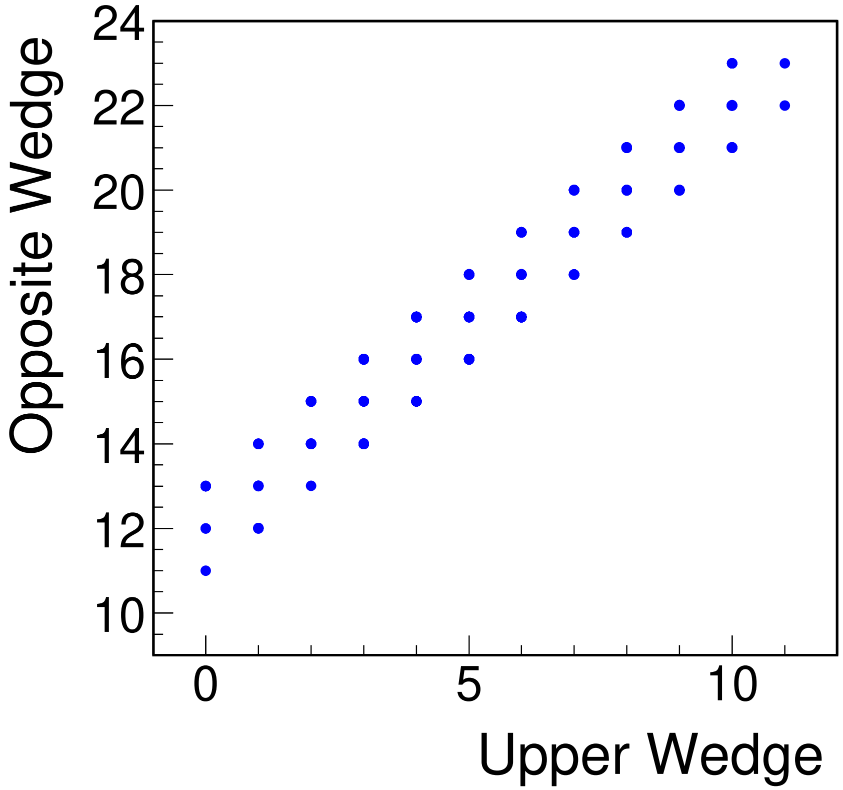


Mip Occupancy:



Perfect agreement between data and emulation.

Cosmics Too!

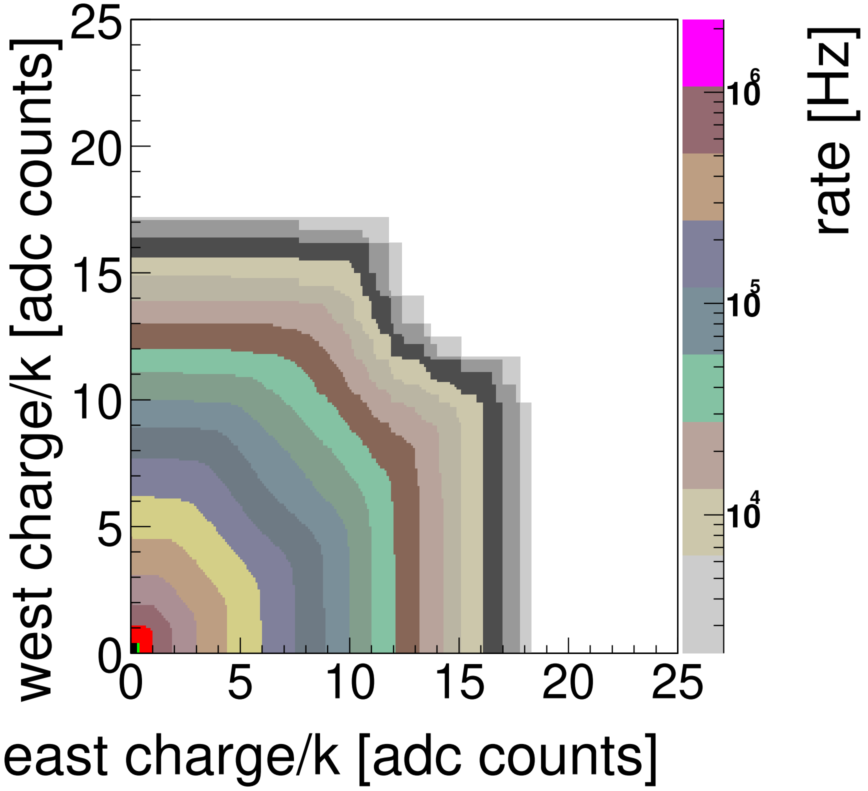


- Require back-to-back MIP hits, with one 15° wedge of tolerance.
- Data shows lower versus upper wedge for trigger events with only two hits.

EFTR: use modular arithmetic to explain where the "missing" point went.

TOF Trigger Calibration

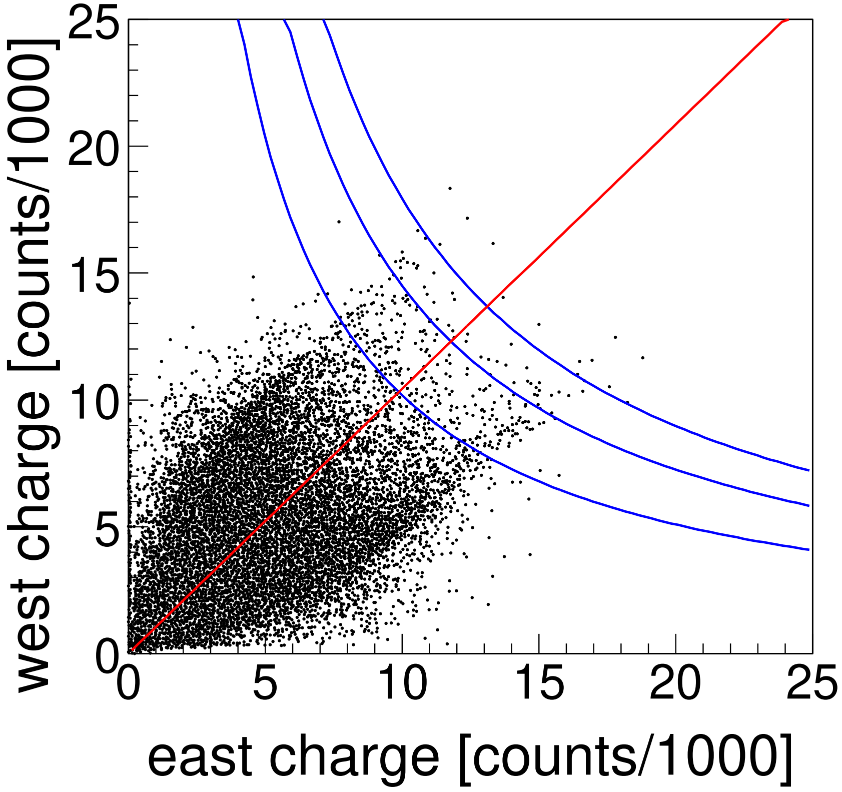
Trigger Rate



- equalize rate in each channel
- democratic choice of east and west threshold.
- not enough min-bias to get all the way.

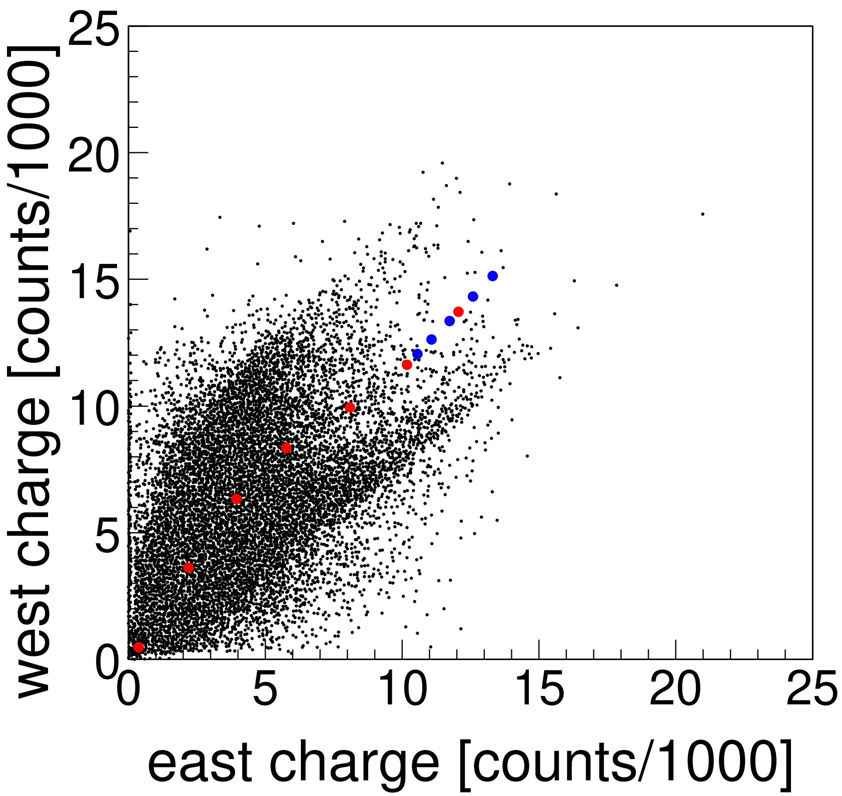
New Coordinates

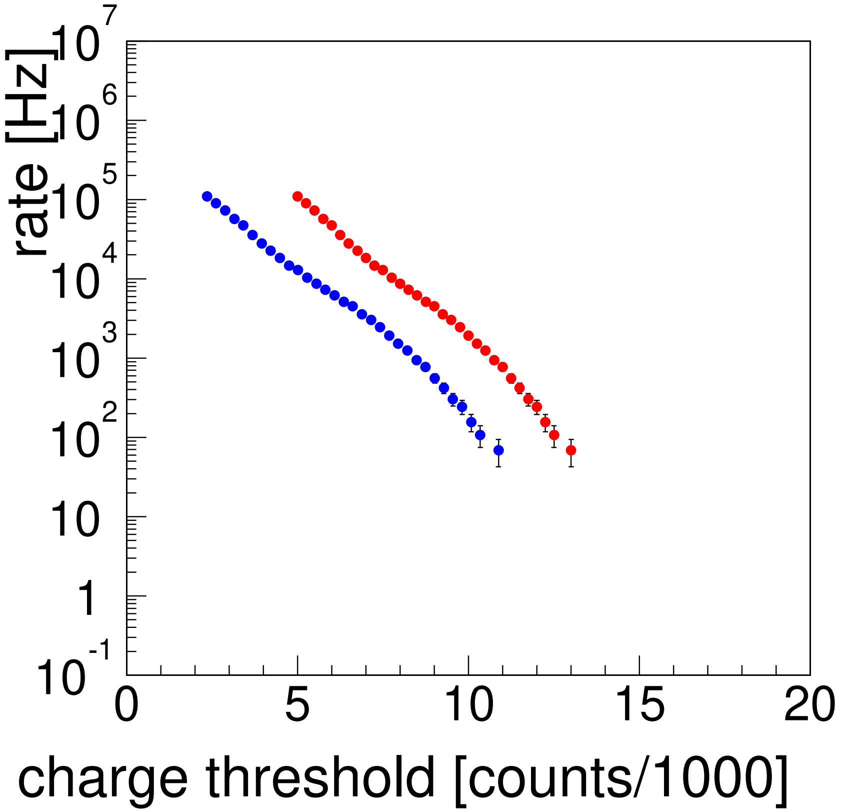
MinBias Bar 0



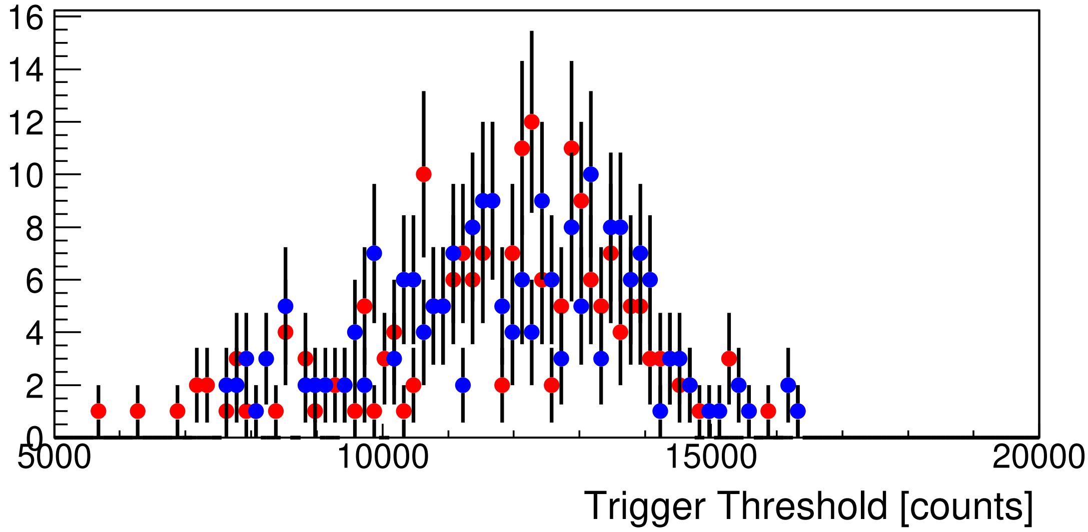
- Use new coordinates:
  - BLUE: $Q_{sym} = \sqrt{Q_e Q_w}$
  - RED: $\phi = tan(Q_w/Q_e)$
- Q_{sym} controls rate
- ϕ controls E-W ratio.
- ϕ is Q_{sym} dependent for some channels (non-linearity in electronics).

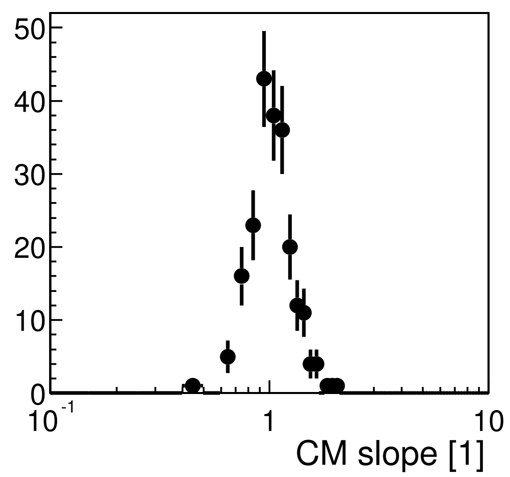
Center Of Mass Algorithm

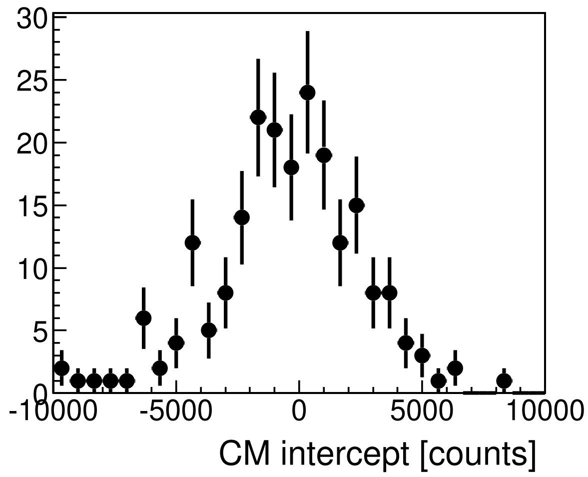




Results

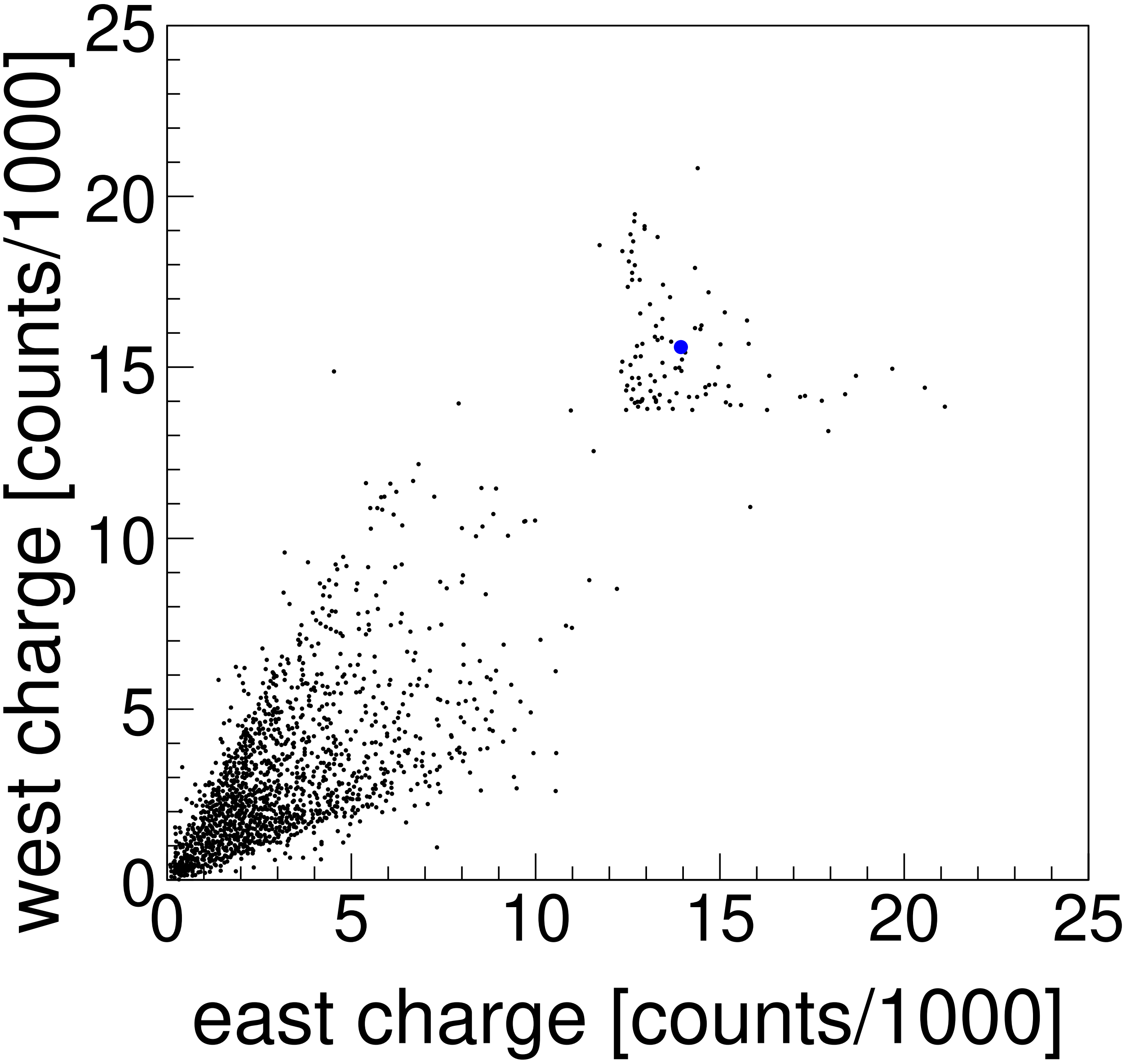






Used in Run 164250

Tuning



west charge [counts/1000]
east charge [counts/1000]
0
5
10
15
20
25