

Update on CAL FHE study

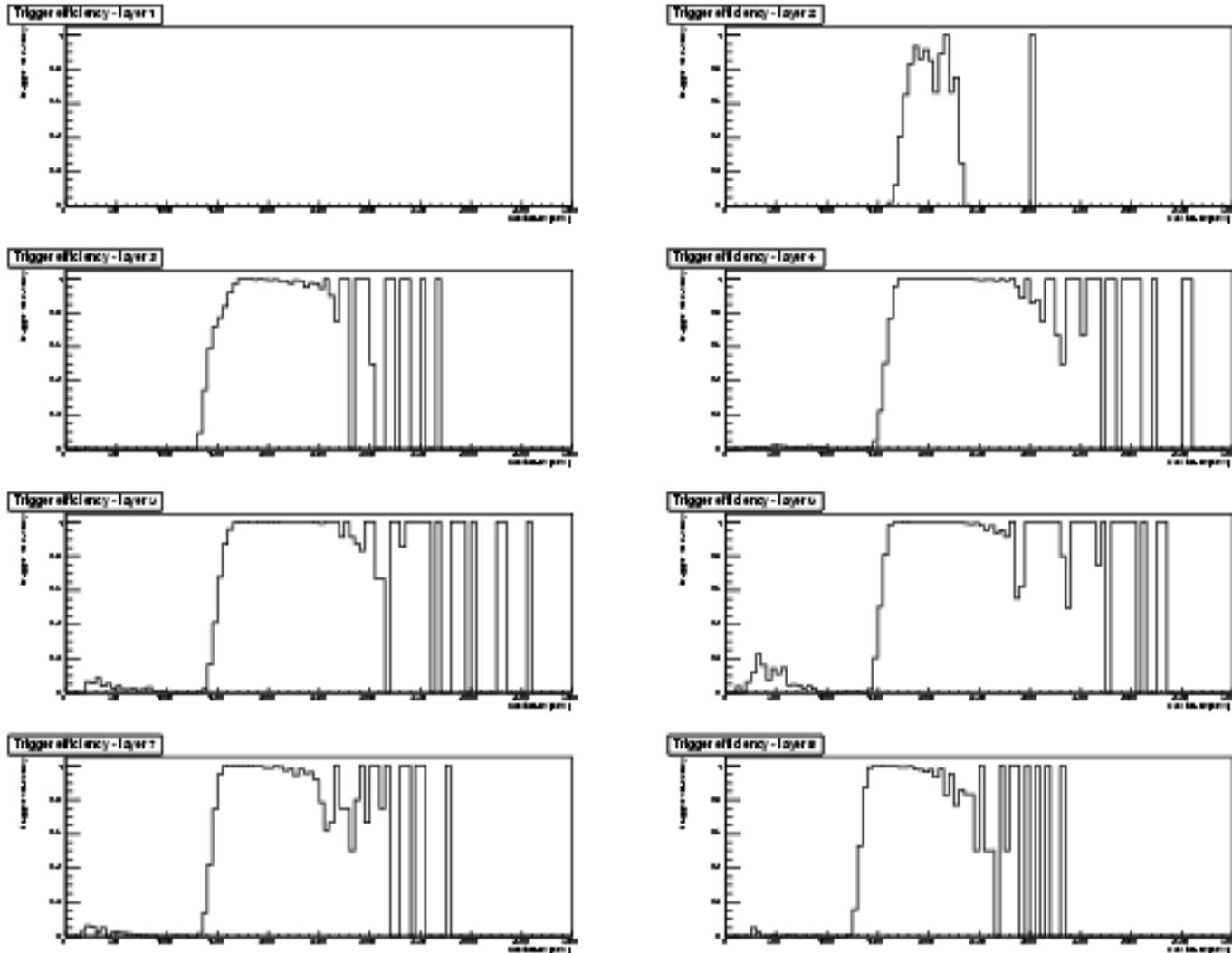
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KTH/SLAC

History

- During the SPS run we presented trigger efficiency calculated using TEM Diagnostics
- CAUTION: NOT EXACTLY TRIGGER !!!
- (CalReq[twr][lay][end]: OR. of trigger requests send in one layer)
- We chose to plot vs. max(CalXtalEne[twr][lay][log][end])

20 GeV, Thr: 1 GeV (2174)

FHE Trigger efficiency



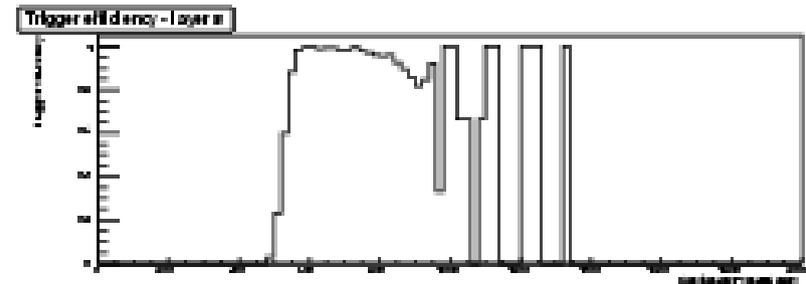
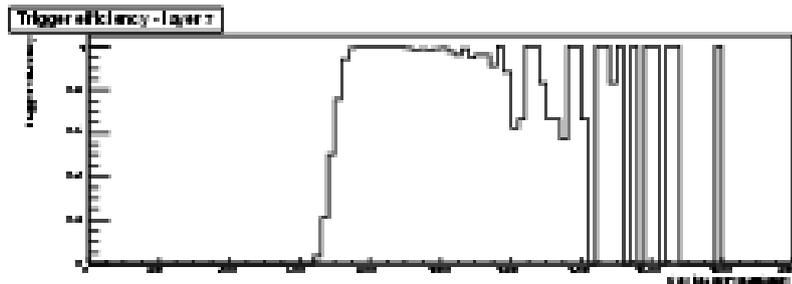
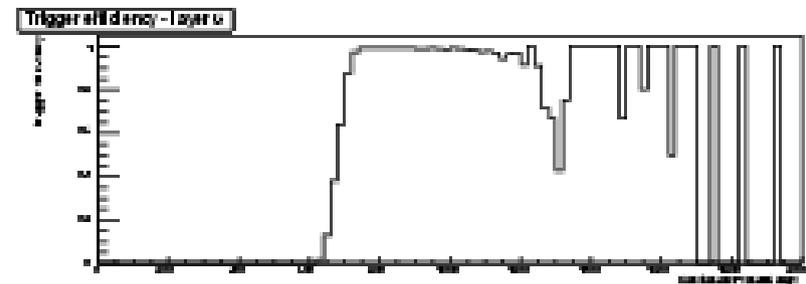
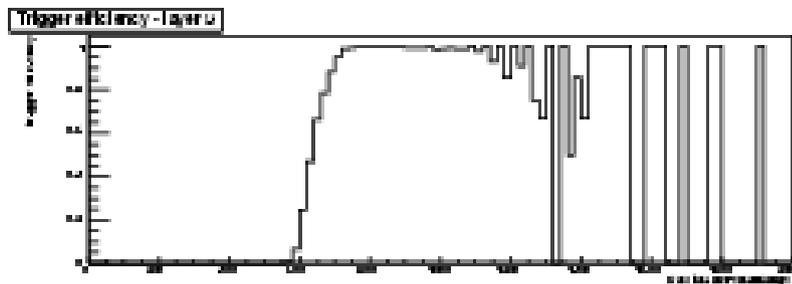
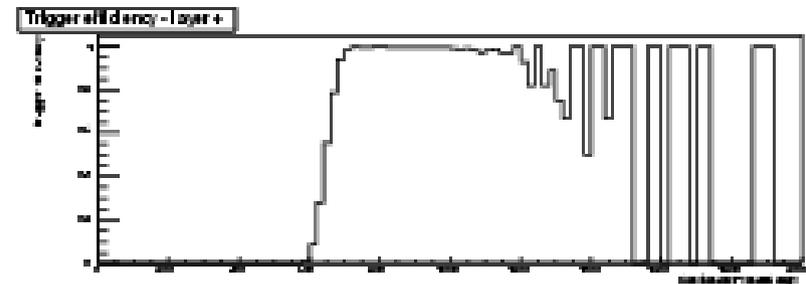
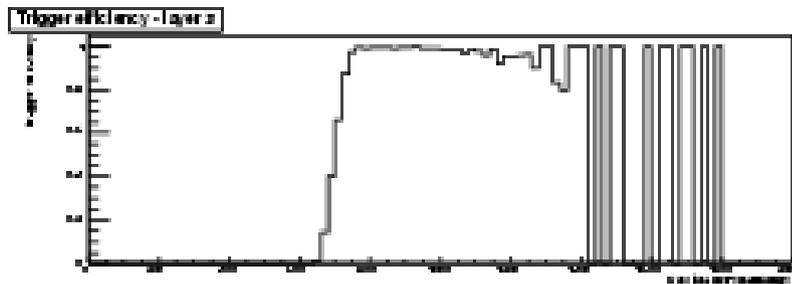
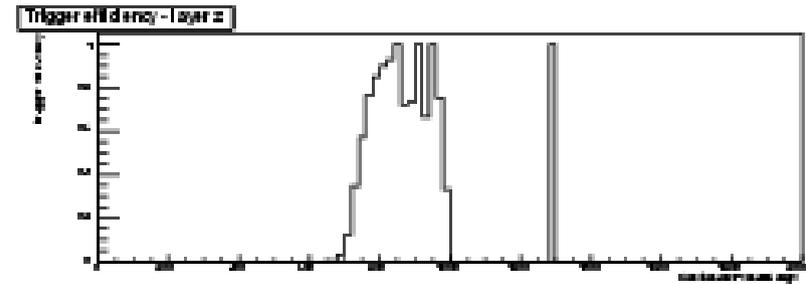
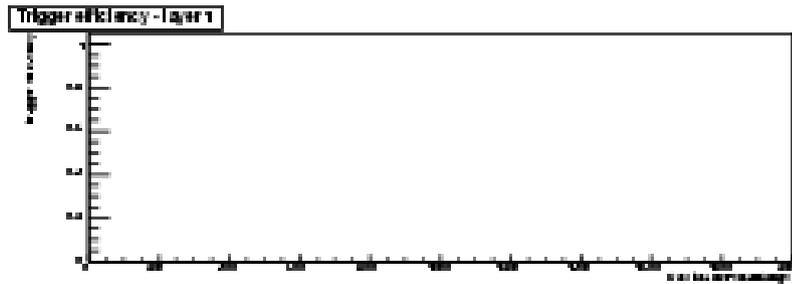
CalXtalFaceSignal

Why events below threshold ?

- Jan: Software problem ? We are using CalXtalEne, maybe sometimes this variable gets assigned incorrectly
- Sasha: could be a problem of the pile-up
- --> Look at ADC values instead

20 GeV, Thr: 1 GeV (2174)

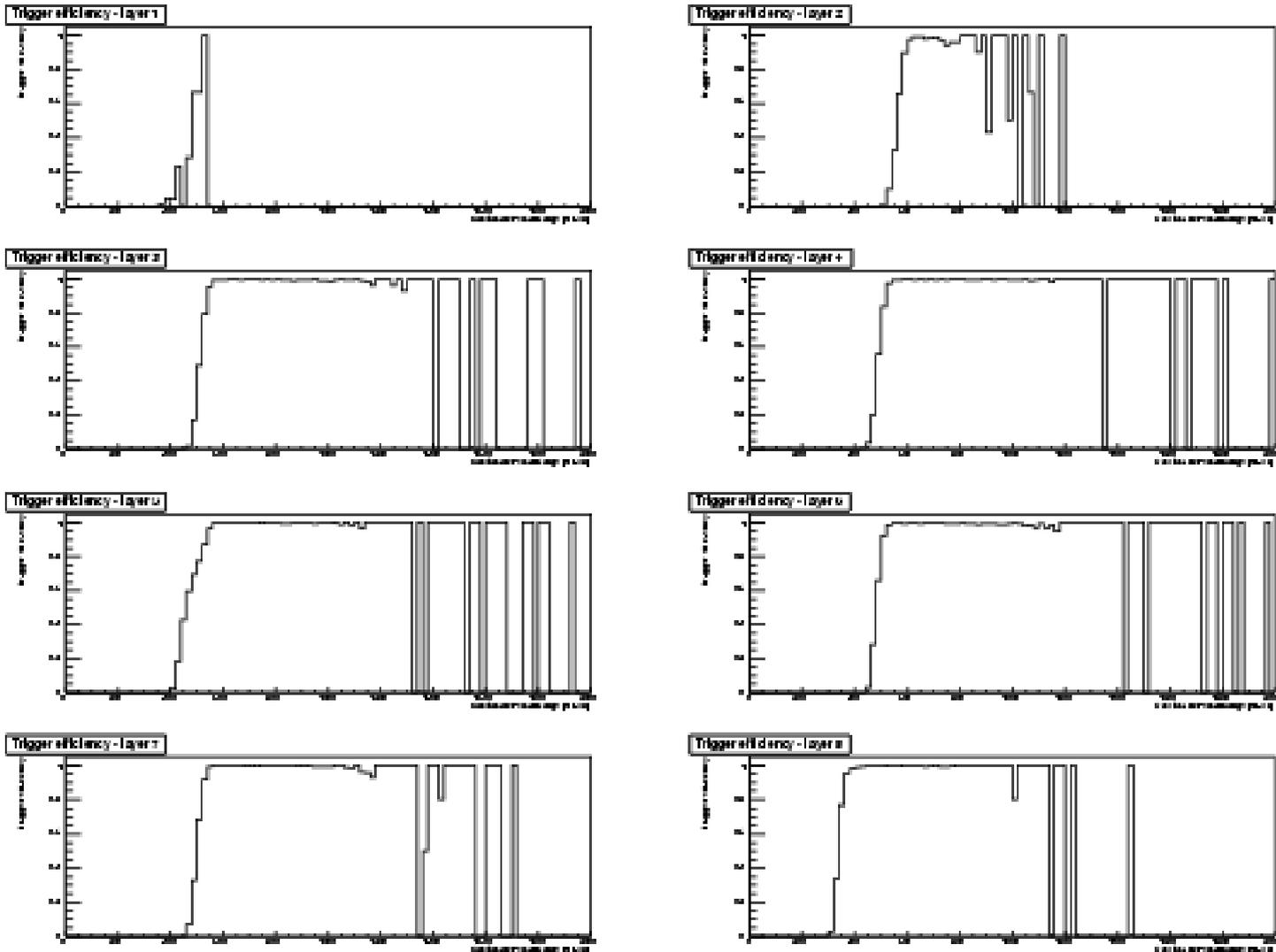
FHE Trigger efficiency



ADC (HEX8)

20 GeV, Thr: 0.75 GeV (2173)

FHE Trigger efficiency



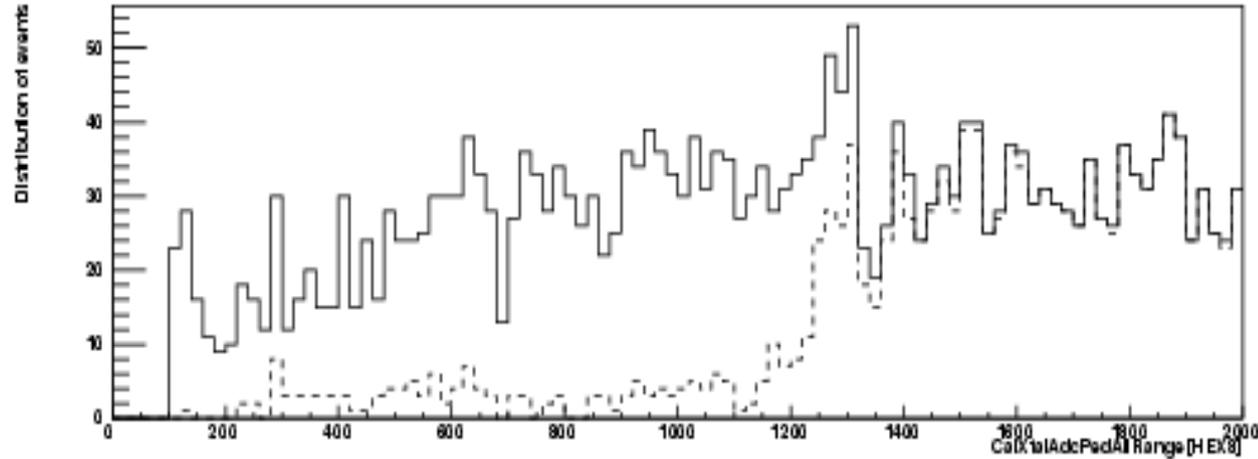
ADC (HEX8)

282 GeV, Thr: 1.5 GeV (1967)

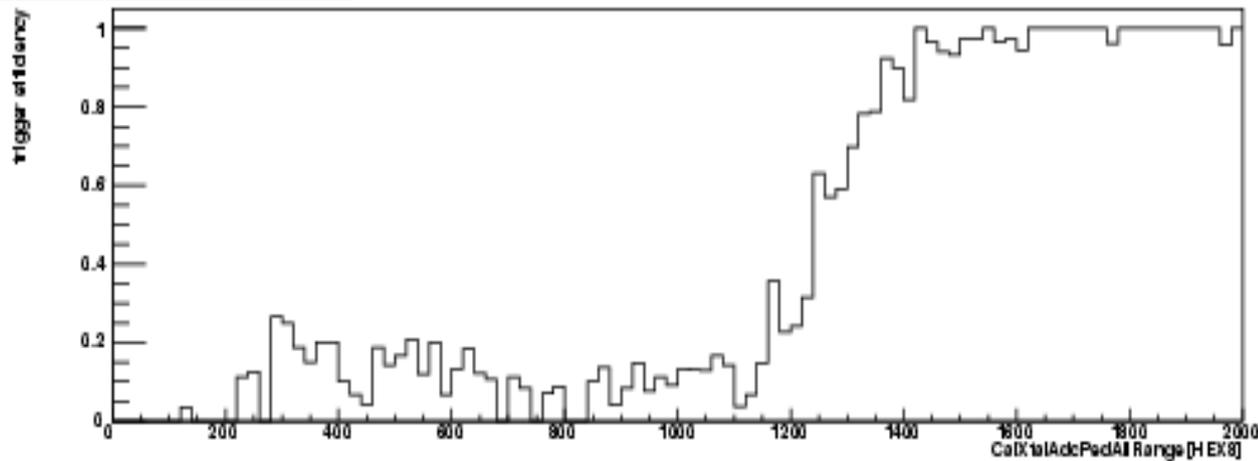
Layer 5

FHE Trigger efficiency

All events vs. triggering events - layer 5



Trigger efficiency - layer 5



ADC (HEX8)

Summary

- For the 282 GeV runs, events exist where a CAL FHE trigger is issued, but they seem to be below threshold (Is that we are using TEM diagnostics enough, or is Sasha right ?)
- For 20 GeV runs, this is not the case.
- Run wise summary:
 - 282 GeV: 1952 ok, 1953-1958: (> layer 5) (tower 2)
 - 282 GeV: 1964,1966,1967,1970 (> layer 5) (tower 3)
 - 20 GeV: 2172-2174 ok. 2175 (1.5 GeV), 2176 (2.GeV) low statistics