

High Intensity Run 11566 (Aug 2001)

Show & Tell with Athena

Energy and particle type: 120 GeV pions

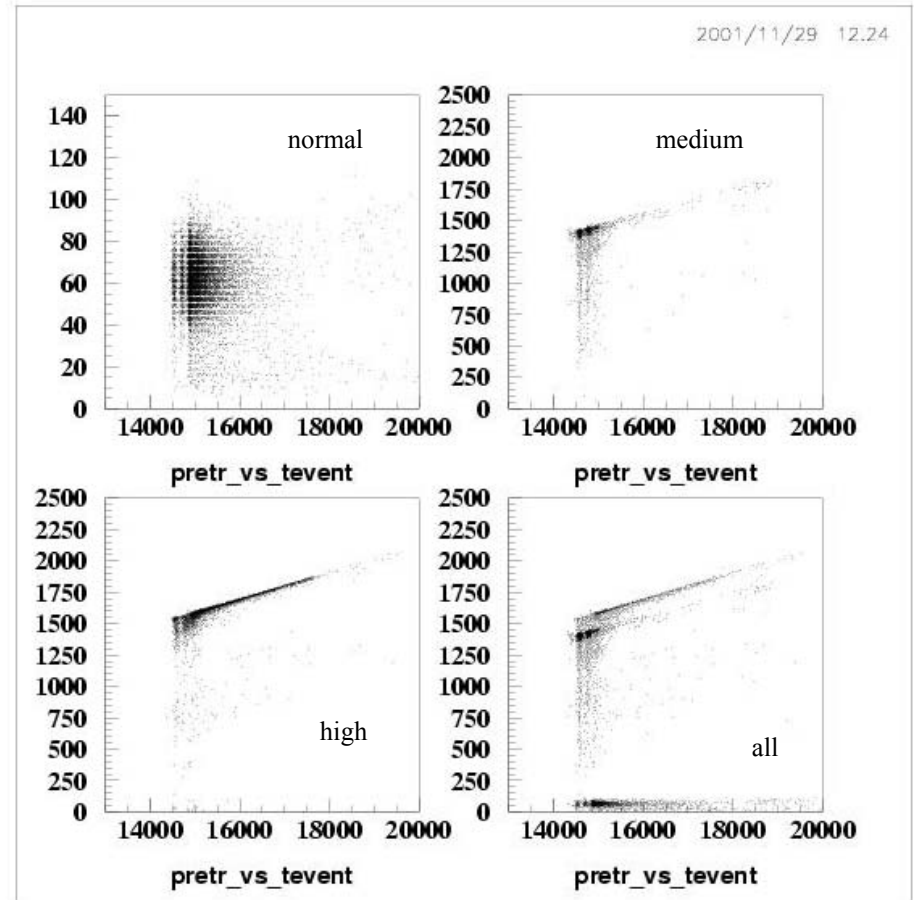
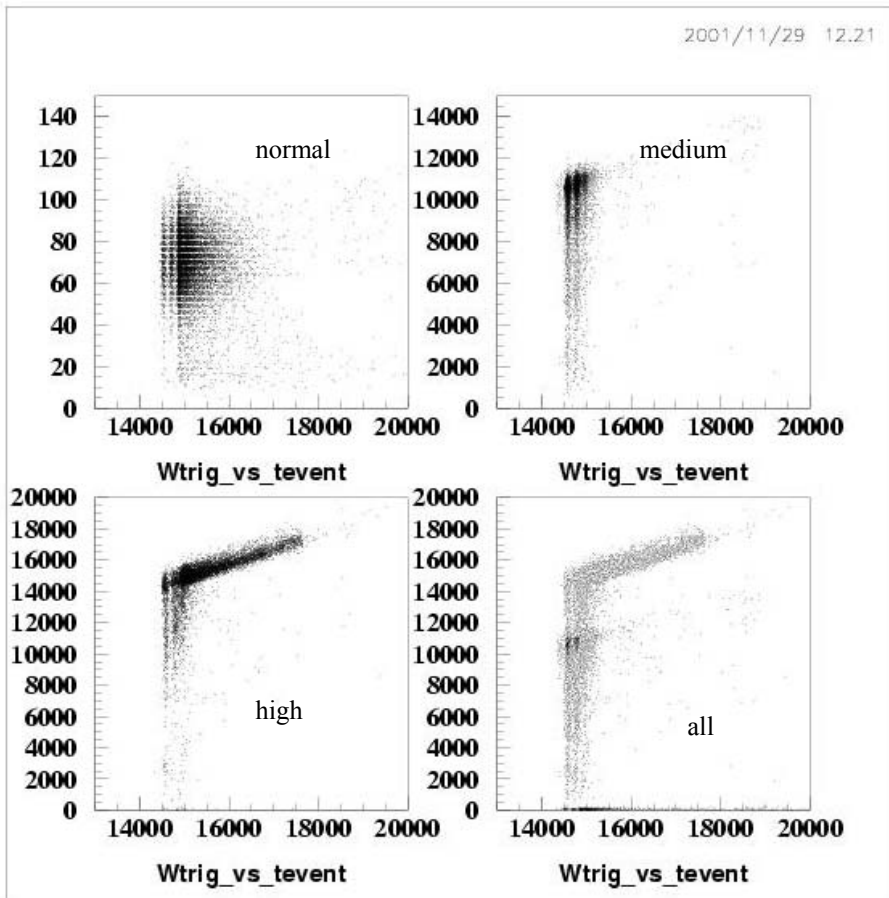
Impact point: H

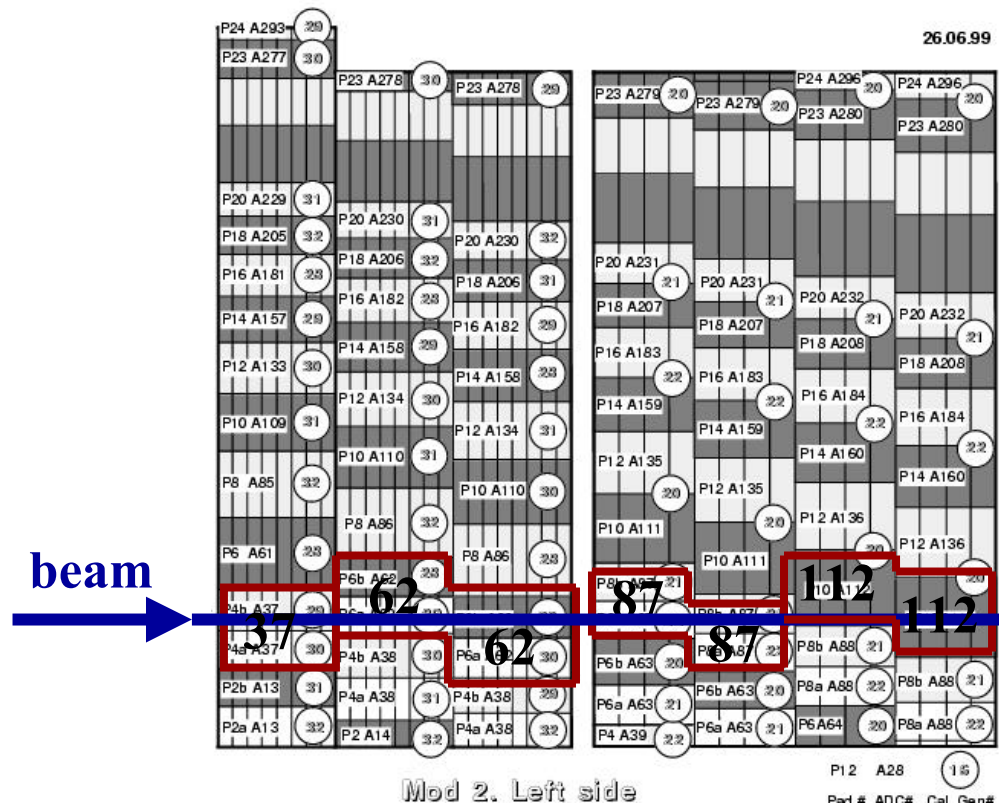
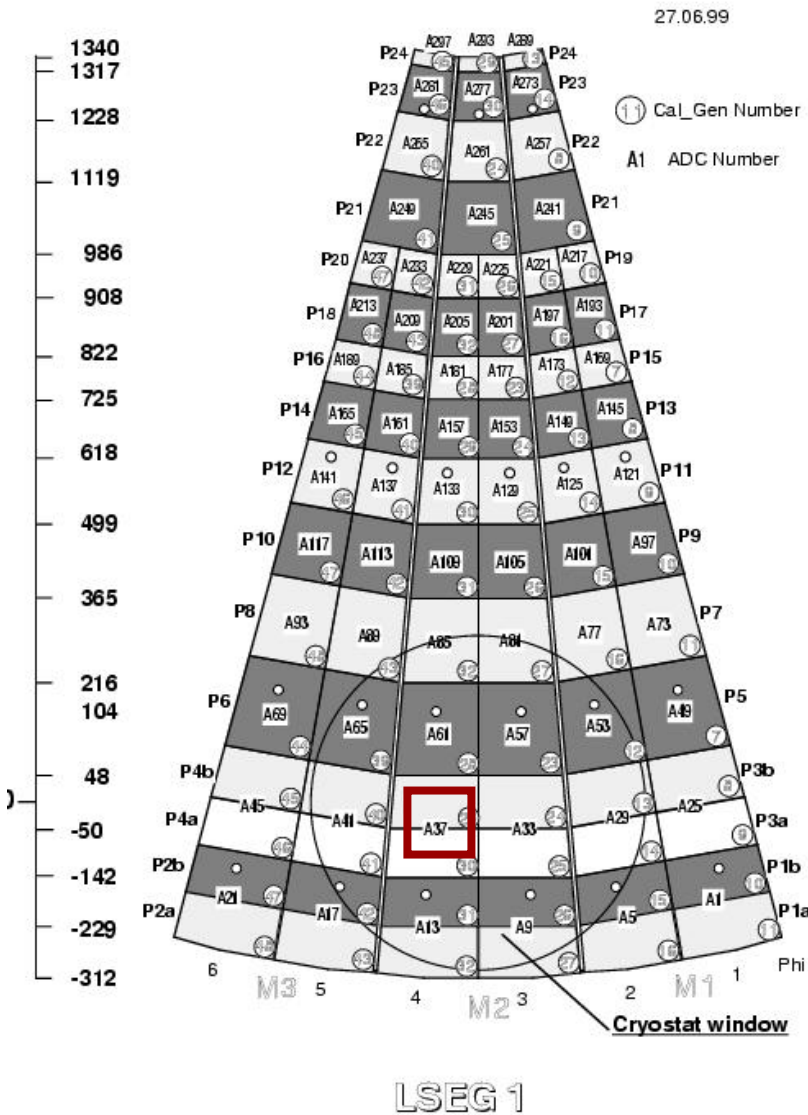
10^7 W triggers / spill

Look at ADC pulse-heights and time-slices.

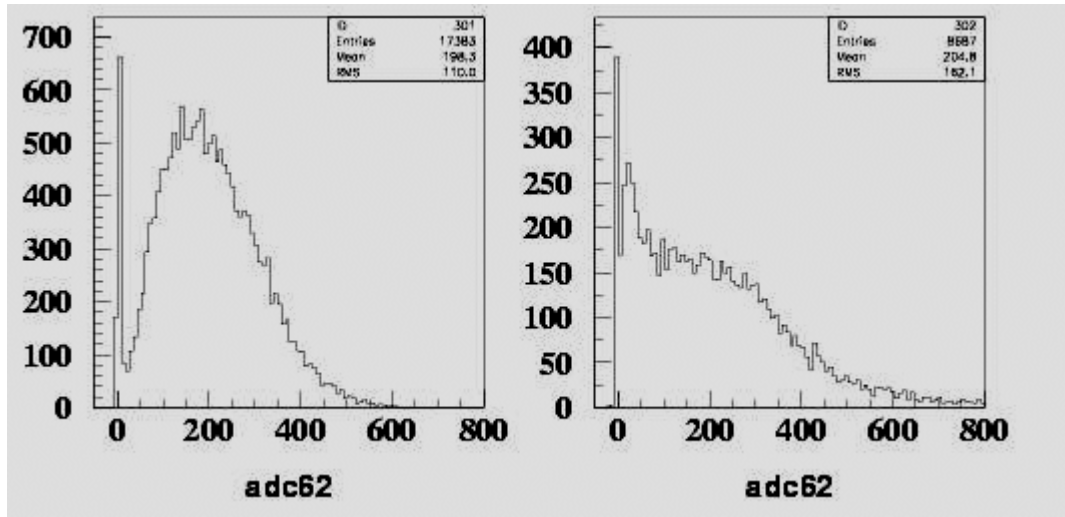
Use Athena framework to read the data.

W and pre- triggers between two events for normal, medium and high intensity runs. Plotted are the number of triggers between two events versus time [“ μ s”] elapsed between two events. (Note: Due to an inaccuracy of the clock it is: 1“ μ s” = 1.36 μ s)





For pions, ADC62 is where "the action" is



ADC peak height distribution of normal intensity run (11555)

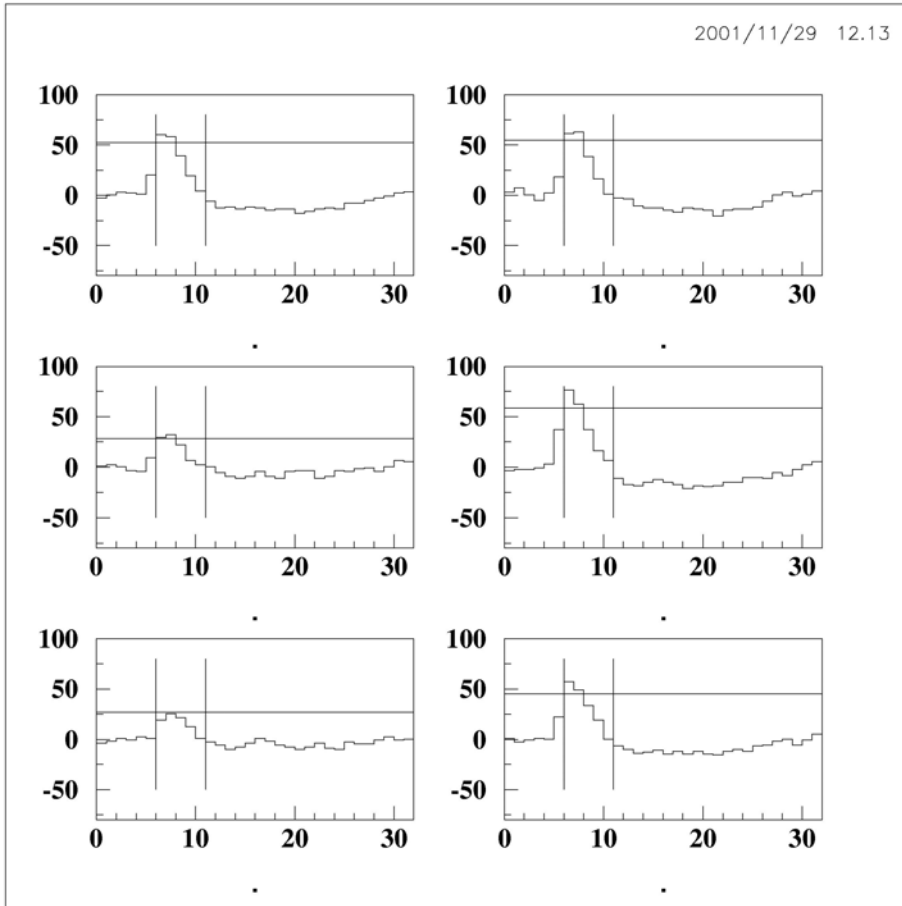
ADC peak height distribution of high intensity run (11566)

N.B.: All distributions of this talk (unless specifically mentioned) contain physics triggers only.

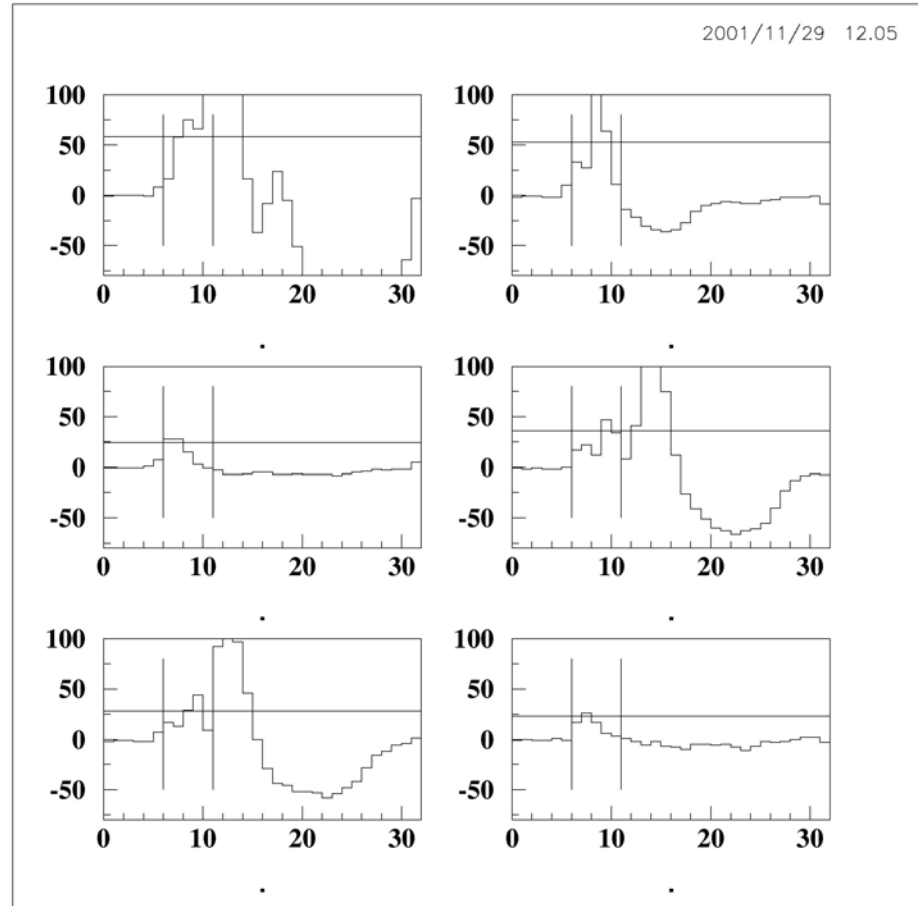
20 ADC channels < Peak height < 60 ADC channels

Pulse-height distribution (in ADC channels) versus 32 time samples of ADC62.

The vertical lines indicate the region used for digital filtering,
the horizontal line indicates the peak height found with digital filtering.



6 events at normal intensity

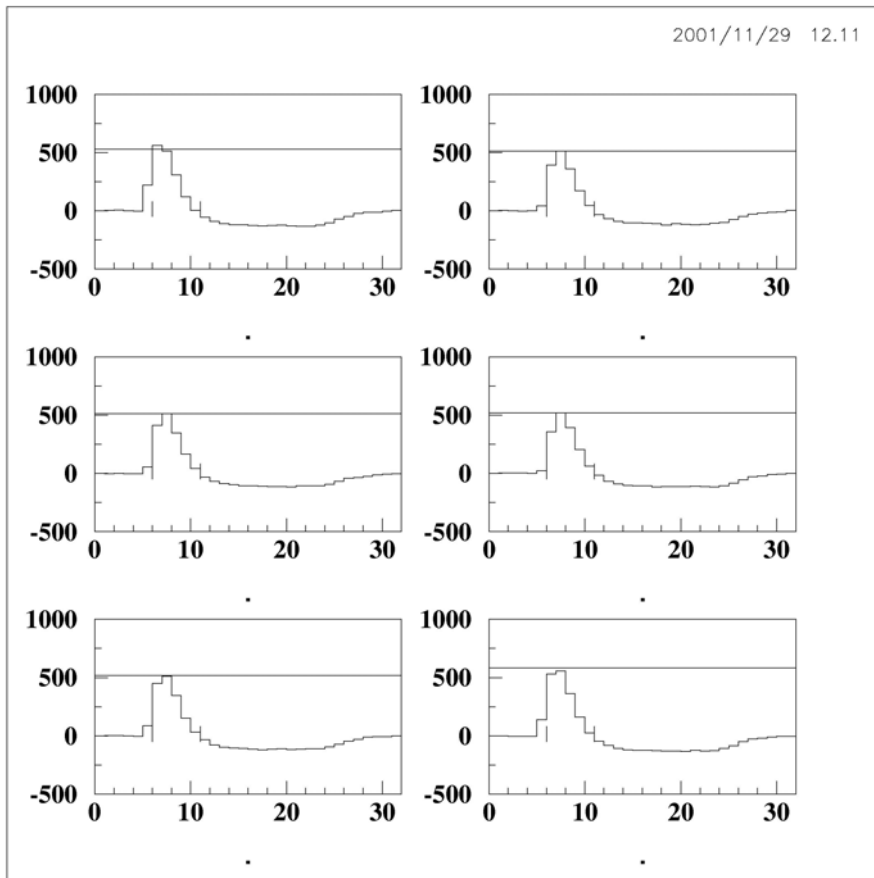


6 events at high intensity

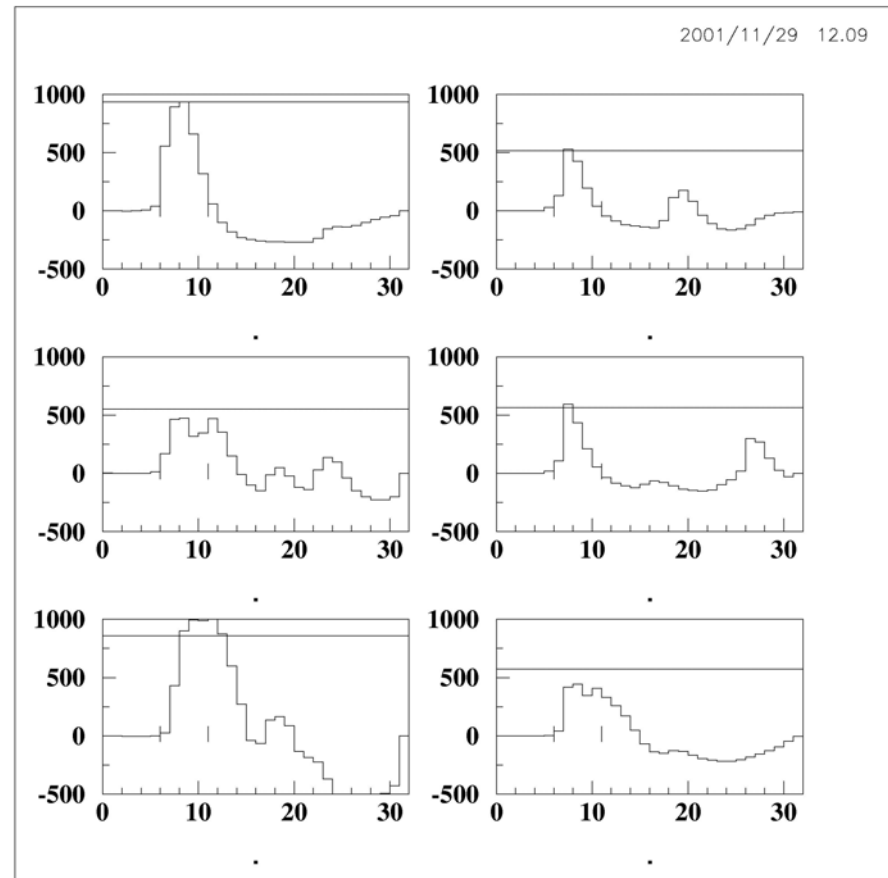
Peak height > 500 ADC channels:

Pulse-height distribution (in ADC channels) versus 32 time samples of ADC62.

The vertical lines indicate the region used for digital filtering,
the horizontal line indicates the peak height found with digital filtering.

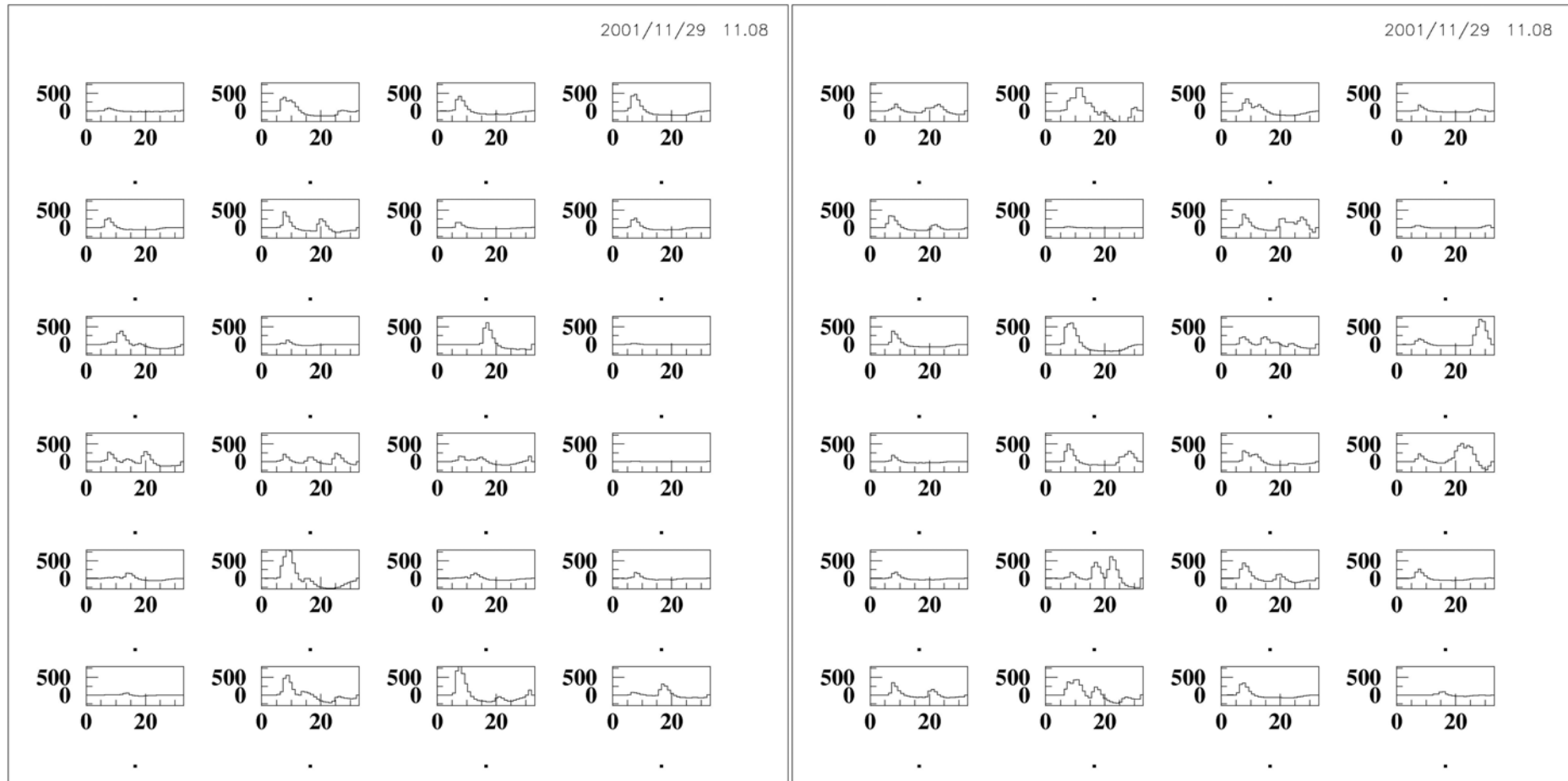


6 events at normal intensity

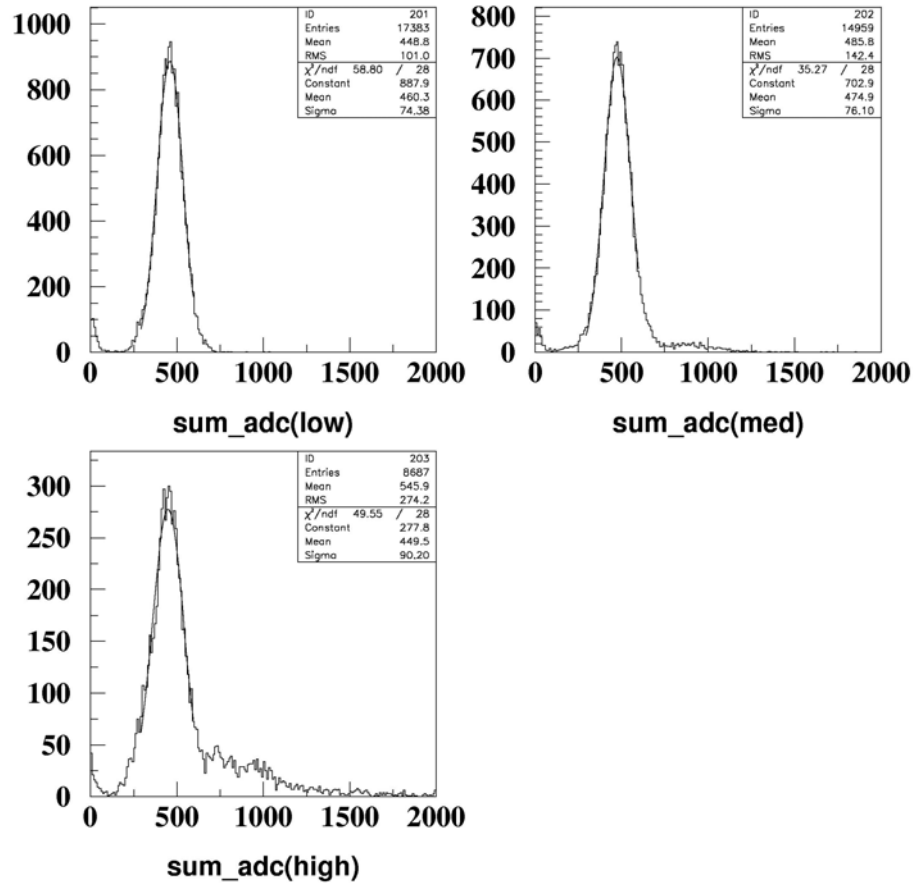


6 events at high intensity

Pulse-height distribution (in ADC channels) versus 32 time samples of ADC62.
Shown are the first 48 events of run 11566 (all triggers)



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Distribution of the sum of ADC channels for normal, medium and high intensity runs.

Conclusions:

Multiple signals are present within the 32 time-slices for a large fraction of the events.

The HEC testbeam converter package (LArHECTBCnv, LArHECTBAna, LArHECTBPed) works well for reading the testbeam data.

Time slices can be extracted as well as signal peaks found with digital filtering method.