# HV configuration (update)

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Time of Flight meeting

Sep 6, 2001

# Analyzed data

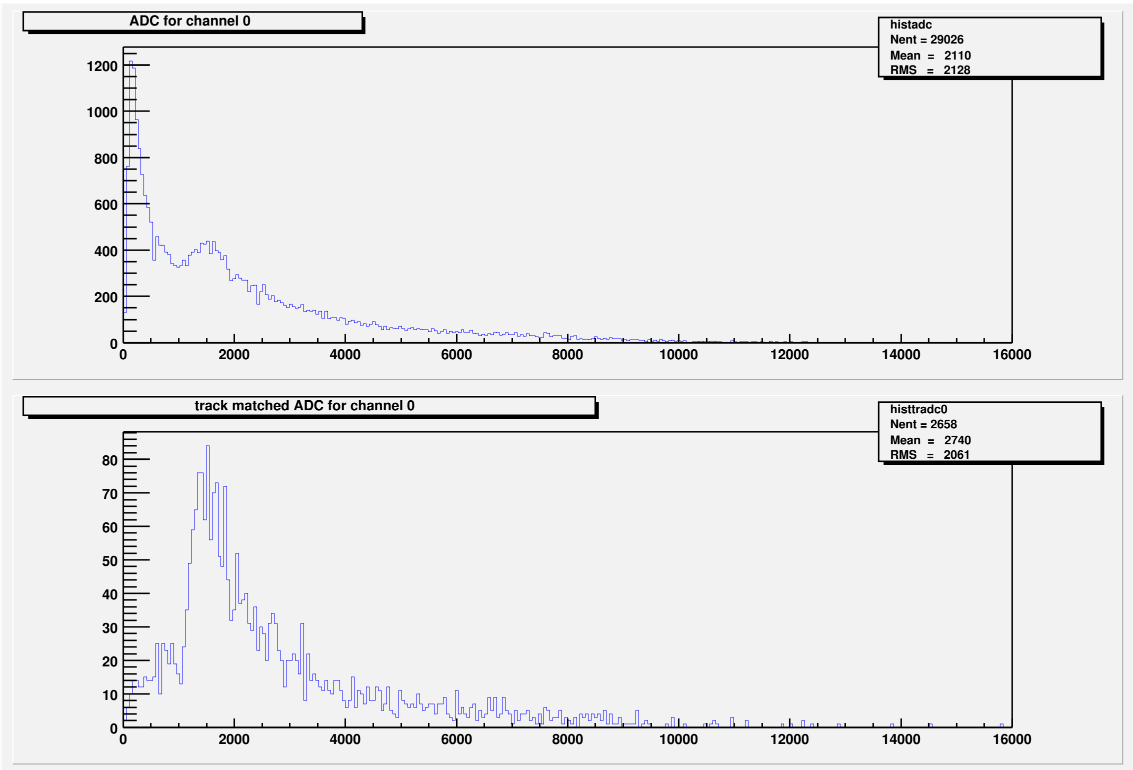
J-stream data placed in Look Area.

| Data taking period | run numbers | num. of events | assumed gain |
|---|---|---|---|
| Aug 13 - Aug 22 | 123620 - 124476 | 200k | $0.3 \times 10^5$ ⋆1 |
| Aug 28 - Sep 2 | 124958 - 125348 | 220k | $0.5 \times 10^5$ ⋆2 |

⋆1 : HV settings calculated from test stands data

⋆2 : HV settings calculated from test stands slopes and MIP peak from the gain = $0.3 \times 10^5$ runs

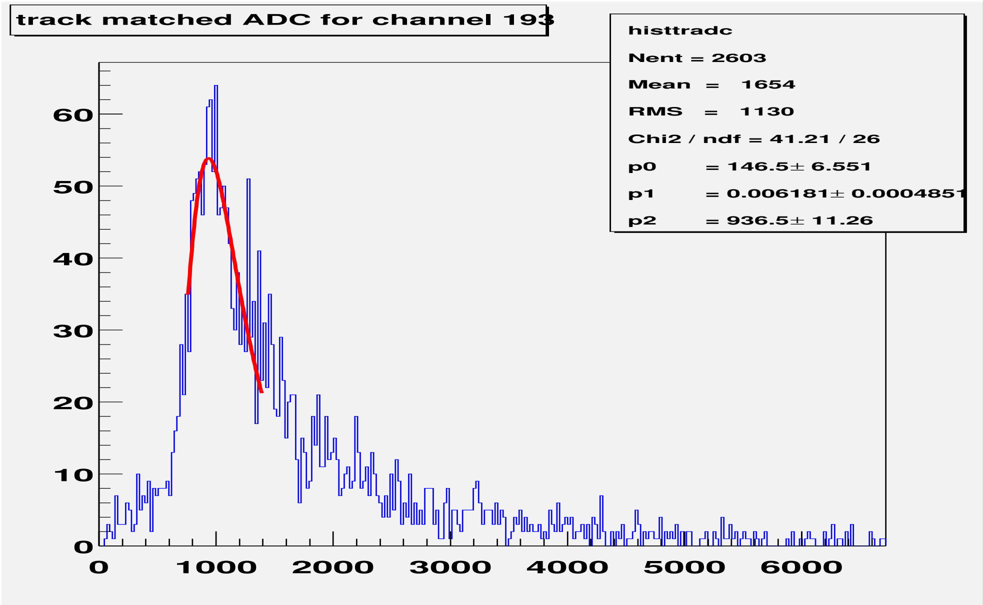
# ADC distributions (unit : counts)



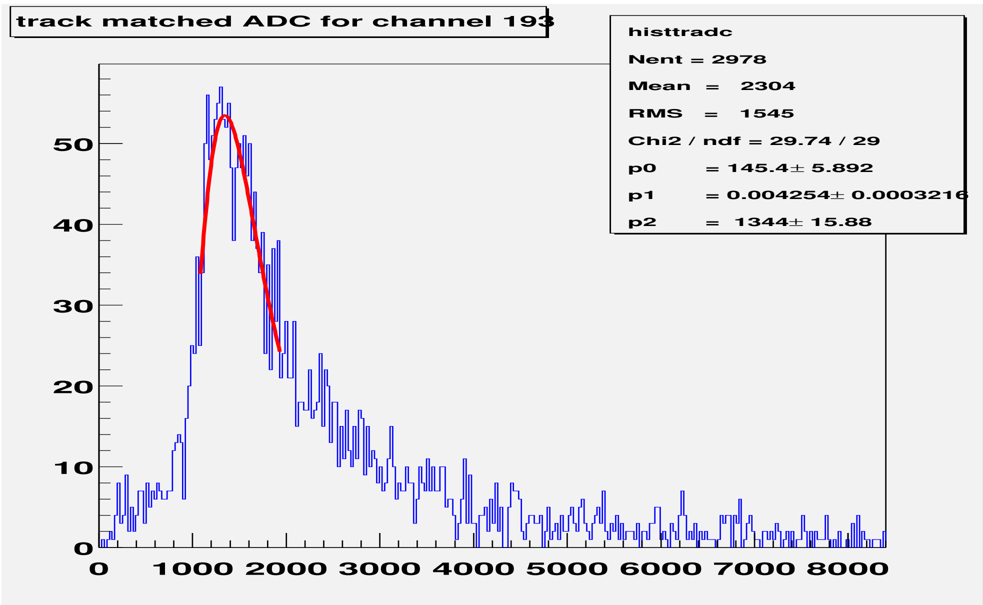

Top : require descriminator firing
Boittom : Track matched hits

ADC distributions fitted to Landau distribution (unit : counts)

gain $= 0.3 \times 10^5$



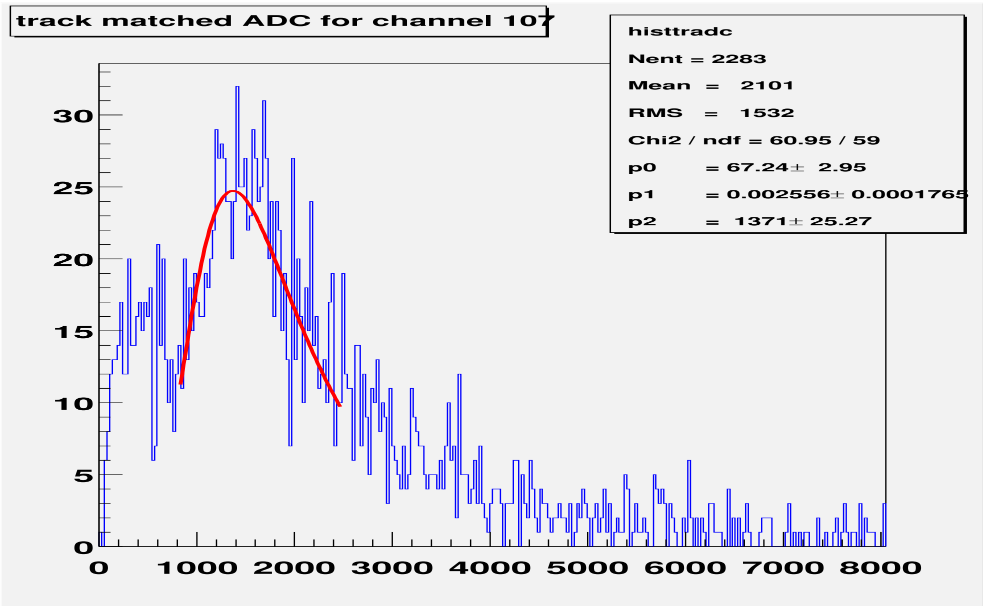

gain $= 0.5 \times 10^5$



## Some channels have background at low edge (unit : counts)

Especially for channels around 99 - 140 and 315 - 355.

gain $= 0.5 \times 10^5$



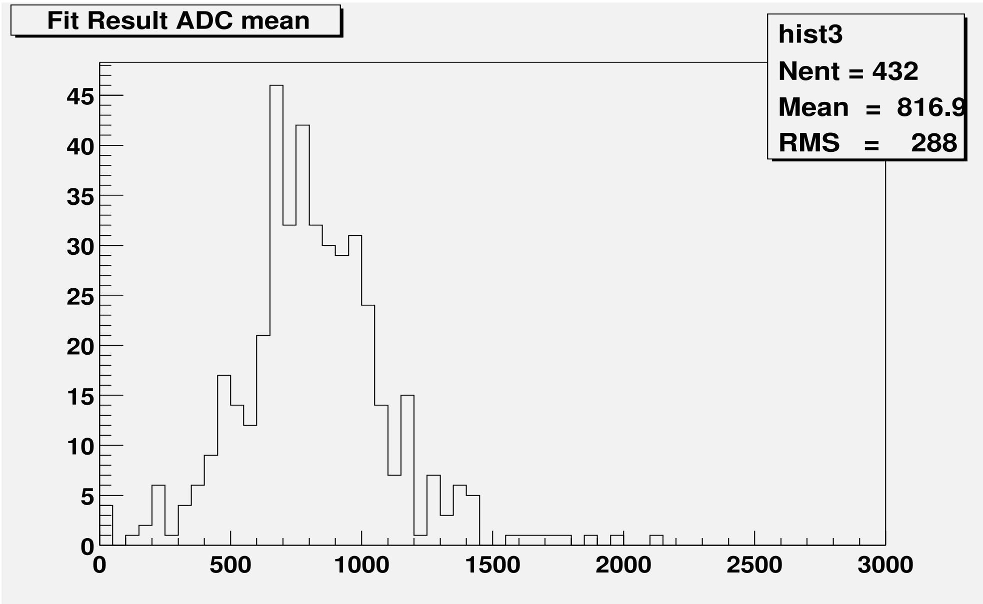

Using the naive geometry in trackmatching.

$\rightarrow$ Mismatching in geometry?

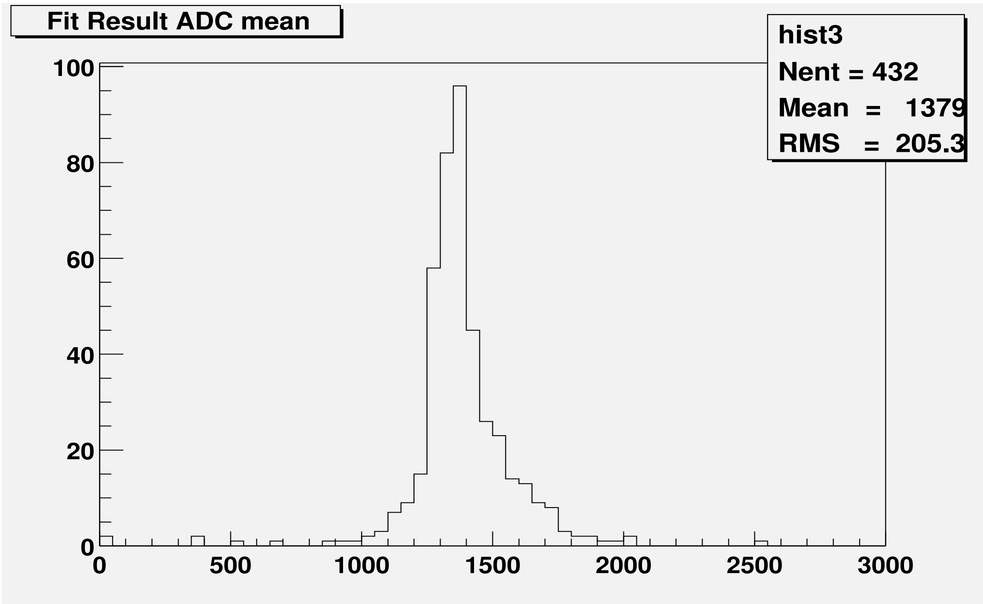
$\rightarrow$ Plan to tighten the cuts.

## Peak values from fittings

gain $= 0.3 \times 10^5$

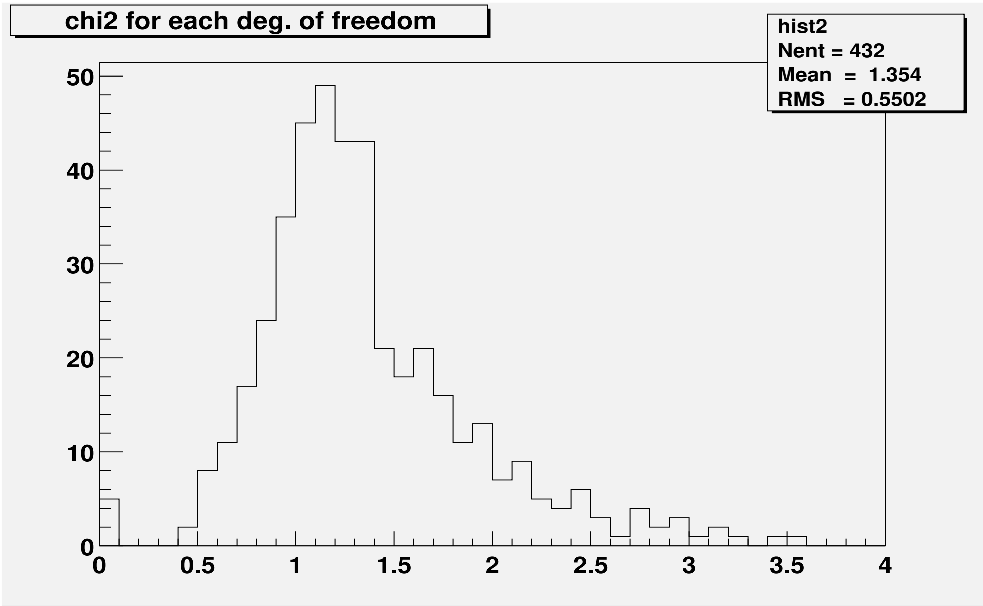



gain $= 0.5 \times 10^5$

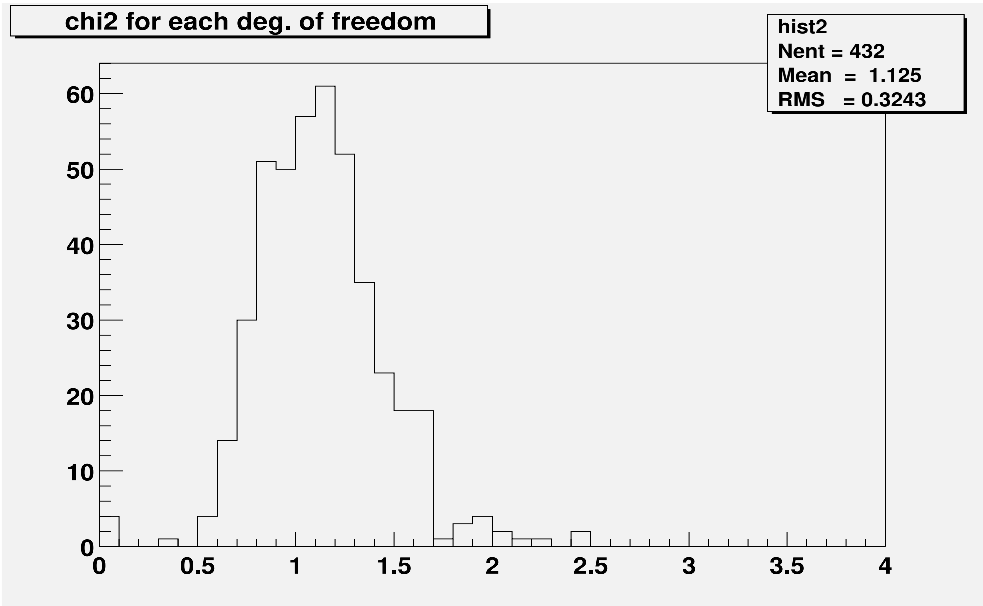


## $\chi^2$ of the fits

gain $= 0.3 \times 10^5$

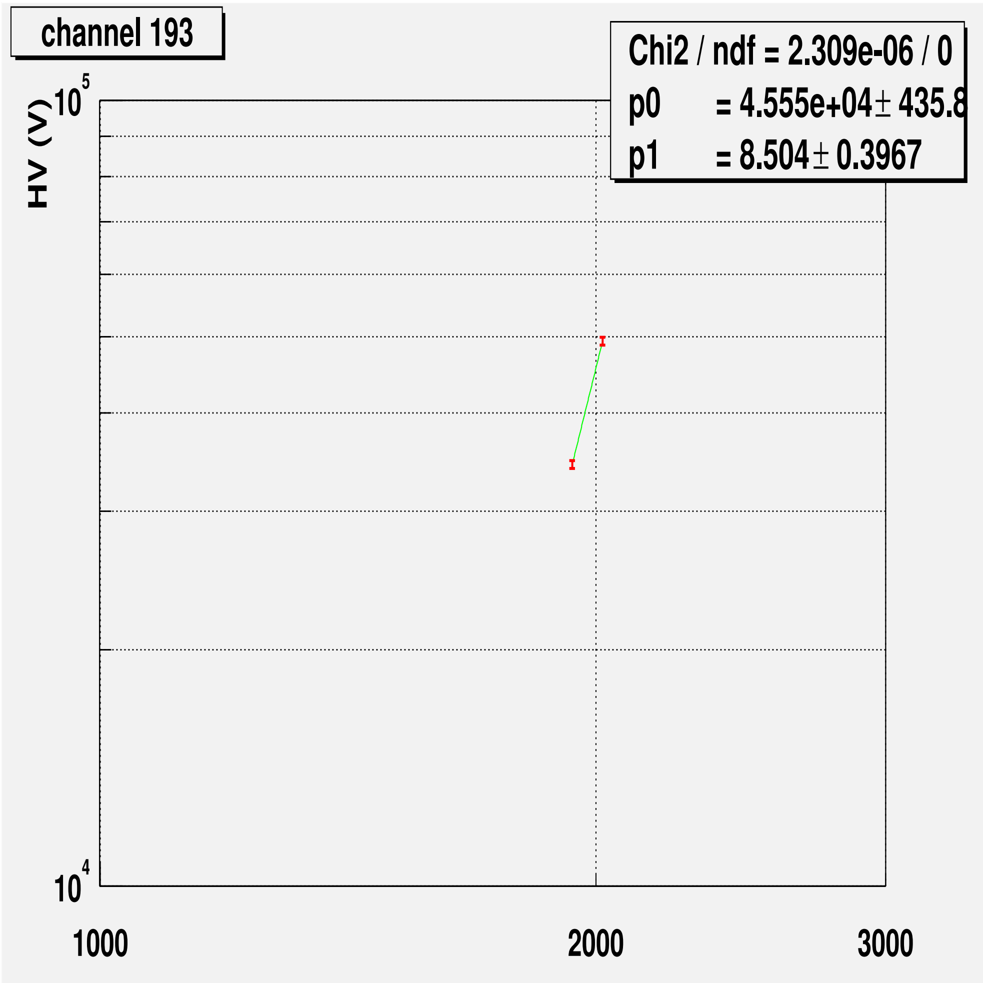



gain $= 0.5 \times 10^5$



# HV - gain curve

Here gain is defined such that mean of peak ADC values from mid. August data shoule correspond to $0.3 \times 10^5$.




From this curve, we can decide the HV settings.
Plan to make gain $= 0.3 \times 10^5$ setting file next.
$\rightarrow$ Hope to finish tonight.

# Next Plan

- Make gain $= 0.3 \times 10^5$ setting file next.
  $\rightarrow$ Hope to finish tonight.

- Refine the cut.
- Take into account Attenuation.