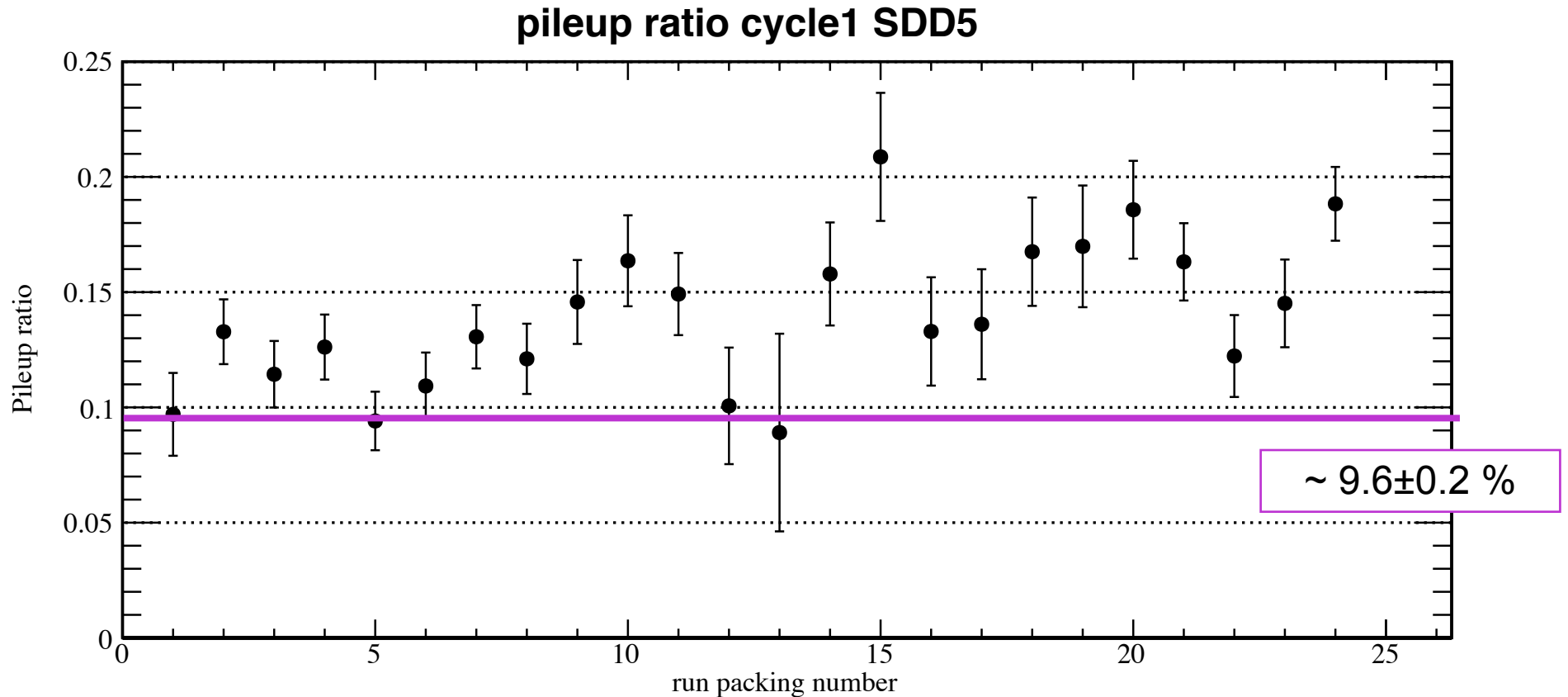


Pileup-intensity problem

This problem can be solved by a baseline-threshold matching

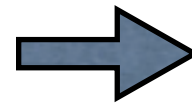
Previous problem

Fitted pileup intensity of SDD5 (1st) is too large



```
### pileup ratio ###  
Ti : 0.0940409 +- 0.00239866  
Ni : 0.0981728 +- 0.00228437
```

From FADC data



***Could be a threshold
misleading at the event
selection ?***

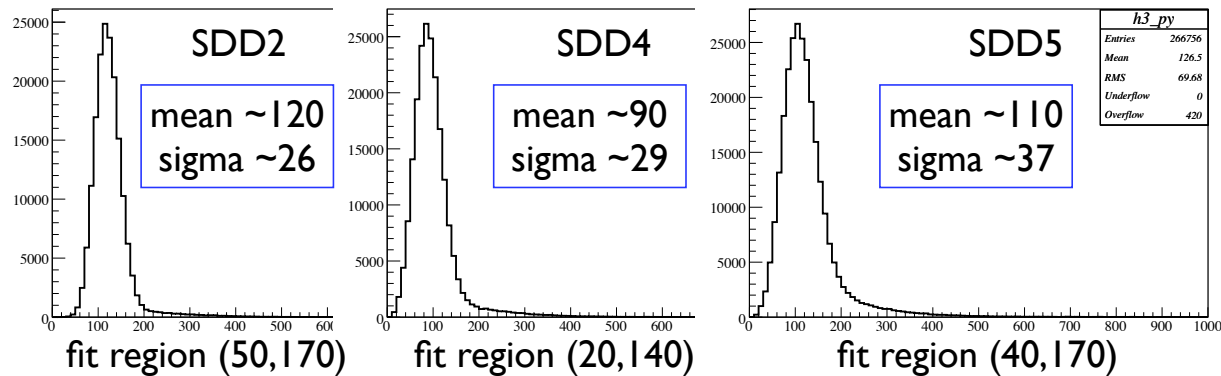
According to the report (13/Nov/2006), SDD5's baseline has ~1.3 times larger width.

Cuts for calibration triggered events

- TKO fout vs out correlation
- FADC main peak chisq cut $\leq 60k$.
- FADC post slope cut ≤ -0.015 .
- FADC pre pedestal cut $\leq \text{mean} + X * \text{sigma}$
(sigma is the standard deviation of the pedestal: SDD dependence)
 $X = 1.5, 2.0, 2.5, 3.0$ and 5.0

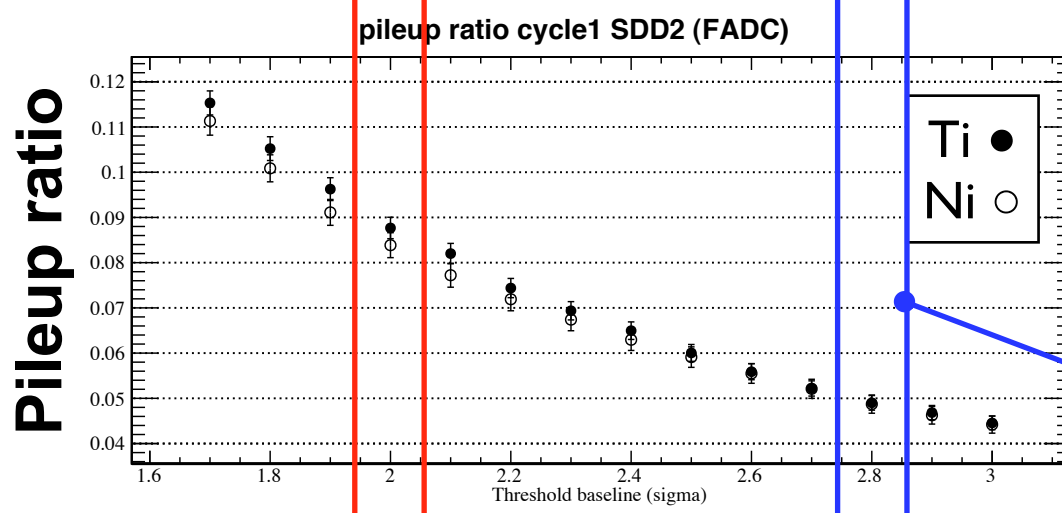
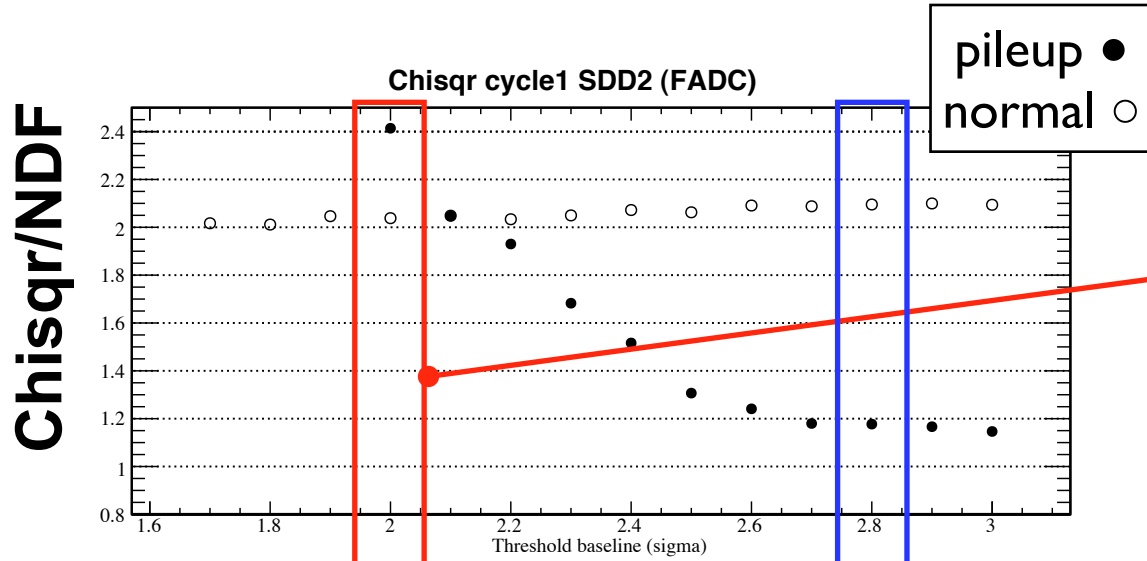
e.g. FADC pedestal: SDD2, 4 and 5

runpart-by-runpart fitting



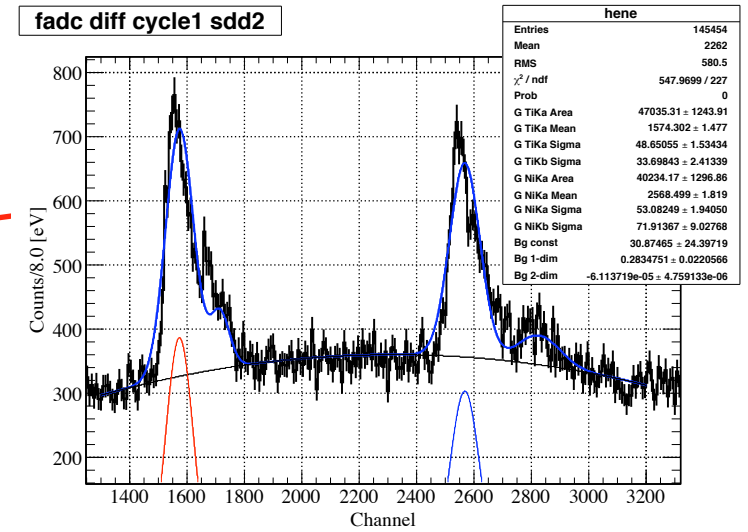
- ➔ The X (baseline threshold) may have a SDD dependence
- ➔ Performed X-sigma search !

X-sigma search (method)

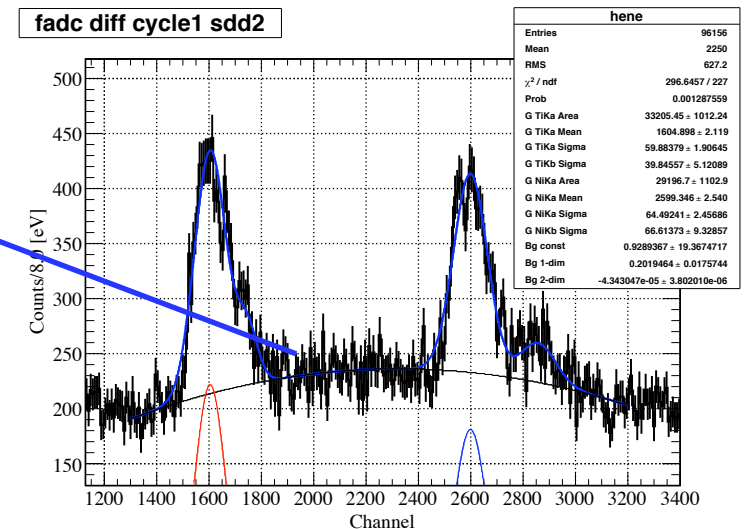


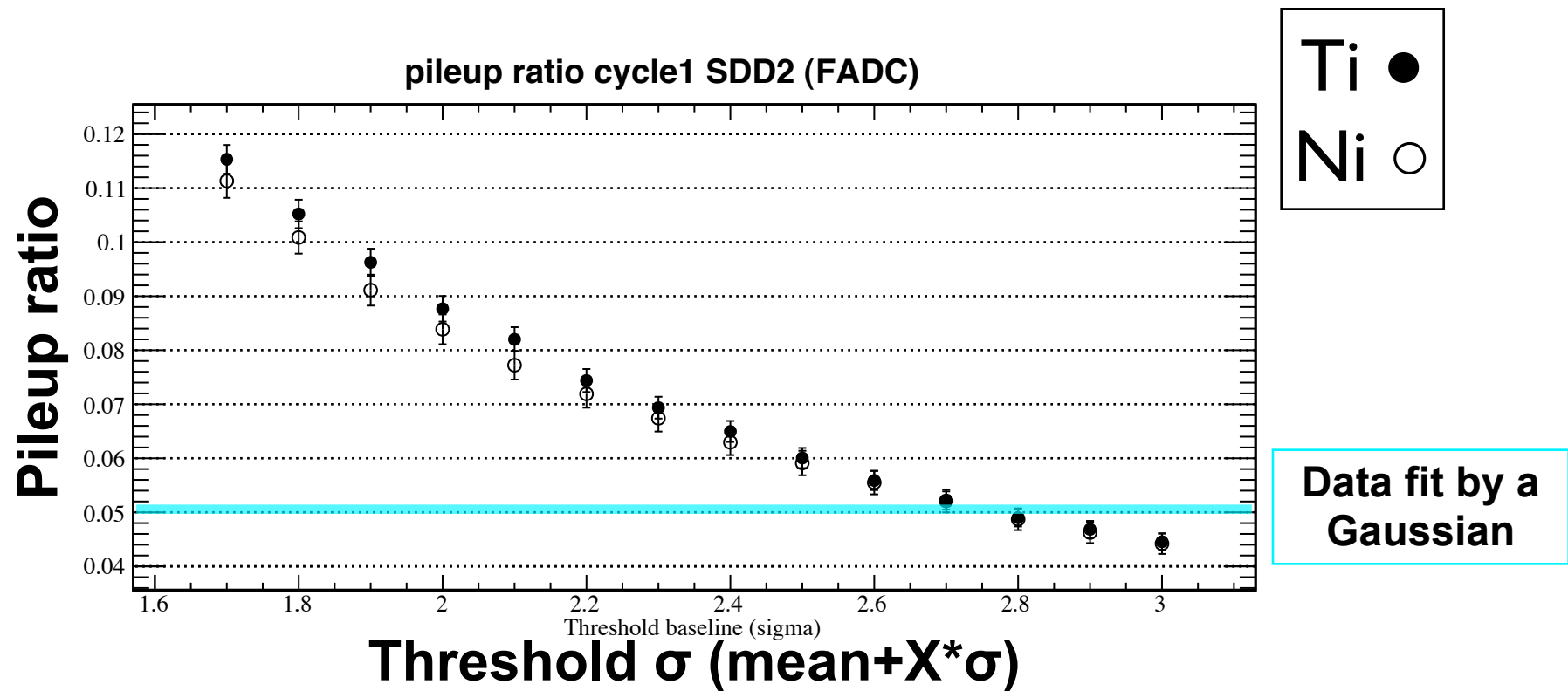
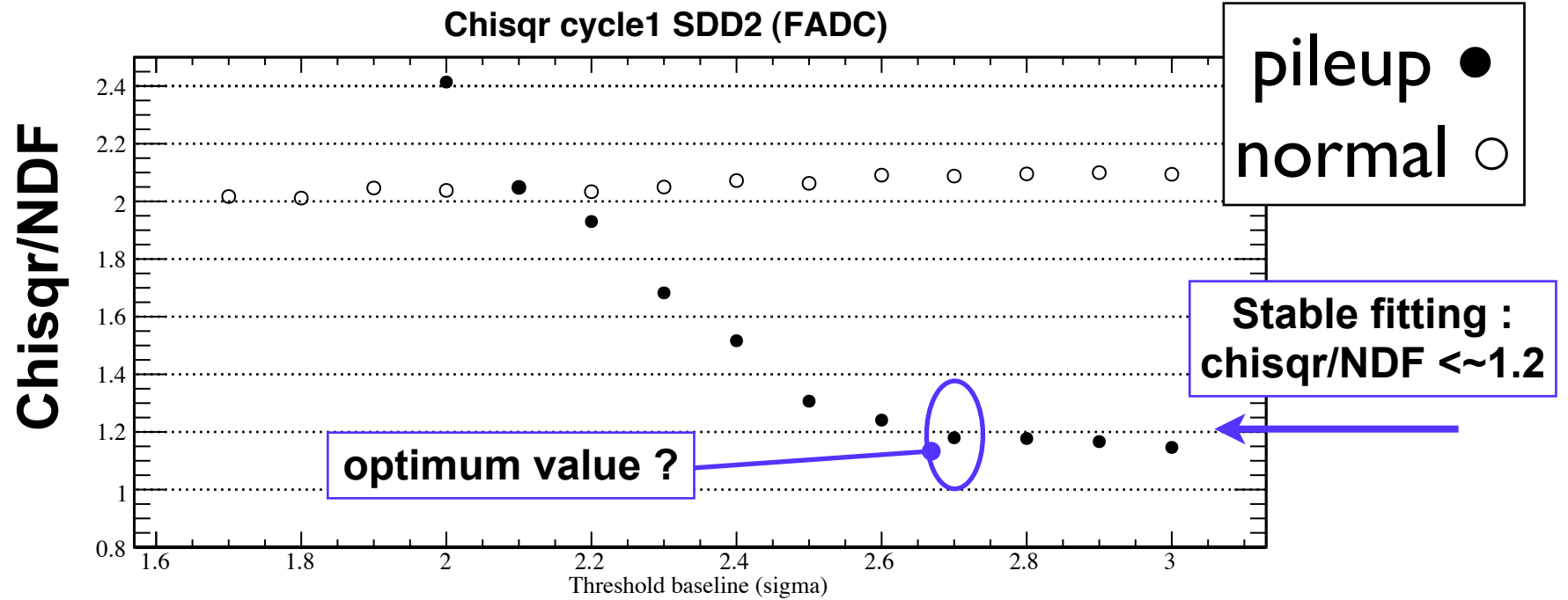
Threshold σ (mean+X* σ)

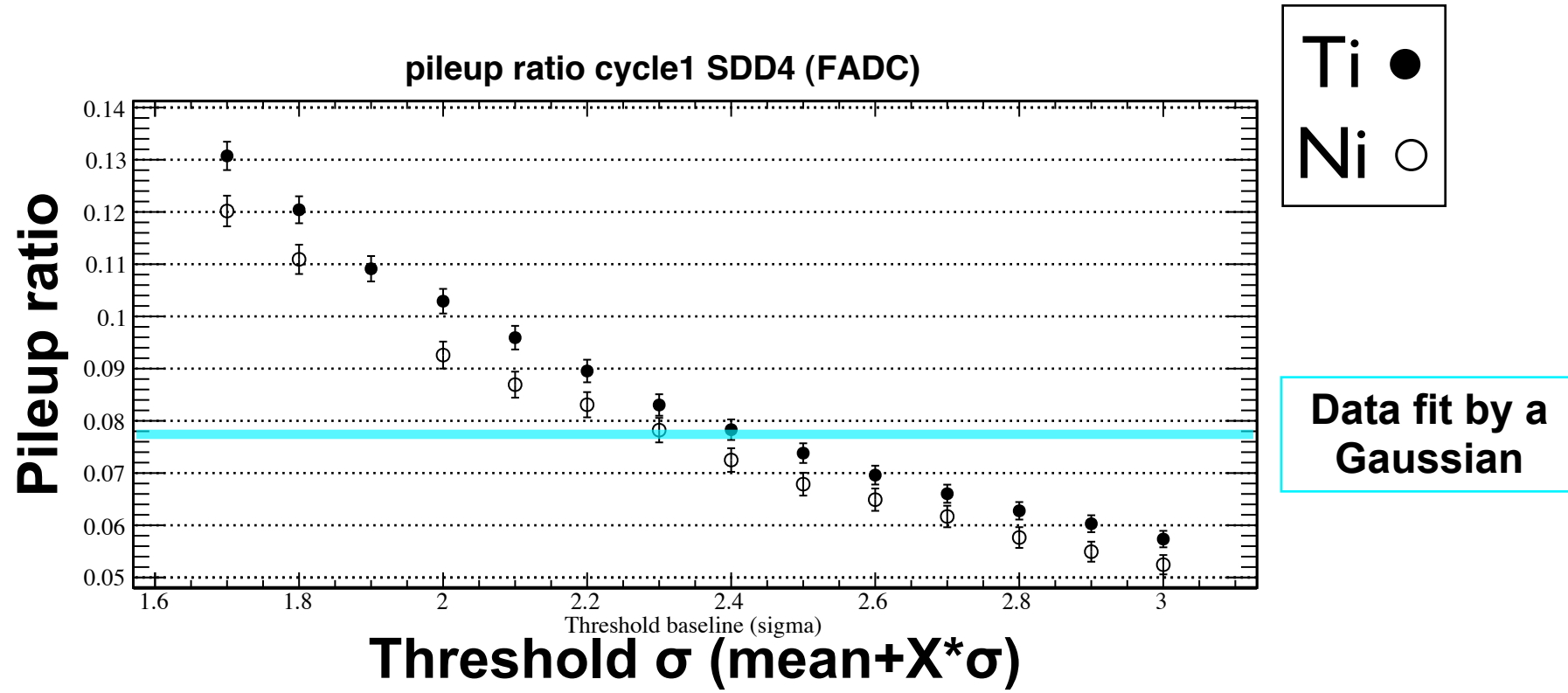
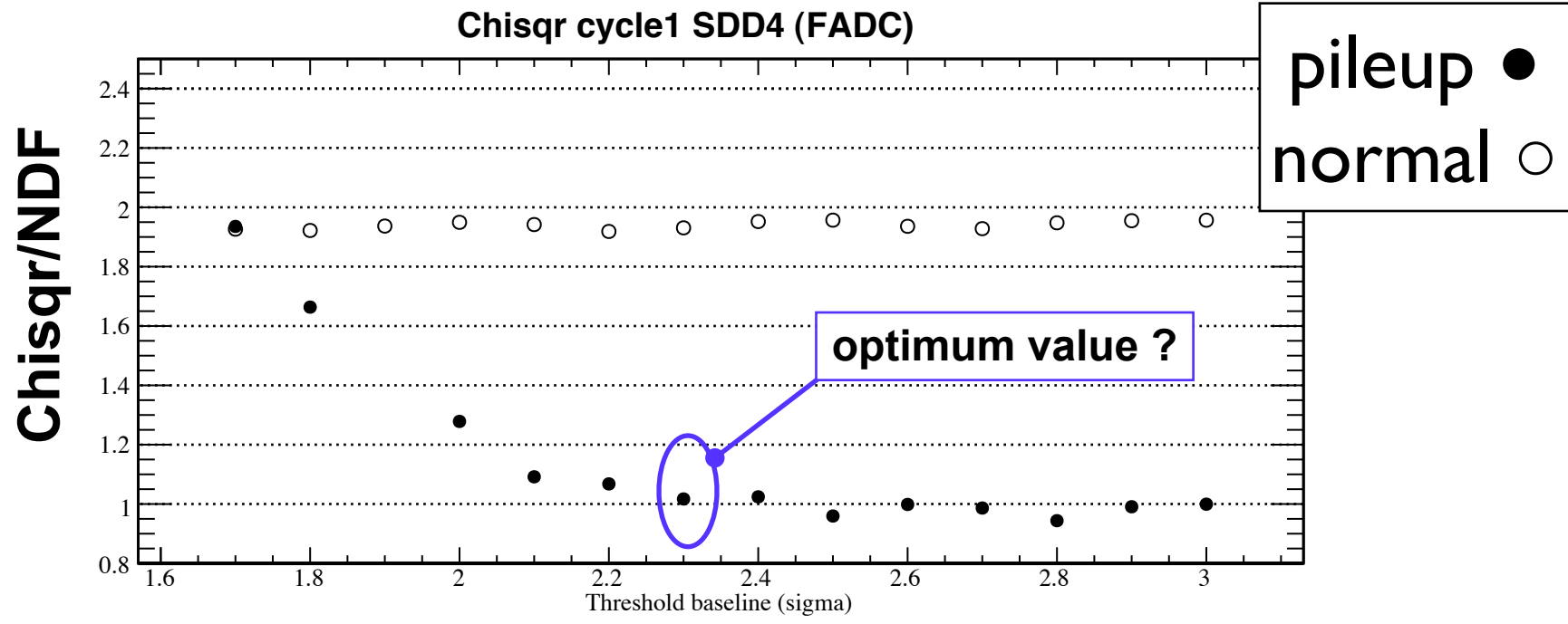
LOW-X
large ratio and bad fit

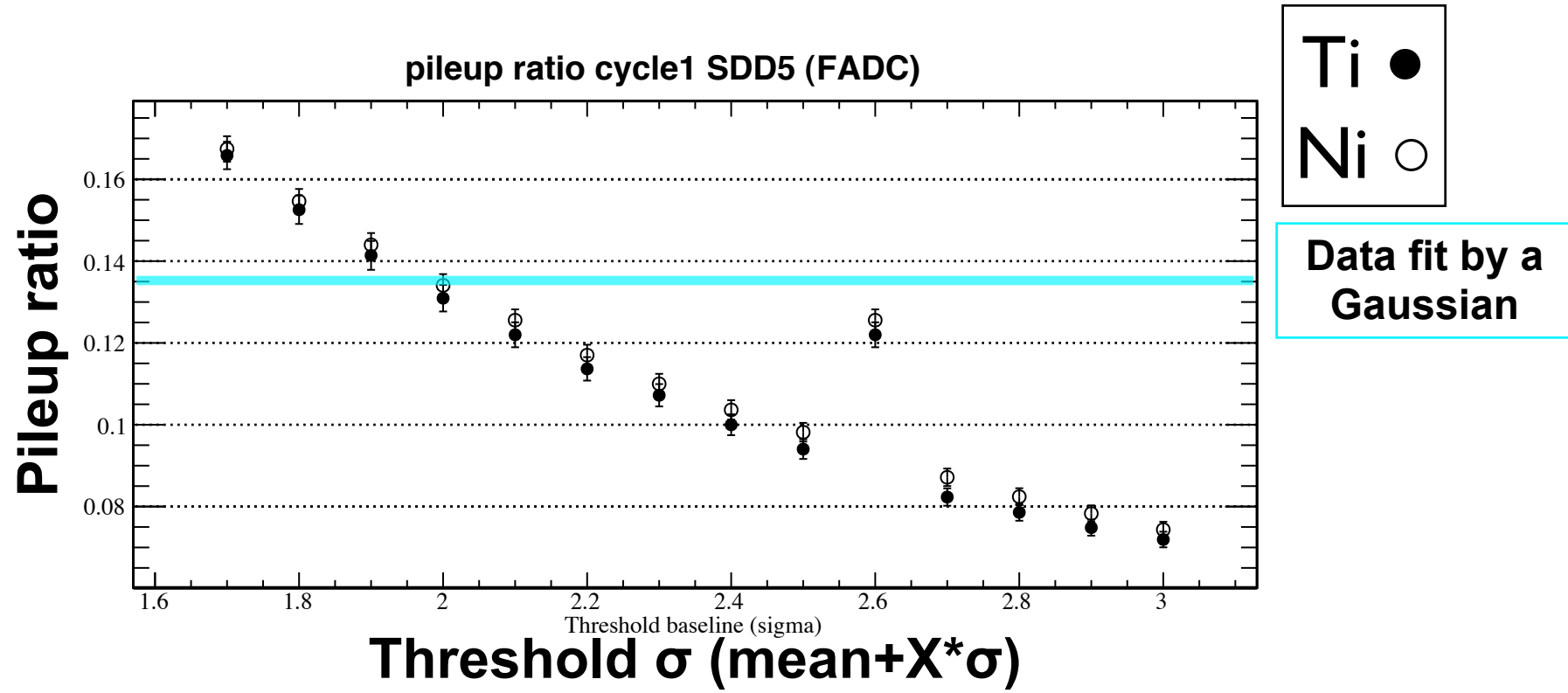
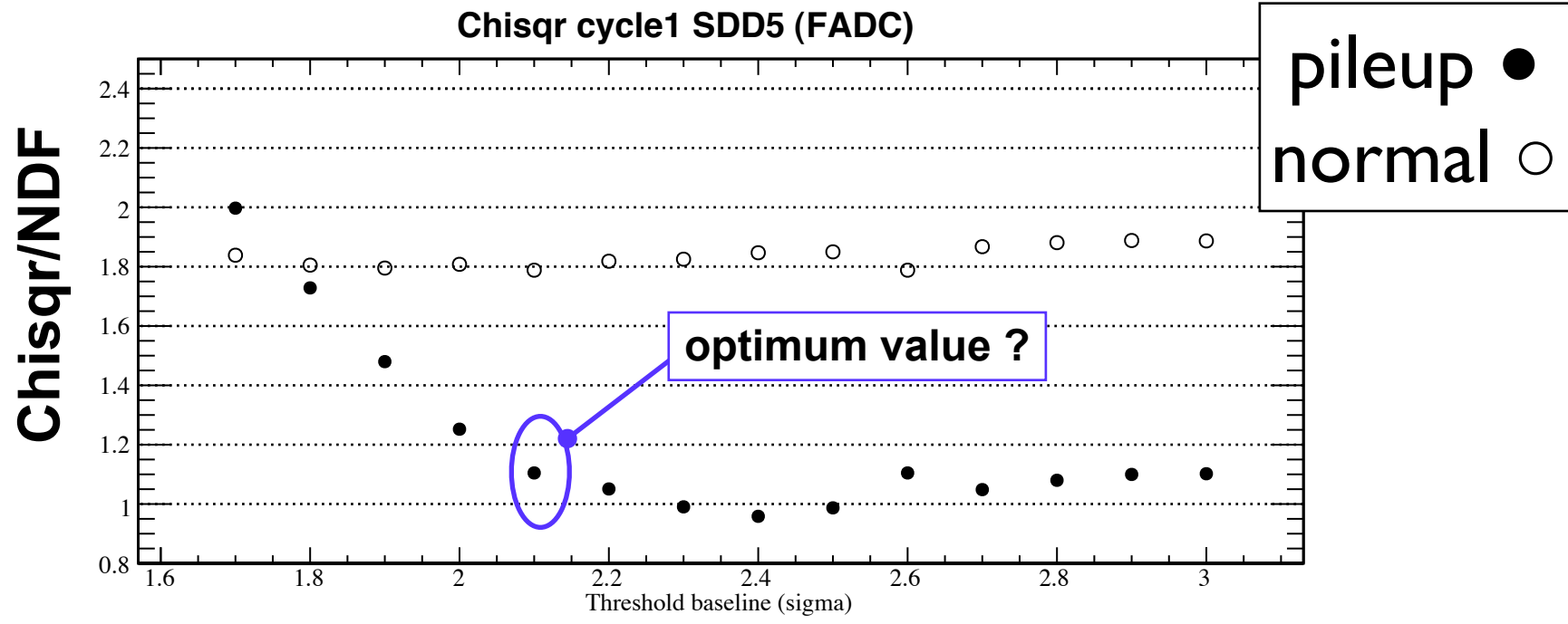


HIGH-X
small ratio and good fit

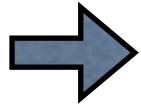








Summary



We can choose the X -sigma to make the pileup-intensity consistent with the data-fitting by a Gaussian

(Chisqr/NDF of the pileup-fit can be a criteria)

Optimized thresholds (X - σ)

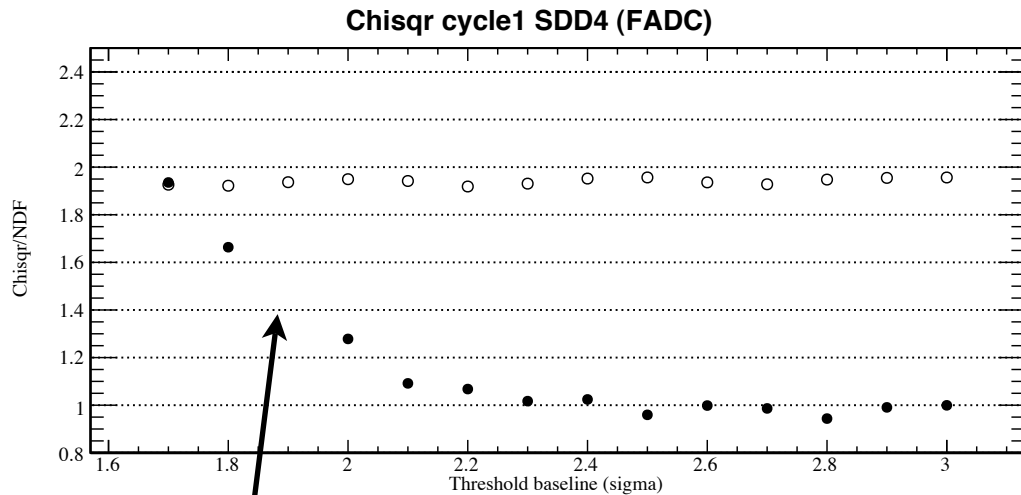
SDD2 : 2.7 sigma

SDD4 : 2.3 sigma

SDD5 : 2.1 sigma

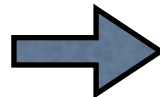
Spare and Remark

Cycle1 SDD4, 1.9- σ cut

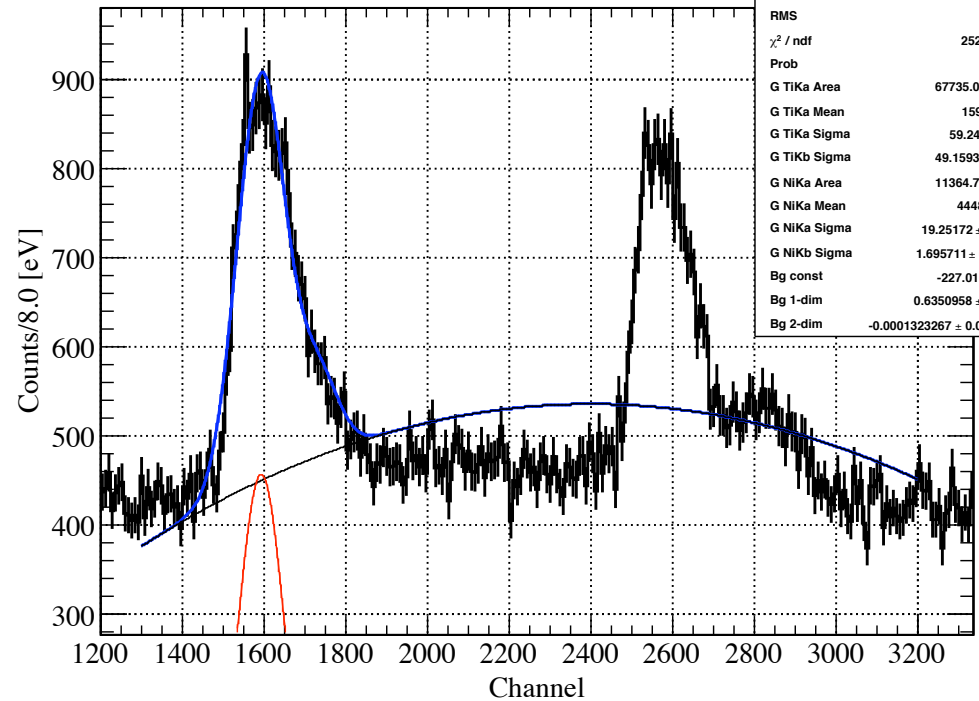


No data

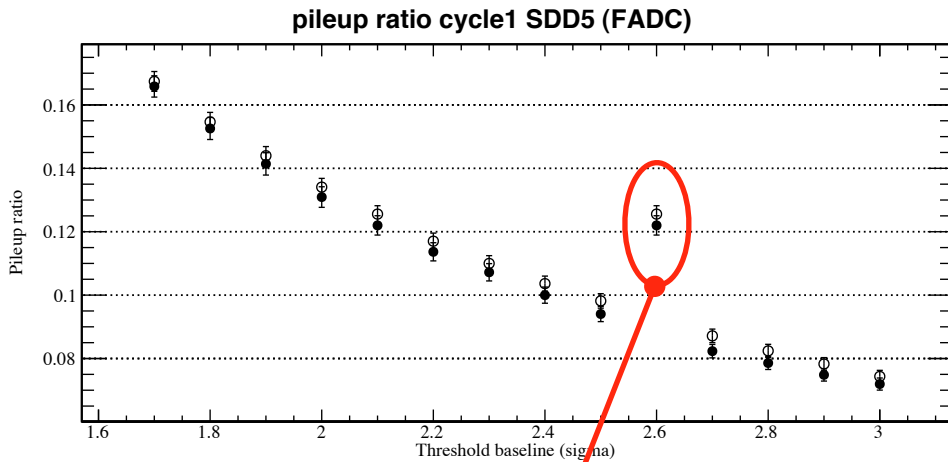
The fit did not converged especially for Ni



fadc diff cycle1 sdd4



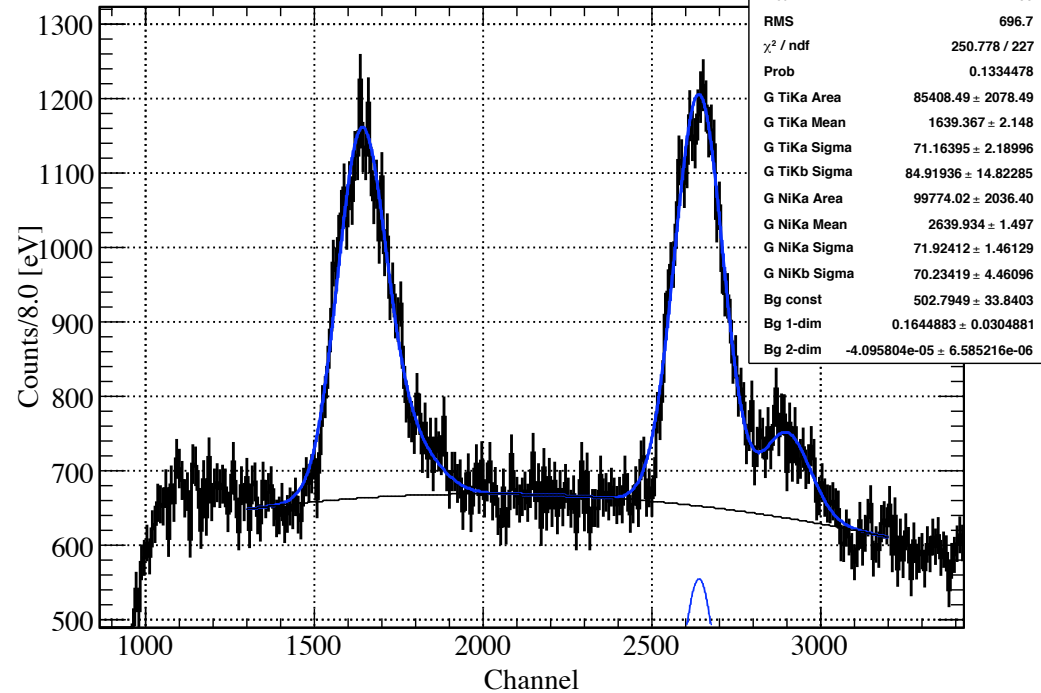
CycleI SDD5, 2.6- σ cut



Strange !!

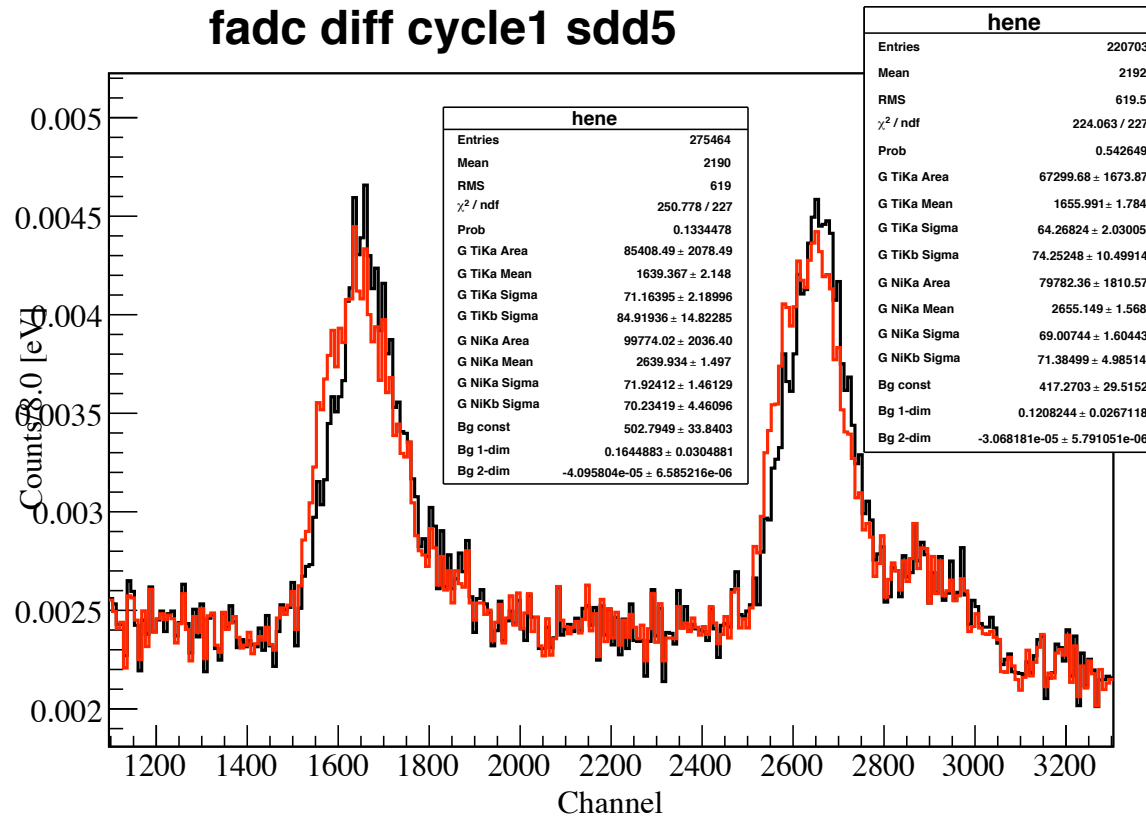
Fit looks good....

fadc diff cycle1 sdd5



Comparison

Cycle I SDD5, red:2.6- σ cut, black:2.5- σ cut



The width is ~1.2 times larger than a normal point.

Maybe not a so much crucial problem