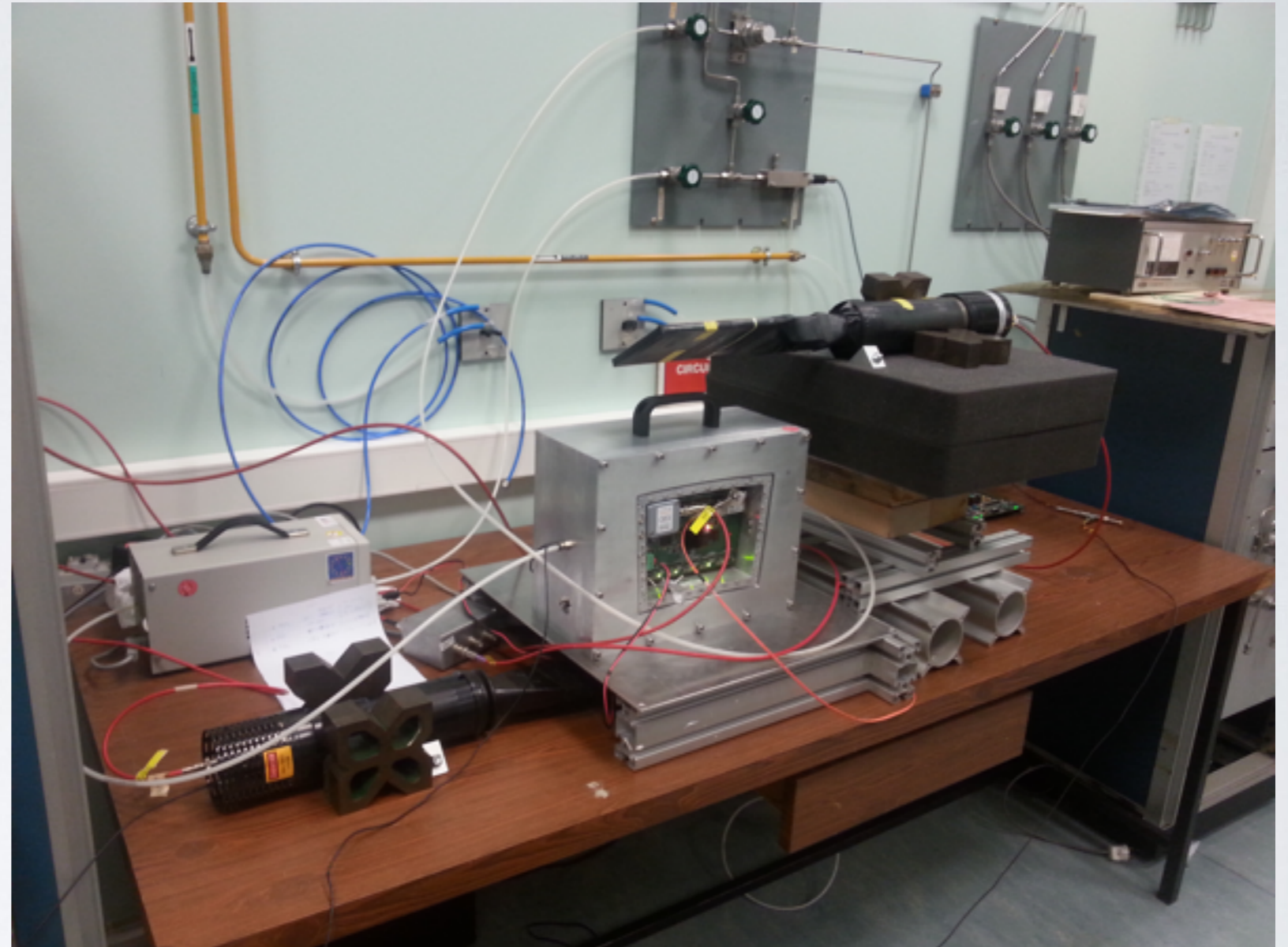
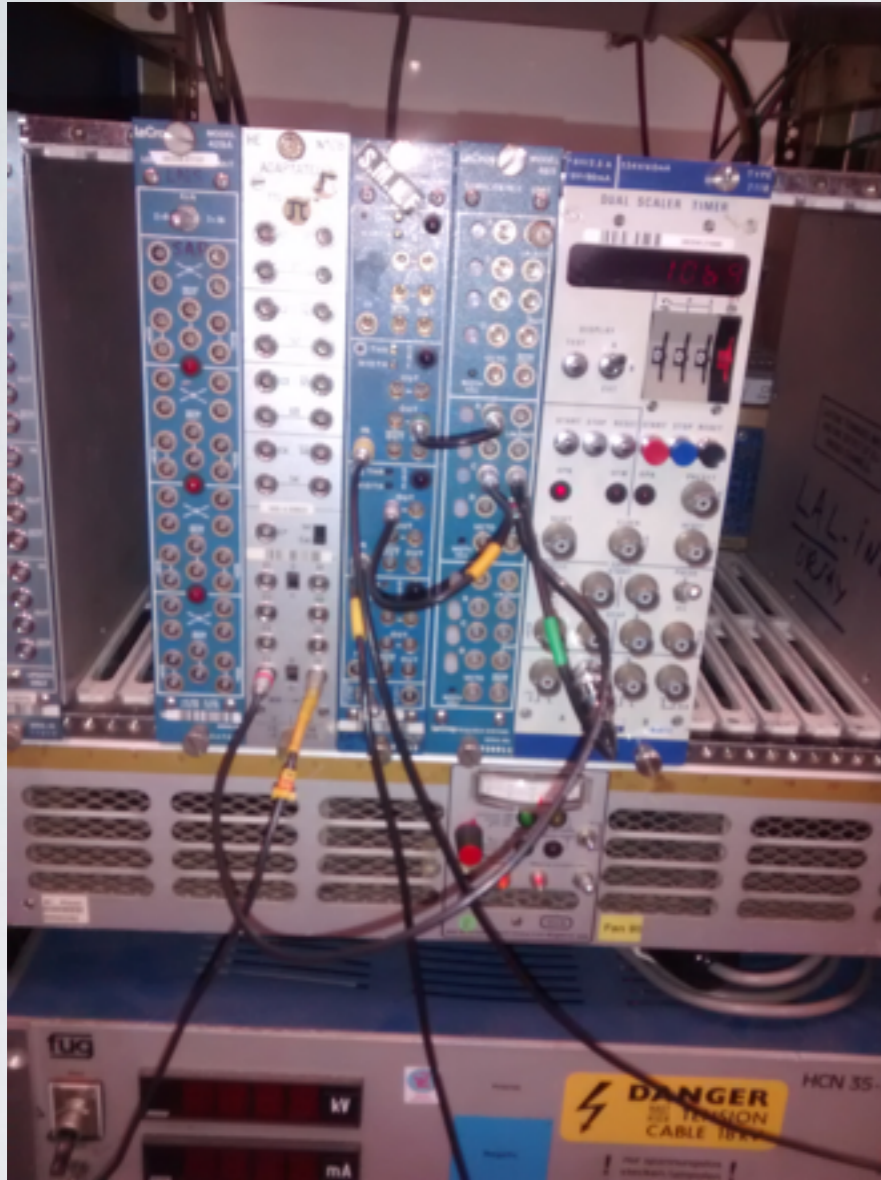


DATAWRITER CODE

Boris, Fabrice, Philippe...

Micro Banc cosmique



PREMIÈRE PRISE DE DONNEES

- 2800 evts cosmiques (16 heures)
- aucun traitement de données préalable (on stocke 511 (#time samples) × 1728 (#channels) entiers / evts)
- runs pedestaux.

CODE DATAWRITER

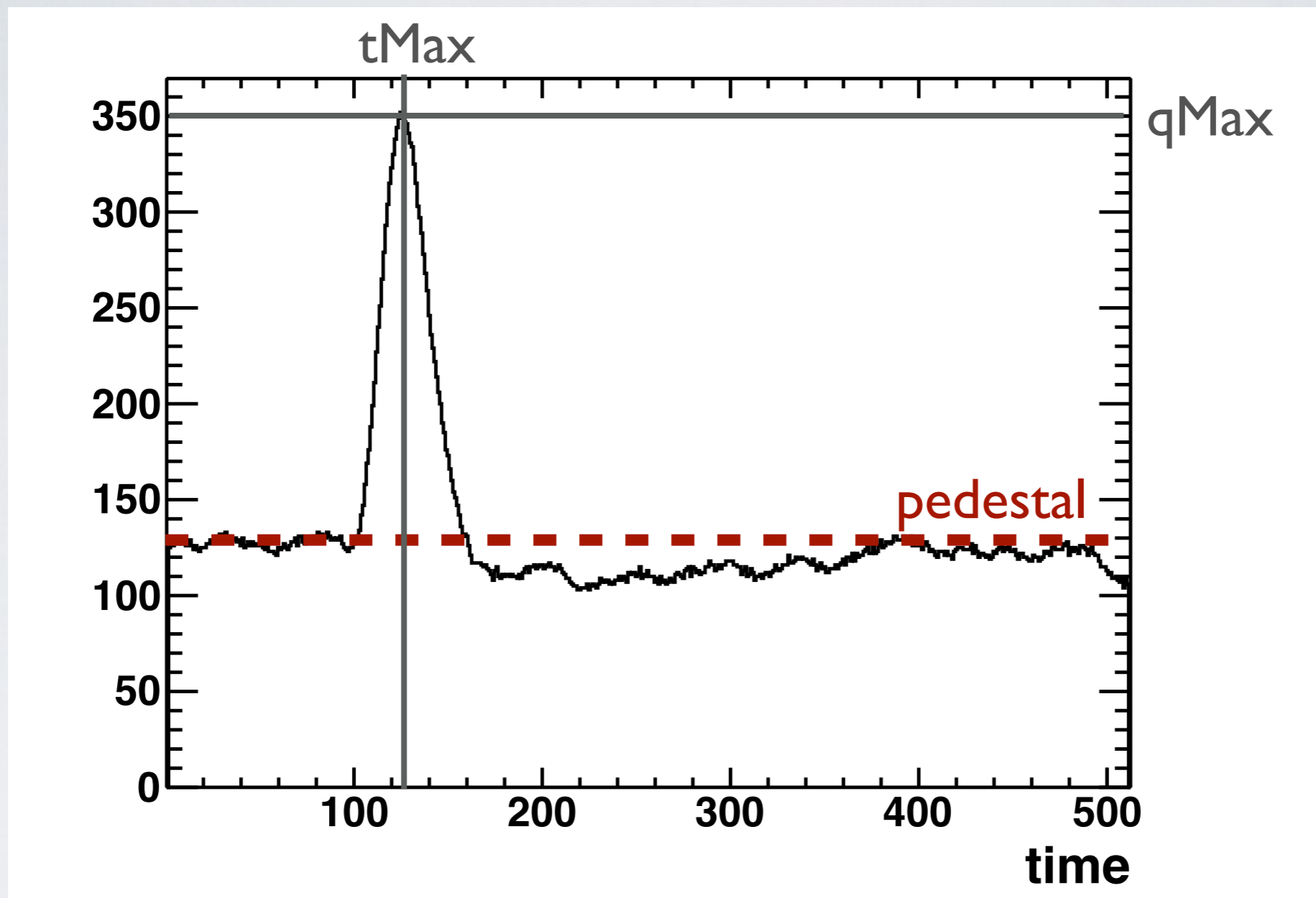
- svn: DSM-trac

```
svn checkout https://dsm-trac.cea.fr/svn/FCC\_tpc/DataWriter/
```

```
cd DataWriter  
source setup.sh  
make -j 4
```

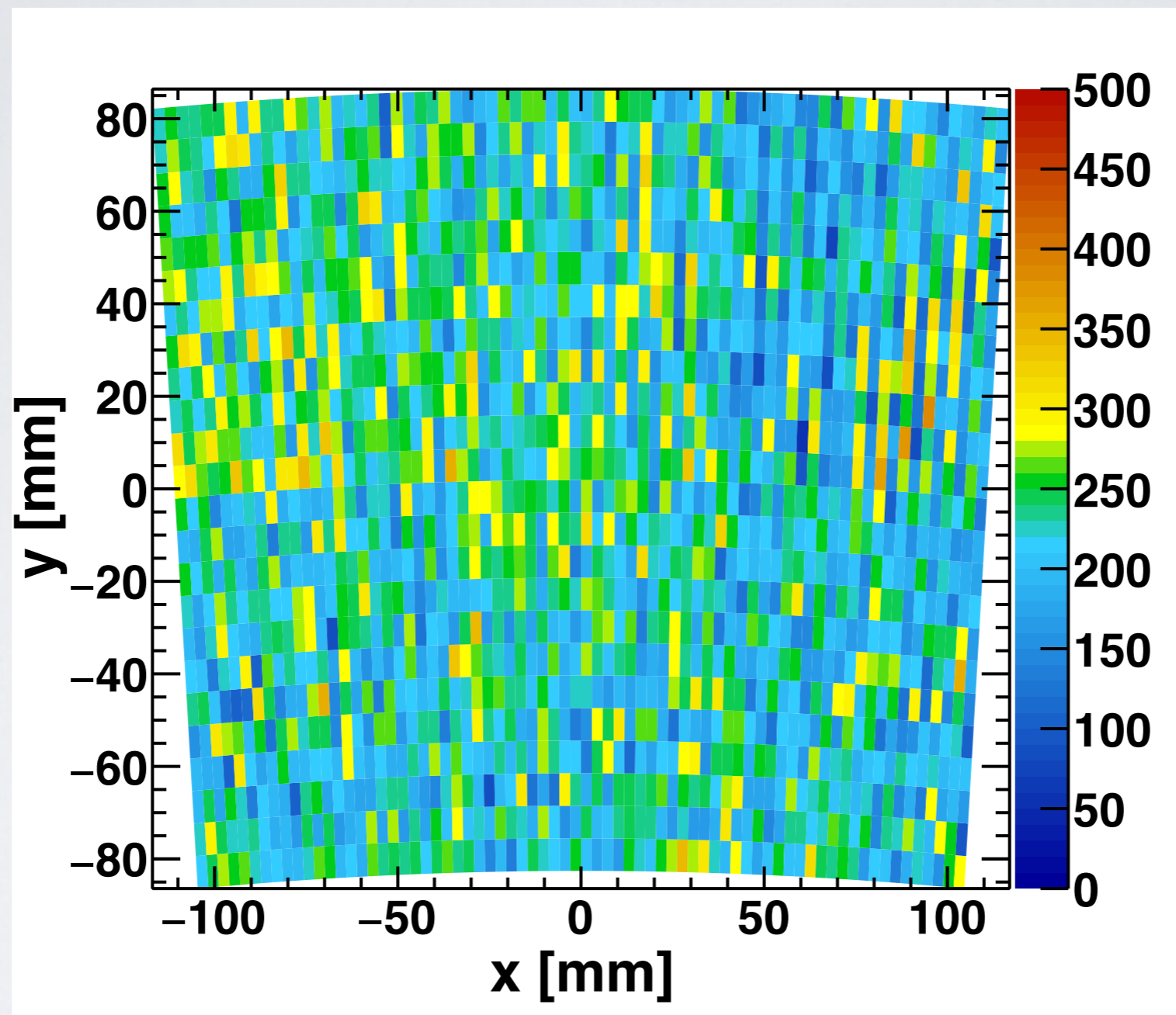
- acq to root converter: 3 trees
 - xml config saved (peaking time...)
 - module geometry
 - data (vector<vector<int> >)
- root analyzer skeleton provided

TIME SAMPLES



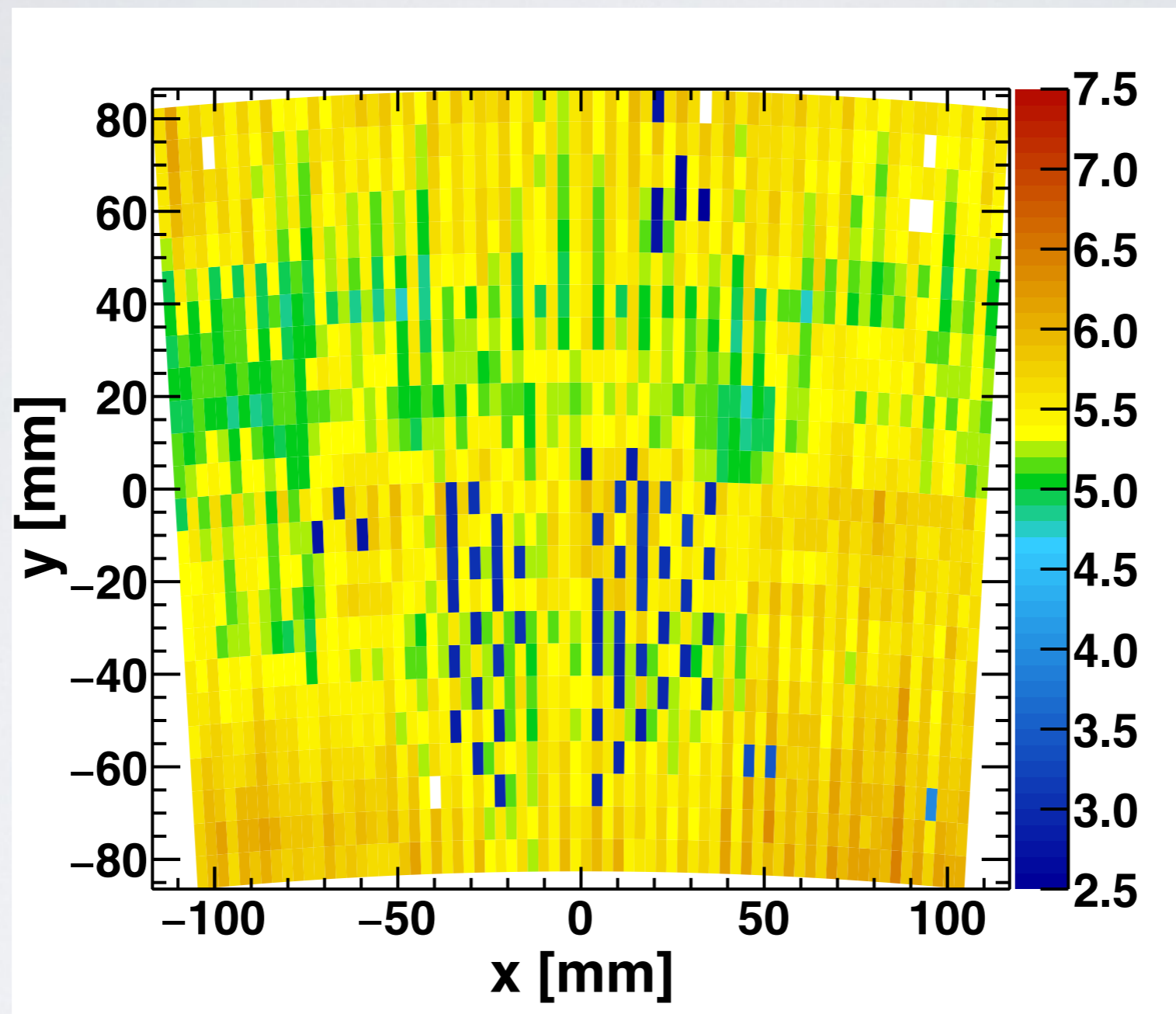
$$\text{padValue} = \text{qMax} - \text{pedestal}$$
$$\text{padTime} = t_{Max}$$

PEDESTAL RUN



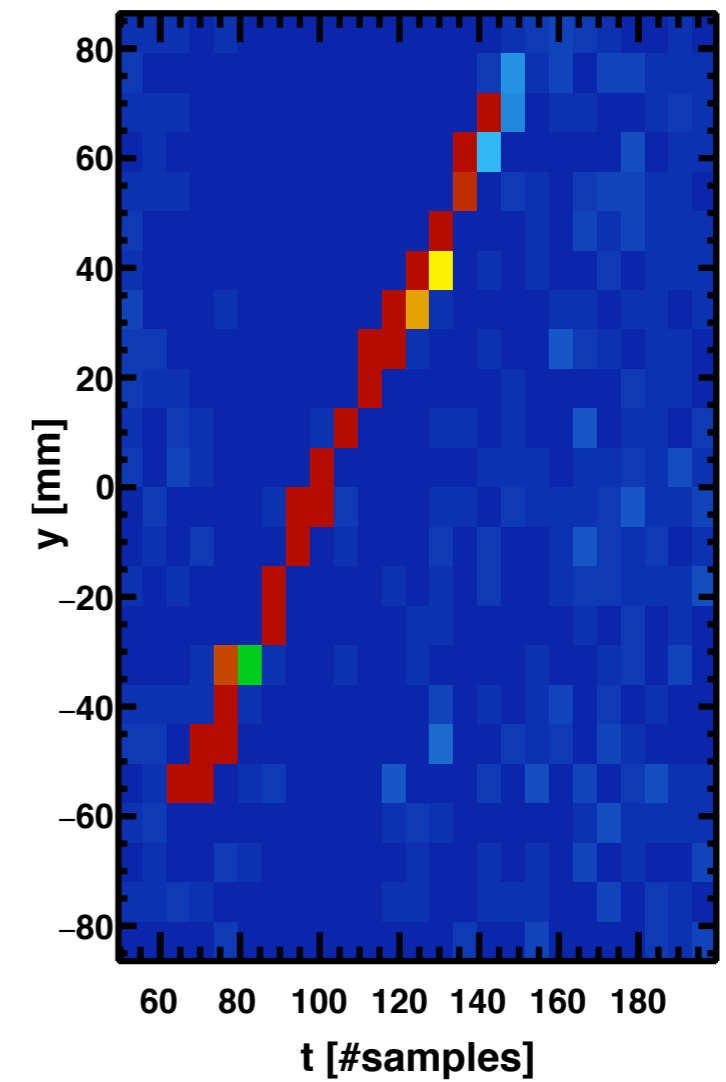
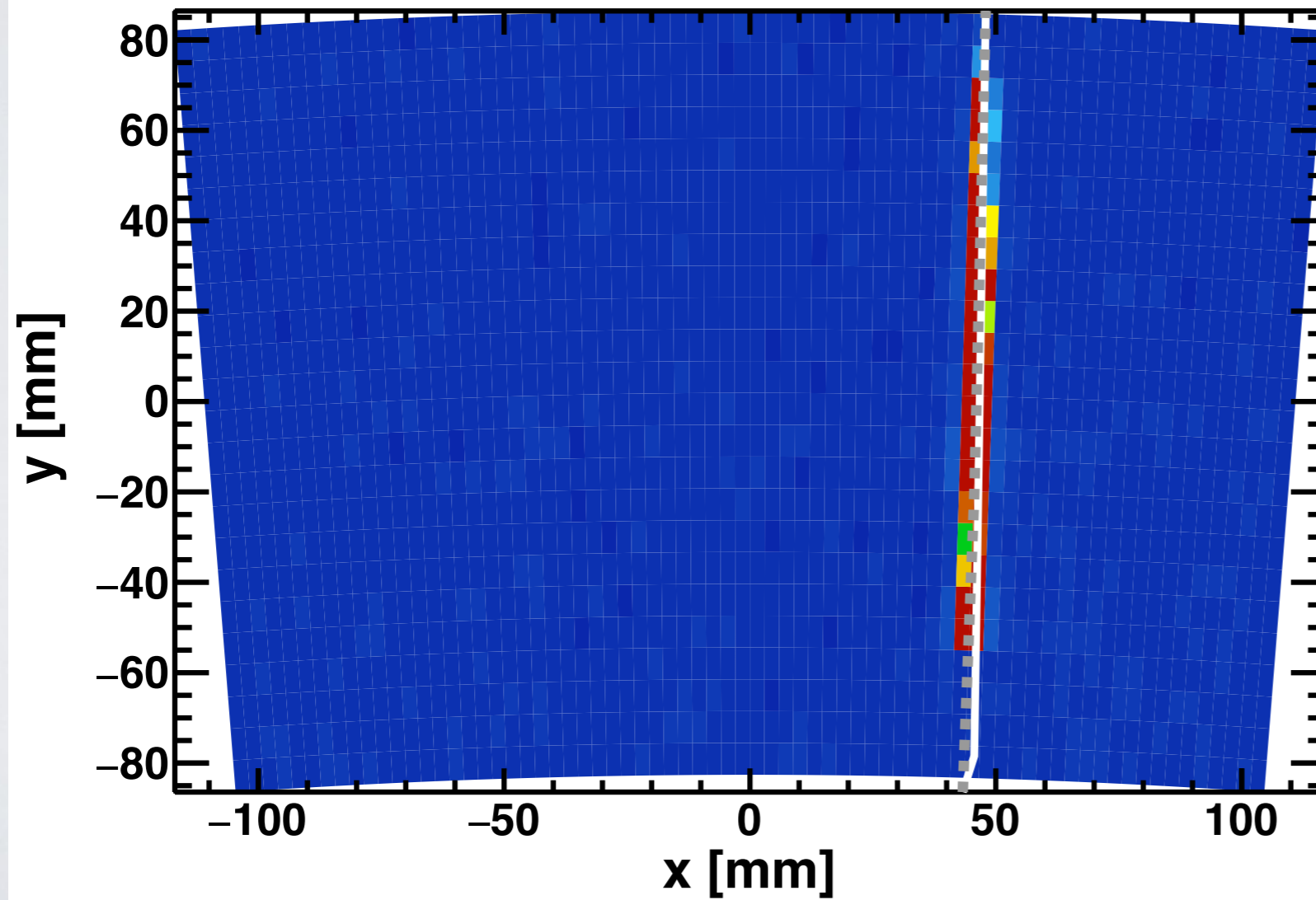
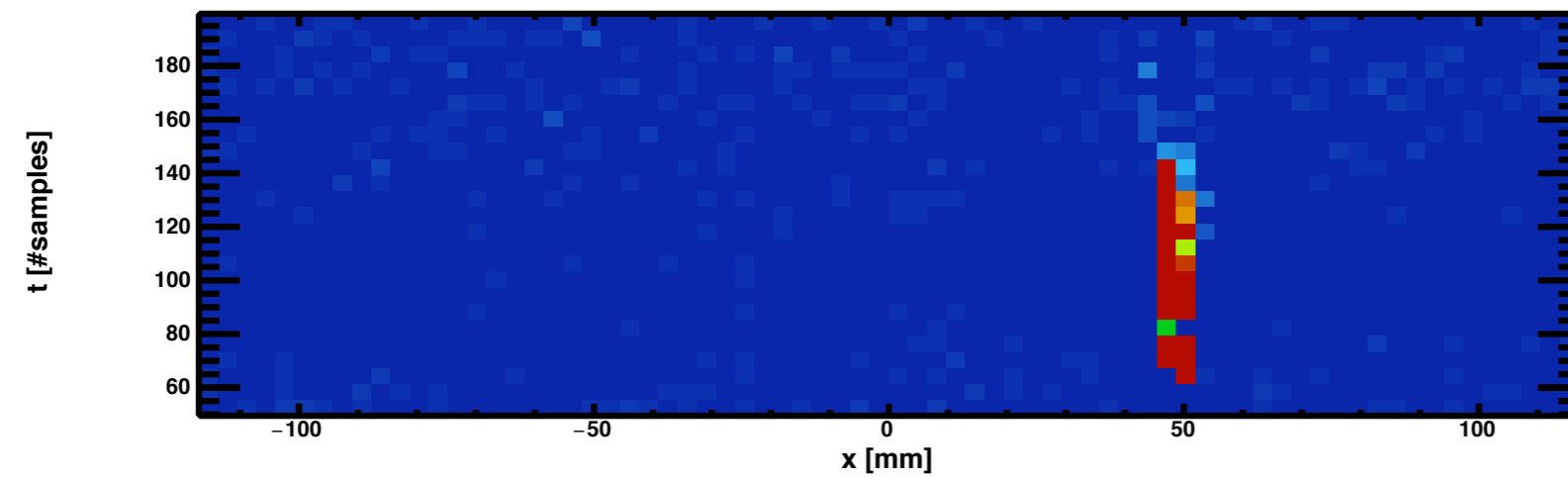
pedestal mean

PEDESTAL RUN

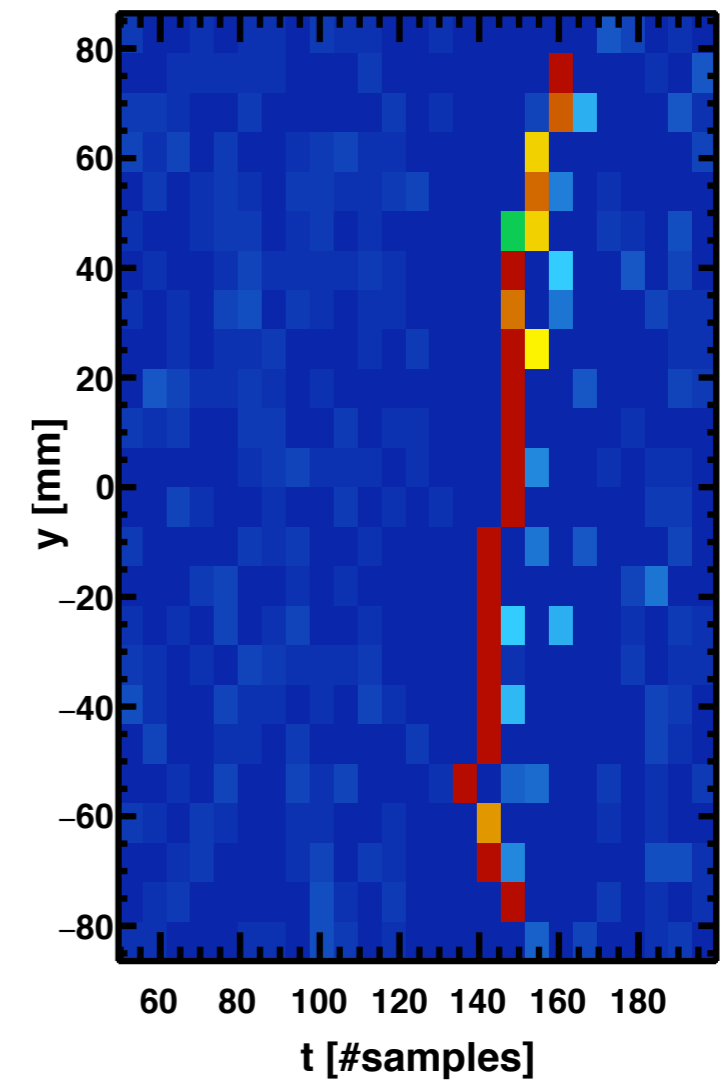
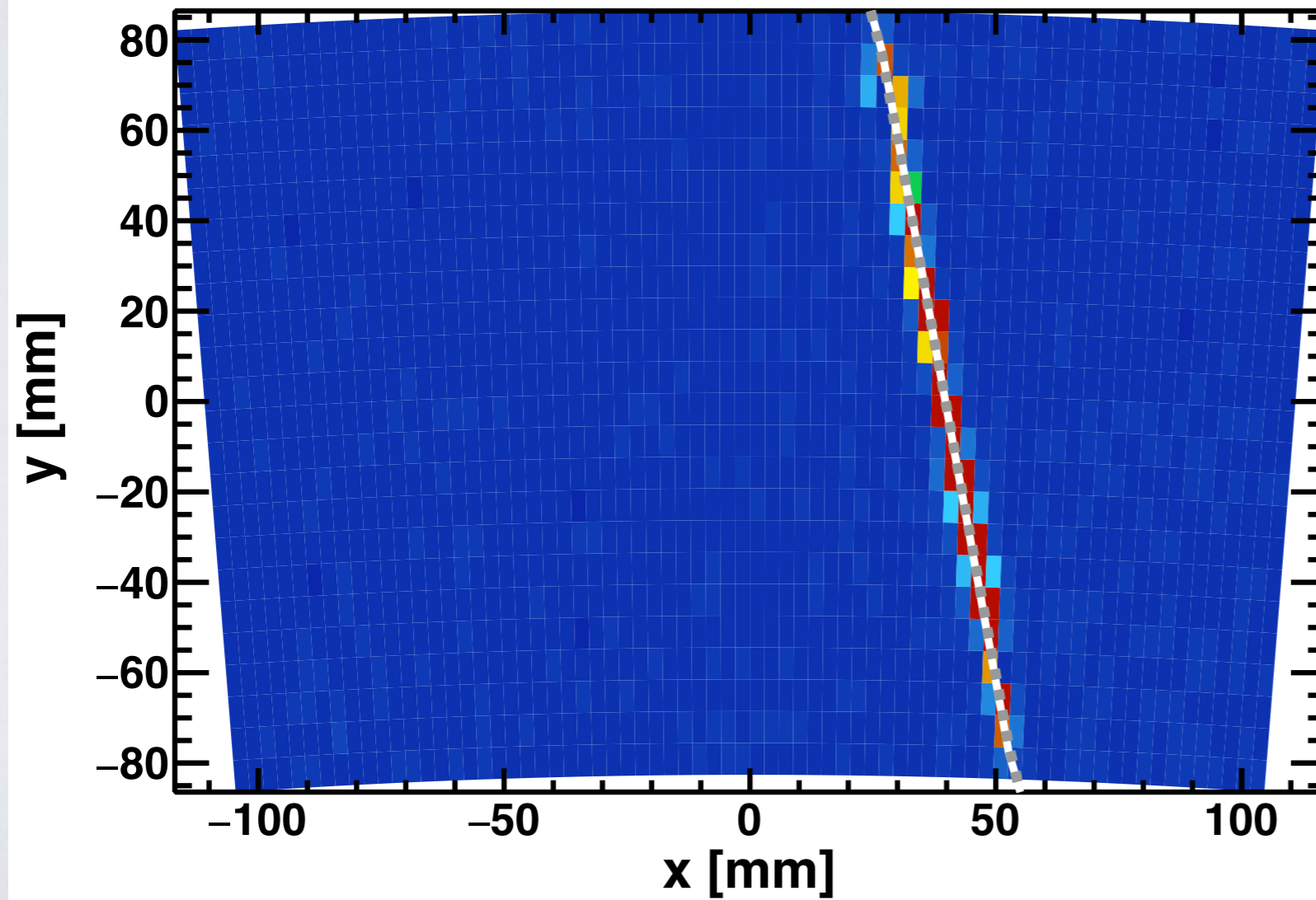
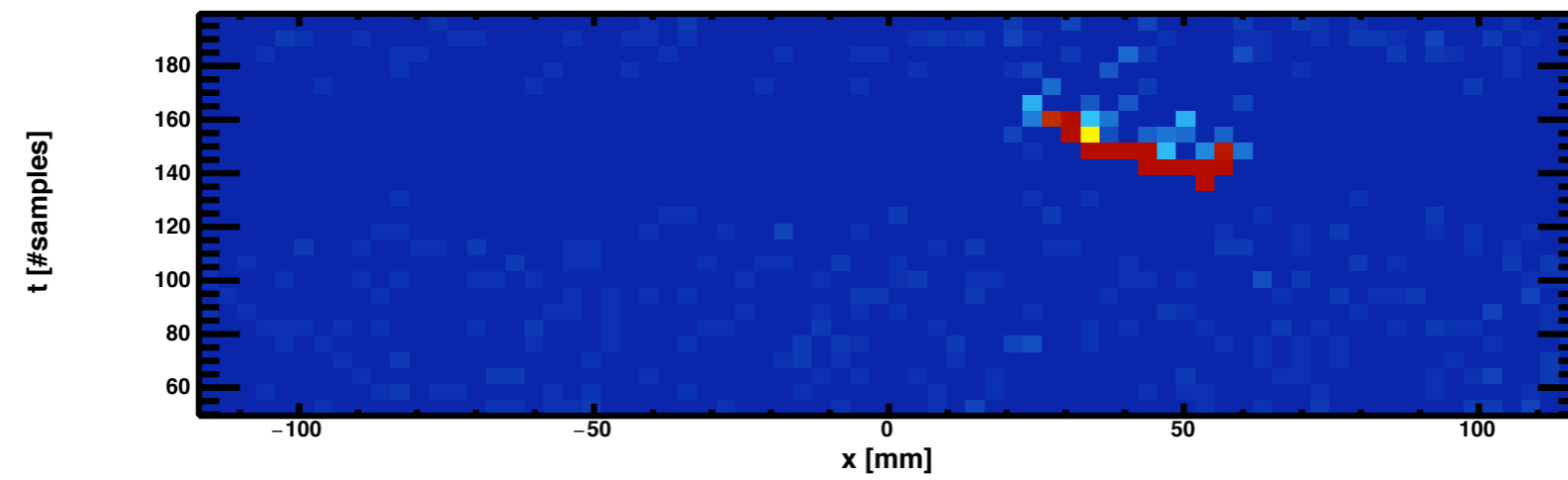


pedestal RMS

EVT EXAMPLE I



EVT EXAMPLE 2



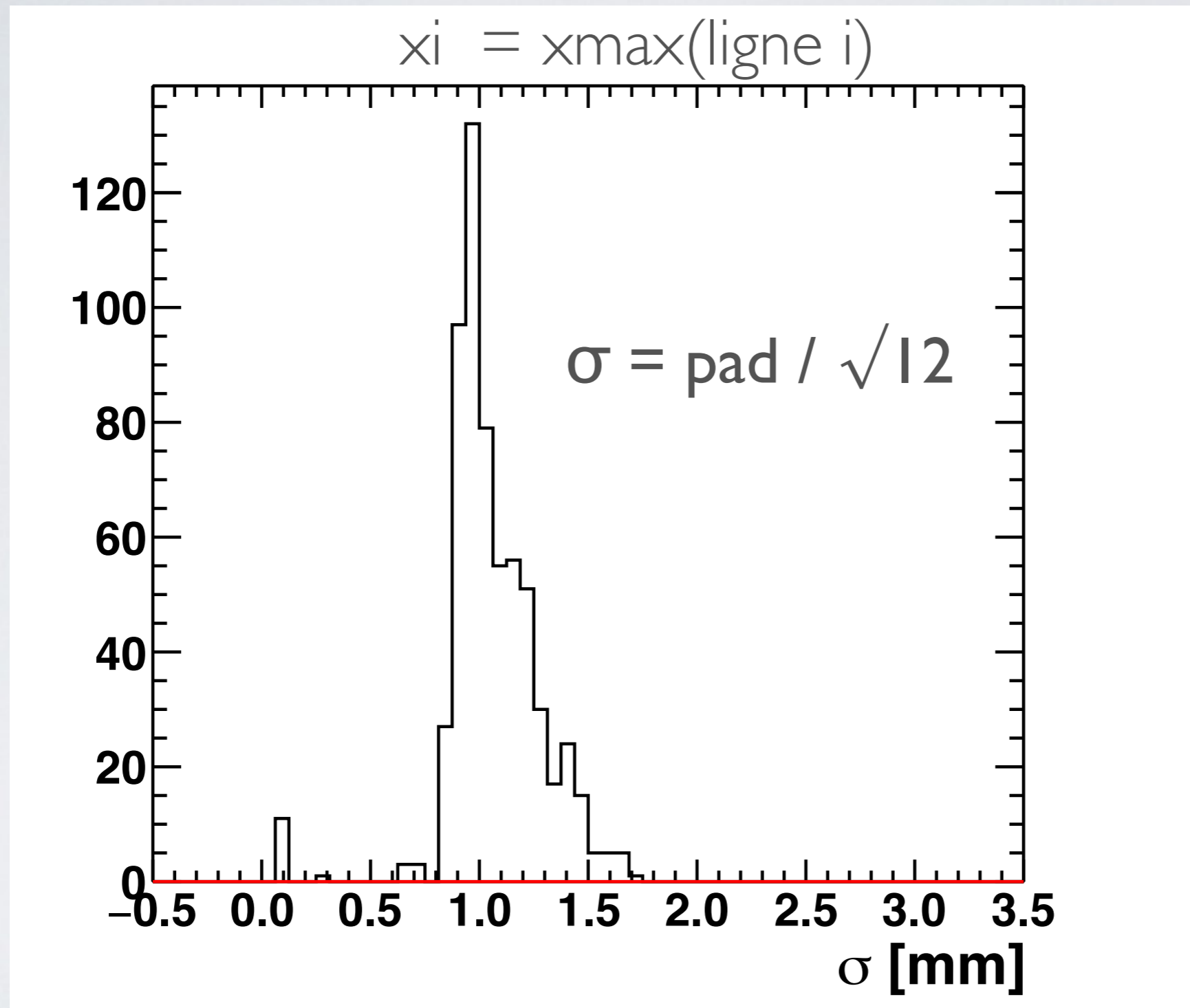
RESOLUTION

- Require at least 15 rows touched
- max pad as the position of the cluster
- Minimize $\chi^2 = 1/\sigma^2 \sum_i (x_i - (\tan\Phi y_i + x_0))^2$

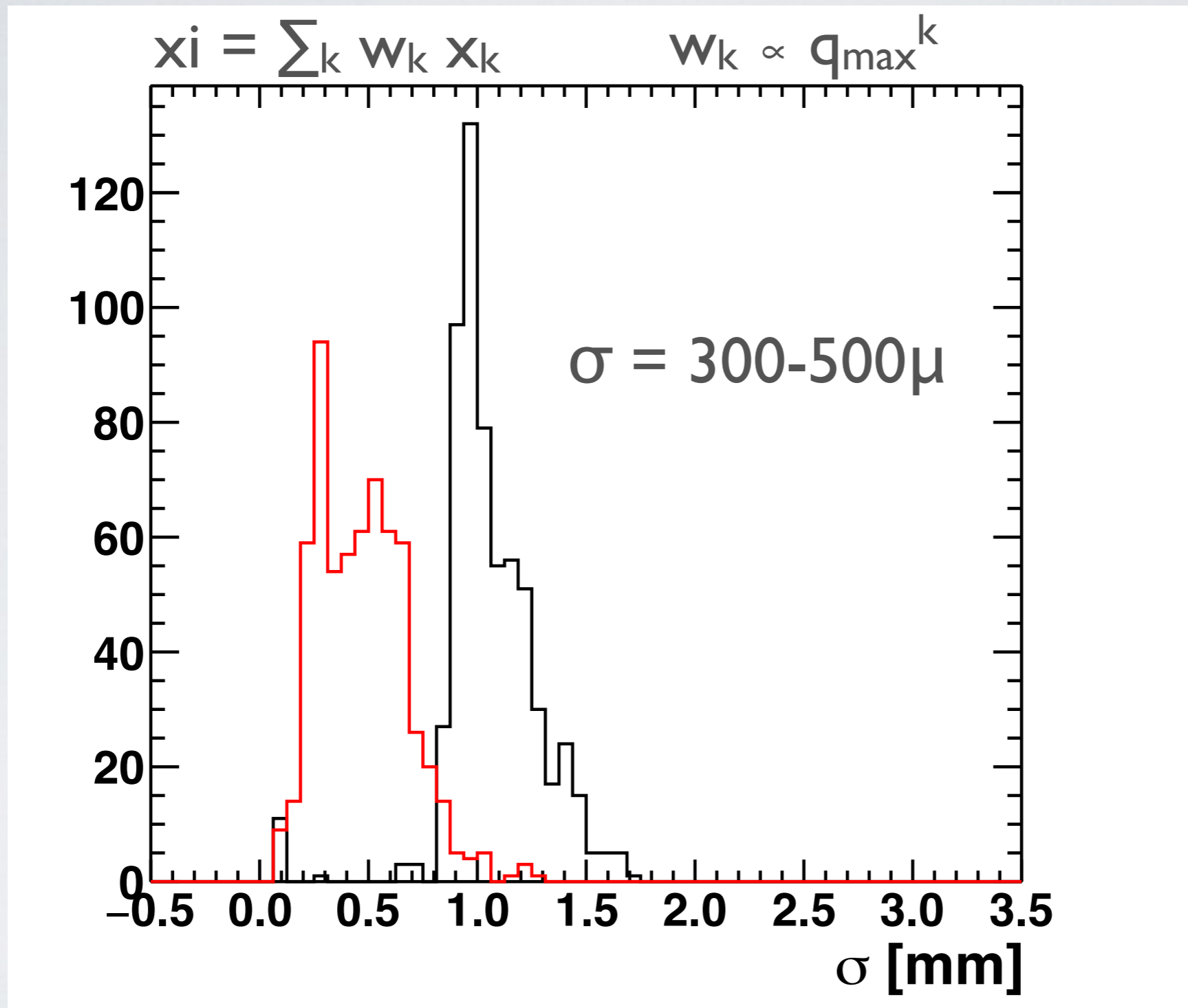
$$\tan\Phi = \frac{\overline{xy} - \bar{x}\bar{y}}{\overline{y^2} - \bar{y}^2} \quad x_0 = \bar{x} - \tan\Phi \bar{y}$$

$$\implies \sigma^2 = \chi_{\text{red}}^2 / \text{ndof}$$

RESOLUTION (I)



RESOLUTION (2)

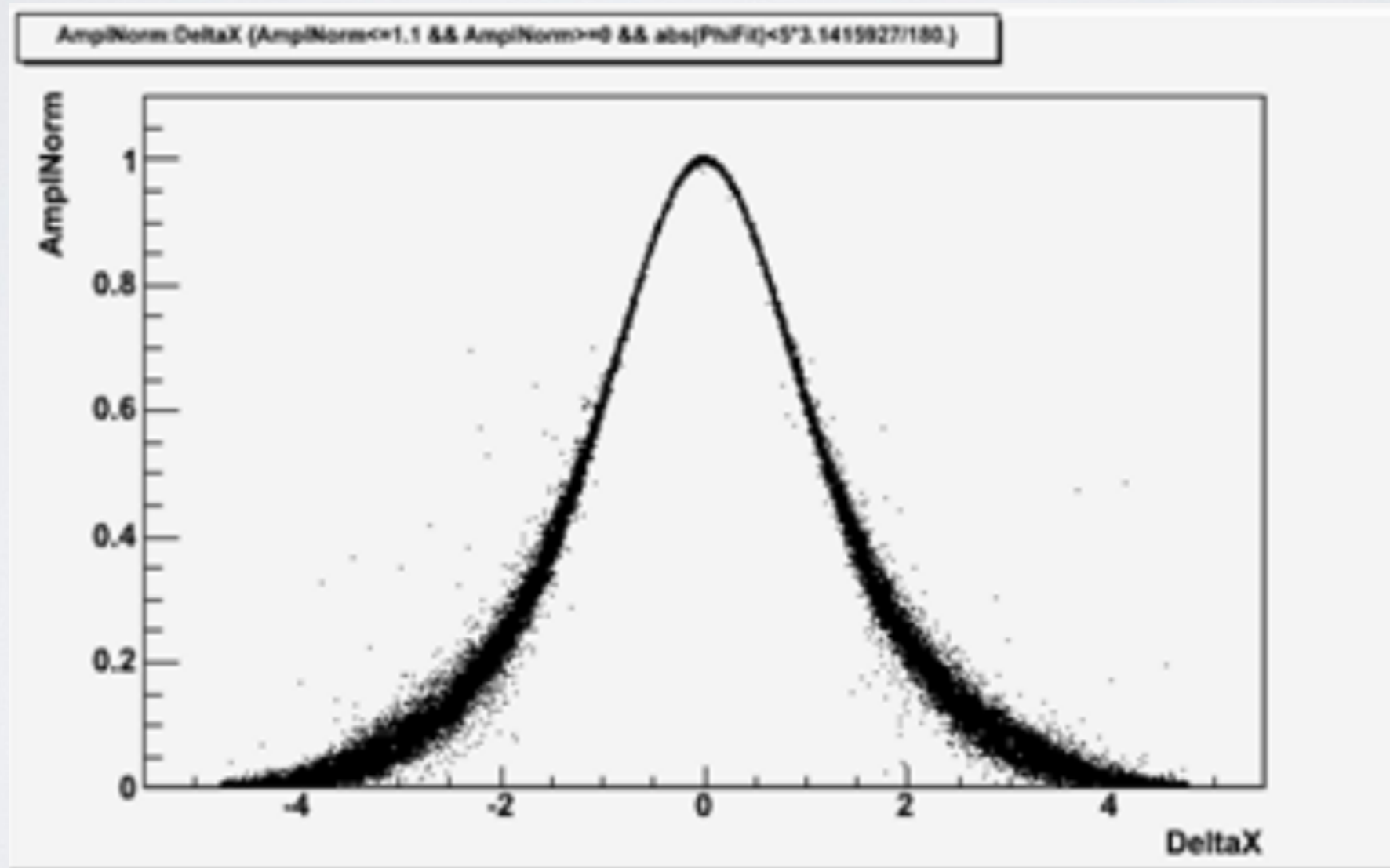


$k = \text{padMax}-2, \dots, \text{padMax}+2$

BEST PRF

w_k named PRF = pad response function

Due to resistive layer, best PRF is not proportional to q_{Max}



thèse Wenxing Wang

FITTED TRACK PARAMETERS

