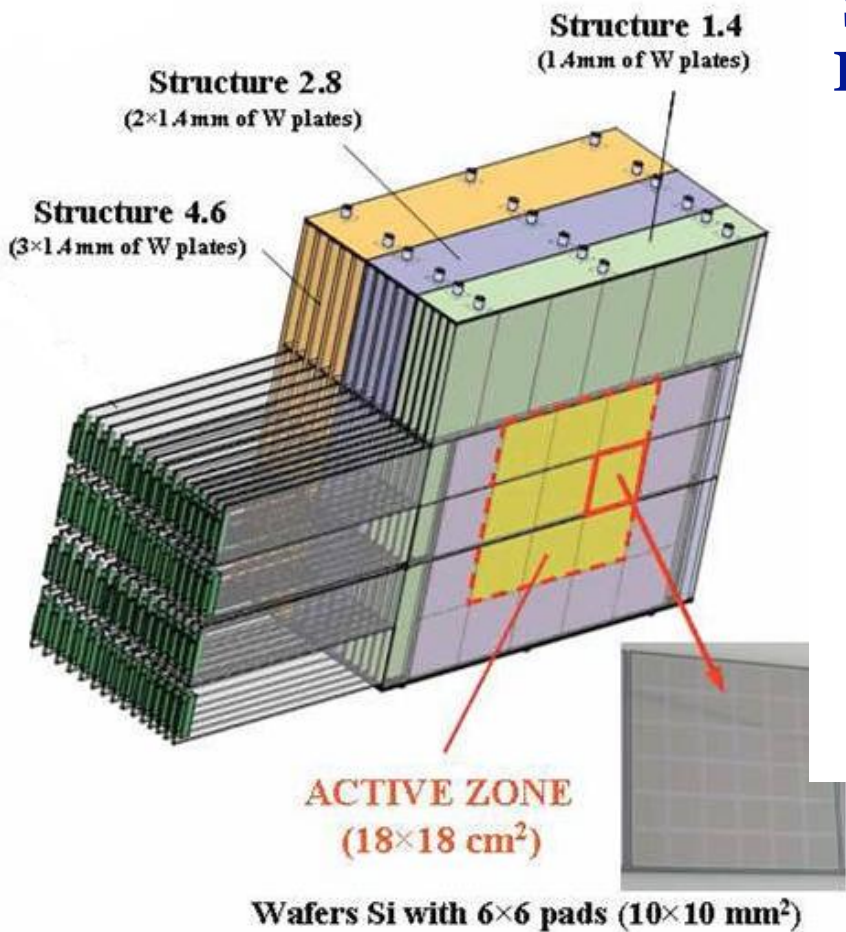


*Sí-W ECAL  
Tests en faisceau du  
prototype*



Cristina Cârloganu

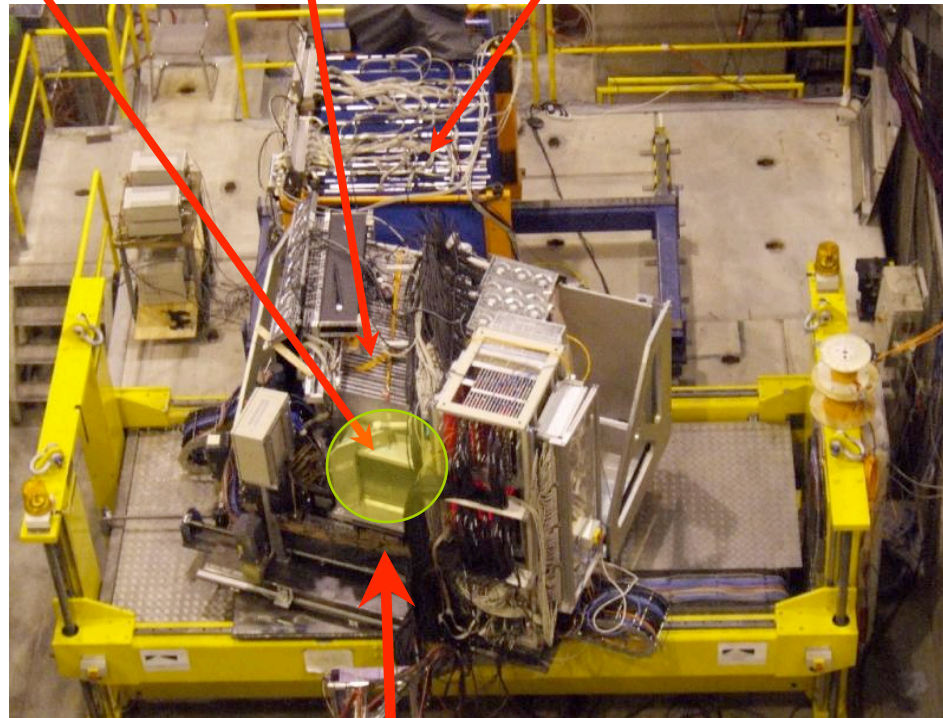
Clermont Ferrand



**Si-W  
ECAL**

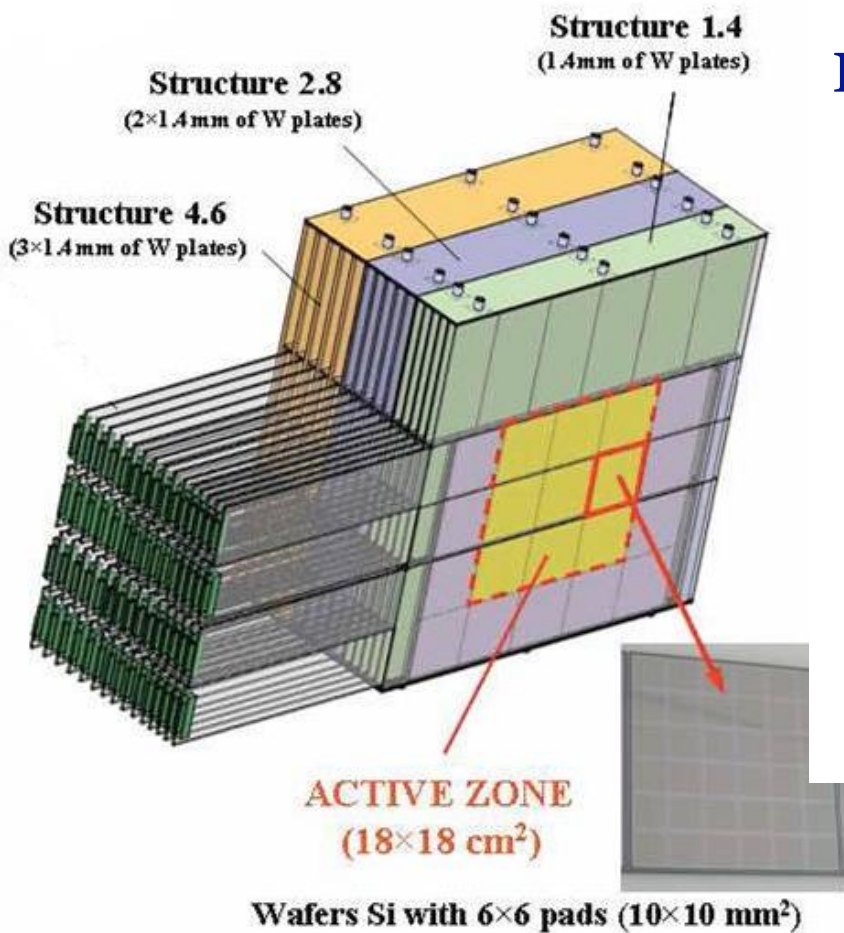
**HCAL**

**Tail Catcher**



**Faisceau**

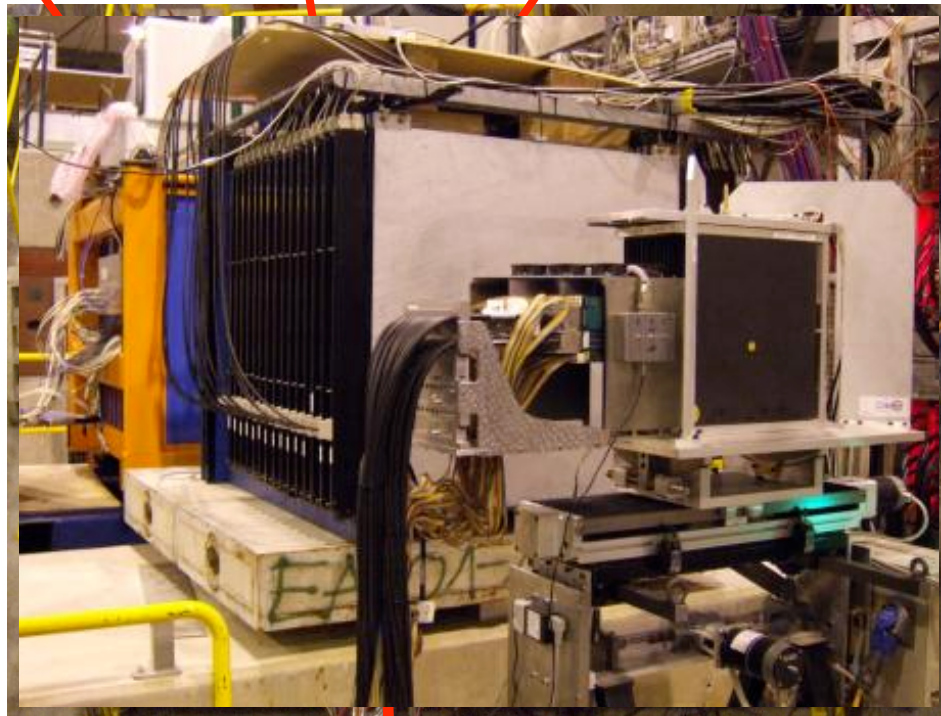
**CERN H6  
juin 2007**



**Si-W  
ECAL**

**HCAL**

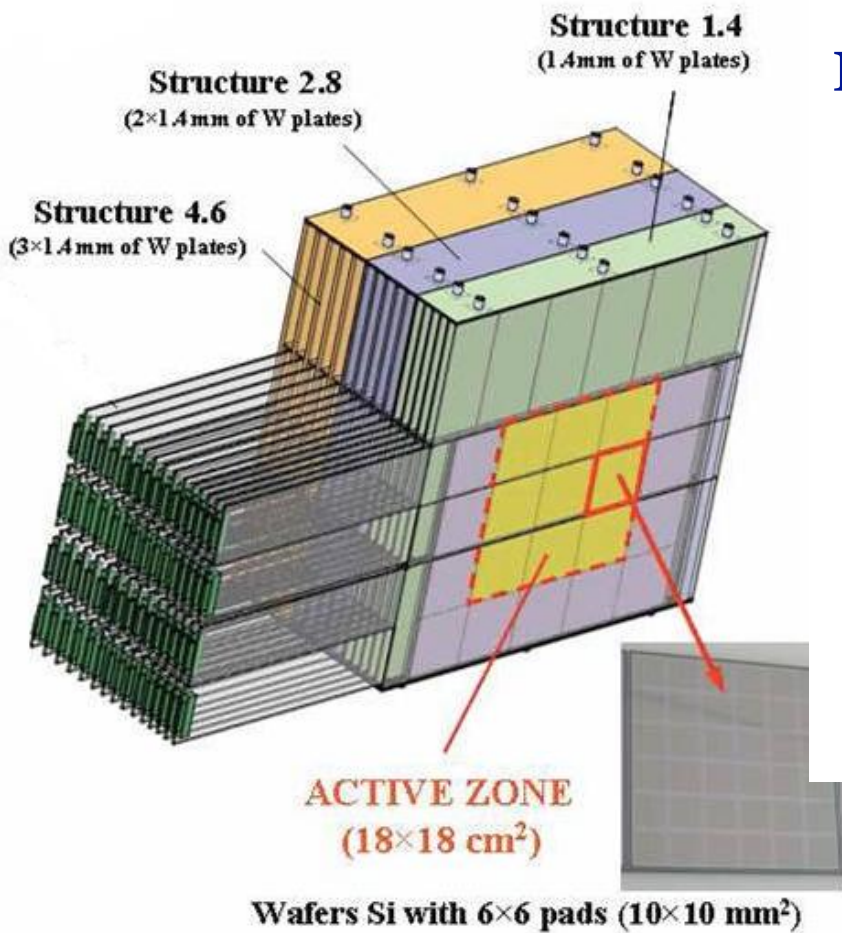
**Tail Catcher**



**Faisceau**

**CERN H6  
juin 2007**

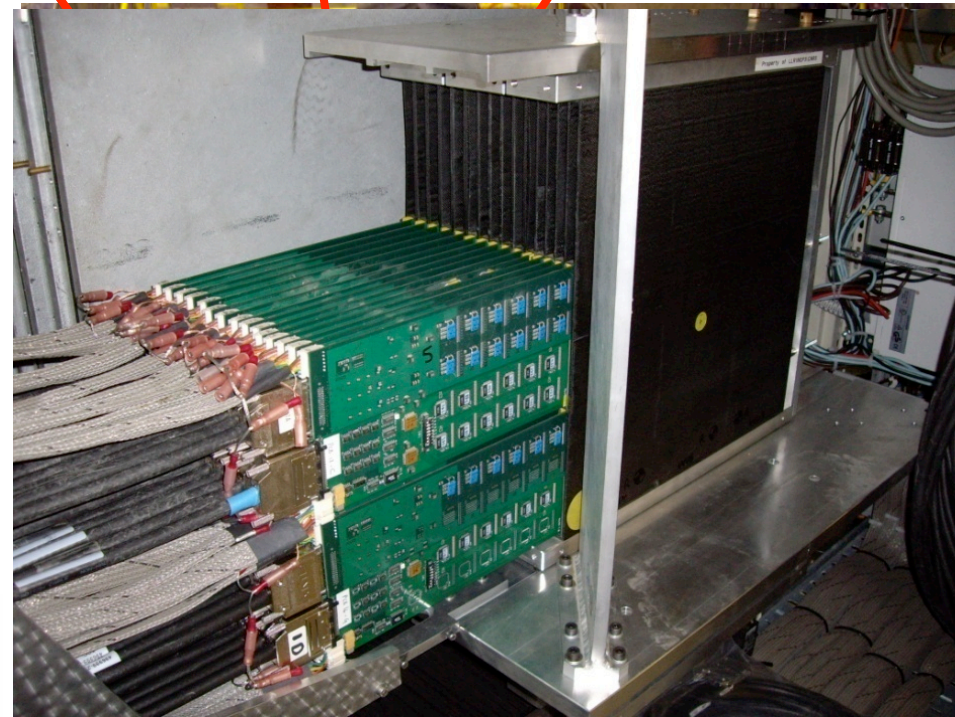




**Si-W  
ECAL**

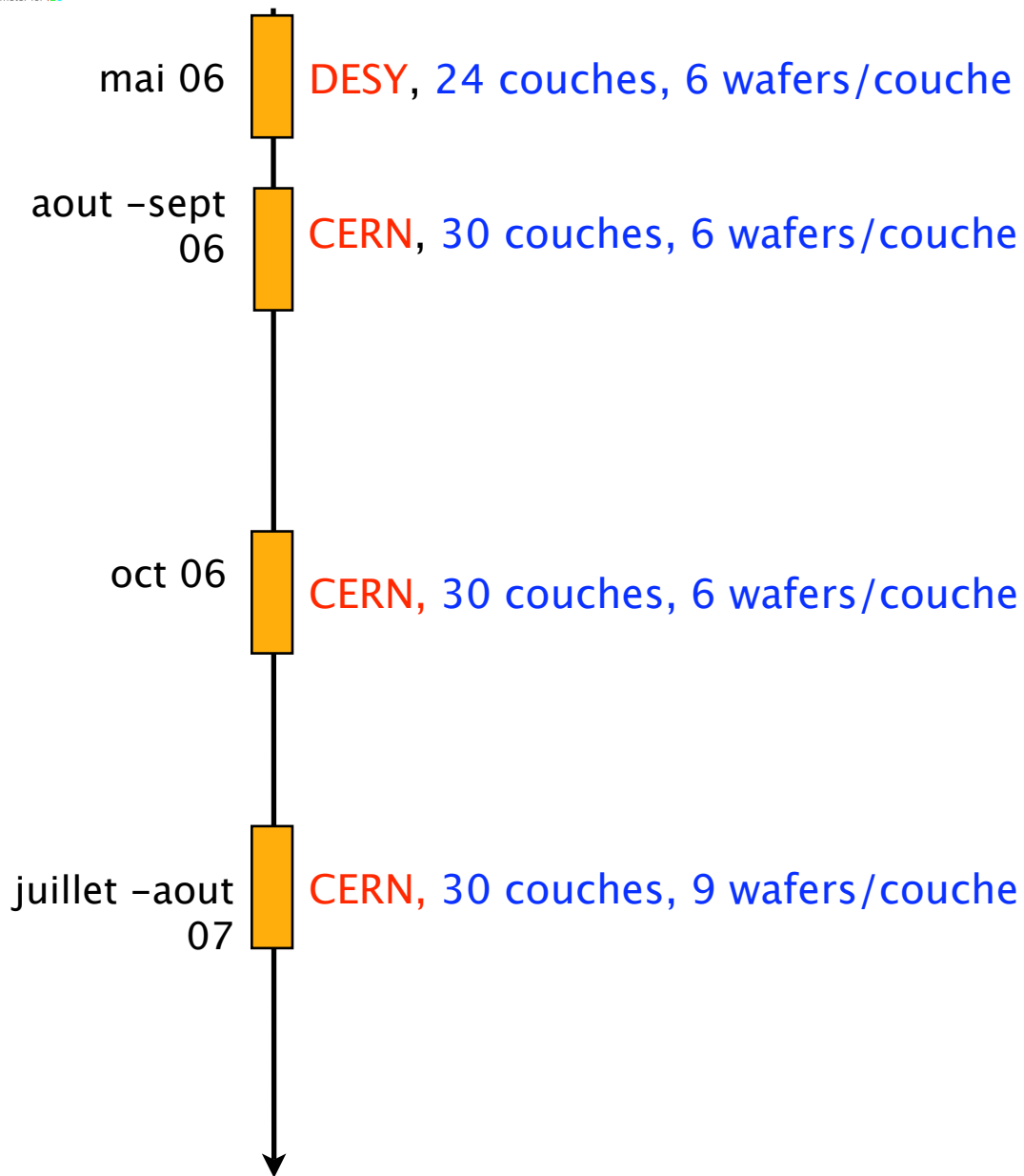
**HCAL**

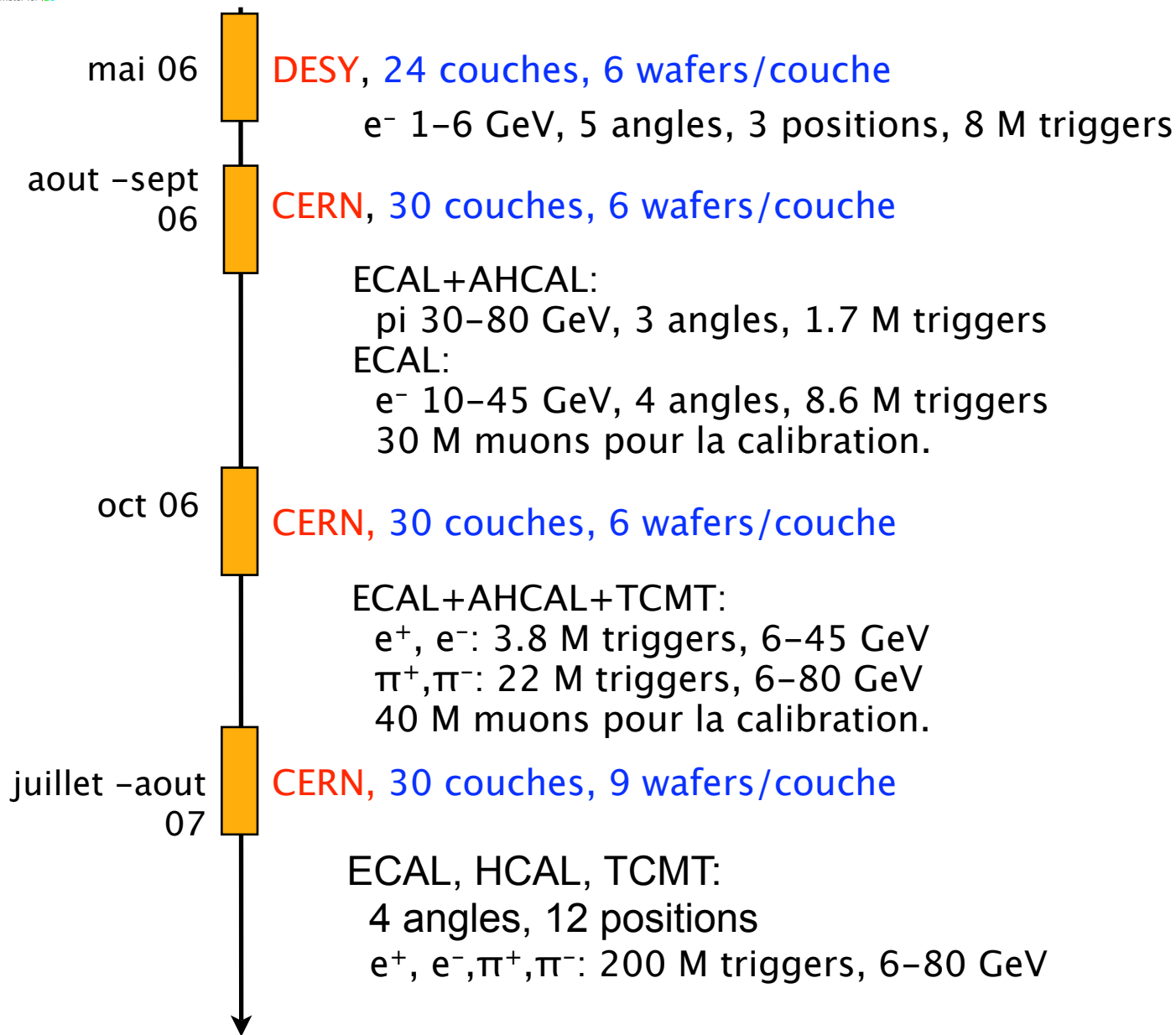
**Tail Catcher**

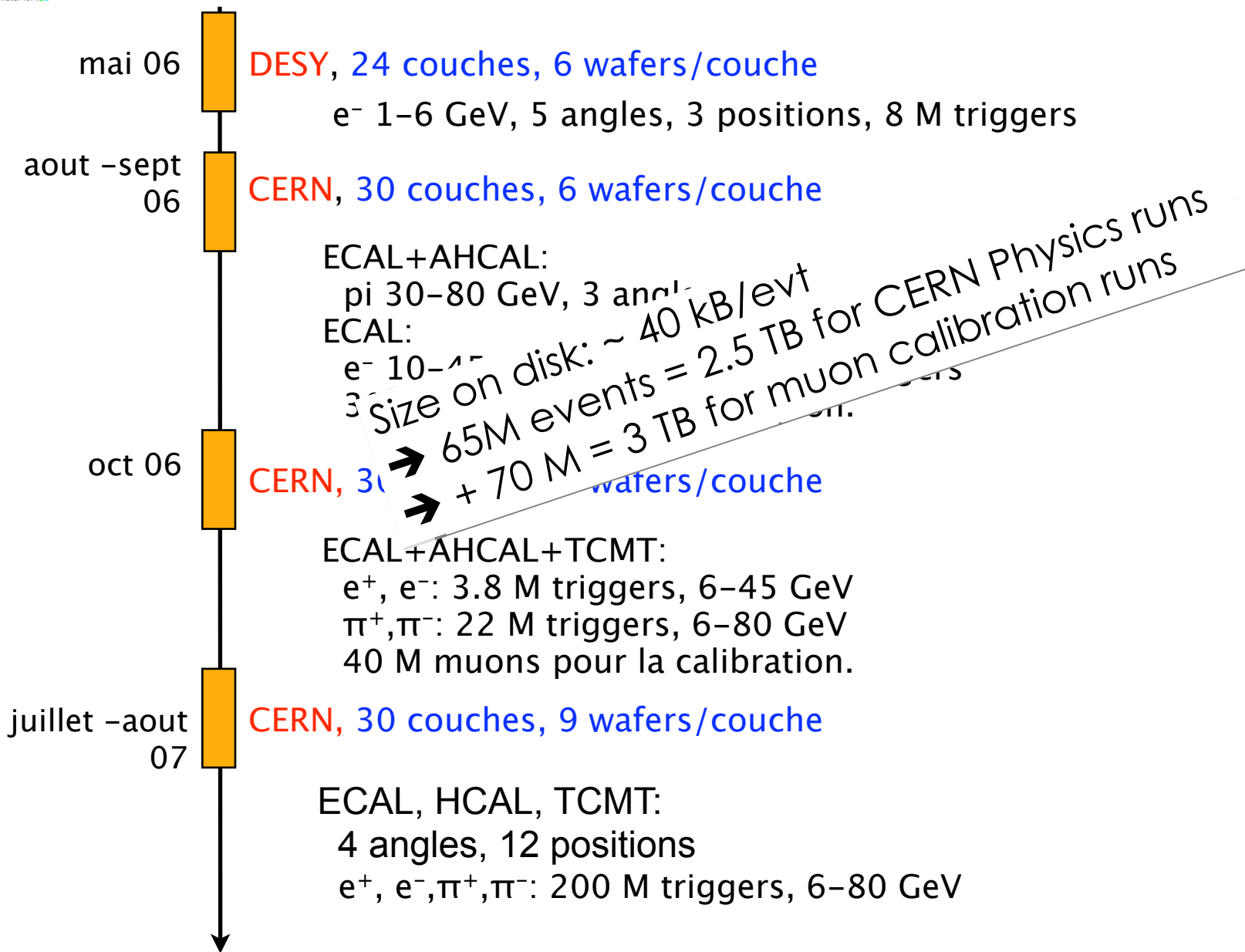


**Faisceau**

**CERN H6  
juin 2007**



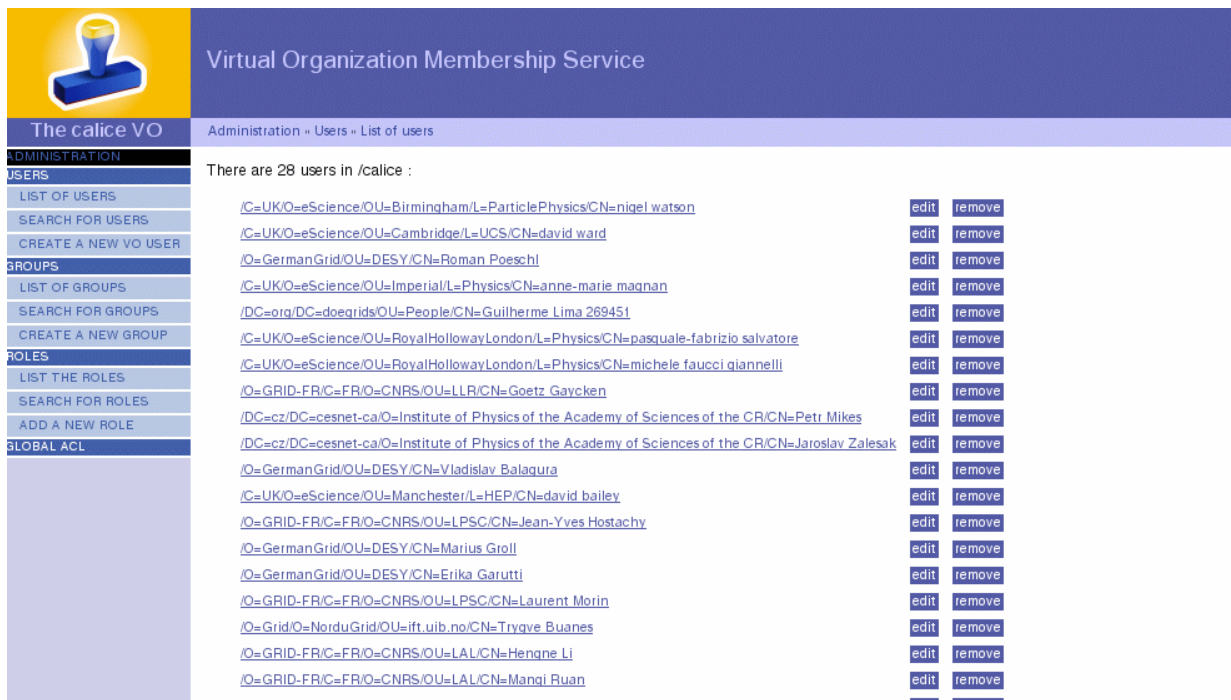




## Stockage et processing des données sur la grille (VO CALICE hébergée par DESY)



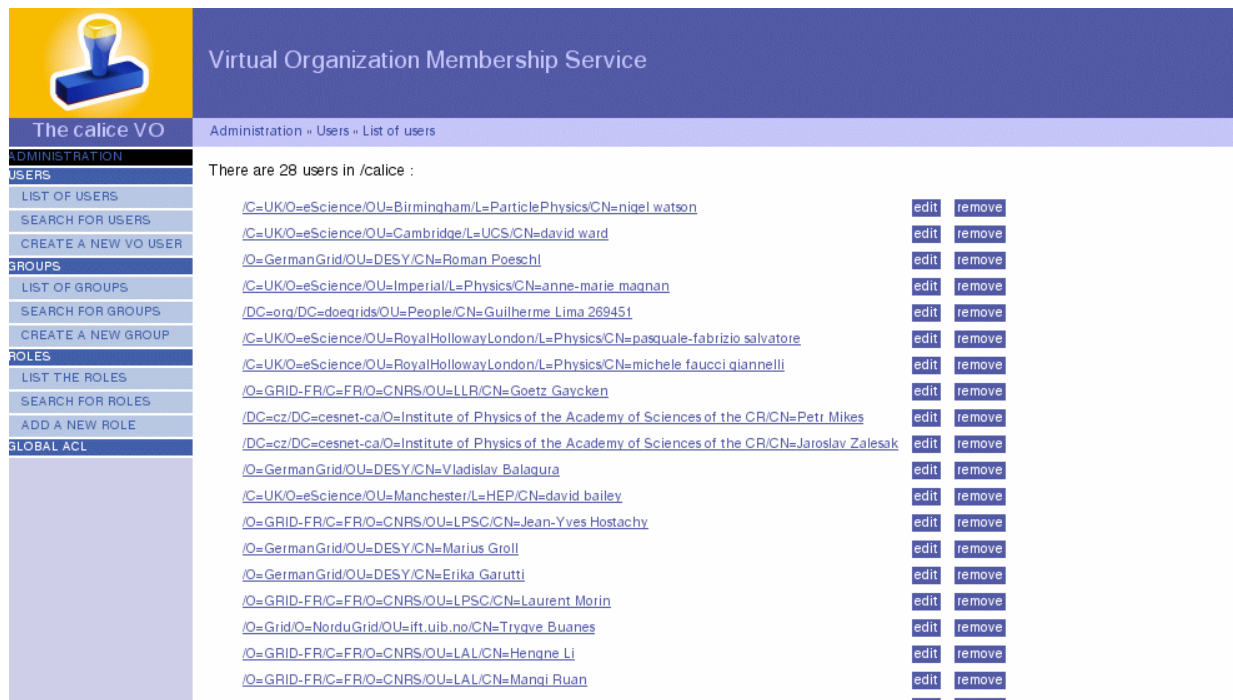
## Stockage et processing des données sur la grille (VO CALICE hébergée par DESY)



The interface shows the 'Virtual Organization Membership Service' for 'The calice VO'. It lists 28 users with their LDAP identifiers and 'edit'/'remove' buttons.

ADMINISTRATION	Administration » Users » List of users	
<b>USERS</b>	There are 28 users in /calice :	
LIST OF USERS	<a href="#">/C=UK/O=eScience/OU=Birmingham/L=ParticlePhysics/CN=nigel.watson</a>	<a href="#">edit</a> <a href="#">remove</a>
SEARCH FOR USERS	<a href="#">/C=UK/O=eScience/OU=Cambridge/L=UCS/CN=david.ward</a>	<a href="#">edit</a> <a href="#">remove</a>
CREATE A NEW VO USER	<a href="#">/O=GermanGrid/OU=DESY/CN=Roman.Poeschl</a>	<a href="#">edit</a> <a href="#">remove</a>
<b>GROUPS</b>	<a href="#">/C=UK/O=eScience/OU=Imperial/L=Physics/CN=anne-marie.magnan</a>	<a href="#">edit</a> <a href="#">remove</a>
LIST OF GROUPS	<a href="#">/DC=org/DC=doegrids/OU=People/CN=Guilherme.Lima.269451</a>	<a href="#">edit</a> <a href="#">remove</a>
SEARCH FOR GROUPS	<a href="#">/C=UK/O=eScience/OU=RoyalHollowayLondon/L=Physics/CN=pasquale-fabrizio.salvatore</a>	<a href="#">edit</a> <a href="#">remove</a>
CREATE A NEW GROUP	<a href="#">/C=UK/O=eScience/OU=RoyalHollowayLondon/L=Physics/CN=michele.faucci.giannelli</a>	<a href="#">edit</a> <a href="#">remove</a>
<b>ROLES</b>	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LLR/CN=Goetz.Gaycken</a>	<a href="#">edit</a> <a href="#">remove</a>
LIST THE ROLES	<a href="#">/DC=cz/DC=cesnet-ca/O=Institute of Physics of the Academy of Sciences of the CR/CN=Petr.Mikes</a>	<a href="#">edit</a> <a href="#">remove</a>
SEARCH FOR ROLES	<a href="#">/DC=cz/DC=cesnet-ca/O=Institute of Physics of the Academy of Sciences of the CR/CN=Jaroslav.Zalesak</a>	<a href="#">edit</a> <a href="#">remove</a>
ADD A NEW ROLE	<a href="#">/O=GermanGrid/OU=DESY/CN=Vladislav.Balagura</a>	<a href="#">edit</a> <a href="#">remove</a>
<b>GLOBAL ACL</b>	<a href="#">/C=UK/O=eScience/OU=Manchester/L=HEP/CN=david.bailey</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LPSIC/CN=Jean-Yves.Hostachy</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GermanGrid/OU=DESY/CN=Marius.Groll</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GermanGrid/OU=DESY/CN=Erika.Garutti</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LPSIC/CN=Laurent.Morin</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=Grid/O=NorduGrid/OU=ift.uib.no/CN=Trygve.Buanes</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LAL/CN=Henqne.Li</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LAL/CN=Manqi.Ruan</a>	<a href="#">edit</a> <a href="#">remove</a>

## Stockage et processing des données sur la grille (VO CALICE hébergée par DESY)



The screenshot shows the 'Virtual Organization Membership Service' interface for 'The calice VO'. It displays a list of 28 users with their LDAP-style identifiers and 'edit'/'remove' buttons for each.

ADMINISTRATION	Users	Actions
ADMINISTRATION	Administration » Users » List of users	
USERS	There are 28 users in /calice :	
LIST OF USERS	<a href="#">/C=UK/O=eScience/OU=Birmingham/L=ParticlePhysics/CN=nigel.watson</a>	<a href="#">edit</a> <a href="#">remove</a>
SEARCH FOR USERS	<a href="#">/C=UK/O=eScience/OU=Cambridge/L=UCS/CN=david.ward</a>	<a href="#">edit</a> <a href="#">remove</a>
CREATE A NEW VO USER	<a href="#">/O=GermanGrid/OU=DESY/CN=Roman.Poeschl</a>	<a href="#">edit</a> <a href="#">remove</a>
GROUPS	<a href="#">/C=UK/O=eScience/OU=Imperial/L=Physics/CN=anne-marie.magnan</a>	<a href="#">edit</a> <a href="#">remove</a>
LIST OF GROUPS	<a href="#">/DC=org/DC=doegrids/OU=People/CN=Guilherme.Lima.269451</a>	<a href="#">edit</a> <a href="#">remove</a>
SEARCH FOR GROUPS	<a href="#">/C=UK/O=eScience/OU=RoyalHollowayLondon/L=Physics/CN=pasquale.fabrizio.salvatore</a>	<a href="#">edit</a> <a href="#">remove</a>
CREATE A NEW GROUP	<a href="#">/C=UK/O=eScience/OU=RoyalHollowayLondon/L=Physics/CN=michele.faucci.giannelli</a>	<a href="#">edit</a> <a href="#">remove</a>
ROLES	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LLR/CN=Goetz.Gaycken</a>	<a href="#">edit</a> <a href="#">remove</a>
LIST THE ROLES	<a href="#">/DC=cz/DC=cesnet-ca/O=Institute of Physics of the Academy of Sciences of the CR/CN=Petr.Mikes</a>	<a href="#">edit</a> <a href="#">remove</a>
SEARCH FOR ROLES	<a href="#">/DC=cz/DC=cesnet-ca/O=Institute of Physics of the Academy of Sciences of the CR/CN=Jaroslav.Zalesak</a>	<a href="#">edit</a> <a href="#">remove</a>
ADD A NEW ROLE	<a href="#">/O=GermanGrid/OU=DESY/CN=Vladislav.Balagura</a>	<a href="#">edit</a> <a href="#">remove</a>
GLOBAL ACL	<a href="#">/C=UK/O=eScience/OU=Manchester/L=HEP/CN=david.bailey</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LPSIC/CN=Jean-Yves.Hostachy</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GermanGrid/OU=DESY/CN=Marius.Groll</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GermanGrid/OU=DESY/CN=Erika.Garutti</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LPSIC/CN=Laurent.Morin</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=Grid/O=NorduGrid/OU=ift.uib.no/CN=Trygve.Buanes</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LAL/CN=Henqne.Li</a>	<a href="#">edit</a> <a href="#">remove</a>
	<a href="#">/O=GRID-FR/C=FR/O=CNRS/OU=LAL/CN=Manqi.Ruan</a>	<a href="#">edit</a> <a href="#">remove</a>

Simulations Monte Carlo avec Mokka (basé sur Geant4), même programme utilisé pour ILD

Production et stockage centralisés, sur la grille...

Excellent fonctionnement du détecteur - très grande stabilité de l'électronique (monitorée en temps réel et calibrée avec des MIPs)

Sur l'ensemble des voies:

- 98,6% des voies fonctionnelles
- bruit moyen par voie : 0.13 MIPs
- dispersion du bruit voie à voie 0.012 MIPs

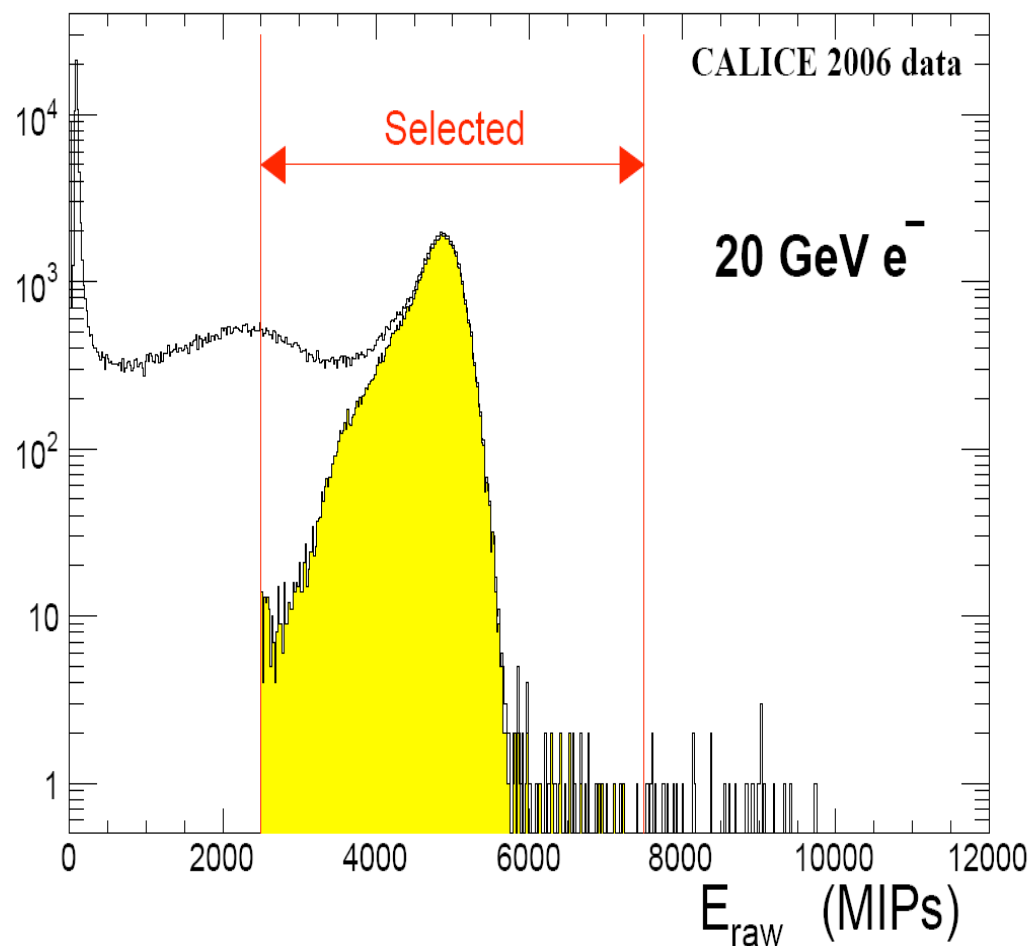
$$E_{\text{raw}} = \sum_{i=0}^{i=9} E_i + 2 \sum_{i=10}^{i=19} E_i + 3 \sum_{i=20}^{i=29} E_i$$

$$125 < E_{\text{raw}} / E_{\text{beam}} < 375$$

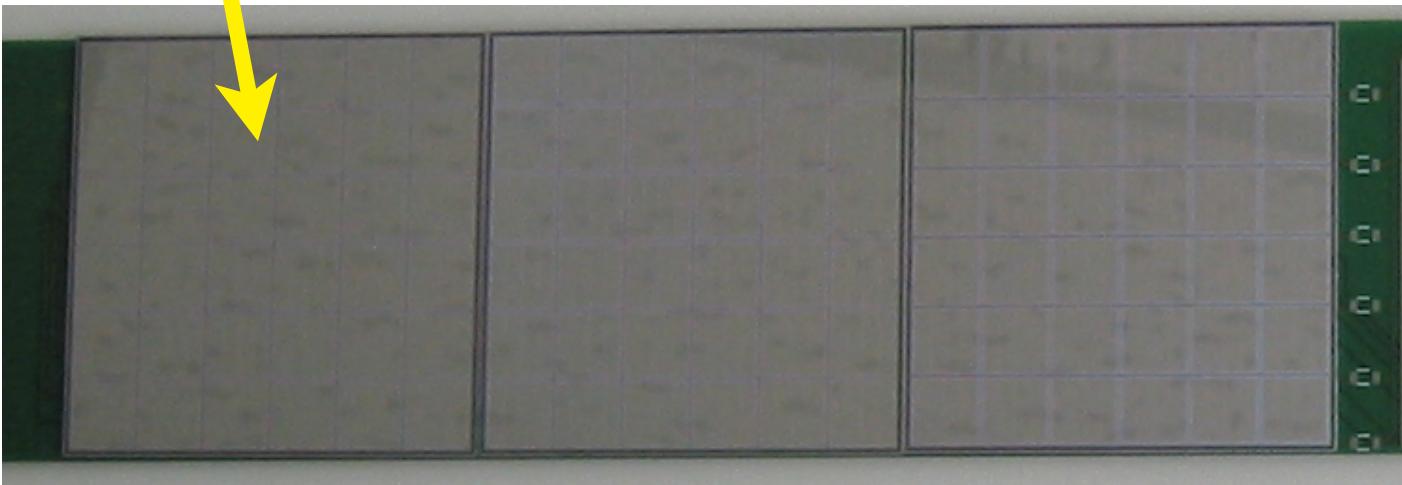
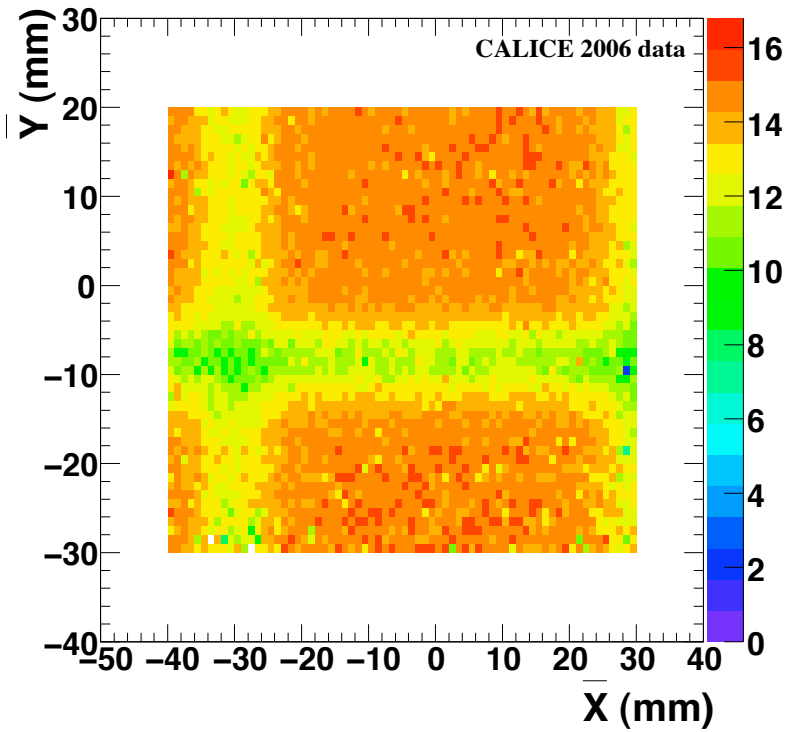
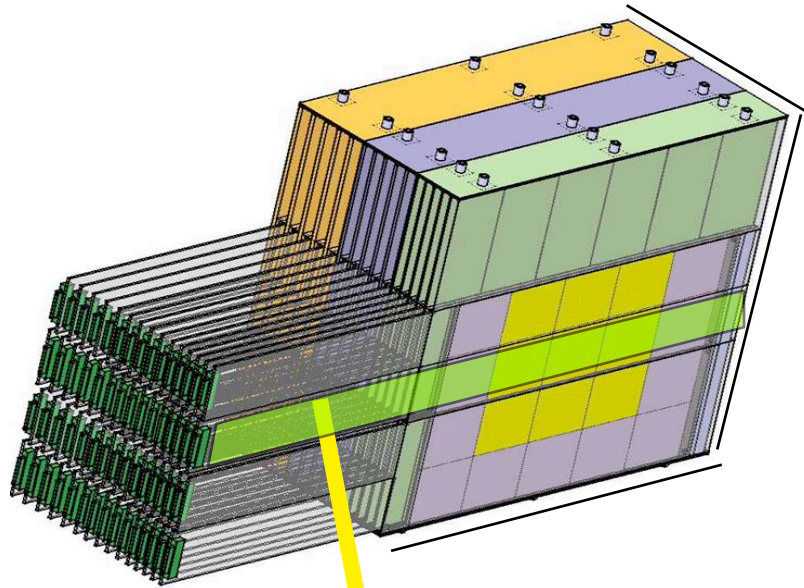
réjection des pions avec un détecteur Cerenkov en amont

réjection du halo du faisceau

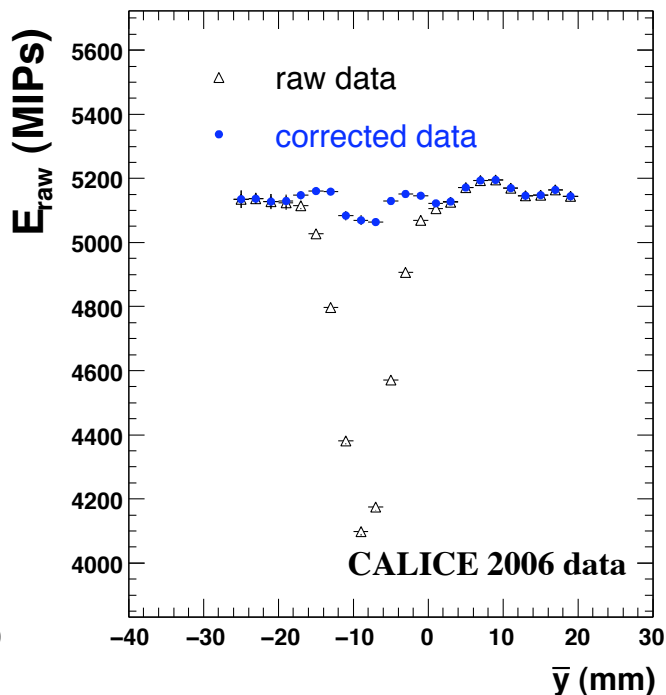
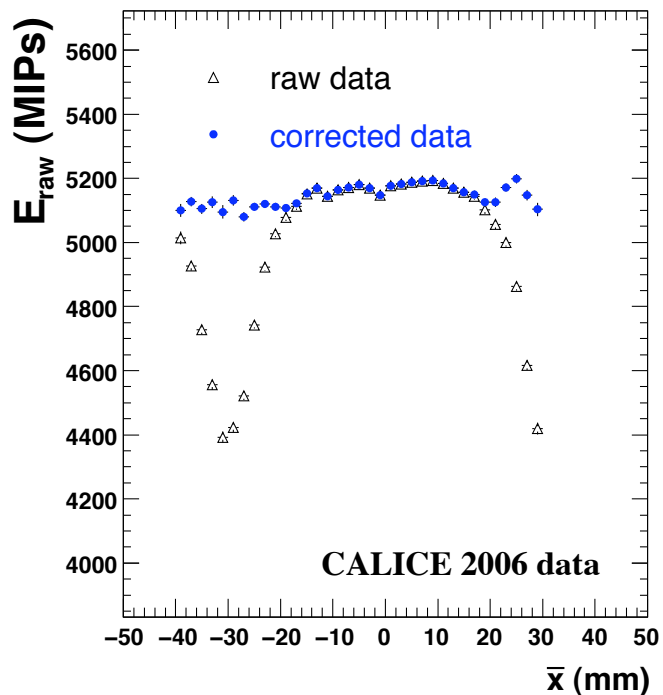
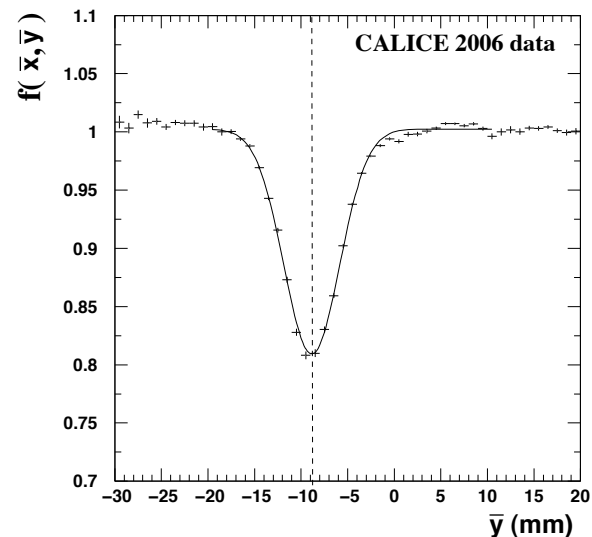
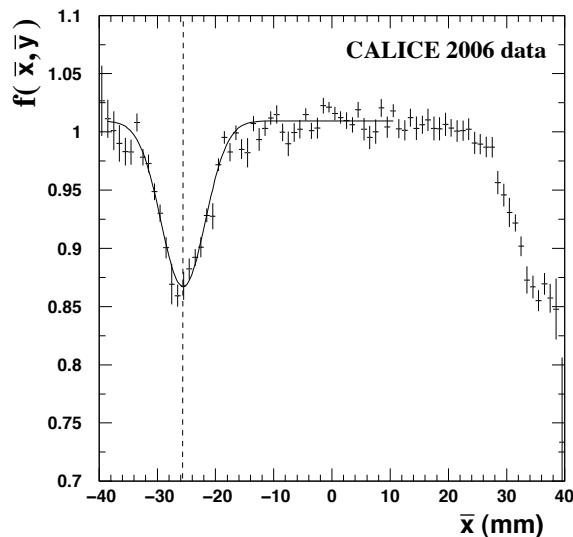
réjection des électrons qui rayonnent avant le ECAL

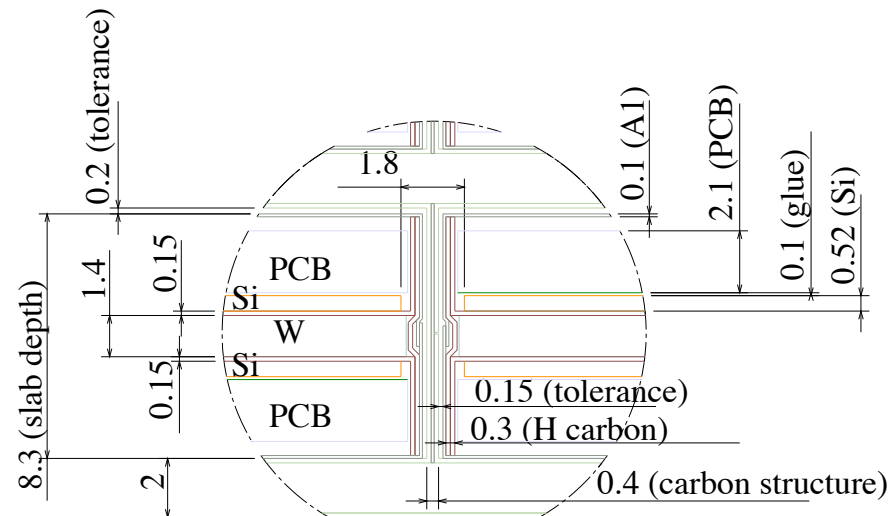
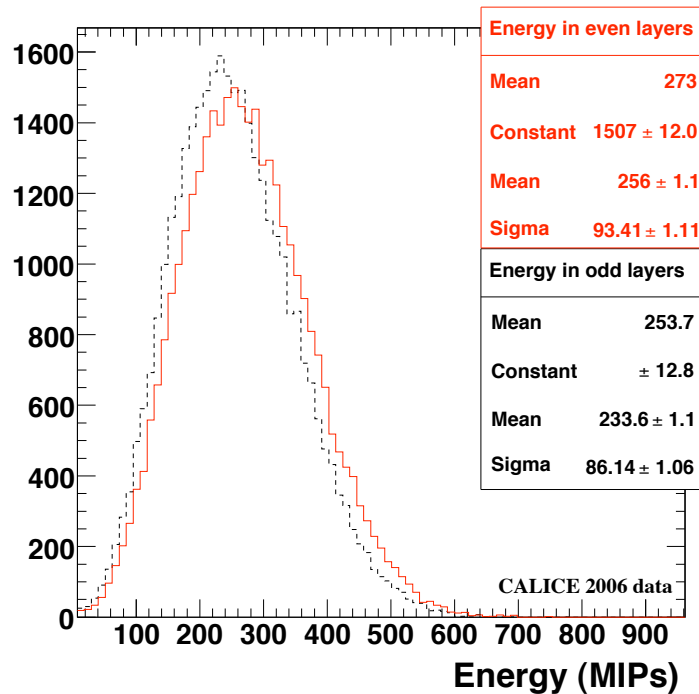




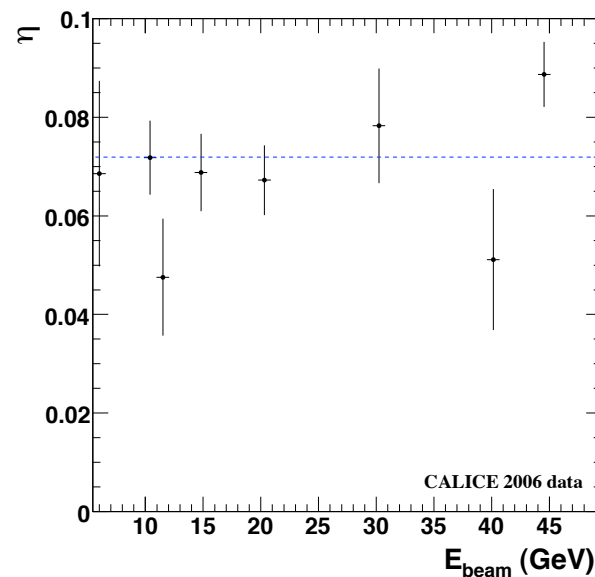


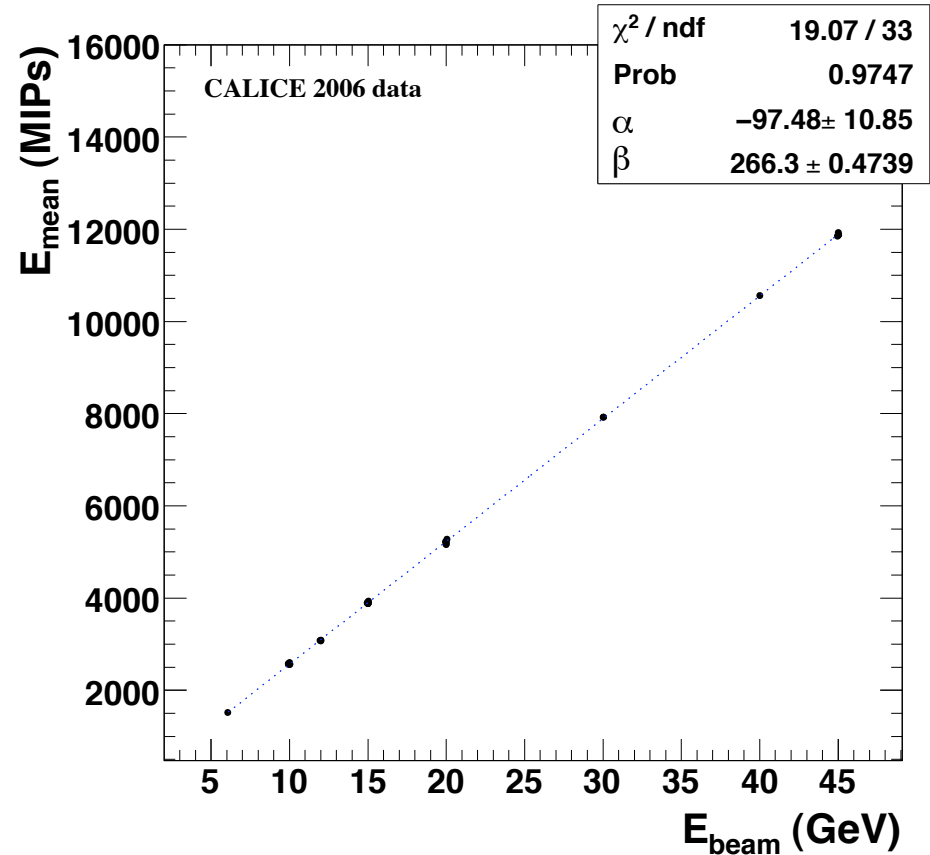
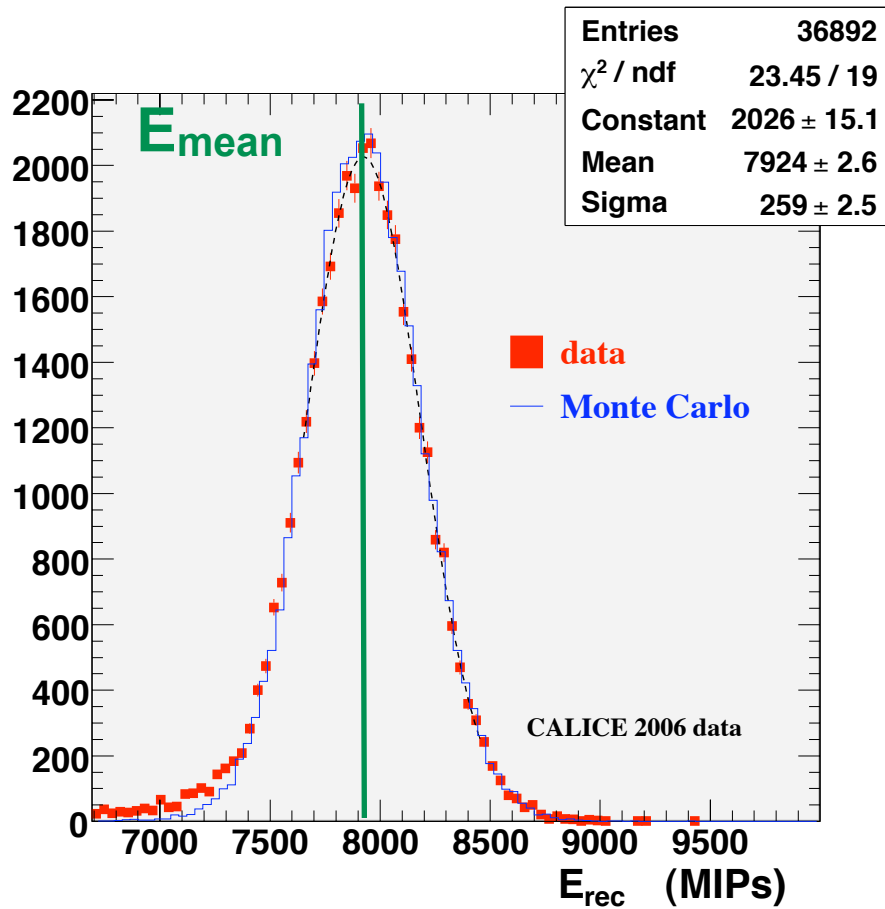
$$f(\bar{x}, \bar{y}) = E_{\text{raw}} / E_{\text{beam}}$$





$\eta$  = différence entre les facteurs d'échantillonnage des couches paires et impaires

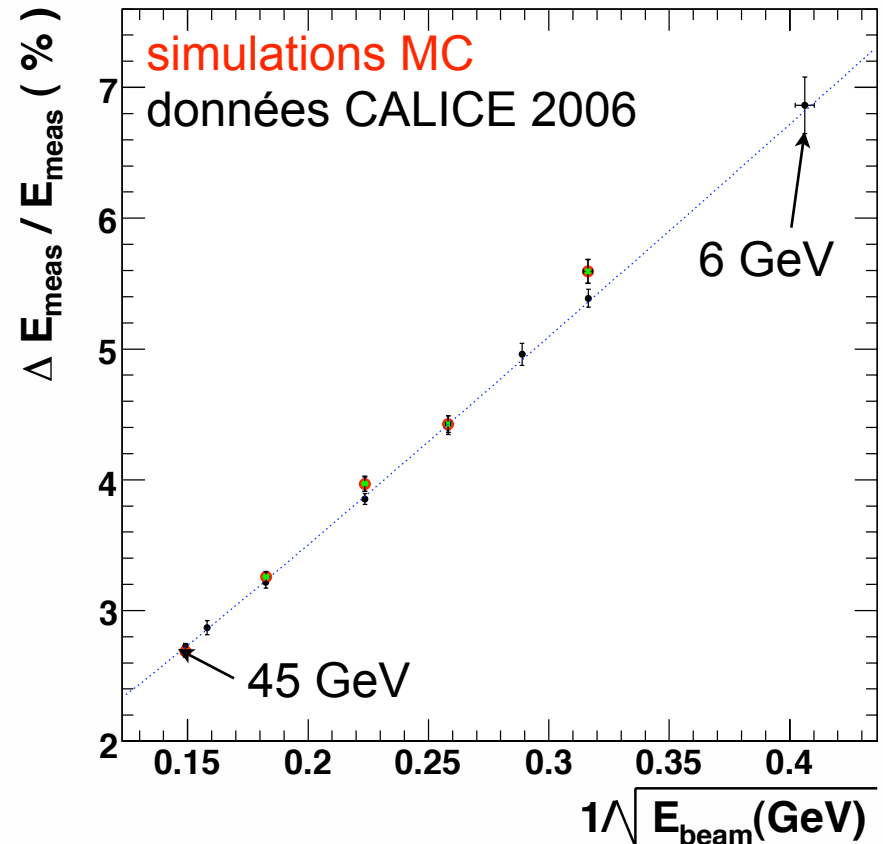
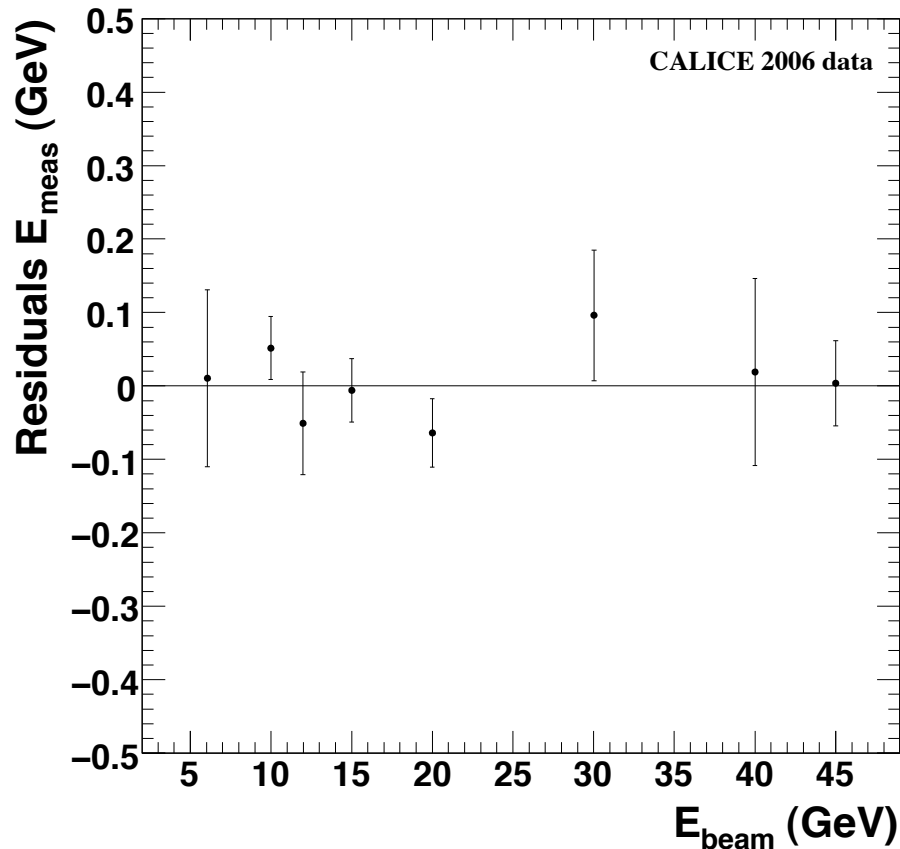




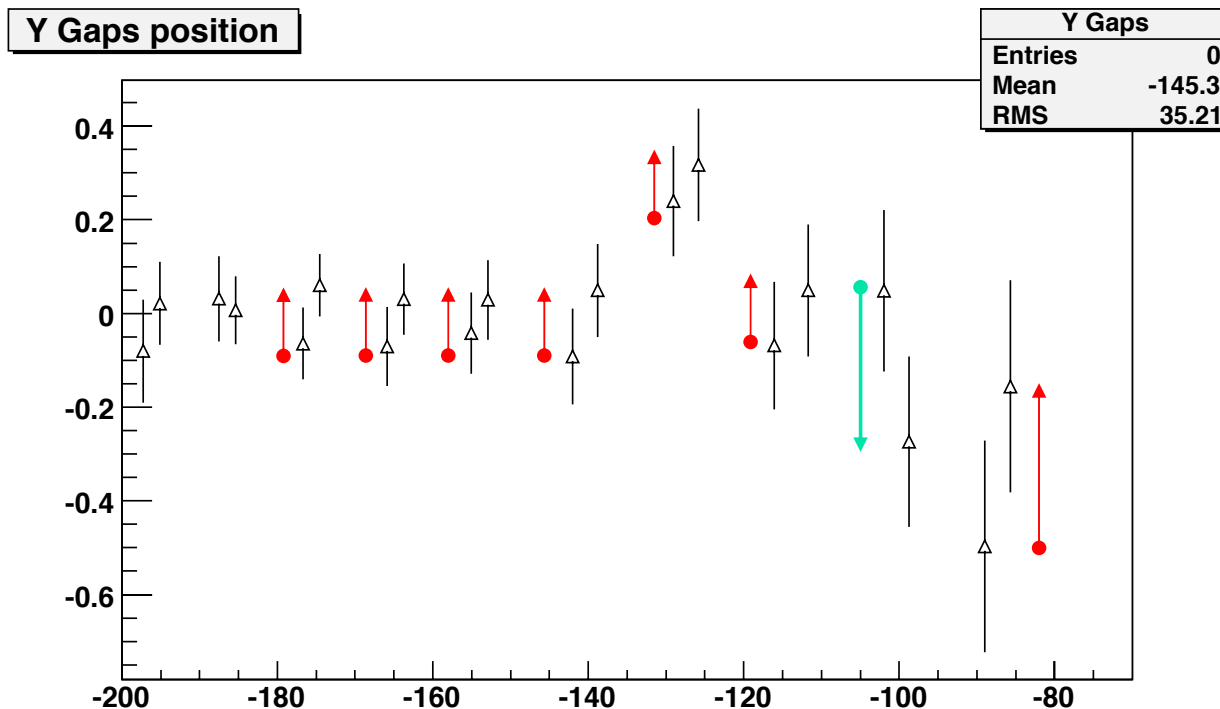
$$E_{\text{meas}} = E_{\text{mean}} + \alpha$$



$$\frac{\Delta E}{E} (\%) = \frac{16.7 \pm 0.1}{\sqrt{E} \text{ (GeV)}} \oplus (1.1 \pm 0.1)$$



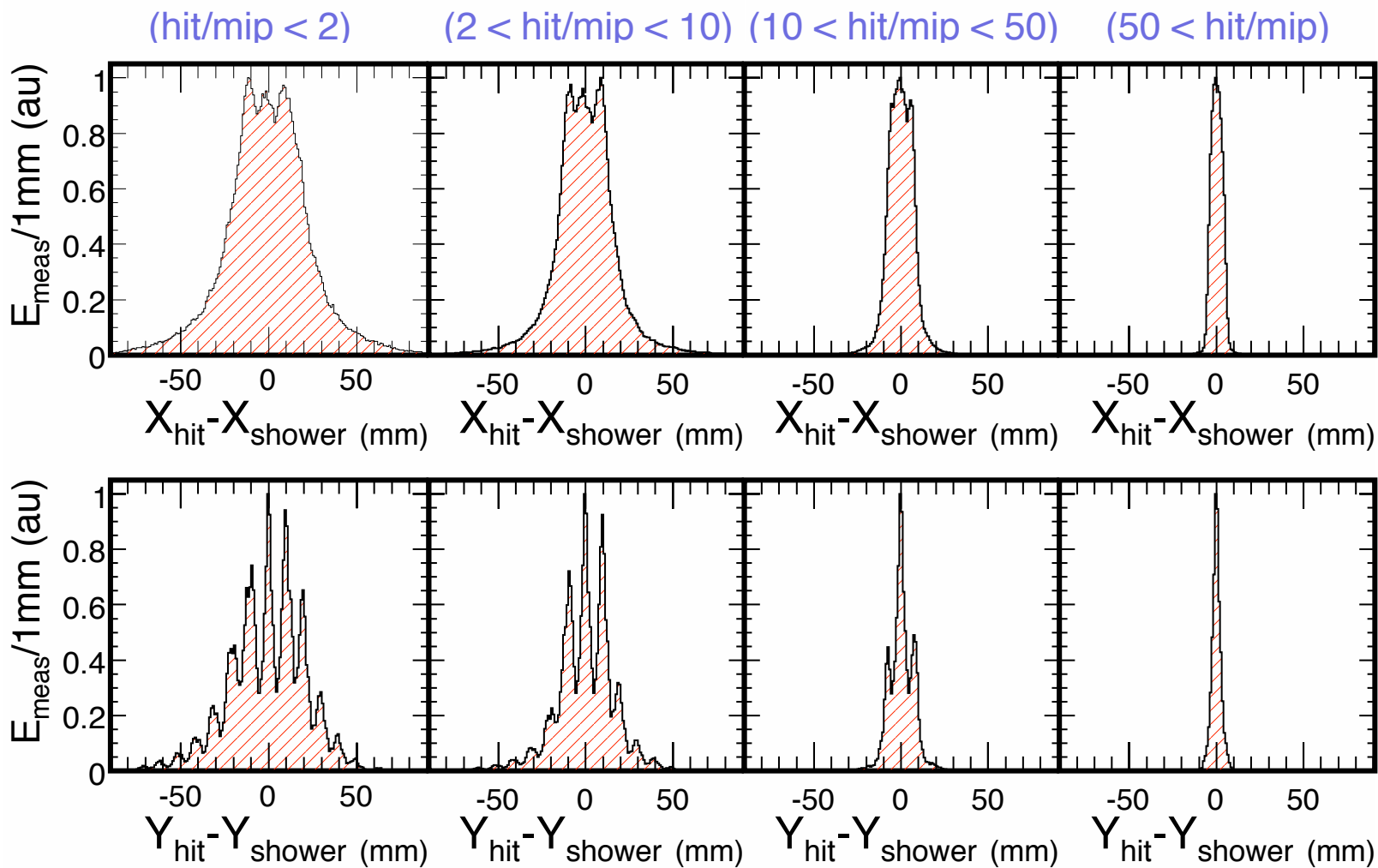
$$\frac{\Delta E}{E} (\%) = \frac{17.2 \pm 0.3}{\sqrt{E} \text{ (GeV)}} \oplus (0.8 \pm 0.2)$$

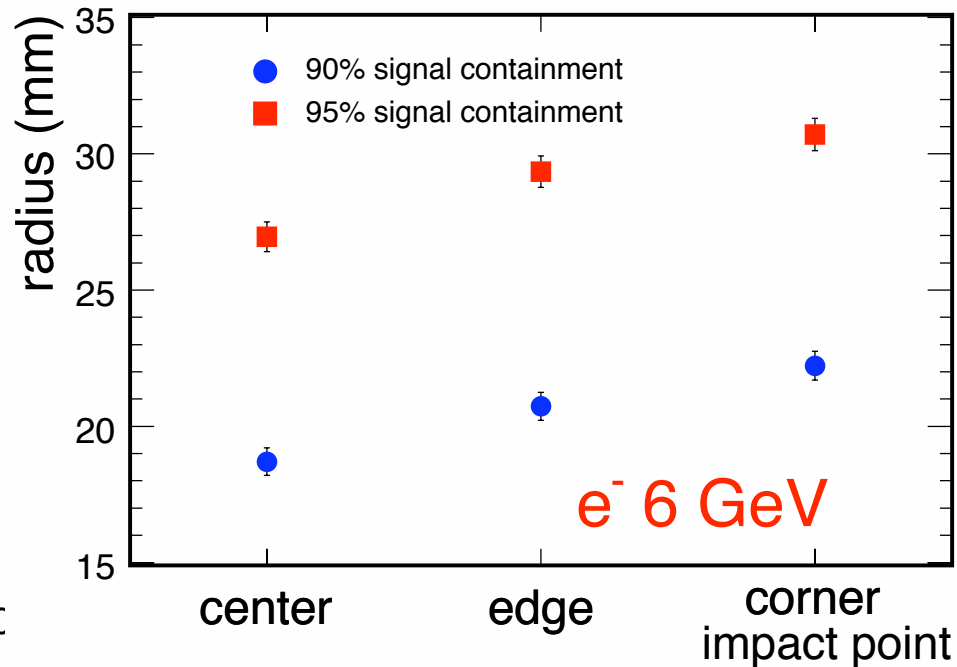
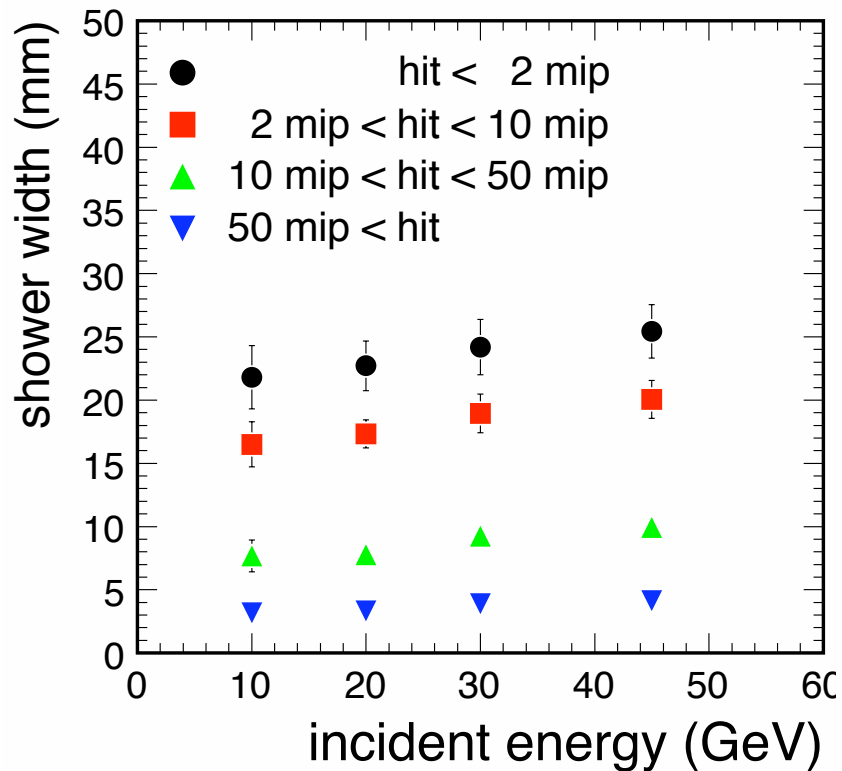


↑ Systematic shift in a slab

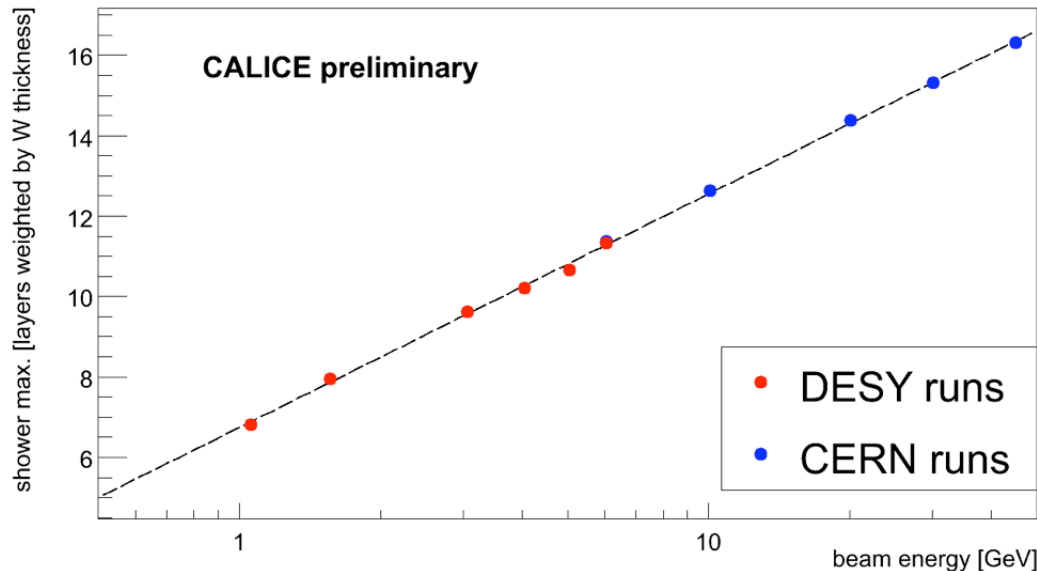
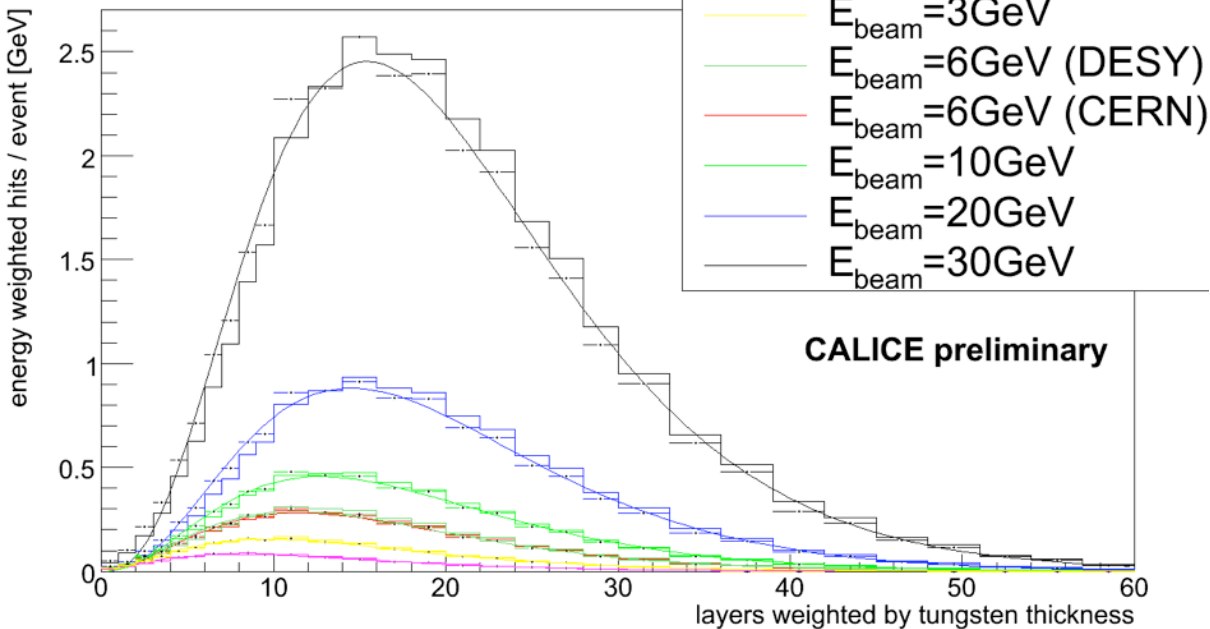
↓ The 9<sup>th</sup> slab : singularity

- les défauts d'alignement observés en y inférieurs à 0.5 mm
- troisième stack déplacé de 1 mm par rapport aux deux premiers

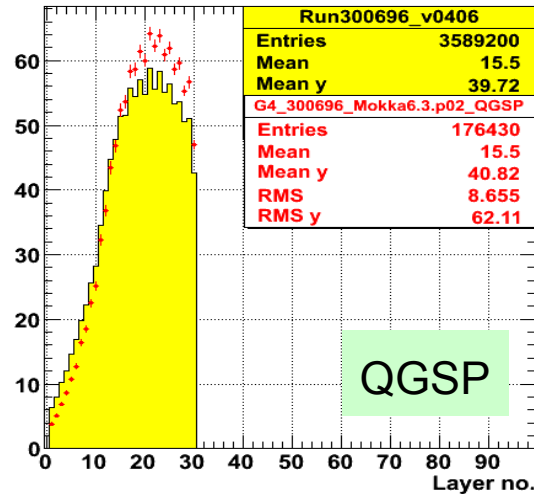




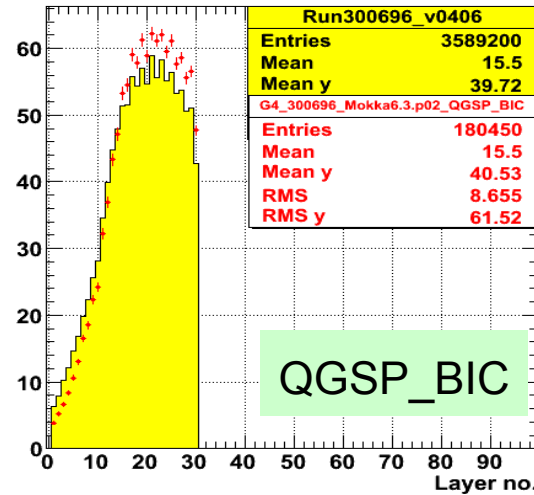




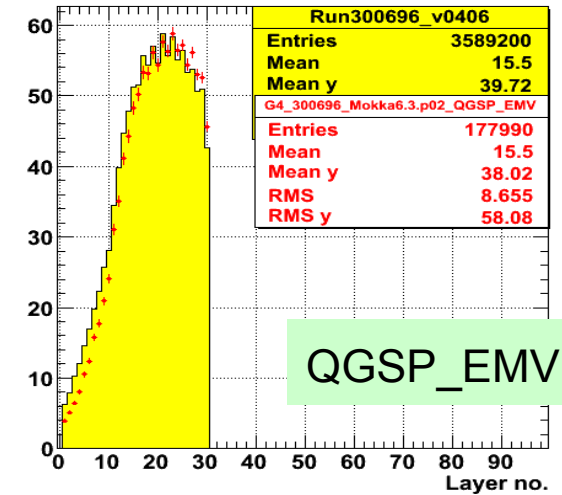
Energy v Plane



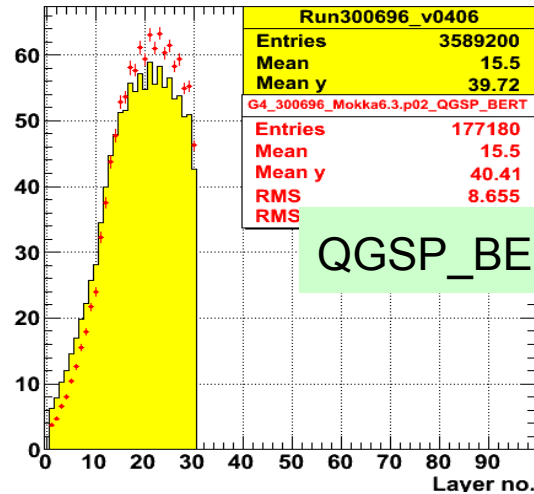
Energy v Plane



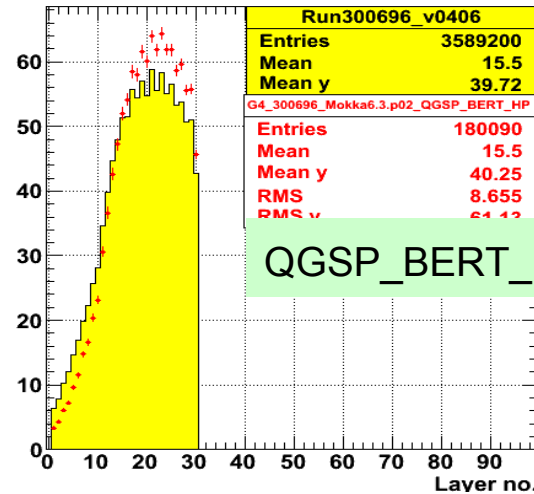
Energy v Plane



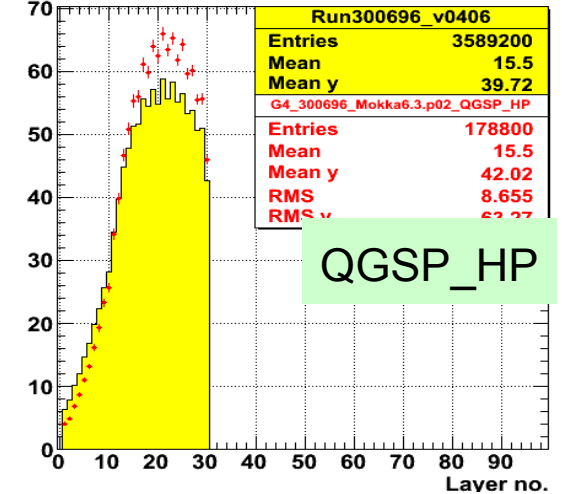
Energy v Plane

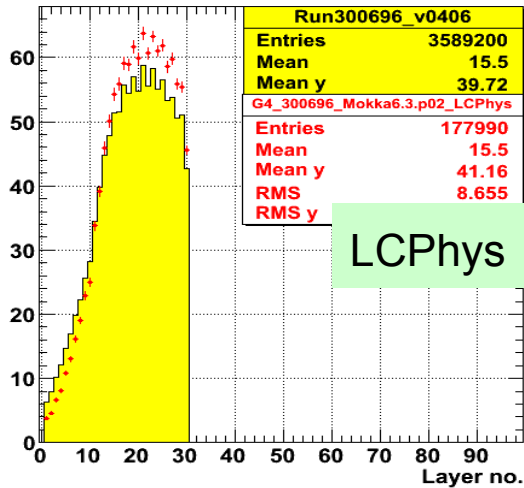
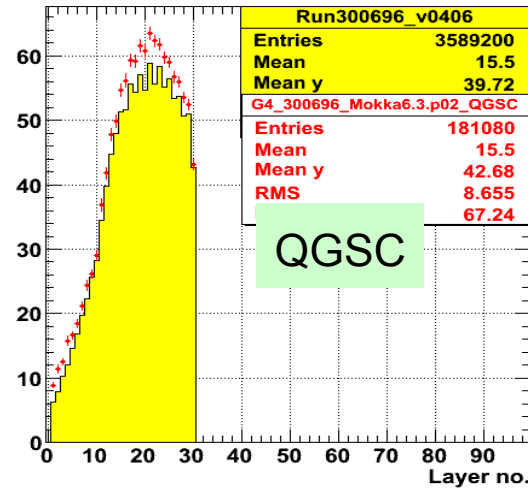
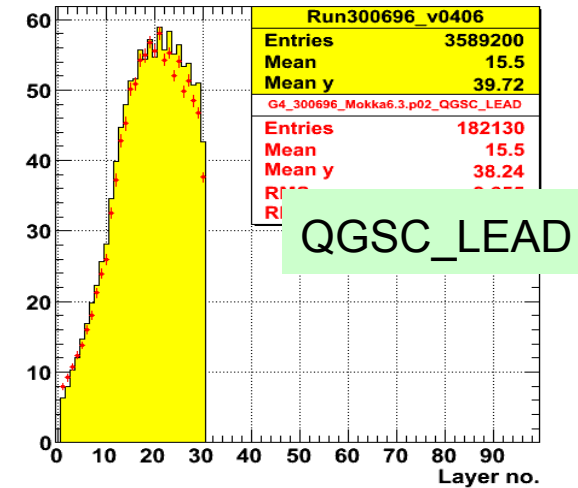
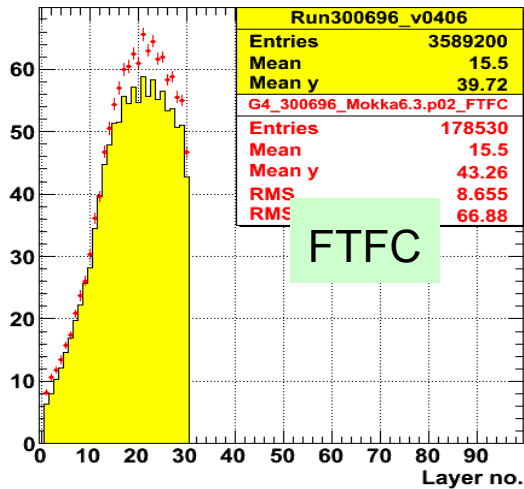
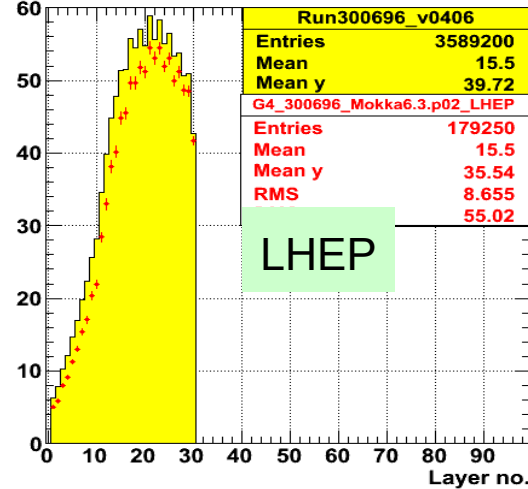
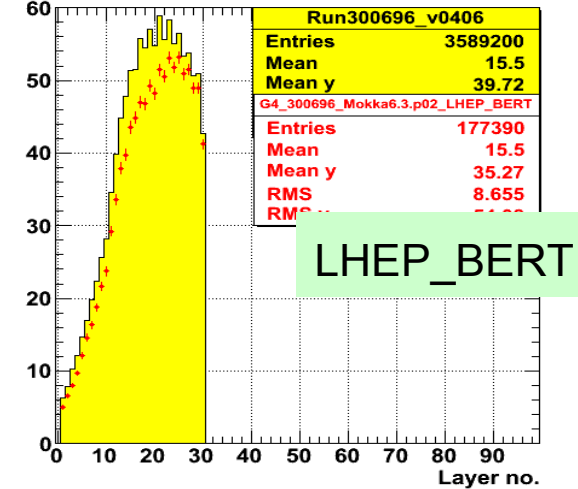


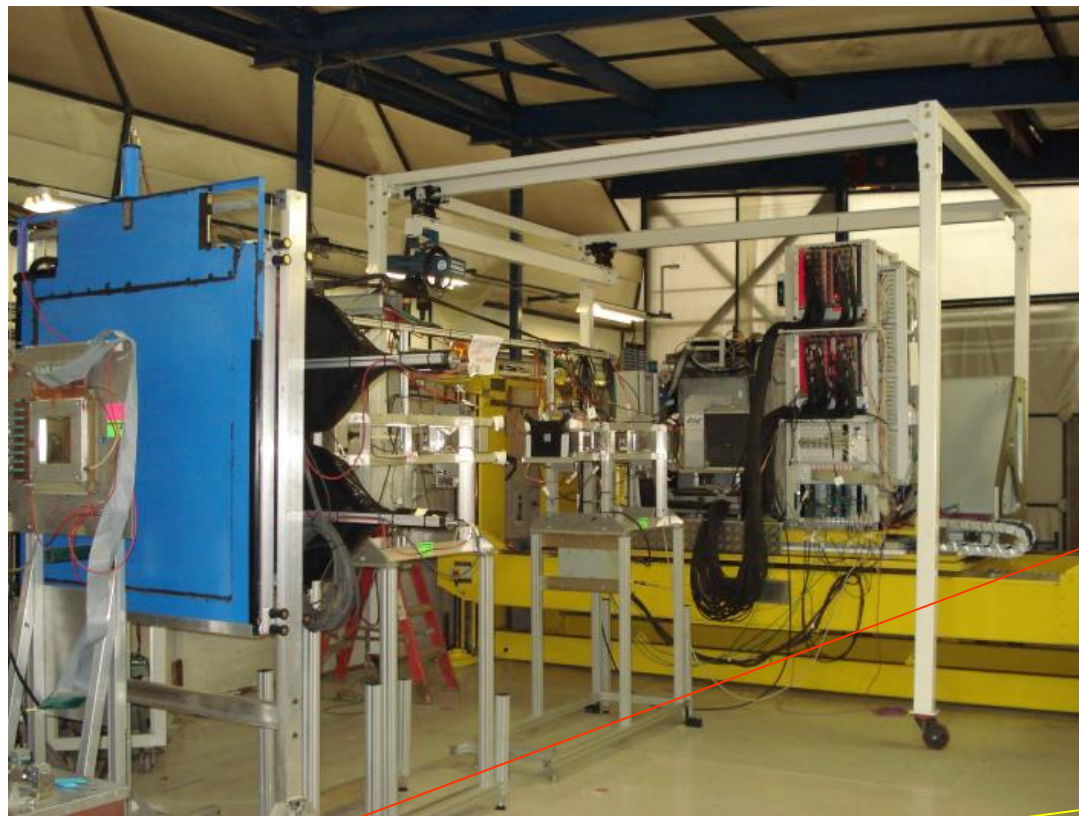
Energy v Plane



Energy v Plane



**Energy v Plane**

**Energy v Plane**

**Energy v Plane**

**Energy v Plane**

**Energy v Plane**

**Energy v Plane**




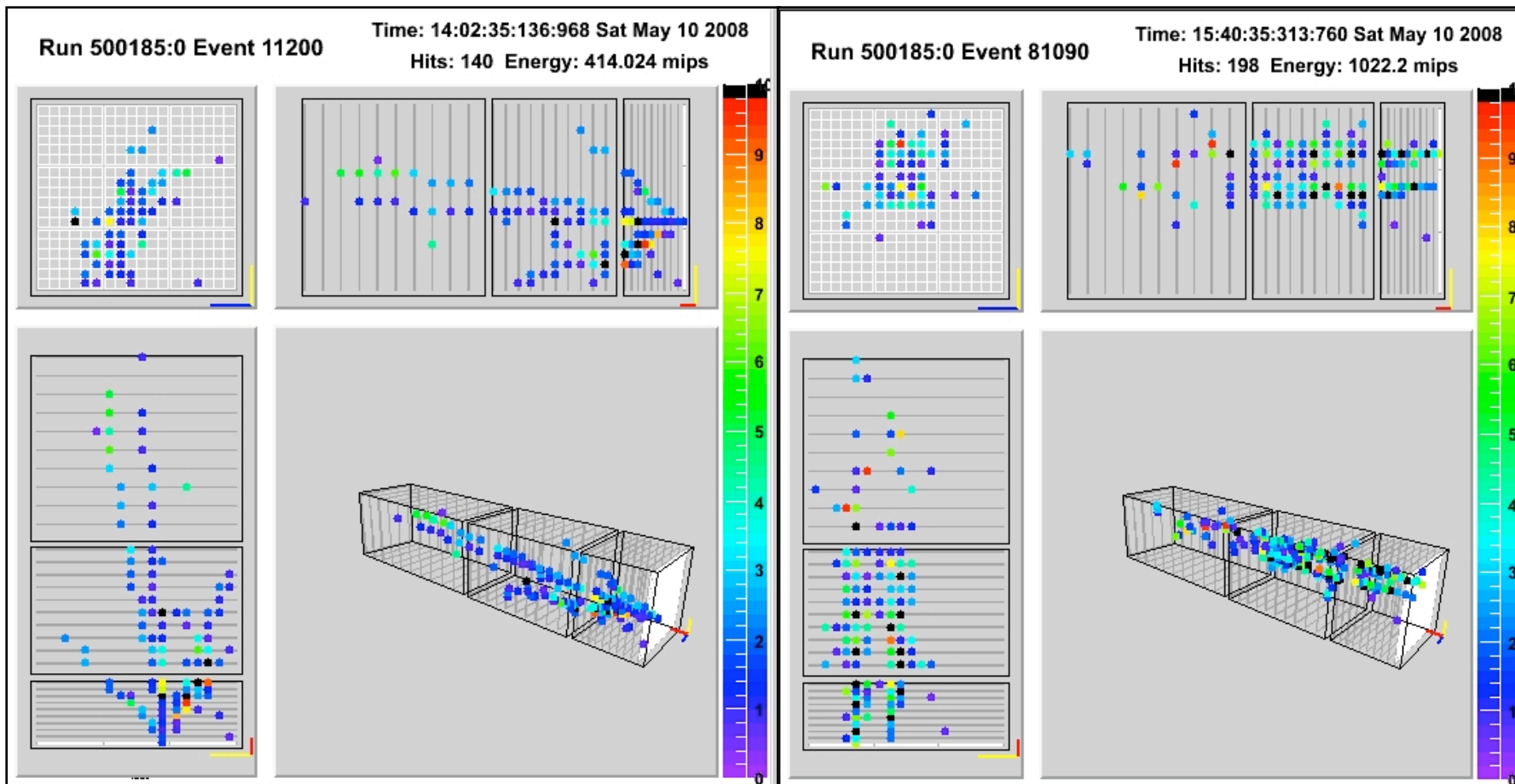
- 1-27 May & 8-29 July 2008 – SiWECAL+AHCAL
- 1-23 September 2008 – SciWECAL+AHCAL

$\pi^\pm/e^\pm$  6, 10, 12, 15, 20, 30, 40, 60 GeV

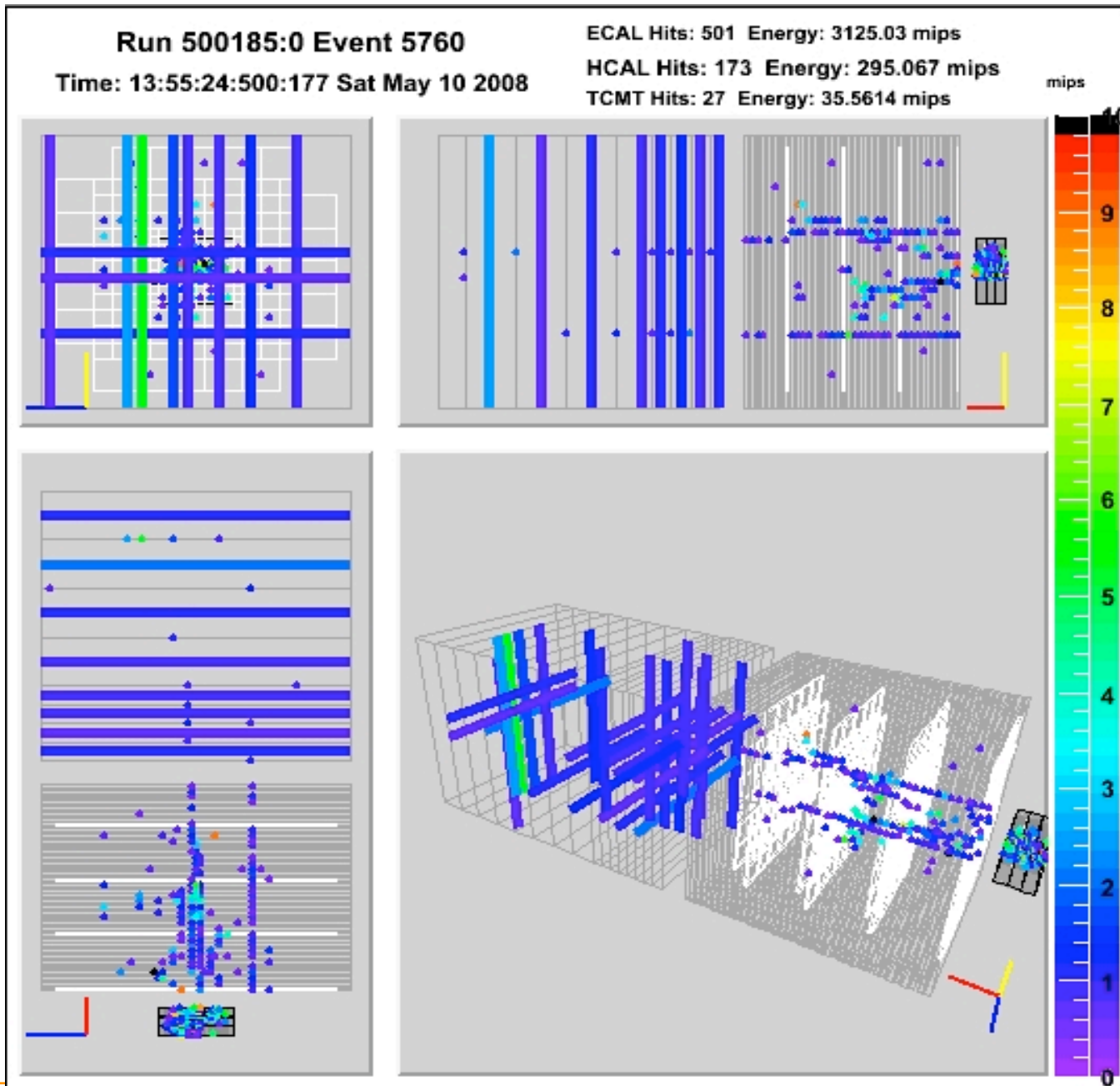
... et protons de basse énergie



# Accent dans le futur (>2008) la reponse aux hadrons !



**FNAL 8 GeV pion beam**



Quatre laboratoires ( LAL Orsay, LLR Ecole Polytechnique, LPC Clermont, LPSC Grenoble) impliqués dans l'analyse des données.

Un article soumis fin mai sur le comissioning du détecteur (EJPh),

Un article en revue interne CALICE, à soumettre à NIM.

... et six notes internes/publiques CALICE ...

**Beaucoup de choses intéressantes à faire,  
nouvelles contributions bienvenues!**