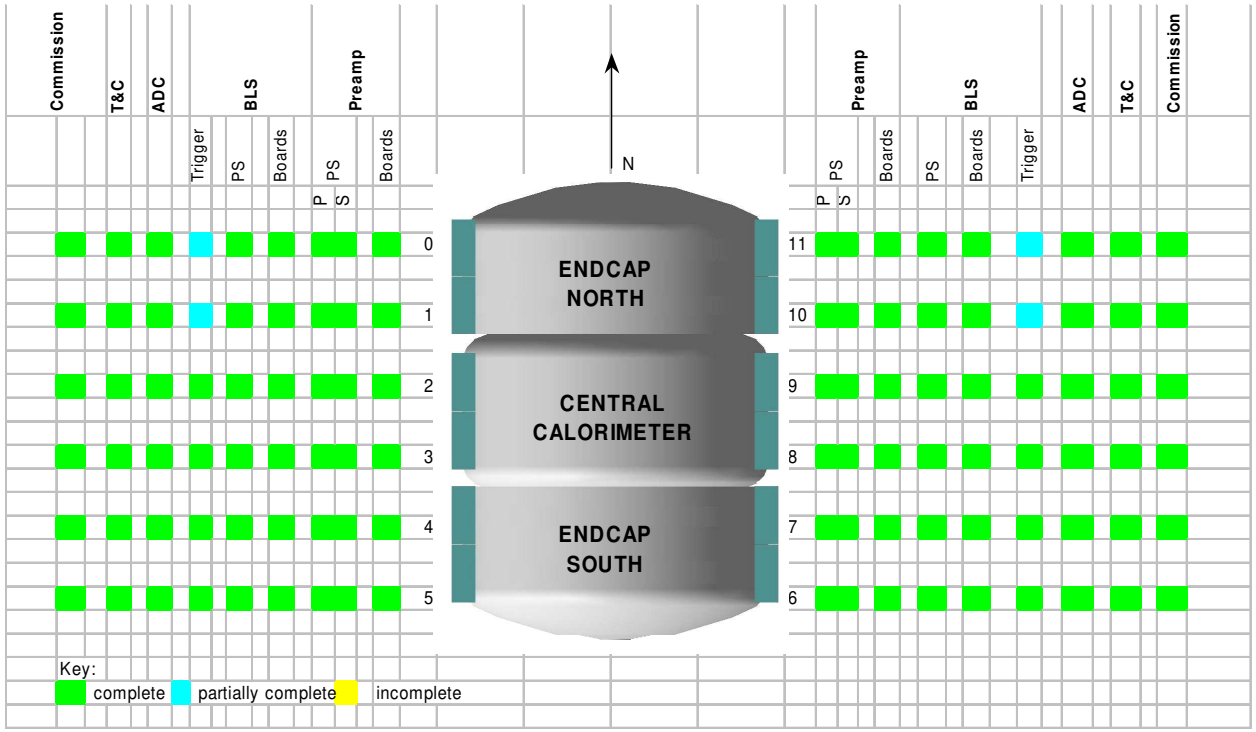
# Calorimeter Status

- **BLS boards (1152): CC/ECS completed**

  **ECN 36 L/M boards to be installed:** 10 at FNAL, 26 at SUNY (3 weeks)

- **Trigger summers: all summers, except 29,30 (high η) installed**

  **170 BLS boards to be stuffed** (depending on access)




⇒calorimeter operational for data taking

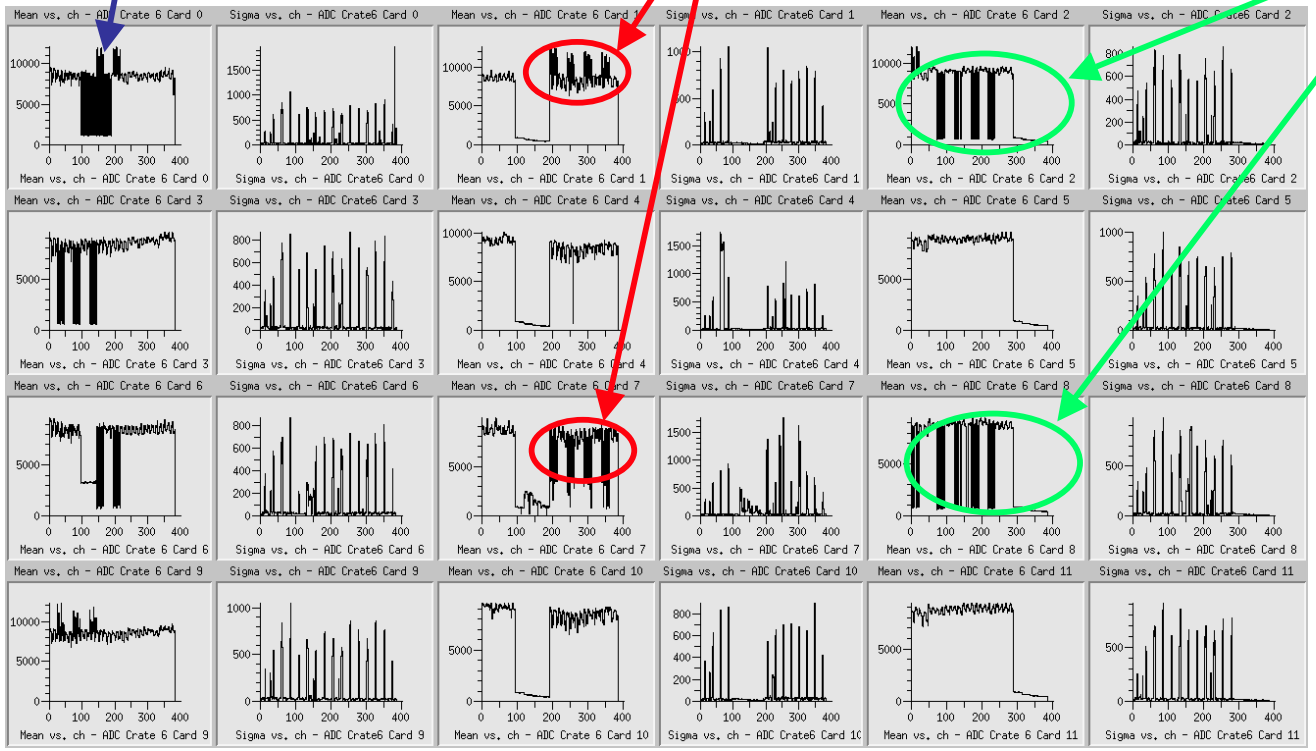
⇒bad channels at ~1% level

⇒ L1-cal trigger in CC used during stores

# Debugging of calorimeter electronics

bad BLS crate controller

bad "little black cables"

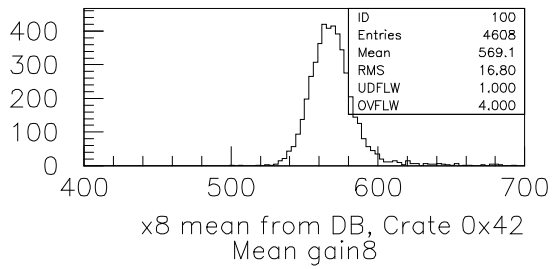


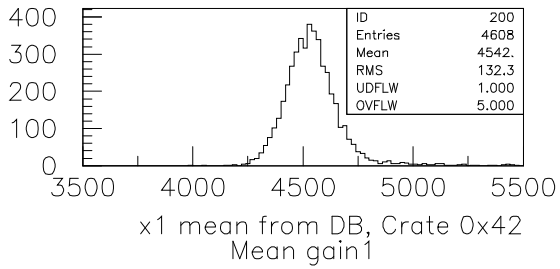

bad pulser channel:

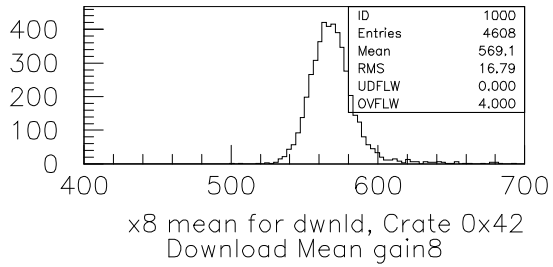
- ~ 5 switches
- 1 current cable squeezed between FanOut and PAmpBox

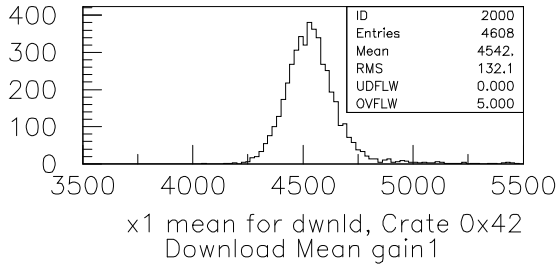
and many others...

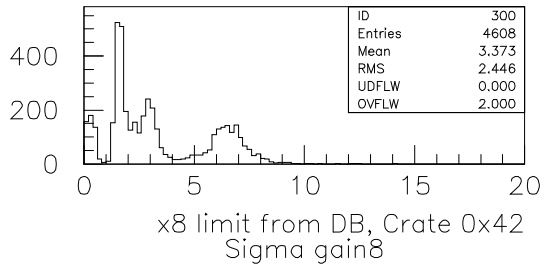
# Pedestal Calibration

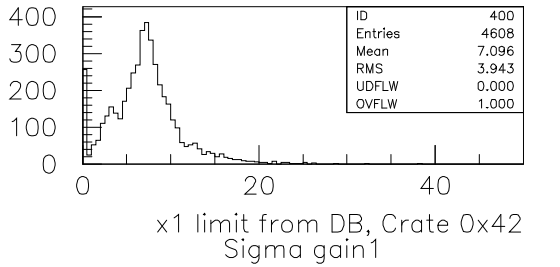


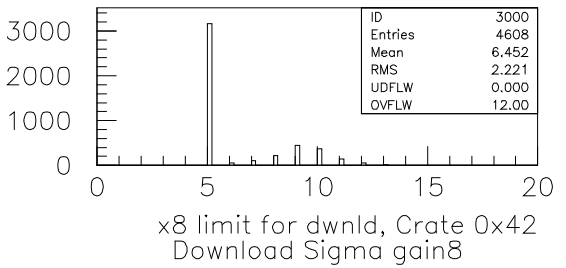



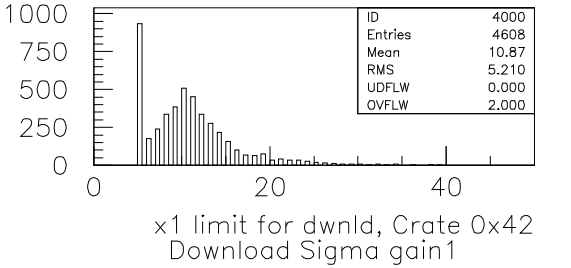




- **calibration procedure in place for pedestals**
- **validation, download and extraction from/to Online-Database**

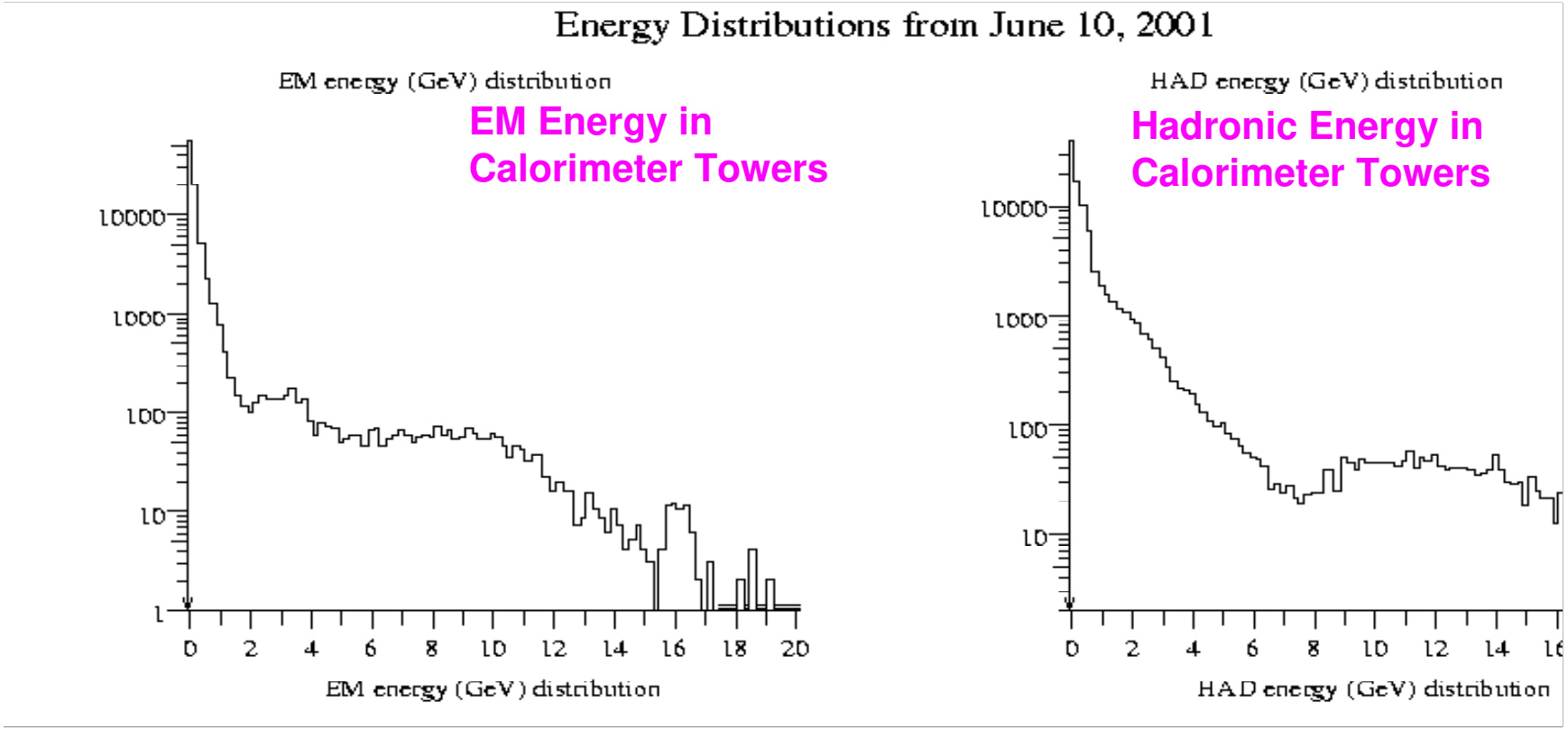
**⇒ 0-suppressed data taking**

**⇒ procedure for Hot-cell killer worked on**

# Pulser Gain calibration

- final PIB installed at FNAL → **ok**
  - **EPROM 's: code for loop over different pulser patterns developed and compiling, but problems when used on EPROM**
- GUI's for downloads and monitoring (Mark Hohlfeld) → **ok**
  - **allows to take pulser-ramps "by hand"**
- COMICS download and COOR integration (Bill Lee) → **ongoing**
  - **automated and integrated run- and ramp-start**
- $\mu,\sigma$ computing for Pulser-ramps in CALIB (Mrinmoy) → **ongoing**
  - **automated computing for each ramp step**
- storage in databases, online/offline transfer → **ongoing**
  - **partially existing and used for pedestal calibration**

# Calorimeter Energy



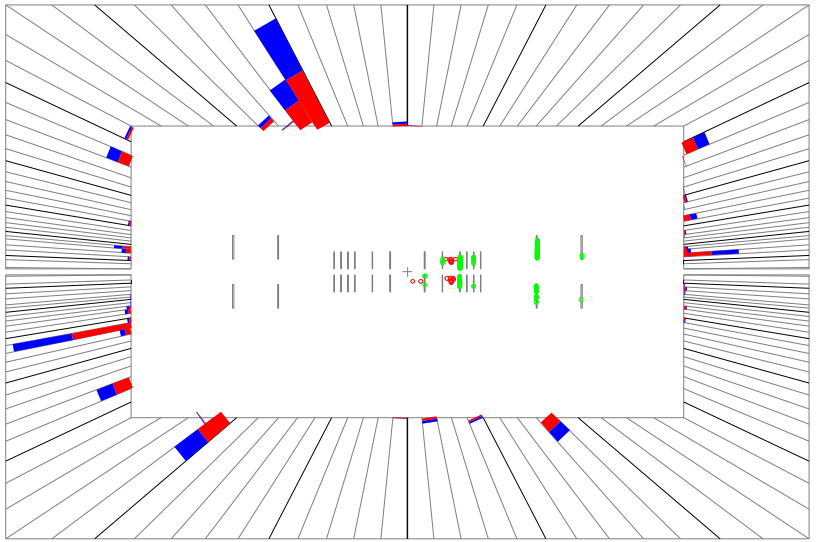

- energy distributions from Cal_Examine

⇒ working and used during running

# Calorimeter Event

Scale: 74 GeV
phi cuts: 0,180

r-z view

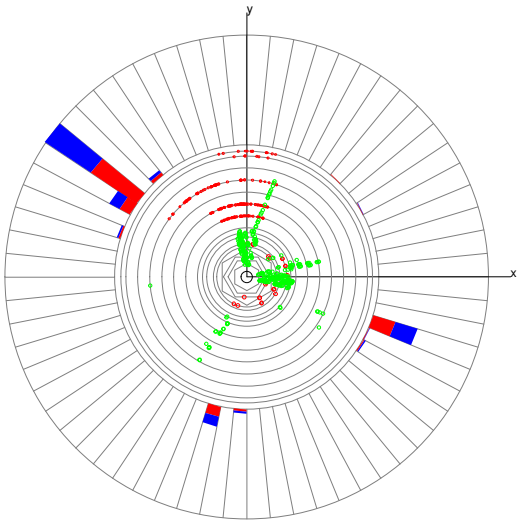


+z

+z

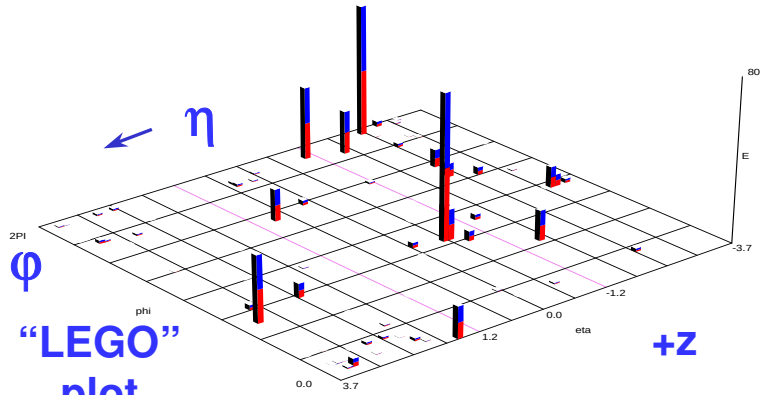
E scale: 87 GeV
Eta cut: -1.5, 1.5

r-φ view




"Multi-something" event?

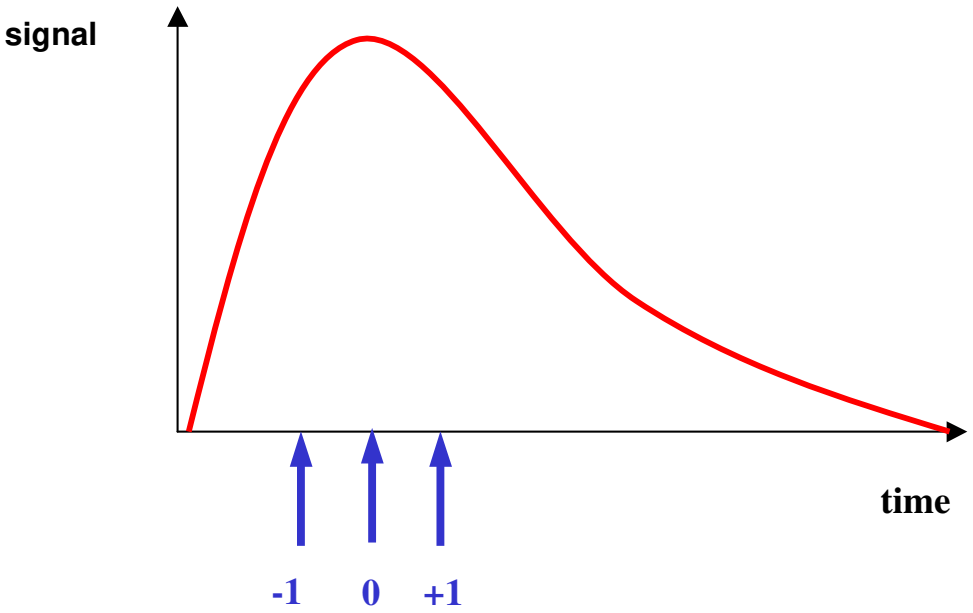
Bins: 102
Mean: 3.85
Rms: 10.9
Min: 0
Max: 71.8




"LEGO" plot

+z

# Timing Studies




**Triple sampling runs:** comparison of energy measured at the nominal position, 132ns earlier/later

- **several runs taken during 1×8 and 36×36**

⇒ important data volume (3× bigger events, non 0-suppressed)

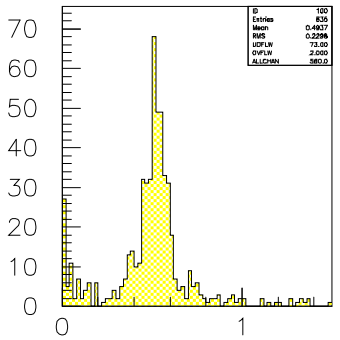
⇒ low rate, many bad events

# Timing Studies

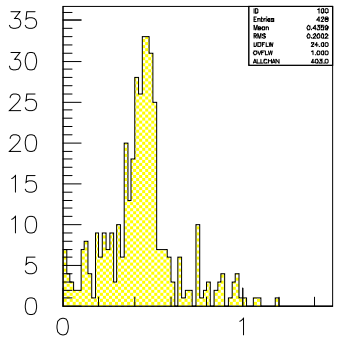
## CC-crates: Run 122825 - 1×8 (~ 600 events)

2001/06/15 00.59

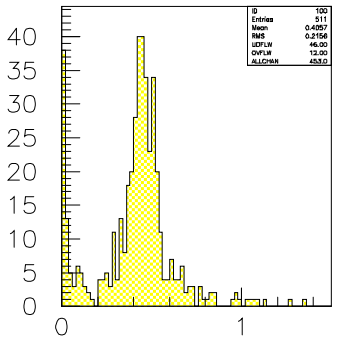
early/ nominal



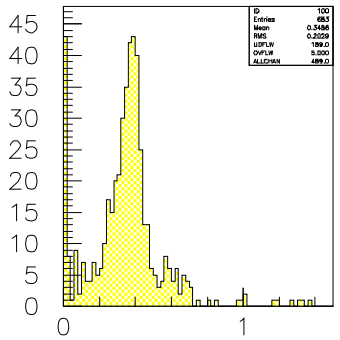
CC early/nominal crate 2



CC early/nominal crate 3

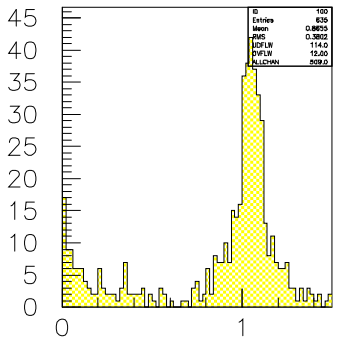


CC early/nominal crate 8

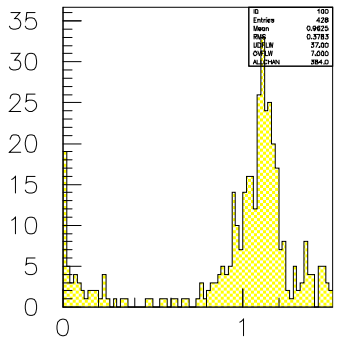


CC early/nominal crate 9

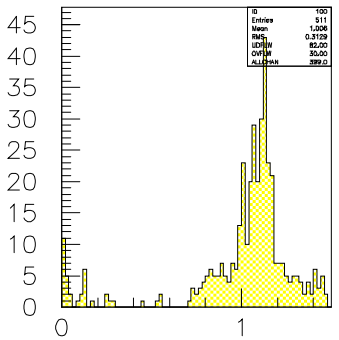
late/ nominal



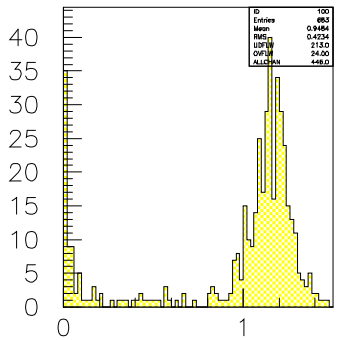
CC late/nominal crate 2



CC late/nominal crate 3



CC late/nominal crate 8



CC late/nominal crate 9

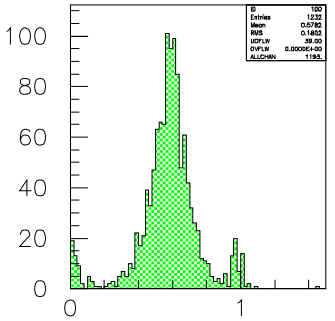
⇒ **sampling slightly too early ~ ½ tick**

# Timing Studies

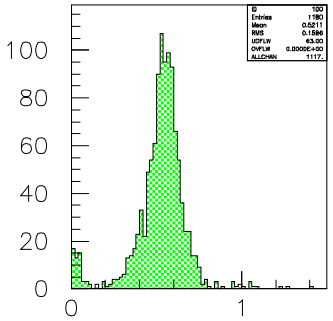
## ECS-crates: Run 122825

2001/06/15 00.59

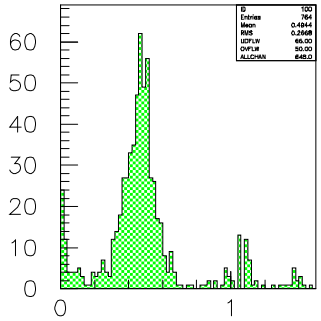
early/ nominal



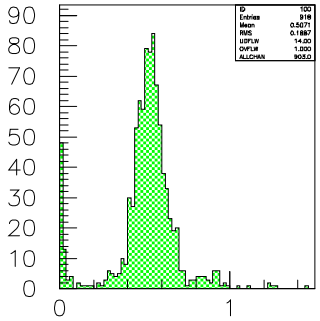
ECS early/nominal crate 4



ECS early/nominal crate 7

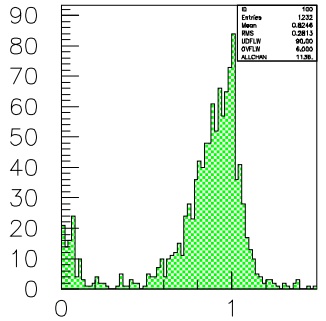


ECS early/nominal crate 5

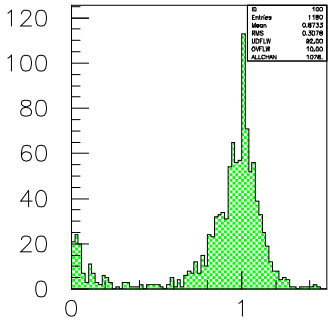


ECS early/nominal crate 6

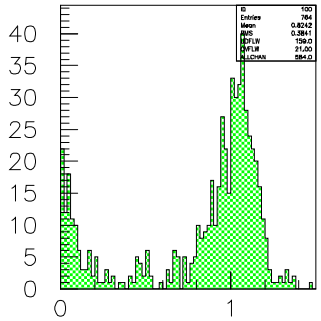
late/ nominal



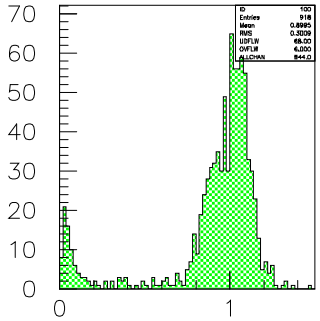
ECS late/nominal crate 4



ECS late/nominal crate 7



ECS late/nominal crate 5



ECS late/nominal crate 6

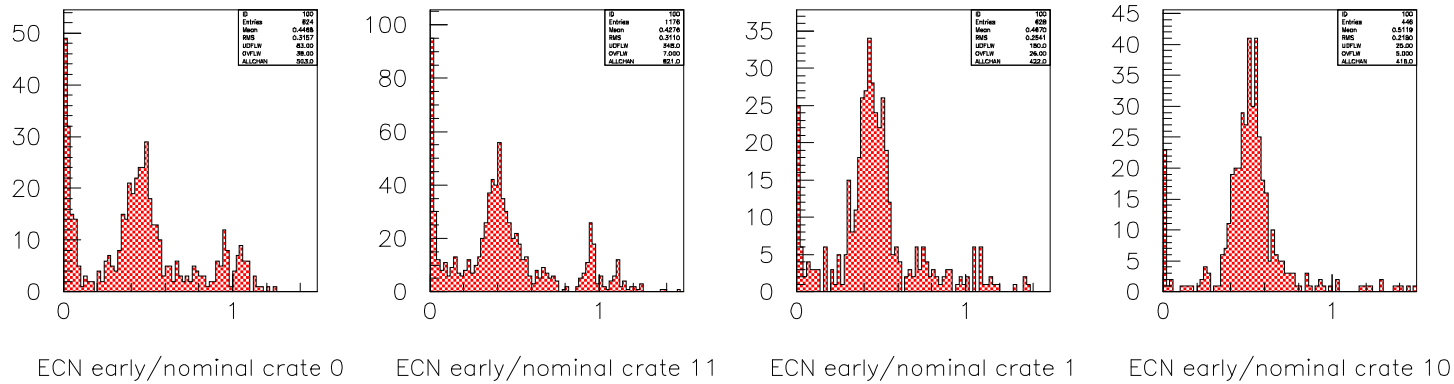
⇒ **similar behavior than CC-crates**

# Timing Studies

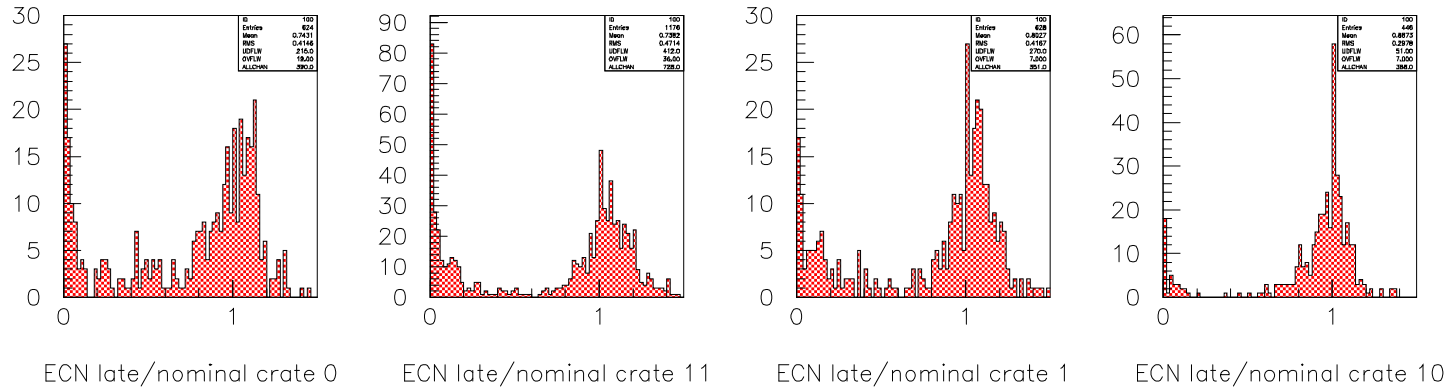
## ECN-crates: Run 122825

2001/06/15 00.59

early/ nominal




late/ nominal

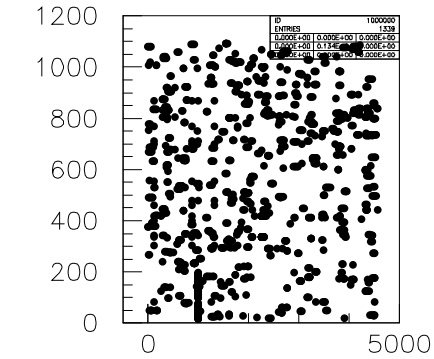



⇒ **in all crates signal slightly late, but similar behavior in the 3 cryostats**

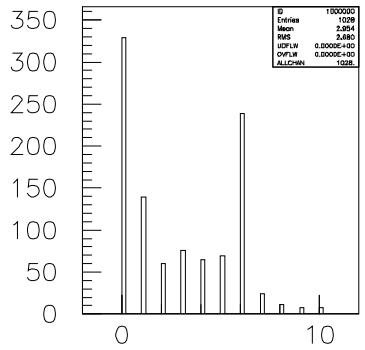
# Timing Studies

## CC crate 8: Run 122924 - 36×36 (~1100 evt)

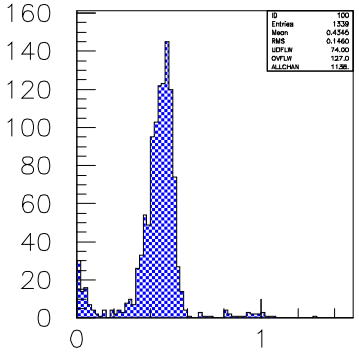
2001/06/15 01.27



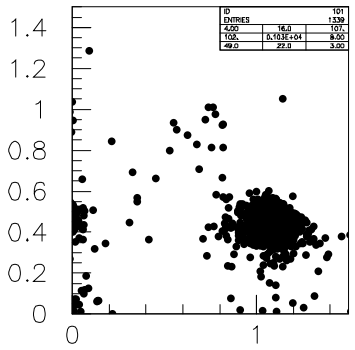

evtn VS. 384*card+48*bls+12*tow+dep



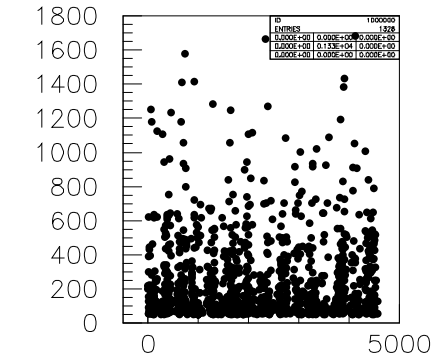

dep



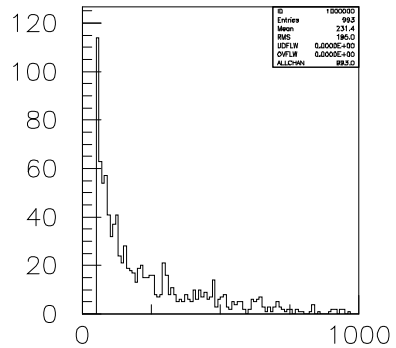

CC early/nominal crate 8



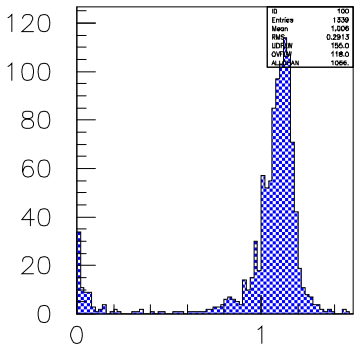

CC early/nom vs. late/nom



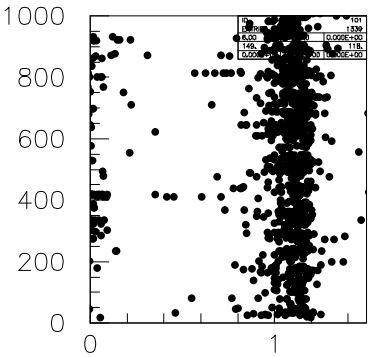

adcn VS. 384*card+48*bls+12*tow+dep




adcn




CC late/nominal crate 8




CC evt vs. late/nom

⇒**smoother running, high statistics, same behavior**

# Conclusions

- main functionalities for data-taking with the Calorimeter are working
- read-Out slightly early, but energies from BC visible in the Calorimeter
- similar timing in all 3 Cryostats

$\Rightarrow$ more detailed studies of triple sampling

$\Rightarrow$ debugging of reasons for bad events: SCA studies, T&C FPGA code, VRC

$\Rightarrow$ pulser studies for gain calibration