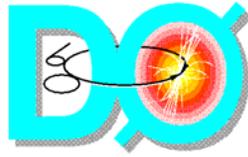


The RunII



Calorimeter

**Pierre Pétroff and Norm Buchanan**

**(For the Calorimeter Group)**

*(taken largely from N. Parua's tutorial)*

**Cal-Muo Shifter's Tutorial**

**December 7, 2004**

➤ **Overview of the D0 Calorimeter and the FE electronics**

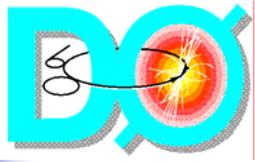
➤ **Shifter's tasks**

**before begin of run**

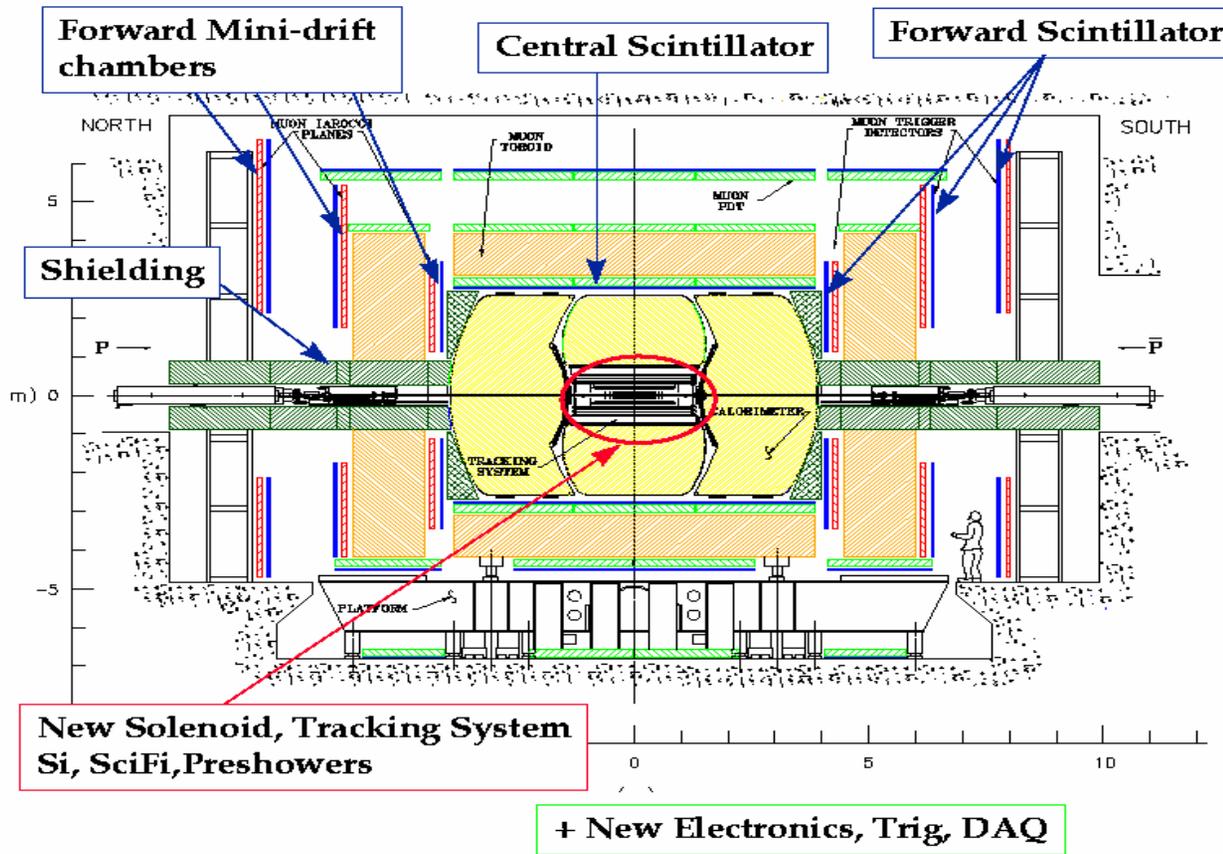
**during the run**

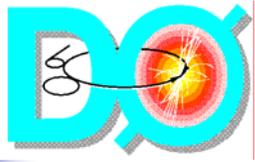
**at the end of the run**

**when NO BEAM in the machine**



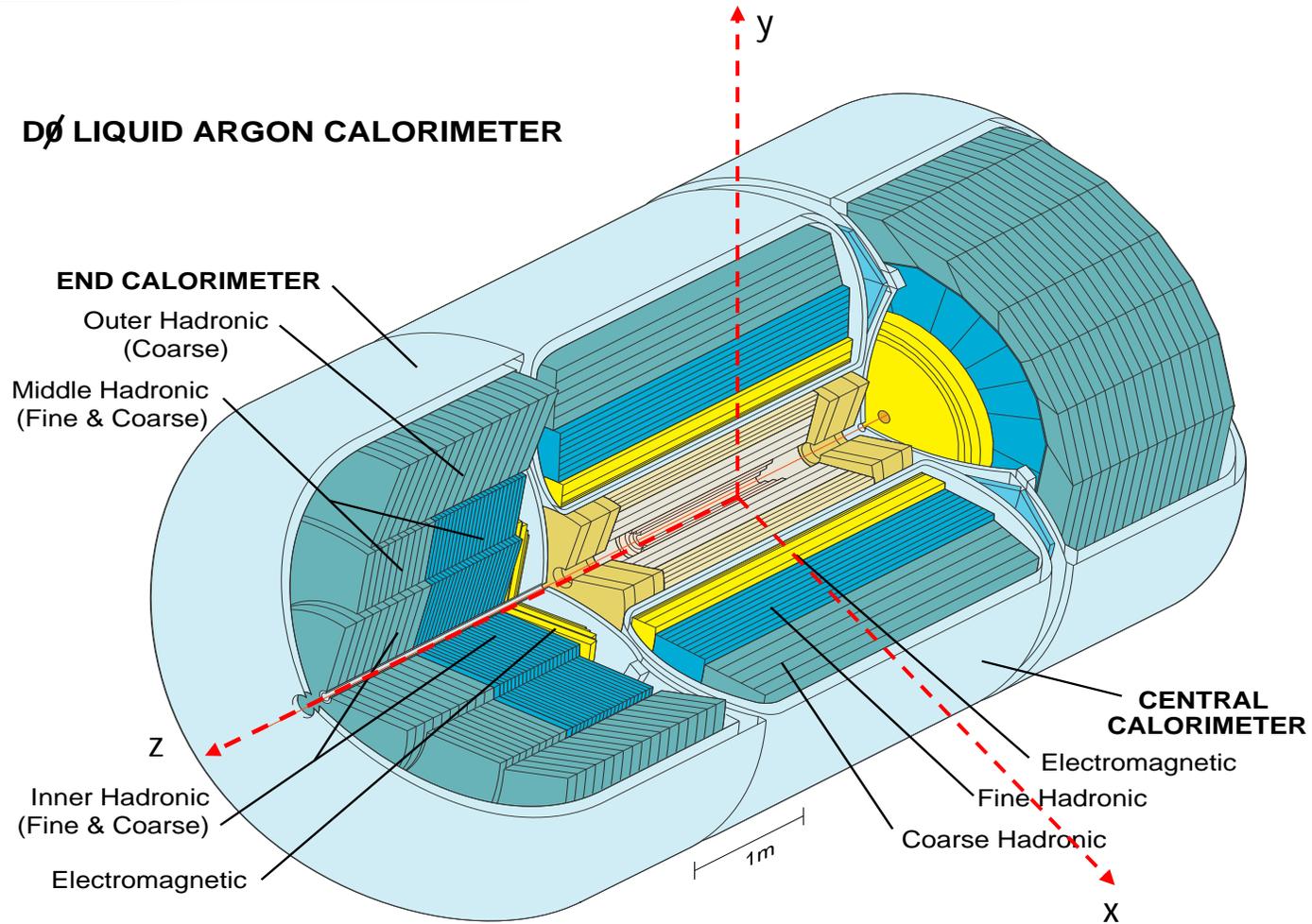
# Overview of Detector

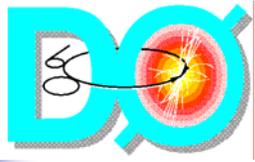




# Calorimeter Overview

## $\text{D}\phi$ LIQUID ARGON CALORIMETER





# Overview of the Calorimeter

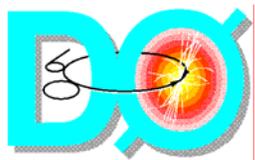
- **Liquid argon sampling**
  - Stable (no amplification !), uniform response, rad. hard, fine spatial seg.
  - LAr purity important < 1-2 ppm
- **Uranium absorber (Cu or Steel for coarse hadronic)**
  - Compensating  $e/\pi \sim 1$ , dense  $\Rightarrow$  compact but bad sampling frequency !
- **Uniform, hermetic with full coverage**
  - $|\eta| < 4.2$  ( $\theta \approx 2^\circ$ ),  $\lambda_{int} > 7.2$  (total)
- **Energy Resolution**
  - e:  $\sigma_E / E = 15\% / \sqrt{E} + 0.3\%$   $\pi$ :  $\sigma_E / E = 45\% / \sqrt{E} + 4\%$  test beam results
  - Run II worse ! and not understood still:  $\sigma_E / E = 25\% / \sqrt{(E * \sin\theta)} + 3\%$  EM
  - No more compensation due to a shorter integration time ( $\sim 450$  ns)

For more details

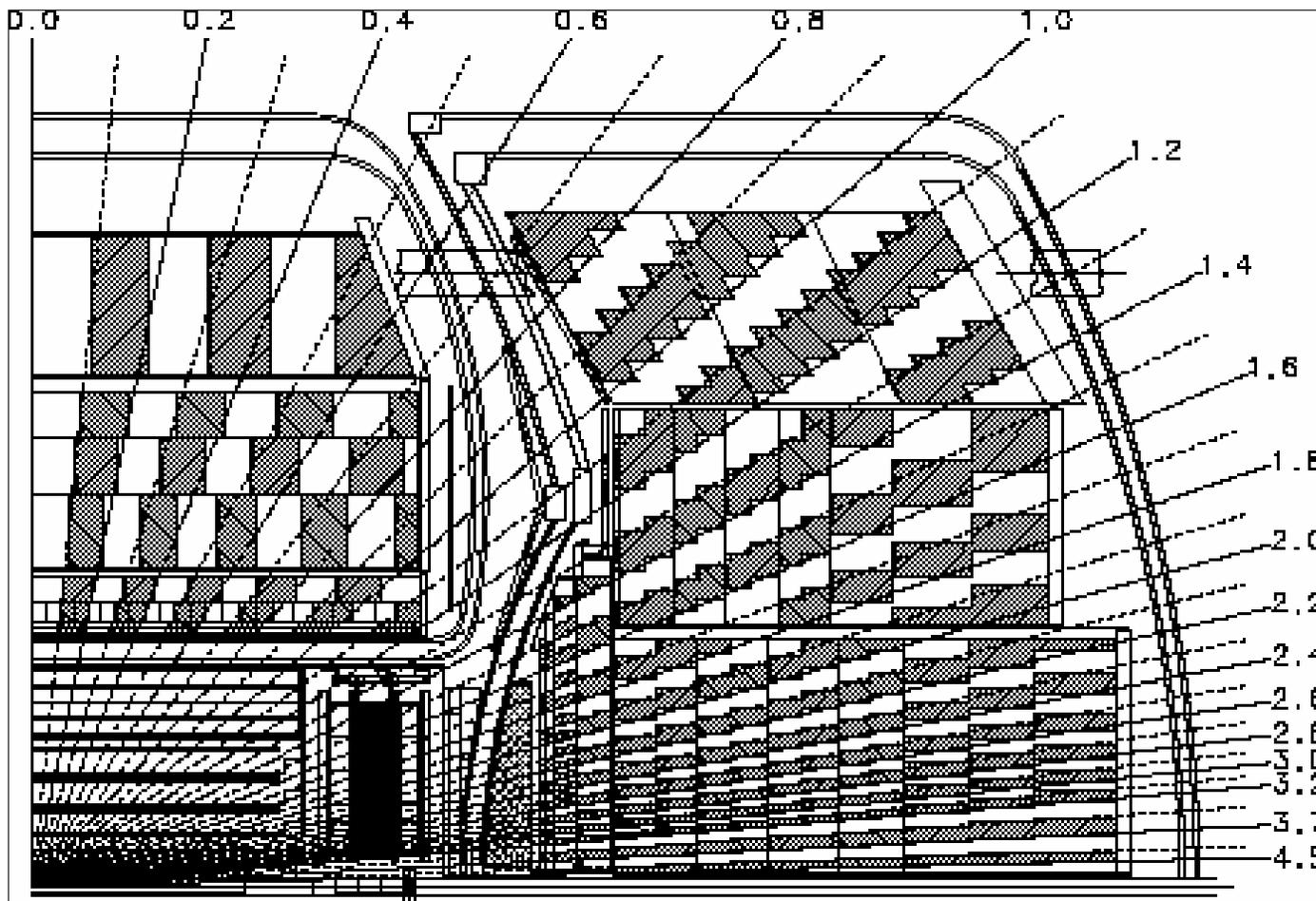
# The D0 Detector ("The NIM paper")

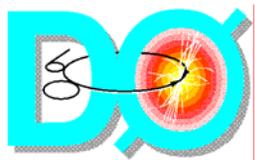
Nucl. Instr. and Methods, A338, 185 (1994)

FERMILAB-PUB-93/179-E PS



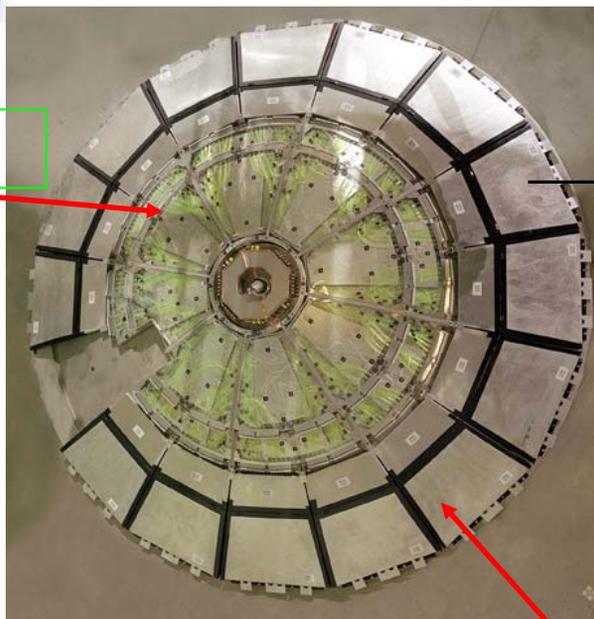
# Overview of the Calorimeter



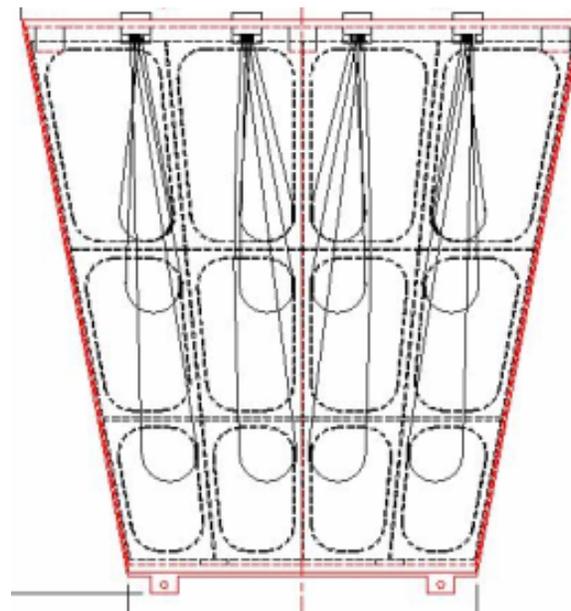


# Intercryostat Detector (ICD)

FPS

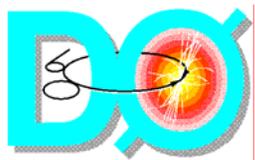


ICD

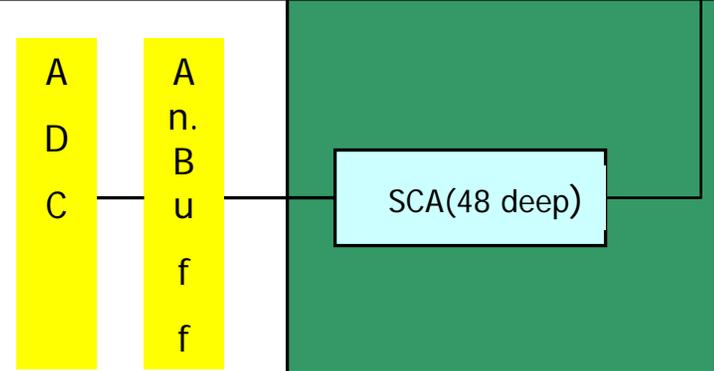
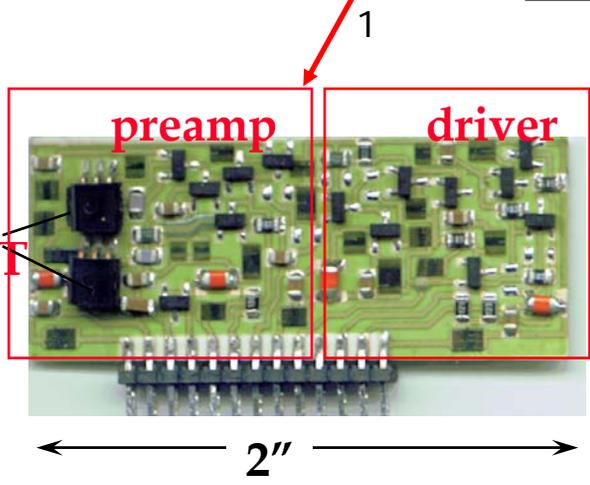
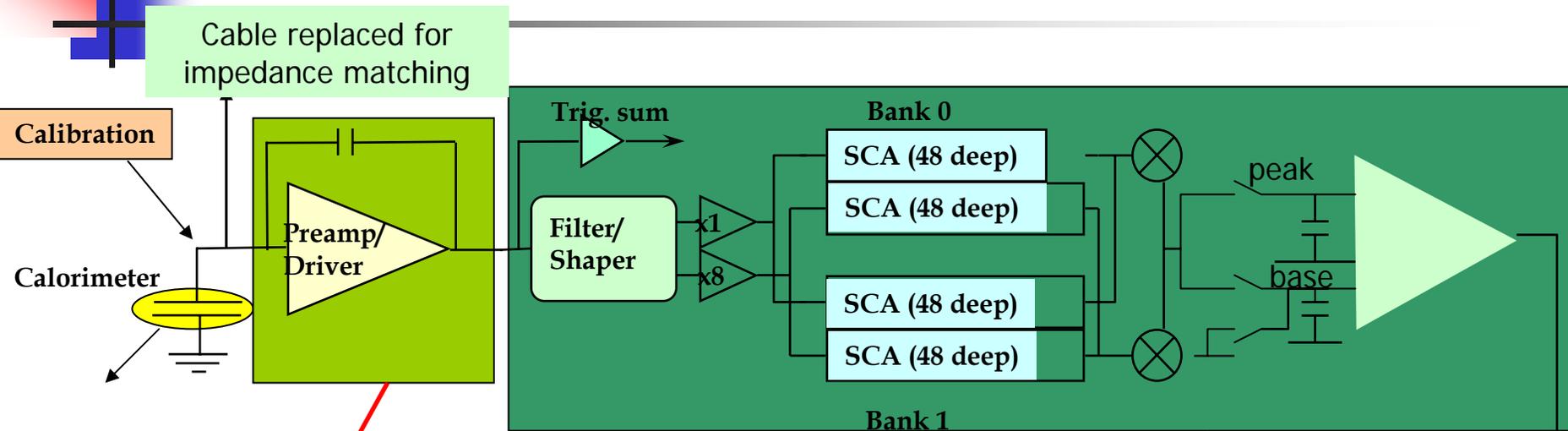


- Design

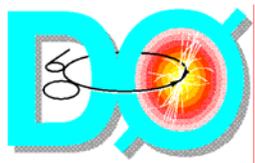
- ◆ Scintillator based with phototube readout .
- ◆ 16 *supertile* modules per cryostat with a total of 384 scintillator tiles
- ◆ WLS fiber readout of scintillator tiles
- ◆ Clear fiber light piping to region of low field ~40-50% signal loss over 5-6m fiber.
- ◆ Readout/calibration scheme for electronics similar as for L. Ar. Calorimeter .



# Readout

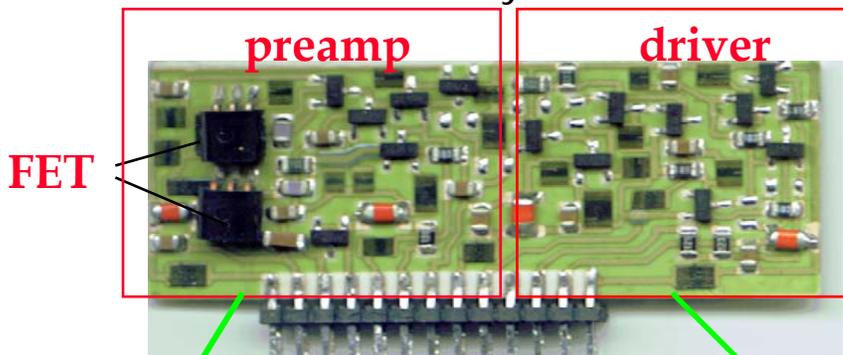


## 55k readout channels

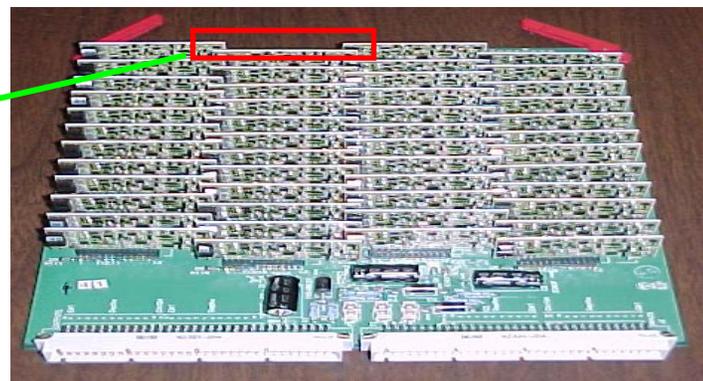


# Preamplifier

55296 hybrids



1152 boards

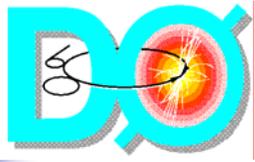


- Dual FET Frontend
- Compensation for Det. Cap.
- Faster Recovery Time

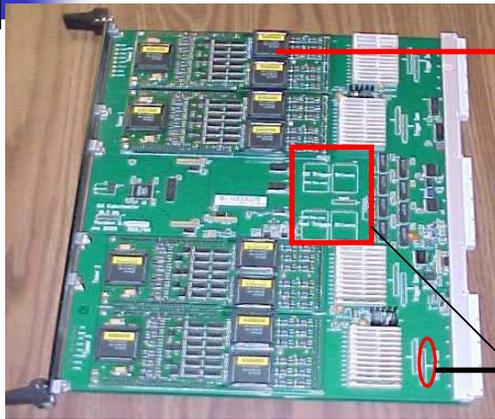
New output Driver for terminated signal

New calorimeter preamp

- Hybrid on ceramic
- 48 preamps on a motherboard
- New low-noise switching power supplies in steel box



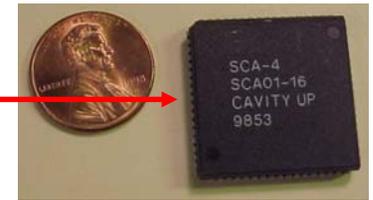
# Base Line Subtractor (BLS)



1152 BLS boards



4608 SCA cards



23440 SCAs

Trig Summers  
Trigger  
summers/Drivers

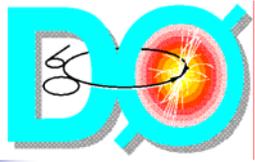


ADC's have 12 bit dynamic range. To achieve 15 bit dynamic range SCAs have low and high gain path for each readout channels (X8/X1)

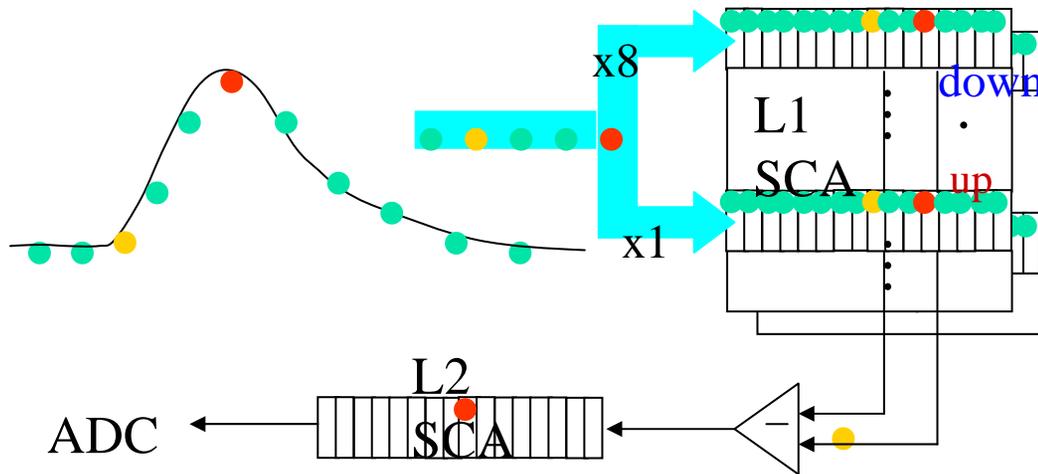
SCAs are not designed for simultaneous read/write operations. Two banks of SCAs, upper and lower (can't see in the picture), for alternate read/write operation.

Readout time  $\sim 6 \mu\text{s}$  (length of SCA buffers  $132 \times 46 > 6 \mu\text{s}$ ).

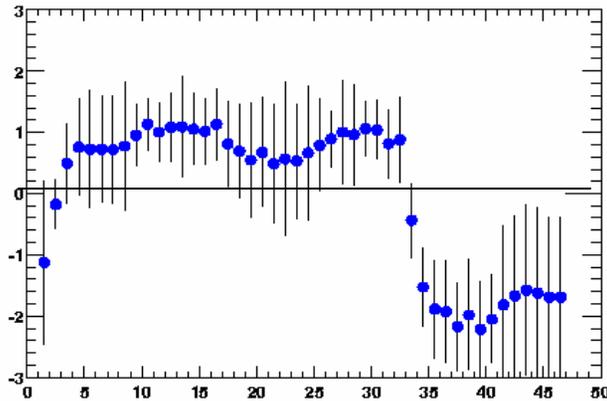
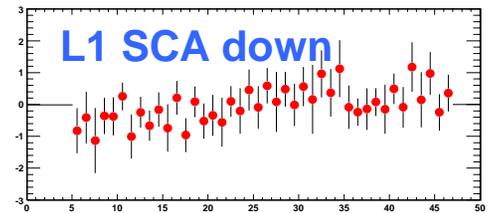
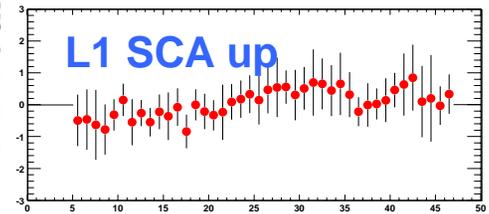
Trigger tower formation  $0.2 \times 0.2$  for Level 1.

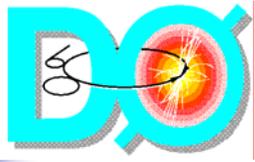


# More on SCA's

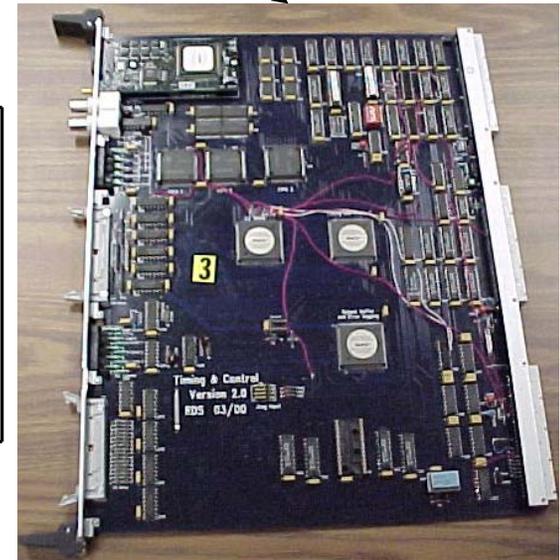
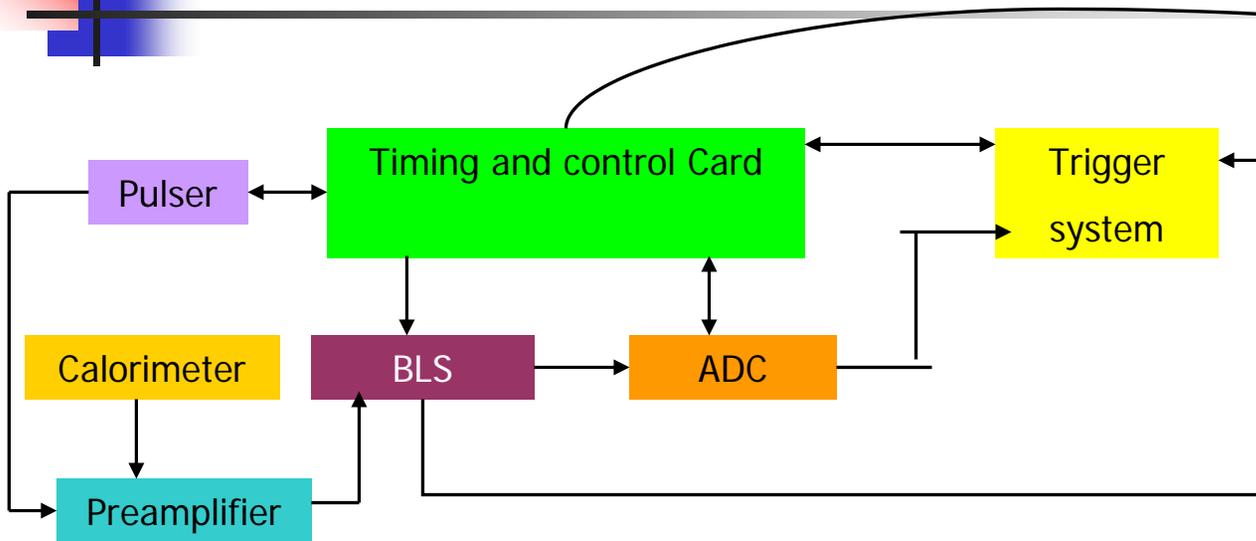


ADC counts



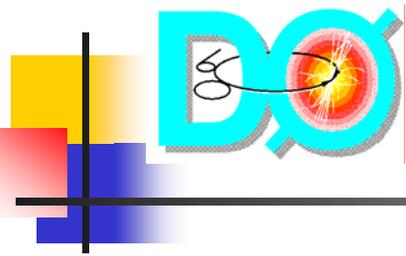


# T&C cards



12 T&C boards and 1 controller board is used

- Receives trigger, accelerator, clock information
- Samples BLS shapers at the signal peak and base.
- Keeps track of the memory location of crossings.
- Generates busy signal when system is not ready.
- Coordinates pulser calibration.



# General

D0 Muon System Group Homepage - Microsoft Internet Explorer

Address: <http://www-d0online.fnal.gov/www/groups/calmuo/>

## calorimeter muon shift instructions

- experts on-call
- shift schedule
- useful links

[examine programs](#)  
[electronic logbook](#)  
[cal & muo run checklist](#)

### cal muo

#### calorimeter menu

- [calorimeter main page](#)
- [calorimeter shifter's guide](#)
- [calorimeter shifter's quick guide \(only brief steps\)](#)
- [Frequently asked questions](#)
- [video tutorials \(2 \\* 26min\)](#)

## What to do during Calorimeter/Muon Shift

phase	calorimeter	muon
in general	<ul style="list-style-type: none"> <li>make sure that the D0 data taking is as efficient as possible and the quality is high. Therefore:               <ul style="list-style-type: none"> <li>read the available <a href="#">calorimeter</a> and <a href="#">muon</a> documentation</li> <li>get used to the control applications</li> <li>be aware of potential problems so that you can quickly find solutions</li> </ul> </li> <li>make sure that relevant information are written into the electronic logbook</li> <li>contact <a href="#">experts</a> in the case of problems</li> </ul>	
at the begin of your shift	<ul style="list-style-type: none"> <li>talk to the previous shifter about the status of the calorimeter and muon systems - learn about recent problems and whether there are special situations for specific subsystems and how to handle them</li> <li>talk to the shift Captain about the general status and plans of data taking for D0</li> </ul>	
	<ul style="list-style-type: none"> <li>go to the electronic logbook - log in and make a comment that you are now on shift and what's the current situation</li> <li>check that all control applications are running - for calorimeter and muon</li> </ul>	
	<ul style="list-style-type: none"> <li>Download <a href="#">cal_prepare_for_run</a> triaquer, then free the triaquer</li> </ul>	<ul style="list-style-type: none"> <li>after the shift</li> </ul>

Calorimeter Online Web Page - Microsoft Internet Explorer

Address: [http://www-d0online.fnal.gov/www/groups/cal\\_main.html](http://www-d0online.fnal.gov/www/groups/cal_main.html)

## Calorimeter group Web page

### Shifter's corner:

- Current PowerSupply Status
- Calorimeter Shifter's Guide: [Word format](#) , [pdf](#), [html](#) - courtesy Mike Tuts
- Calorimeter Shifter Schedule
- Last 72 hours of CAL e-log [Last week](#) [2 weeks](#)

### Calorimeter Group's Task Lists:

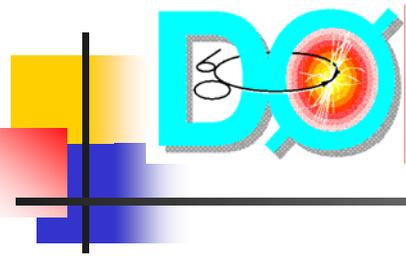
- [Current Task List](#)

### Useful Links

- [Beams Division Ch13](#)
- [Calorimeter Home Page](#)
- [Calorimeter Group Meetings \(agenda and slides of talks\)](#)
- [Calorimeter Electronics Upgrade Documentation](#)
- [Pulsar Online Calibration Page D0-France](#)
- [ICD Home Page](#)

Send corrections to [Leslie Groer](#) , [Ursula Bassler](#) , [Nirmalya Parua](#)  
 Last modified: Thu. June 05 16:34:54 CDT 2003

<http://d0server1.fnal.gov/projects/calorimetelectronics/www>



# Shifter's task

---

## General:

Locate the monitors and orient yourself.

Open/login to the electronic logbook

Recognize/start all calorimeter monitoring GUIs

Careful survey of the alarms – all should be green (or yellow..not red !!)

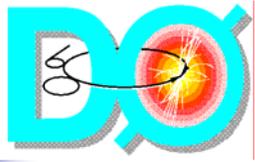
Careful survey of the examine programs (dq\_calo and l1cal\_examine)

Report in log book run summary and plots from examine programs.

Make sure archiver is running

Run pedestal calibration when no beam in the machine (~each 2 to 3 days)

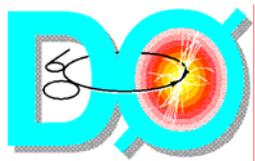
Run pulser runs for NLC and gains of ADC's measurement (with an expert)



# start\_cal in d0ol45

What component do you want to start ?

- alarm => starts calorimeter alarm display
- hv => starts high voltage GUI
- ioc => starts IOC (I/O controllers) GUI
- rmi => starts RMI (Rack Monitor Interface) GUI
- supply => starts PS supply & setup GUI
- taker => open a taker (to prepare for run, peds calib, pulser calib)
- D0run => open a session with d0run account
- l1examine\_d0ol23 => open a session on d0ol23 for l1calexamine
- l1examine => starts l1 cal\_examine
- rampwatcher => starts rampwatcher GUI
- ped\_viewer => starts Pedestal History Display
- dq\_calo => starts DQcalo with L1 Trigger Monitoring
- dq\_monitor => starts DQcalo Monitoring with L1 Trigger Monitoring
- calib => starts the calib\_manager and ped\_quality GUI
- HCKiller => starts Hot Cell Killer GUI
- shifter => starts all shifter GUIs
- all control, pulser GUIs => starts alarm, global PS and ReadOut, supply, timing and



# Shifter's task

>start\_cal alarm

File	View	Settings					Help
	MAJOR	MINOR	INVALID	ACKED	DISABLED	GOOD	
CAL Preamp	0	4	0	0	0	8	
CAL BLS N	0	0	0	0	0	0	
CAL BLS C	0	0	0	0	0	0	
CAL BLS S	0	0	0	0	0	1	
CAL BLS BCK N	0	0	0	0	0	1	
CAL BLS BCK C	0	0	0	0	0	0	
CAL BLS BCK S	0	1	0	0	0	0	
CAL ADC Temp	0	4	0	0	1	0	
CAL PA Temp	0	4	0	0	8	1	
CAL Fanout	0	0	0	0	0	19	
CAL ADC	0	0	0	0	0	0	
Pulser	0	1	0	0	1	3	
CAL HV	0	2	0	0	50	0	
CAL MCH Protection	0	0	0	0	0	0	
CAL Platform Protection	0	0	0	0	0	0	
CAL Controls	0	9	0	0	0	0	

Status: Connection to server opened

CAL HV :Disabled Alarms

CALC\_HVC\_17C/VOLT  
CALC\_HVC\_45C/VOLT  
CALC\_HVC\_LAR0/STATE  
CALC\_HVC\_LAR0/VOLT  
CALC\_HVC\_LAR1/STATE  
CALC\_HVC\_LAR1/VOLT  
CALC\_HVC\_LAR2/STATE  
CALC\_HVC\_LAR2/VOLT  
CALC\_HVC\_LAR3/STATE  
CALC\_HVC\_LAR3/VOLT  
CALC\_HVC\_LAR4/STATE  
CALC\_HVC\_LAR4/VOLT  
CALC\_HVC\_LAR5/STATE  
CALC\_HVC\_LAR5/VOLT  
CALC\_HVC\_LAR6/STATE  
CALC\_HVC\_LAR6/VOLT  
CALC\_HVC\_LAR7/STATE  
CALC\_HVC\_LAR7/VOLT  
CALN\_HVC\_LAR0/STATE  
CALN\_HVC\_LAR0/VOLT  
CALN\_HVC\_LAR1/STATE  
CALN\_HVC\_LAR1/VOLT  
CALN\_HVC\_LAR2/STATE  
CALN\_HVC\_LAR2/VOLT

SHOW

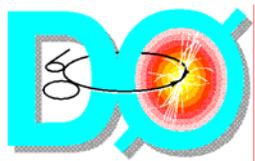
GUIDANCE

CONTROL

ENABLE

ENABLE ALL

CLOSE



# Shifter's task

>start\_cal rmi

>start\_cal ioc

File View Help

Central North West South East Cath Tunn

Rack	Status	RM DSTAT	Power
PC00	Normal	Normal	Reset
PC01	Normal	Normal	Reset
PC02	Normal	Normal	Reset
PC03	Normal	Normal	Reset
PC04	Normal	Normal	Reset
PC05	Normal	Normal	Reset
PC06	Normal	Normal	Reset
PC07	Normal	Normal	Reset
PC16	Normal	Normal	Reset
PC17	Normal	Normal	Reset
PC18	Normal	Normal	Reset
PC19	Normal	Normal	Reset
PC20	Normal	Normal	Reset
PC21	Normal	Normal	Reset
PC22	Normal	Normal	Reset
PC23	Normal	Normal	Reset

Status:

Reconnect

File View Help

MCH1S MCH1N MCH2S MCH2N MCH3S MCH3N DAB

Rack	Status	RM DSTAT	Power
M300	Normal	Normal	Reset
M301	Normal	Normal	Reset
M302	Normal	Normal	Reset
M303	Normal	Normal	Reset
M306	Normal	Normal	Reset
M307	Normal	Normal	Reset
M308	Normal	Normal	Reset
M310	Normal	Normal	Reset
M311	Normal	Normal	Reset
M312	Normal	Normal	Reset

Status:

Reconnect

File View Help

CAL CFT CTL LUM MUC IUO/R SMT MT/R FPD STT Test

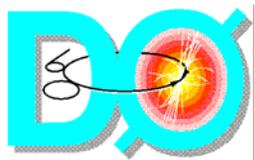
IOC Node	GSId	CPU %	Mem %	FD %	
MCH Vertical Interconnect					
d0olct137		13	87	38	Reboot
ADC Crates					
d0olct124		4	31	34	Reboot
Platform					
d0olct109		13	44	38	Reboot
d0olct111		18	65	38	Reboot
ICD High Voltage					
d0olct126		46	60	36	Reboot
d0olct127		46	60	36	Reboot
d0olct133		34	62	44	Reboot
CAL High Voltage					
d0olct142		58	64	38	Reboot
d0olct143		50	60	38	Reboot
d0olct144		48	60	38	Reboot
d0olct145		Undef	Undef	Undef	Reboot

Status:

Reconnect Reboot

platform

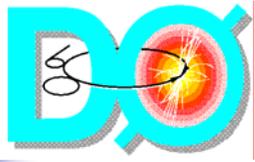
counting rooms



# Shifter's task

>start\_cal supply

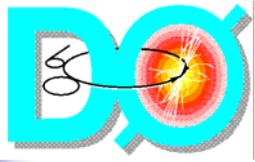
File View <span style="float: right;">Help</span>																										
Preamp	BLS N	BLS C	BLS S	BLS BCK N	BLS BCK C	BLS BCK S	ADC Temp	PA Temp	Fanout	ADC	LAr Temp	Pulser	PLS Mode	Mode	Mode Shift											
Device	+12VA V	+12VA I	+12VB V	+12VB I	+8VC V	+8VC I	+8VD V	+8VD I	+8VE V	+8VE I	+8VF V	+8VF I	-6GV V	-6GV I	-6VH V	-6VH I	Vic Tmp	Shn Tmp	Mag F	D1 Tmp	D2 Tmp	STAT	RM			
EC North																										
CALN_LVCP_PA00P	12.37	16.37	12.37	16.10	8.36	17.86	8.35	17.69	8.34	15.83	8.39	16.03	-6.28	23.52	-6.25	23.67	29.74	31.40	-10.01	38.57	29.79	0x3	0x0	On	Off	Reset
CALN_LVCP_PA00S	12.34	-0.48	12.35	0.33	8.30	0.18	8.29	0.48	8.30	-0.23	8.33	0.06	-6.19	0.16	-6.15	-0.16	17.92	13.43	1.71	9.28	15.14	0x2	0x0	On	Off	Reset
CALN_LVCP_PA01P	12.40	15.98	12.39	16.69	8.38	17.74	8.19	17.25	8.21	15.59	8.34	15.82	-6.23	23.47	-6.24	23.16	31.69	35.11	-9.03	30.76	33.69	0x3	0x0	On	Off	Reset
CALN_LVCP_PA01S	12.30	0.11	12.35	0.13	8.33	0.31	8.10	0.40	8.13	0.38	8.30	-0.06	-6.13	0.18	-6.13	0.10	18.31	16.06	-6.10	11.23	7.32	0x2	0x0	On	Off	Reset
CALN_LVCP_PA10P	12.59	16.33	12.44	16.43	8.39	17.75	8.43	17.75	8.47	16.38	8.32	16.11	-6.27	23.61	-6.28	23.28	34.38	39.16	-20.02	42.97	36.13	0x3	0x0	On	Off	Reset
CALN_LVCP_PA10S	12.48	0.28	12.28	-0.04	8.22	-0.13	8.31	-0.23	8.33	-0.11	8.23	0.40	-6.18	-0.09	-6.14	-0.43	18.60	18.21	-1.22	10.25	12.21	0x2	0x0	On	Off	Reset
CALN_LVCP_PA11P	12.31	16.50	12.49	16.35	8.45	17.85	8.44	18.09	8.49	16.33	8.37	16.06	-6.26	23.49	-6.26	23.46	33.69	33.69	-4.39	38.09	34.18	0x3	0x0	On	Off	Reset
CALN_LVCP_PA11S	12.17	0.04	12.57	0.21	8.27	-0.23	8.30	-0.06	8.34	0.28	8.24	-0.01	-6.12	-0.18	-6.13	0.16	17.53	18.70	-0.24	8.30	10.25	0x2	0x0	On	Off	Reset
CC																										
CALC_LVCP_PA02P	12.35	16.49	12.36	16.63	8.25	17.21	8.18	16.54	8.29	17.02	8.12	17.07	-6.24	23.12	-6.14	23.38	34.47	36.43	-11.23	34.18	38.09	0x3	0x0	On	Off	Reset
CALC_LVCP_PA02S	12.23	0.31	12.51	-0.09	8.18	0.21	8.11	-0.01	8.19	0.06	8.05	-0.33	-6.06	0.11	-6.00	-0.18	18.31	17.43	-0.24	15.14	14.16	0x2	0x0	On	Off	Reset
CALC_LVCP_PA03P	12.42	16.20	12.41	16.33	8.39	17.50	8.39	17.36	8.39	17.42	8.35	17.08	-6.26	23.82	-6.28	23.47	33.11	34.33	9.28	46.39	38.09	0x3	0x0	On	Off	Reset
CALC_LVCP_PA03S	12.32	0.28	12.31	-0.23	8.32	-0.01	8.31	-0.01	8.30	0.48	8.26	-0.21	-6.10	-0.38	-6.18	-0.70	18.70	15.58	14.40	8.79	10.74	0x2	0x0	On	Off	Reset
CALC_LVCP_PA08P	12.39	16.69	12.43	15.78	8.36	17.76	8.38	17.37	8.40	17.44	8.33	17.27	-6.31	23.38	-6.24	24.06	31.59	32.76	6.59	35.64	36.62	0x3	0x0	On	Off	Reset
CALC_LVCP_PA08S	12.33	-0.11	12.39	0.06	8.30	-0.13	8.31	-0.11	8.30	-0.18	8.30	0.13	-6.18	0.21	-6.18	-0.01	18.80	18.21	8.54	15.14	13.18	0x2	0x0	On	Off	Reset
CALC_LVCP_PA09P	12.40	16.59	12.33	16.37	8.37	17.71	8.36	17.18	8.37	17.49	8.34	17.35	-6.32	23.52	-6.34	23.94	32.86	34.03	0.24	25.88	35.64	0x3	0x0	On	Off	Reset
CALC_LVCP_PA09S	12.37	-0.01	12.36	0.12	8.29	-0.12	8.29	0.02	8.30	0.04	8.27	-0.27	-6.20	0.42	-6.22	0.12	18.75	17.68	-5.37	8.79	12.70	0x2	0x0	On	Off	Reset
EC South																										
CALS_LVCP_PA04P	12.39	16.44	12.40	16.93	8.39	17.53	8.40	17.31	8.43	15.99	8.41	16.04	-6.32	24.00	-6.24	23.68	30.57	36.82	1.46	38.09	30.27	0x3	0x0	On	Off	Reset
CALS_LVCP_PA04S	12.32	0.28	12.37	0.29	8.29	-0.31	8.30	0.40	8.32	0.00	8.33	0.26	-6.23	0.04	-6.14	0.16	18.12	18.80	16.85	17.09	16.11	0x2	0x0	On	Off	Reset
CALS_LVCP_PA05P	12.67	16.59	12.65	16.87	8.43	18.48	8.41	18.38	8.43	16.44	8.45	16.70	-6.30	23.44	-6.26	23.46	31.35	33.69	15.14	30.76	26.37	0x3	0x0	On	Off	Reset
CALS_LVCP_PA05S	12.71	-0.06	12.69	0.57	8.33	0.00	8.33	0.11	8.37	-0.07	8.36	-0.28	-6.18	-0.31	-6.16	0.23	17.82	17.72	13.92	10.25	13.18	0x2	0x0	On	Off	Reset
CALS_LVCP_PA06P	12.51	16.64	12.51	16.59	8.34	18.08	8.34	17.59	8.37	16.49	8.37	16.44	-6.25	23.62	-6.28	23.69	31.98	36.57	10.01	39.55	37.60	0x3	0x0	On	Off	Reset
CALS_LVCP_PA06S	12.34	0.46	12.30	-0.46	8.19	-0.27	8.22	0.37	8.25	-0.01	8.25	0.27	-5.94	-0.61	-5.93	0.10	18.55	15.92	-2.44	15.14	12.70	0x2	0x0	On	Off	Reset
CALS_LVCP_PA07P	12.68	16.42	12.69	17.18	8.55	18.44	8.52	18.79	8.61	17.13	8.53	16.74	-6.41	23.52	-6.39	23.96	32.96	31.40	21.24	38.57	36.62	0x3	0x0	On	Off	Reset
CALS_LVCP_PA07S	12.34	0.27	12.40	-0.17	8.31	-0.06	8.33	0.52	8.37	0.27	8.32	0.46	-6.19	-0.06	-6.14	-0.60	17.19	16.06	9.52	7.32	13.18	0x2	0x0	On	Off	Reset
ICD																										
ICD_LVCP_PWD9	12.77	2.48								8.70	5.80	-6.36	3.67				25.05	36.87				0x3	0x0	On	Off	Reset
Global Buttons																										
Global	Turn ON Primary	Turn ON Second	Turn OFF All	Reset All																						
Status:																										
Reconnect	Archiver																				Sat Dec 4 22:03:23 2004	Exit				



# Shifter's task

File View Help

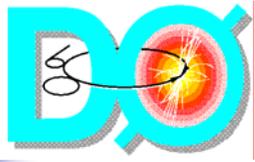
Preamp	BLS N	BLS C	BLS S	BLS BCK N	BLS BCK C	BLS BCK S	ADC Temp	PA Temp	Fanout	ADC	LAr Temp	Pulser	PLS Mode	Mode	Mode Shift										
Device	+7VA V	+7VA I	-3VB V	-3VB I	AB Tmp	+13VC V	+13VC I	-12VD V	-12VD I	CD Tmp	+5VE V	+5VE I	-5.2VF V	-5.2VF I	EF Tmp	STB8	STB4	STAB	STCD	STEF	RM 1	RM 2			
ECN NW																									
CALN_LVCB_00_0	6.98	19.51	-3.03	17.99	33.20	12.83	11.11	-11.95	1.23	35.64	5.00	11.31	-5.18	8.96	34.67	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_00_1	6.97	19.60	-3.01	18.03	44.92	12.91	11.27	-11.89	1.32	42.97	5.00	11.72	-5.21	8.99	40.04	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_00_2	6.92	19.56	-3.04	17.91	36.62	12.86	11.04	-11.99	1.22	40.53	5.02	11.15	-5.17	8.99	38.57	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_00_3	7.02	19.75	-3.04	18.12	44.43	12.83	11.43	-12.00	1.28	38.57	4.94	11.31	-5.19	9.19	42.97	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_00_4	6.97	19.60	-3.02	18.14	37.60	12.89	11.11	-11.95	1.24	34.18	4.98	11.39	-5.18	9.11	33.69	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_00_5	6.98	19.85	-3.03	18.07	41.50	12.96	11.15	-11.87	1.29	37.60	5.00	11.46	-5.17	9.03	39.55	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
ECN SW																									
CALN_LVCB_01_0	7.01	19.56	-3.02	17.91	32.23	12.78	11.04	-11.89	1.25	35.64	4.97	11.66	-5.24	8.86	38.57	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_01_1	6.95	19.51	-3.03	18.22	33.69	12.78	11.23	-12.01	1.26	34.67	4.99	11.66	-5.19	8.99	36.62	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_01_2	6.91	19.31	-3.05	17.89	36.62	12.77	10.96	-12.08	1.25	38.57	4.96	11.05	-5.24	9.38	35.16	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_01_3	6.95	19.65	-3.01	17.87	40.53	12.81	11.19	-11.96	1.26	33.69	4.99	11.58	-5.22	9.01	34.67	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_01_4	6.98	19.51	-3.02	18.03	33.69	12.83	11.27	-11.99	1.27	32.71	4.95	11.62	-5.22	9.11	34.67	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_01_5	7.01	19.65	-3.04	17.95	41.50	12.86	11.19	-11.94	1.24	37.60	4.97	11.00	-5.19	9.01	33.69	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
ECN SE																									
CALN_LVCB_10_0	6.94	19.51	-3.00	17.87	39.06	12.89	11.39	-11.96	1.21	42.48	4.95	11.50	-5.18	8.96	36.62	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_10_1	6.97	19.75	-3.01	18.14	38.09	12.91	11.23	-11.94	1.22	38.57	4.99	11.70	-5.19	9.29	35.64	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_10_2	6.92	19.36	-3.01	17.79	33.69	12.89	11.35	-11.94	1.23	37.60	4.99	11.66	-5.19	8.86	36.62	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_10_3	6.95	19.90	-3.06	18.14	37.60	12.91	11.31	-11.92	1.18	37.60	5.00	11.23	-5.18	9.11	36.62	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_10_4	6.99	19.85	-3.03	18.07	32.71	12.89	11.46	-11.96	1.28	42.48	4.98	11.82	-5.22	9.19	41.50	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_10_5	6.93	19.58	-3.01	18.01	34.18	12.82	11.37	-11.98	1.22	36.13	4.97	11.99	-5.19	9.08	36.13	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
ECN NE																									
CALN_LVCB_11_0	7.02	19.48	-3.00	17.83	34.18	12.83	11.07	-11.94	1.17	36.62	4.96	11.68	-5.21	8.91	34.18	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_11_1	6.96	19.41	-3.03	17.87	33.69	12.83	11.23	-11.89	1.20	36.13	4.97	11.84	-5.21	8.90	35.16	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_11_2	6.95	19.58	-3.05	18.01	40.04	12.77	11.37	-12.02	1.28	40.04	4.97	11.52	-5.22	9.08	40.04	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_11_3	6.92	19.34	-3.00	18.18	35.16	12.86	11.15	-11.82	1.22	34.67	5.00	11.45	-5.17	9.01	35.64	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_11_4	6.96	19.82	-3.00	18.16	38.09	12.97	11.23	-11.91	1.25	37.11	4.98	11.60	-5.19	9.07	38.09	0x40	0x4	0x0	0x0	0x0	0x0		On	Off	Reset
CALN_LVCB_11_5	6.99	19.58	-3.02	18.24	32.23	12.87	11.31	-11.98	1.26	34.18	4.99	11.54	-5.23	9.16	30.27	0x40	0x4	0x0	0x0	0x0	0x0	0x0	On	Off	Reset
Global Buttons																									
Global	Turn ON All			Turn OFF All			Reset All																		
Status:	Plot for CALN_LVCB_00_4/5ID started																								
Reconnect	Archiver																				Sat Dec 4 22:13:40 2004	Exit			



# Shifter's task

Calorimeter Power Supply Monitor Display \															Help		
File	View																
Preamp	BLS N	BLS C	BLS S	BLS BCK N	BLS BCK C	BLS BCK S	ADC Temp	PA Temp	Fanout	ADC	LAr Temp	Pulser	PLS Mode	Mode	Mode Shift		
Device	+7VA V	-3VB V	+13VC V	-12VD V	+5VE V	-5.2VF V	S02 Tmp	S05 Tmp	S08 Tmp	S11 Tmp	S14 Tmp	S17 Tmp	S18 Tmp	S19 Tmp	S20 Tmp	S21 Tmp	RM
ECN NW																	
CALN_CMCR_00_0	6.88	-2.90	12.91	-12.09	4.90	-5.15	30.03	30.37	30.86	30.57	31.54	30.76	25.29	29.69	30.96	14.94	0x0
CALN_CMCR_00_1	6.86	-2.94	12.91	-12.08	4.89	-5.13	28.66	28.61	28.61	29.00	29.59	28.52	25.00	31.15	30.18	24.32	0x0
CALN_CMCR_00_2	6.88	-2.90	12.83	-12.05	4.82	-5.09	26.71	27.44	26.66	27.44	27.44	27.05	23.93	26.66	26.46	23.54	0x0
CALN_CMCR_00_3	6.82	-2.91	12.91	-12.11	4.87	-5.12	22.56	22.17	22.36	23.97	24.12	23.34	17.09	21.39	21.78	18.12	0x0
CALN_CMCR_00_4	6.89	-2.92	12.83	-12.05	4.83	-5.11	20.80	21.97	22.61	22.36	23.34	23.14	18.65	22.36	22.56	17.77	0x0
CALN_CMCR_00_5	6.88	-2.92	12.91	-12.05	4.85	-5.11	20.02	20.61	21.19	23.14	23.34	22.75	20.61	23.54	22.95	17.87	0x0
ECN SW																	
CALN_CMCR_01_0	6.76	-2.96	12.79	-12.13	4.81	-5.13	29.39	29.79	30.08	29.20	29.98	30.18	25.49	28.12	30.03	22.80	0x0
CALN_CMCR_01_1	6.73	-2.96	12.74	-12.12	4.85	-5.11	27.59	28.56	27.29	27.00	29.35	28.96	24.37	27.78	28.66	24.17	0x0
CALN_CMCR_01_2	6.71	-2.94	12.76	-12.12	4.83	-5.10	25.63	26.12	26.81	25.24	26.22	26.61	23.58	27.39	26.42	22.22	0x0
CALN_CMCR_01_3	6.86	-2.96	12.77	-12.05	4.85	-5.11	22.56	23.14	24.12	23.34	25.10	23.58	18.51	25.10	24.51	16.89	0x0
CALN_CMCR_01_4	6.82	-2.92	12.83	-12.05	4.85	-5.13	21.58	22.02	21.63	22.95	23.93	23.14	18.46	22.36	24.12	18.26	0x0
CALN_CMCR_01_5	6.87	-2.92	12.87	-12.40	4.82	-5.05	21.19	21.19	21.19	21.58	22.36	21.78	18.65	23.58	21.78	17.87	0x0
ECN SE																	
CALN_CMCR_10_0	6.89	-2.90	12.86	-12.06	4.86	-5.13	28.27	28.76	28.96	29.05	29.54	29.05	24.17	28.56	30.03	22.71	0x0
CALN_CMCR_10_1	6.79	-2.92	12.78	-12.02	4.86	-5.04	24.76	27.59	26.90	26.81	27.69	26.90	22.51	27.29	29.74	22.22	0x0
CALN_CMCR_10_2	6.83	-2.92	12.76	-12.14	4.87	-5.07	25.63	26.22	27.29	26.32	27.49	25.93	23.68	26.42	28.17	22.90	0x0
CALN_CMCR_10_3	6.85	-2.91	12.94	-12.10	4.93	-5.13	21.92	22.90	24.27	23.29	23.78	23.29	18.80	24.27	27.98	17.72	0x0
CALN_CMCR_10_4	6.85	-2.91	12.82	-12.02	4.91	-5.09	22.51	21.92	21.44	22.22	22.71	22.71	17.82	22.12	22.61	19.58	0x0
CALN_CMCR_10_5	6.81	-2.91	12.94	-12.02	4.90	-5.08	20.36	21.73	21.34	22.71	23.49	21.73	17.43	23.88	22.71	17.63	0x0
ECN NE																	
CALN_CMCR_11_0	6.82	-2.92	12.79	-12.09	4.81	-5.11	28.42	29.20	28.86	28.03	29.39	29.69	24.71	29.98	31.54	22.17	0x0
CALN_CMCR_11_1	6.82	-2.94	12.83	-12.09	4.85	-5.11	26.66	27.64	28.22	27.83	28.03	27.44	23.73	29.39	28.22	23.54	0x0
CALN_CMCR_11_2	6.82	-2.94	12.84	-12.09	4.83	-5.17	26.27	26.95	25.88	26.86	27.25	26.66	24.12	26.27	26.27	23.14	0x0
CALN_CMCR_11_3	6.88	-2.93	12.80	-12.10	4.83	-5.11	21.73	23.68	23.78	23.88	23.49	23.88	18.60	22.61	22.80	17.33	0x0
CALN_CMCR_11_4	6.83	-2.93	12.82	-12.06	4.85	-5.11	20.65	22.31	21.73	23.10	22.90	23.00	19.38	22.31	22.71	17.43	0x0
CALN_CMCR_11_5	6.85	-2.93	12.80	-12.10	4.83	-5.12	20.95	22.12	21.53	23.00	22.31	22.51	18.99	23.29	23.00	17.33	0x0

Status: Reconnect Archiver Sun Mar 16 13:32:19 2003 Exit



# Shifter's task

Calorimeter Power Supply Monitor Display - Help

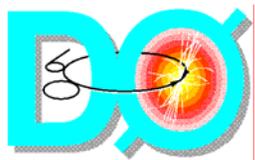
File View

Preamp BLS N BLS C BLS S BLS BCK N BLS BCK C BLS BCK S ADC Temp PA Temp Fanout ADC LAr Temp Pulser PLS Mode Mode Mode Shift

Device	LB Tmp	LT Tmp	LF Tmp	RB Tmp	RT Tmp	RF Tmp	FTP Tmp	FTB Tmp	RM 1	RM 2	LeMi	RMI
EC North												
CALN_CMCP_PA00	44.23	13.47	28.61	13.47	36.42	22.75	18.84	14.94	0x0	0x0		
CALN_CMCP_PA01	38.37	42.77	24.70	40.81	44.23	28.61	18.84	16.89	0x0	0x0		
CALN_CMCP_PA10	35.44	44.23	22.26	44.23	32.03	31.05	12.01	15.42	0x0	0x0		
CALN_CMCP_PA11	23.24	42.28	15.42	36.42	42.77	19.33	15.42	13.47	0x0	0x0		
CC												
CALC_CMCP_PA02	34.96	36.42	26.17	19.33	34.96	32.03	16.40	16.40	0x0	0x0	-85.16	-96.88
CALC_CMCP_PA03	58.39	56.44	30.07	38.86	44.72	23.24	15.42	17.38	0x0	0x0	-108.60	-120.32
CALC_CMCP_PA08	36.91	47.16	28.12	45.70	36.91	24.21	11.52	15.42	0x0	0x0	52.53	47.65
CALC_CMCP_PA09	37.89	36.91	23.24	39.84	-275.59	24.21	14.45	16.40	0x0	0x0	-275.59	55.46
EC South												
CALS_CMCP_PA04	49.60	42.28	24.21	43.26	33.98	22.26	12.49	8.59	0x0	0x0		
CALS_CMCP_PA05	49.12	39.84	24.21	41.30	49.60	22.26	16.40	24.21	0x0	0x0		
CALS_CMCP_PA06	35.93	44.23	29.10	35.93	46.67	34.96	19.82	14.94	0x0	0x0		
CALS_CMCP_PA07	51.56	50.09	34.96	47.16	37.89	28.61	9.08	16.89	0x0	0x0		

Status:

Reconnect Archiver Sun Mar 16 13:35:28 2003 Exit



# Shifter's task

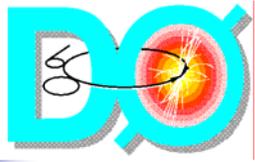
Calorimeter Power Supply Monitor Display

File View Help

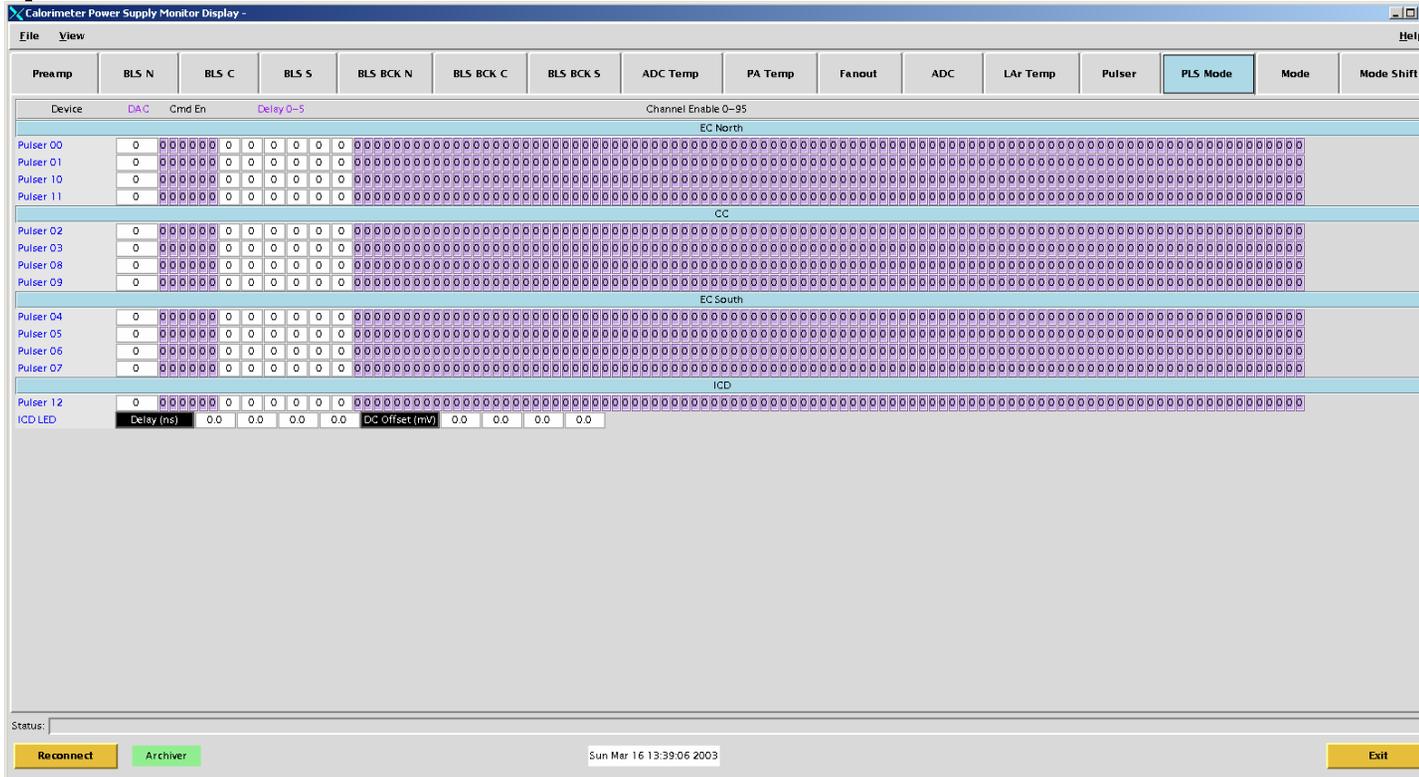
Preamp BLS N BLS C BLS S BLS BCK N BLS BCK C BLS BCK S ADC Temp PA Temp Fanout ADC LAr Temp **Pulser** PLS Mode Mode Mode Shift

Device	+12VA V	+12VA I	+5.8VB V	+5.8VB I	-5.2VC V	-5.2VC I	+5VDV	+5VD I	SPTmp	MF	STAT	RM					
EC North																	
CALN_LVCC_00	11.90	-0.13	5.64	0.51	-5.11	1.20	4.93	2.37	48.14	4.39	0x3	0x0	On	Off	Reset	Enable	Disable
CALN_LVCC_01	11.88	-0.01	5.62	0.67	-5.07	1.57	4.93	2.59	53.86	7.32	0x3	0x0	On	Off	Reset	Enable	Disable
CALN_LVCC_10	11.89	0.26	5.72	0.52	-5.02	1.16	4.91	2.38	49.46	-8.06	0x3	0x0	On	Off	Reset	Enable	Disable
CALN_LVCC_11	11.90	0.38	5.66	0.84	-5.16	1.06	4.97	3.09	48.19	-7.08	0x3	0x0	On	Off	Reset	Enable	Disable
CC																	
CALC_LVCC_02	12.05	0.55	5.85	0.72	-5.16	1.01	5.00	2.80	51.71	16.36	0x3	0x0	On	Off	Reset	Enable	Disable
CALC_LVCC_03	11.78	0.40	5.70	0.67	-5.07	1.16	4.92	2.19	50.44	-9.03	0x3	0x0	On	Off	Reset	Enable	Disable
CALC_LVCC_08	11.84	-0.04	5.74	0.92	-5.10	1.11	4.88	2.31	53.08	-11.96	0x3	0x0	On	Off	Reset	Enable	Disable
CALC_LVCC_09	11.94	0.09	5.75	0.96	-5.09	1.11	4.93	2.36	53.37	-4.15	0x3	0x0	On	Off	Reset	Enable	Disable
EC South																	
CALS_LVCC_04	11.91	0.22	5.71	1.05	-5.07	1.10	4.89	2.17	51.07	-38.57	0x3	0x0	On	Off	Reset	Enable	Disable
CALS_LVCC_05	11.88	0.42	5.67	0.71	-5.17	0.82	4.91	2.61	50.15	10.25	0x3	0x0	On	Off	Reset	Enable	Disable
CALS_LVCC_06	11.88	0.33	5.63	1.06	-5.12	1.14	4.92	2.60	-0.24	-15.87	0x3	0x0	On	Off	Reset	Enable	Disable
CALS_LVCC_07	11.83	0.52	5.65	0.43	-5.09	1.23	4.89	2.14	53.86	-11.96	0x3	0x0	On	Off	Reset	Enable	Disable
ICD																	
ICD_LVCC_12	11.88	0.45	5.78	1.11	-5.15	1.35	4.94	2.14	49.37		0x3	0x0	On	Off	Reset	Enable	Disable
Global Buttons																	
Global	Turn ON All		Turn OFF All		Reset All												

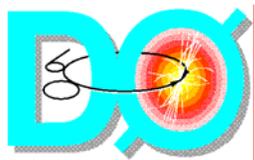
Status: [Reconnect] [Archiver] Sun Mar 16 13:37:55 2003 [Exit]



# Shifter's task



Everything should be 0 during data taking.



# Shifter's task

Peds subtracted

+ 0 suppressed cut at  $1.5 \sigma$

Ped file version

Calorimeter Power Supply Monitor Display

Preamp	BLS N	BLS C	BLS S	BLS BCK N	BLS BCK C	BLS BCK S	ADC Temp	PA Temp	Fanout	ADC	LAr Temp	Pulser	PLS Mode	Mode	Mode Shift
Crate															
	TC MODE	STATUS	L3TRAN	ADC ERR	BLS MODE	ADC MODE	PED VERS	PULSER	OCC						
EC North															
CRATE 0x40	Normal	0x10	0x3c7b	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x41	Normal	0x10	0x3c7c	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.10	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x4a	Normal	0x10	0x3c7c	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.07	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x4b	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CC															
CRATE 0x42	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x43	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x48	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x49	Normal	0x10	0x3c7f	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.08	Reset T&C	Reset ADC	Reset VBD			
EC South															
CRATE 0x44	Normal	0x10	0x3c7f	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.12	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x45	Normal	0x10	0x3c7f	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x46	Normal	0x10	0x3c80	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.10	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x47	Normal	0x10	0x3c80	0x0	Normal	0 Sign Sup	0xdc	Pulser Off	0.09	Reset T&C	Reset ADC	Reset VBD			
T & C Control Board															
T&C CTRL 0x4c	Master	0x10	0x3c81												Reset T&C CTRL
Global Buttons															
Global	Global T&C Reset	Global ADC Reset	Global VBD Reset	Reset VBD CTRL											

off !

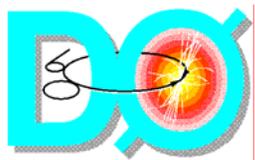
occ ADC 1.5 sigma cut ~7% to 12%

Status should be 0x10

baseline subtracted -3 ticks (3x132ns)

ADC error

Reconnect Archiver Sun Mar 16 13:41:36 2003 Exit



# Shifter's task

>start\_cal hv

HW Global Monitor Display - V2.1 /

File View Help

**Rack - M116**

B ICD North-East

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

C ICD South-East

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

D ICD South-West

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

E Unassigned

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

**Rack - M118**

B CAL North

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

C CAL South

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

D CAL Central

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

E CAL Argon Mon

0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5
0	1	2	3	4	5

Status: GUI initialization complete

Reconnect Off On Reset Lock Unlock Full Standby

HW Channel Monitor Display - V1.16 /

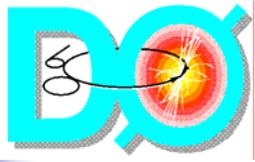
File View Set HV Plot Mode Help

CAL North								CAL Central								CAL South								CAL Argon Mon							
Channel	V_Trip	I_Max	V_Max	V_Set	V_Read	I_Read	State	Channel	V_Trip	I_Max	V_Max	V_Set	V_Read	I_Read	State	Channel	V_Trip	I_Max	V_Max	V_Set	V_Read	I_Read	State	Channel	V_Trip	I_Max	V_Max	V_Set	V_Read	I_Read	State
00S	3264	500	2000	2000.0	1999.3	13.9	Locked	01S	3267	500	2000	2000.0	1999.9	8.1	Locked																
02S	3363	500	2000	2000.0	2000.3	50.0	Locked	03S	3267	500	2000	2000.0	2000.3	1.5	Locked																
04S	3270	500	2000	2000.0	1999.8	-0.0	Locked	05S	3271	500	2000	2000.0	1999.8	-0.0	Locked																
06S	3271	500	2000	2000.0	2000.3	-0.2	Locked	07S	3271	500	2000	2000.0	1999.8	178.2	Locked																
08S	3248	500	2000	2000.0	1999.8	1.2	Locked	09S	3245	500	2000	2000.0	2000.1	1.0	Locked																
10S	3248	500	2000	2000.0	1999.4	7.7	Locked	11S	3248	500	2000	2000.0	2000.6	23.2	Locked																
12S	3236	500	2000	2000.0	1999.6	8.0	Locked	13S	3248	500	2000	2000.0	1999.6	1.2	Locked																
14S	3244	500	2000	2000.0	1999.4	1.2	Locked	15S	3250	500	2000	2000.0	2000.1	1.5	Locked																
16S	3252	500	2000	2000.0	2000.1	0.4	Locked	17S	3250	500	2000	2000.0	1999.1	0.8	Locked																
18S	3242	500	2000	2000.0	2000.3	0.5	Locked	19S	3252	500	2000	2000.0	2000.4	0.0	Locked																
20S	3250	500	2000	2000.0	1999.8	-0.0	Locked	21S	3250	500	2000	2000.0	1999.1	1.3	Locked																
22S	3249	500	2000	2000.0	2000.4	1.3	Locked	23S	3237	500	2000	2000.0	2000.3	0.9	Locked																
24S	3276	500	2000	2000.0	1999.8	1.4	Locked	25S	3277	500	2000	2000.0	2000.1	9.7	Locked																
26S	3279	500	2000	2000.0	1999.4	1.3	Locked	27S	3284	500	2000	2000.0	2000.9	8.3	Locked																
28S	3284	500	2000	2000.0	2000.9	-0.2	Locked	29S	3284	500	2000	2000.0	2000.1	14.1	Locked																
30S	3283	500	2000	2000.0	2000.4	12.4	Locked	31S	3282	500	2000	2000.0	1999.8	99.9	Locked																
32S	3269	500	2000	2000.0	1999.4	9.3	Locked	33S	3258	500	2000	2000.0	1999.6	5.7	Locked																
34S	3260	500	2000	2000.0	1999.9	-0.0	Locked	35S	3262	500	2000	2000.0	1999.6	50.3	Locked																
36S	3257	500	2000	2000.0	1999.3	8.6	Locked	37S	3257	500	2000	2000.0	1999.3	1.4	Locked																
38S	3263	500	2000	2000.0	1999.3	1.3	Locked	39S	3261	500	2000	2000.0	1999.3	5.9	Locked																
40S	0	0	2000	0.0	0.0	0.0	Disabled	41S	3250	500	2000	2000.0	1999.9	30.1	Locked																
42S	3250	500	2000	2000.0	1999.6	0.0	Locked	43S	3249	500	2000	2000.0	1999.6	-0.1	Locked																
44S	3252	500	2000	2000.0	1999.1	-0.1	Locked	45S	3251	500	2000	2000.0	1999.4	11.8	Locked																
46S	3250	500	2000	2000.0	2000.3	11.2	Locked	47S	3248	500	2000	2000.0	1999.6	1.0	Locked																

Status:

Reconnect Offline Online Off On Ramp Pause Resume Lock Unlock Reset

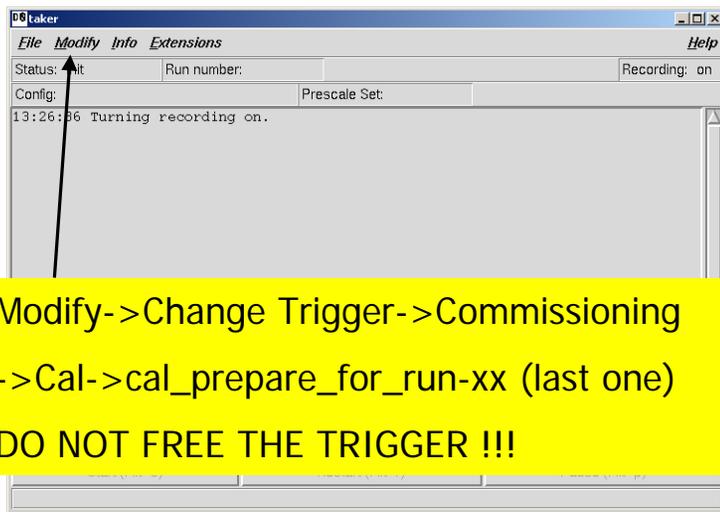
Unlock-off (right status)-set-ramp-when holding- lock



# Shifter's task

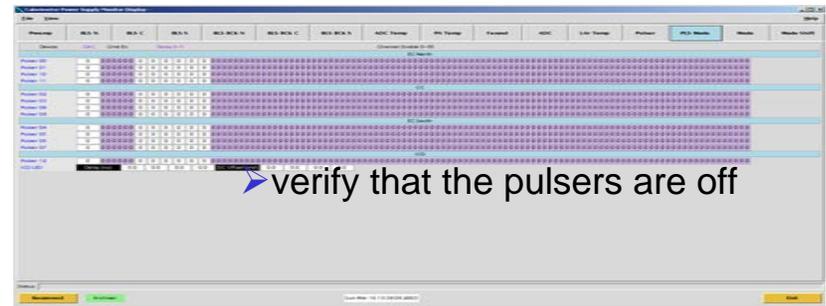
At the beginning of the Store

- Download cal\_prepare\_for\_run trigger and tell the captain and the DAQ shifter that the calorimeter can be included in the global run



Modify->Change Trigger->Commissioning  
 ->Cal->cal\_prepare\_for\_run-xx (last one)  
 DO NOT FREE THE TRIGGER !!!

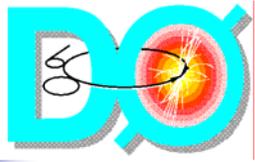
All at zero !



- verify that there are no major alarms

	MAJOR	MINOR	INVALID	ACKED	DISABLED	GOOD
CAL Preamp	0	4	0	0	0	8
CAL BLS N	0	0	0	0	0	0
CAL BLS C	0	0	0	0	0	0
CAL BLS S	0	0	0	0	0	1
CAL BLS BCK N	0	0	0	0	0	1
CAL BLS BCK C	0	0	0	0	0	0
CAL BLS BCK S	0	1	0	0	0	0
CAL ADC Temp	0	4	0	0	1	0
CAL PA Temp	0	4	0	0	8	1
CAL Fanout	0	0	0	0	0	19
CAL ADC	0	0	0	0	0	0
Pulsar	0	1	0	0	1	3
CAL HV	0	2	0	0	50	0
CAL MCH Protection	0	0	0	0	0	0
CAL Platform Protection	0	0	0	0	0	0
CAL Controls	0	9	0	0	0	0

Status: Connection to server opened



# Shifter's task

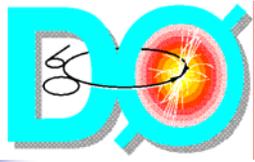
At the beginning of a new Run

- **dq\_calor starts automatically**
- **start L1Cal\_examine**

During the Run

- **look at examine program**
- **Kill hotcells if necessary (on shift captain request ONLY !)**
- **Monitor alarm display and take actions accordingly**
- **Put all observations in the logbook (elog)**

**IF SOMETHING LOOKS WEIRD CALL EXPERT !!!**

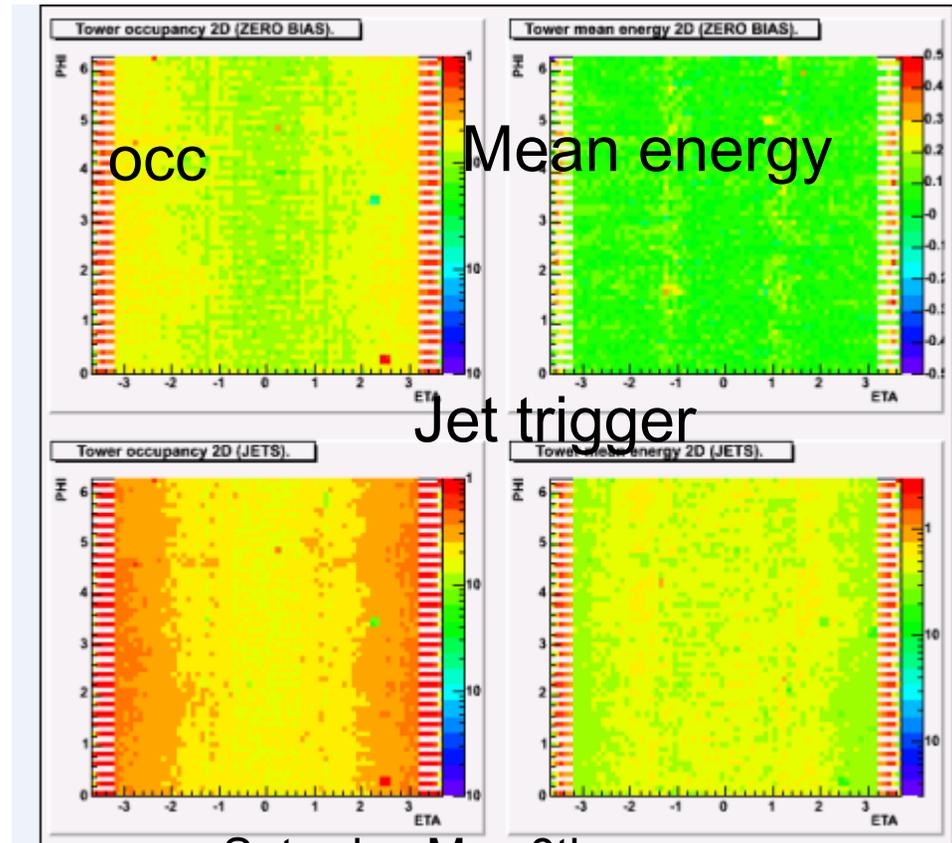


# Monitoring programmes

- dq\_calor is a very sophisticated monitoring prog.
  - proof of efficiency → problems fixed before our sleuths of the data quality detect it !
  - useful for offline analysis too → tag coherent noise

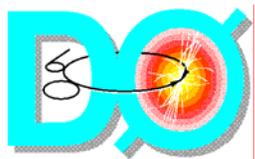
+ Unsuppressed trigger  
+ All triggers

0 bias trigger

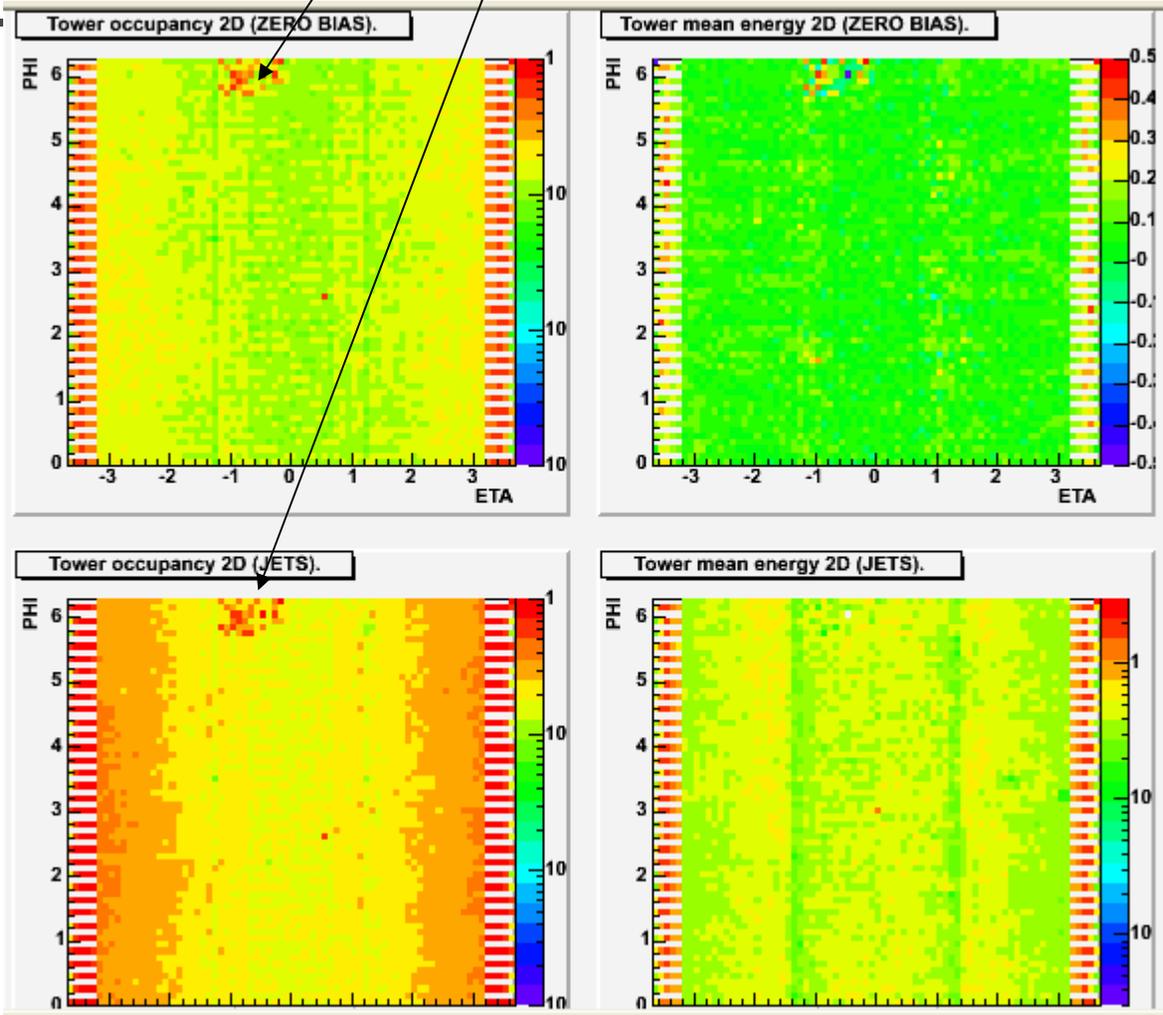


Saturday May 8th

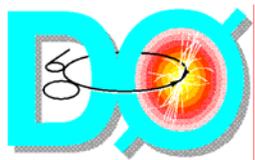
# harness problem in crate 9



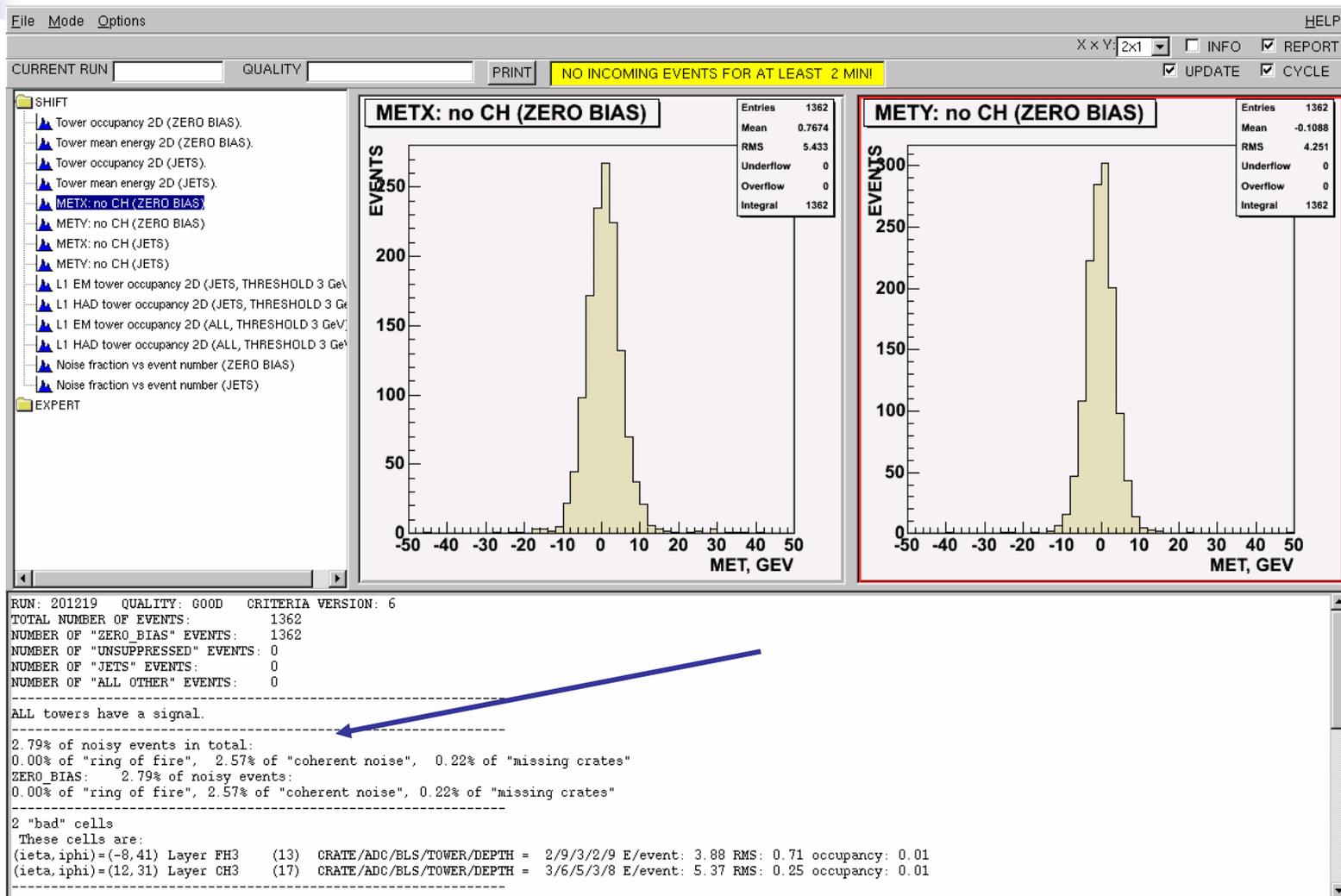
bad contacts in low voltage connectors  
at the level of BLS backplanes

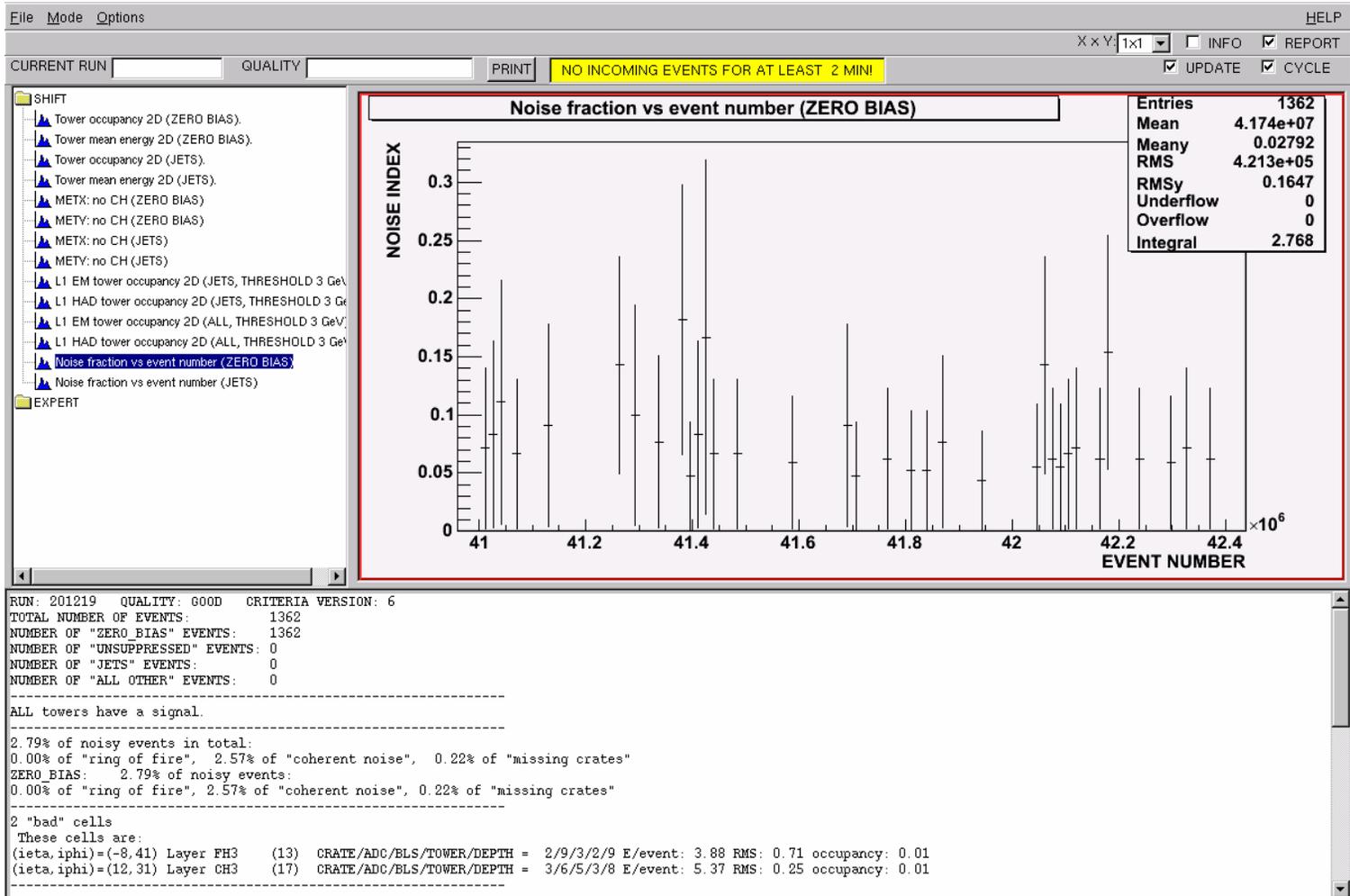
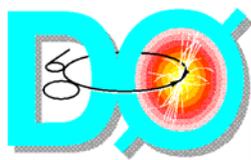


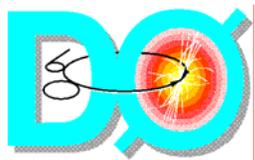
**FIXED**



# DQ Calo

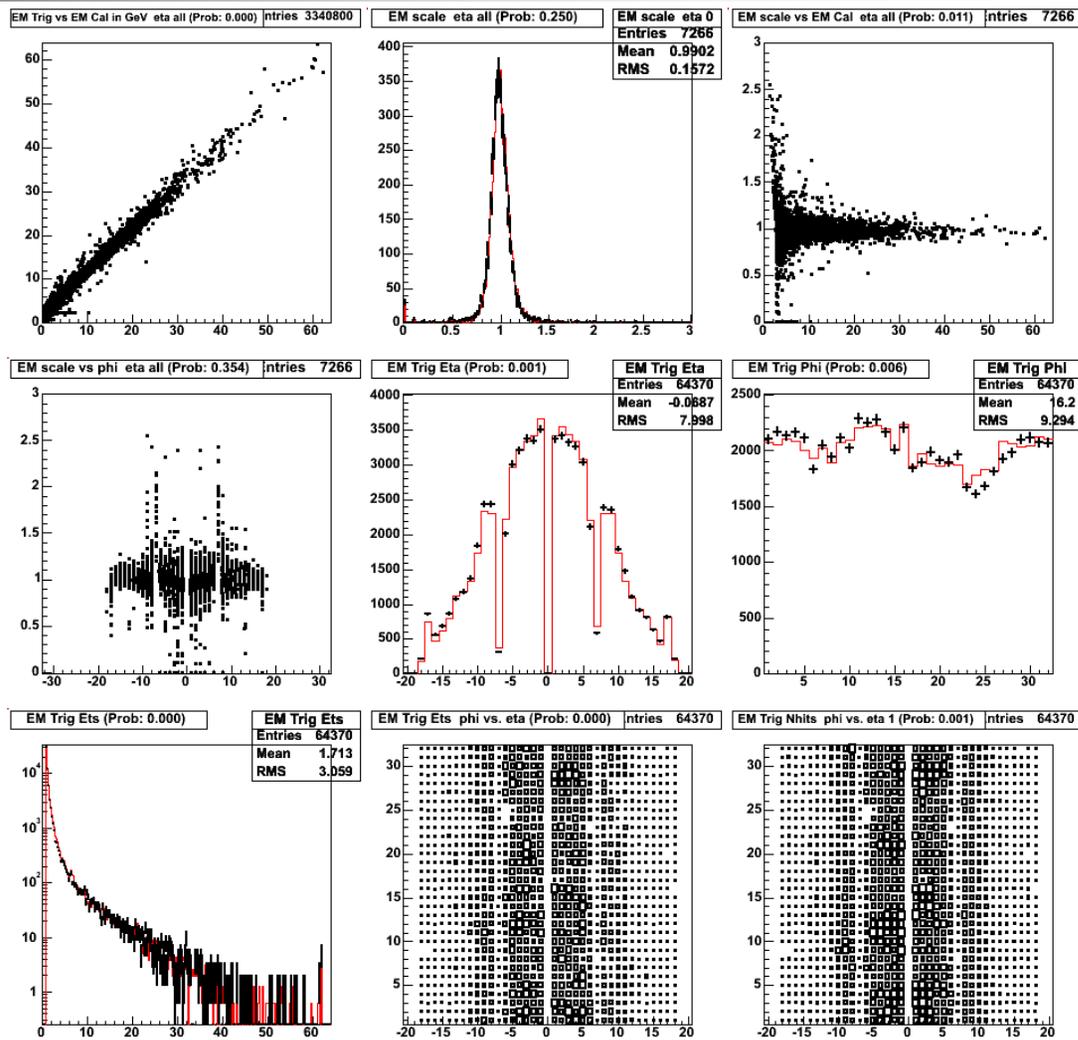


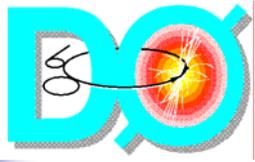




# Running L1CalExamine

```
start_cal l1examine_d0o123
start_cal l1examine
init
start
To stop the examine do
stop
quit
```





# Killing HotCells

If the hotcells are isolated in eta/phi and has  $E_T/\text{events} < 5$  GeV do not kill these cells.

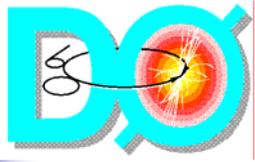
Note this information in the logbook

If more than one adjacent cells have  $E_t/\text{events} > 2$  GeV

**you may kill the cells ..but CALL THE EXPERT !!! before**

- Cells are not killed until downloaded using `cal_prepare_for_run`.
- This requires the DAQ shifter to stop the run and free the trigger.
- Talk to the captain about the hotcells and ask him when you should download new pedestals to kill those.
- In any case **call the on-call expert** unless you are experienced





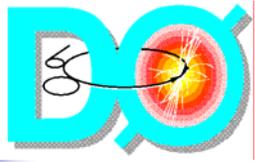
## Shifter's task – after the run stops

---

**Save the histograms and complete the run checklist in the logbook**

**After the store ends put the muon HV to standby (discussed by Markus),**

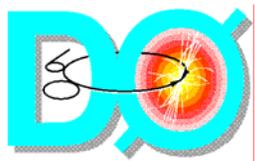
**DO NOT CHANGE THE CALORIMETER HV**



# Shifter's task, between stores

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- **If there is no beam (not even beam studies, or shot setup) and the last calibration run was taken more than 48 hours before Take a new calibration run**
- **Ask the captain about the quiet time and duration**
- **Also if there were an access and calorimeter experts worked on the hardware you must take a calibration run (In that case the cal\_expert should ask you for the calibration run)**
- **Download the pedestal and check for bad cells**
- **Keep the system running and monitor errors**
- **If there is a zero-bias run going on run all examines.**



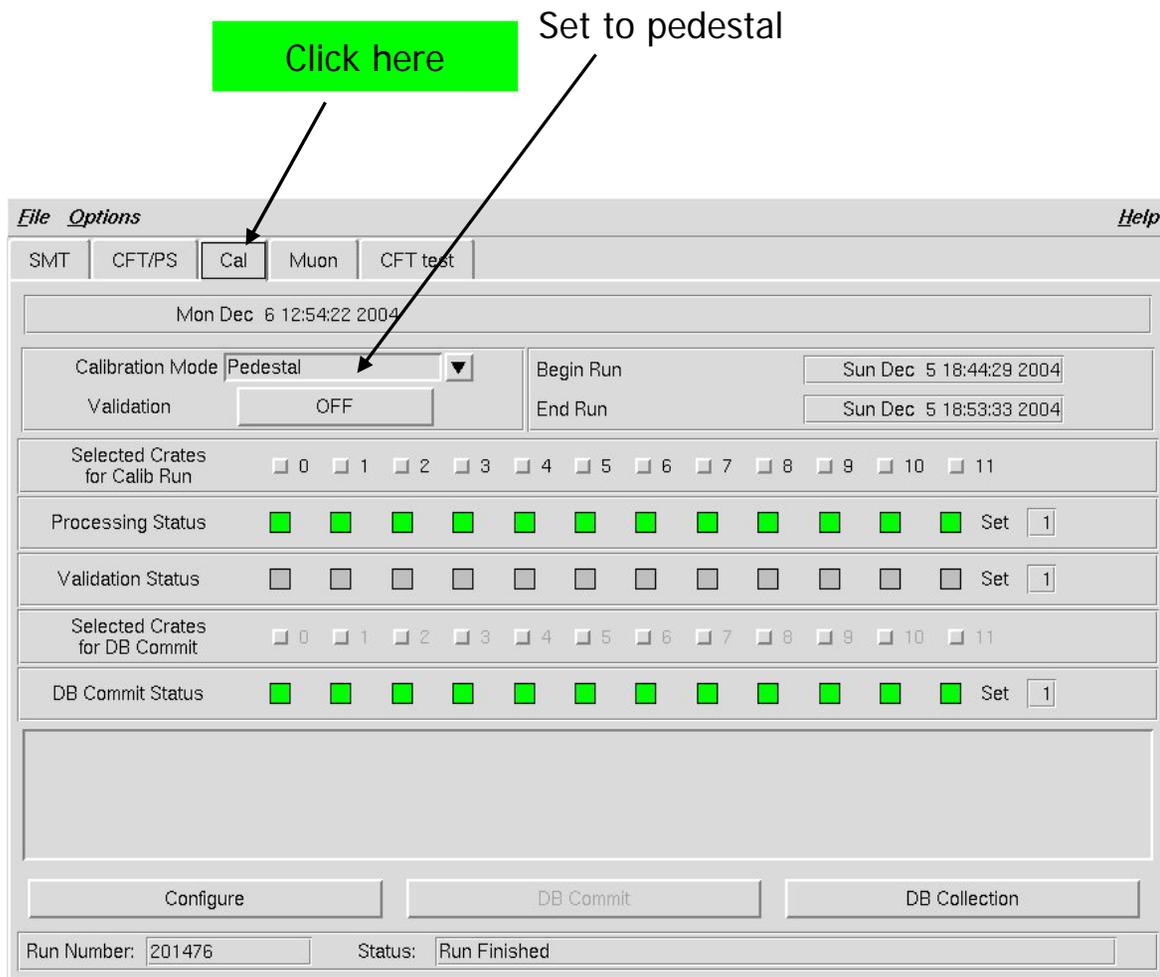
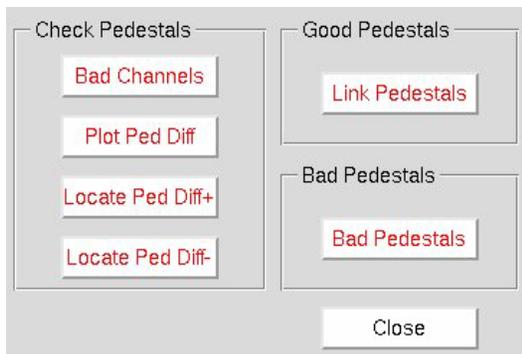
# Taking pedestal Calib Run

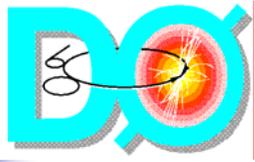
Open a new xterm

- Start\_cal D0run
- Ask for SMT crates

Open the calib manager GUI

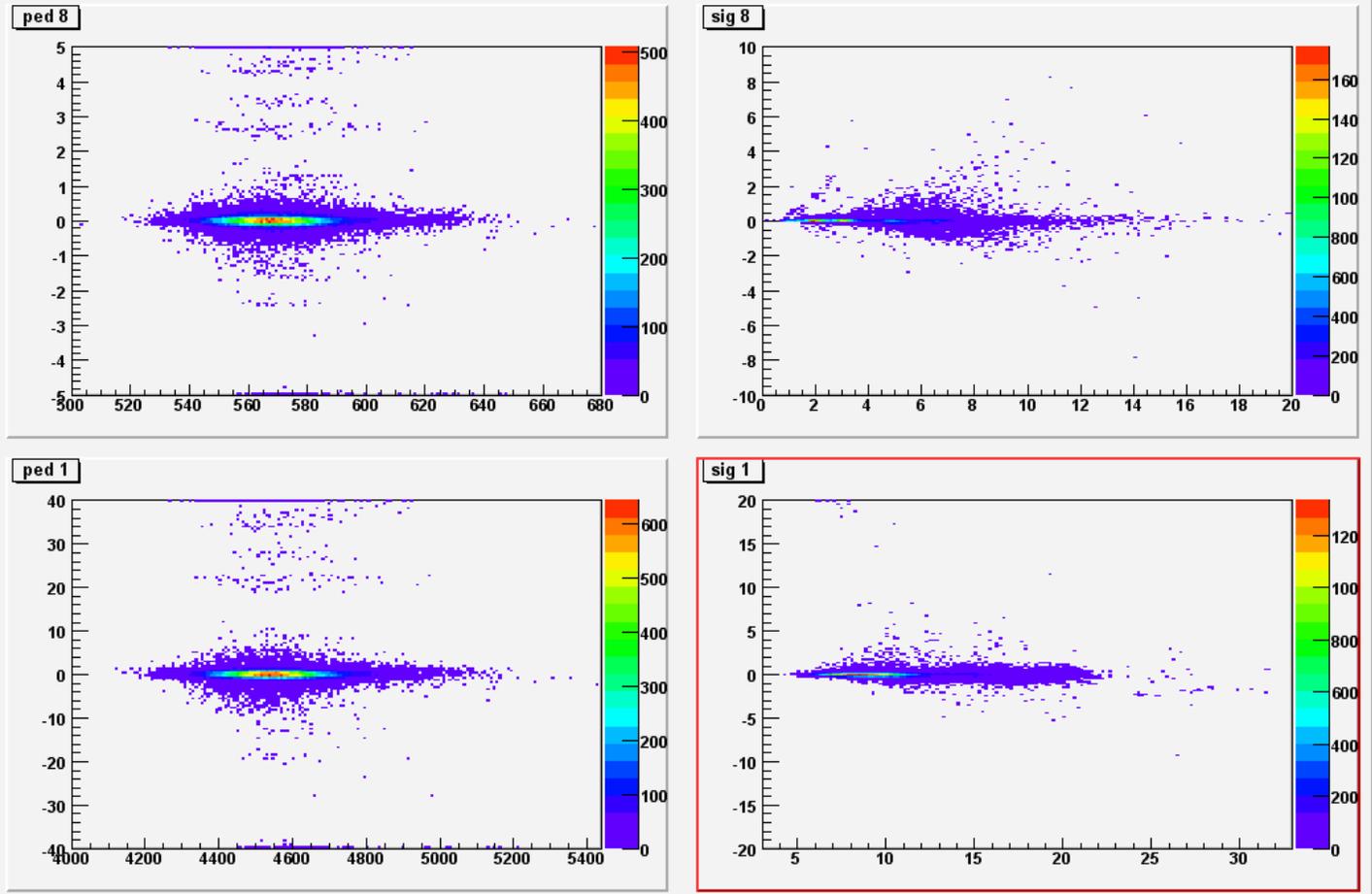
- setup d0online
- start\_cal calib
- read the manual !

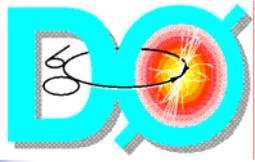




# Ped quality

**peds.txt (about 040627 10:23:03) - ped quality ref file.txt**



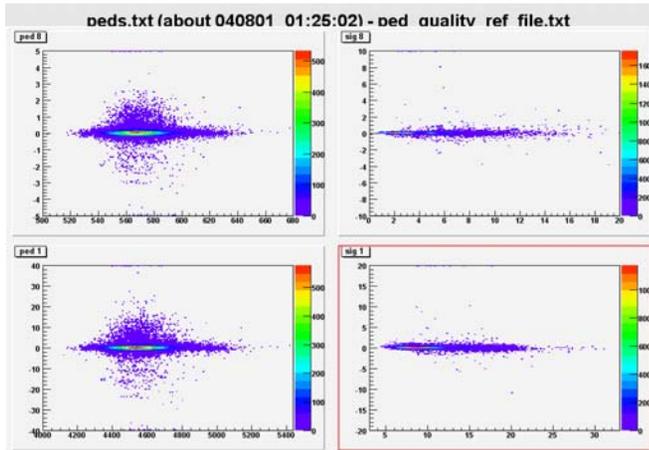


# Pedestal Log Entry

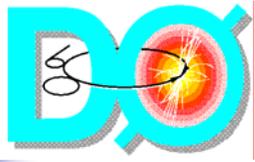
Starting calorimeter pedestal calibration run.

SMT is off.

Run 195816 x8, run 195817 x1. These two runs went OK.



3 1 3 0 6 578.11 63.37 576.80 55.25 4567.73 18.30 4 E-ped8  
4 9 5 2 11 579.97 99.99 575.42 50.72 4586.80 66.11 4 E-ped8  
Calibration looks good to me so I Linked the Pedestals.



# Summary

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- All details of shifter duties and troubleshooting can be found in the CAL shifter's guide (white binder or web)
- If in doubt... page expert!