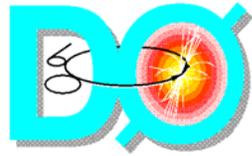


The RunII

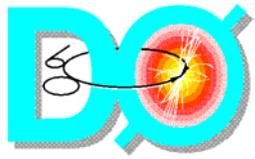


Calorimeter

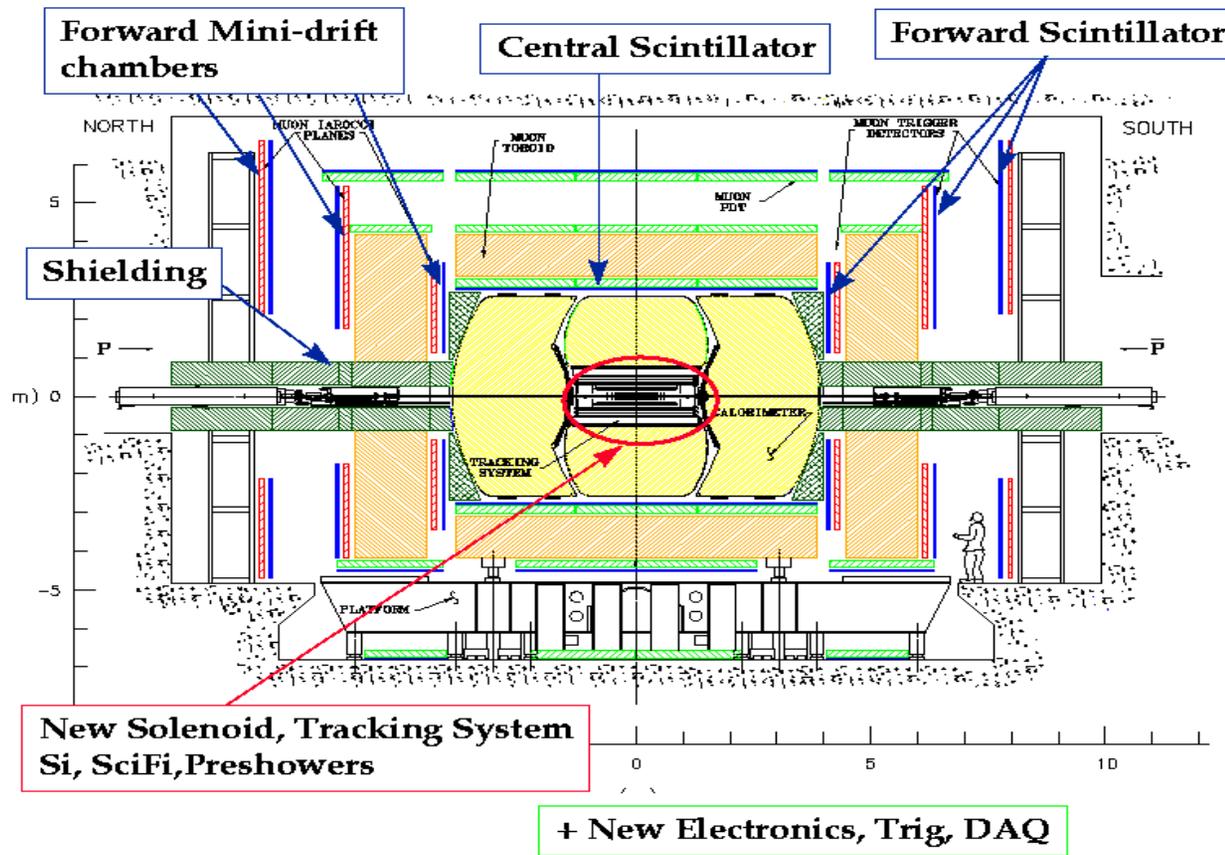
**Nirmalya Parua
(For the Calorimeter Group)**

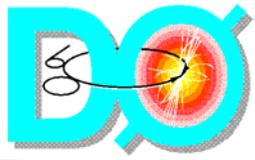
**Shifter's Tutorial
March 17, 2003**

- Overview Of the D0 Calorimeter
- Shifter's task



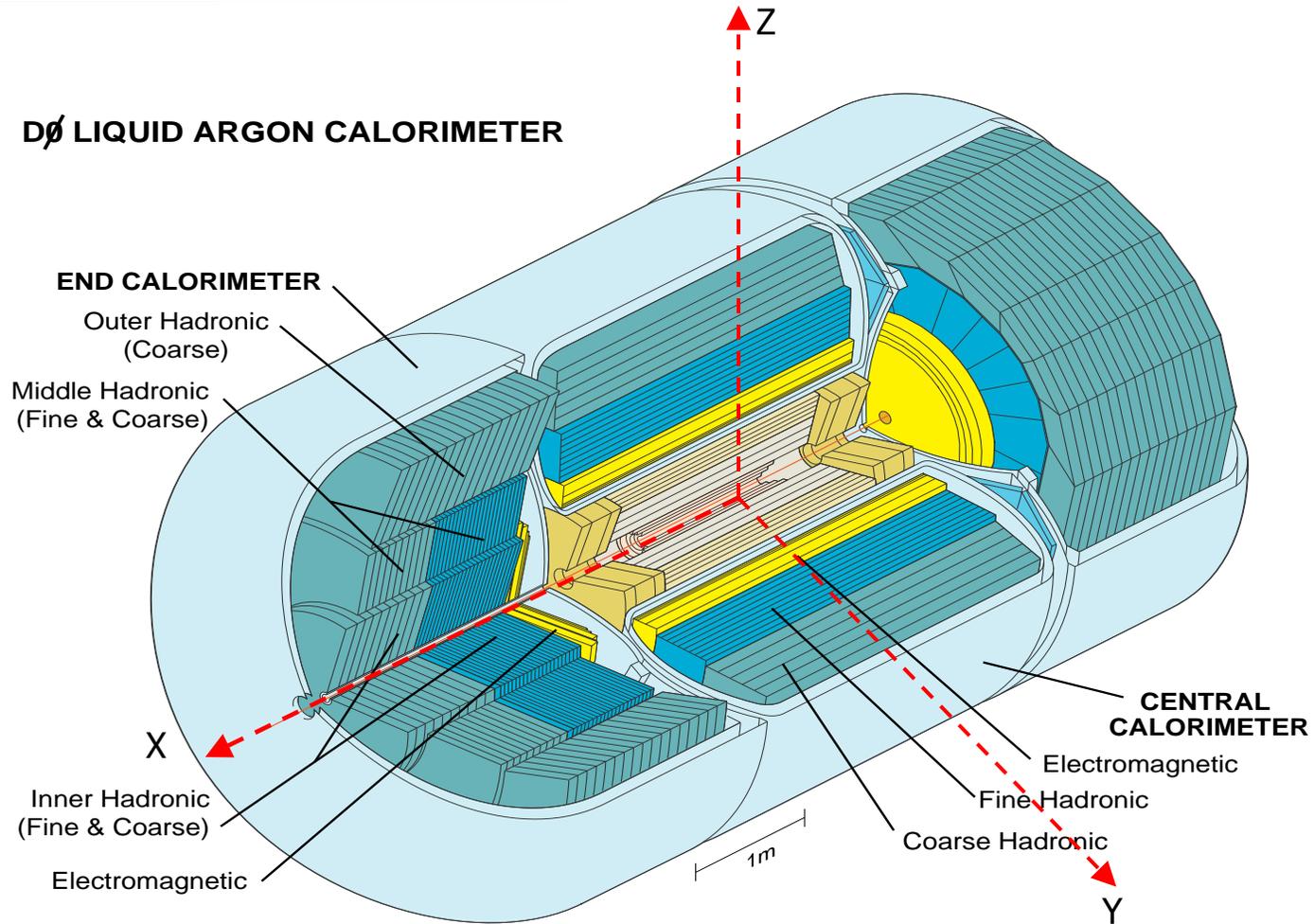
Overview of Detector

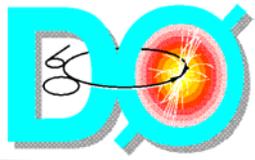




Calorimeter Overview

DØ LIQUID ARGON CALORIMETER





Overview of the Calorimeter

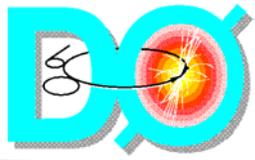
- **Liquid argon sampling**
 - Stable, uniform response, rad. hard, fine spatial seg.
 - LAr purity important
- **Uranium absorber (Cu or Steel for coarse hadronic)**
 - Compensating $e/\pi \sim 1$, dense \Rightarrow compact
- **Uniform, hermetic with full coverage**
 - $|\eta| < 4.2$ ($\theta \approx 2^\circ$), $\lambda_{int} > 7.2$ (total)
- **Energy Resolution**
 - $e: \sigma_E / E = 15\% / \sqrt{E} + 0.3\%$ $\pi: \sigma_E / E = 45\% / \sqrt{E} + 4\%$ (RunI numbers, RunII is somewhat worse now, and we don't have the final result)

For more details

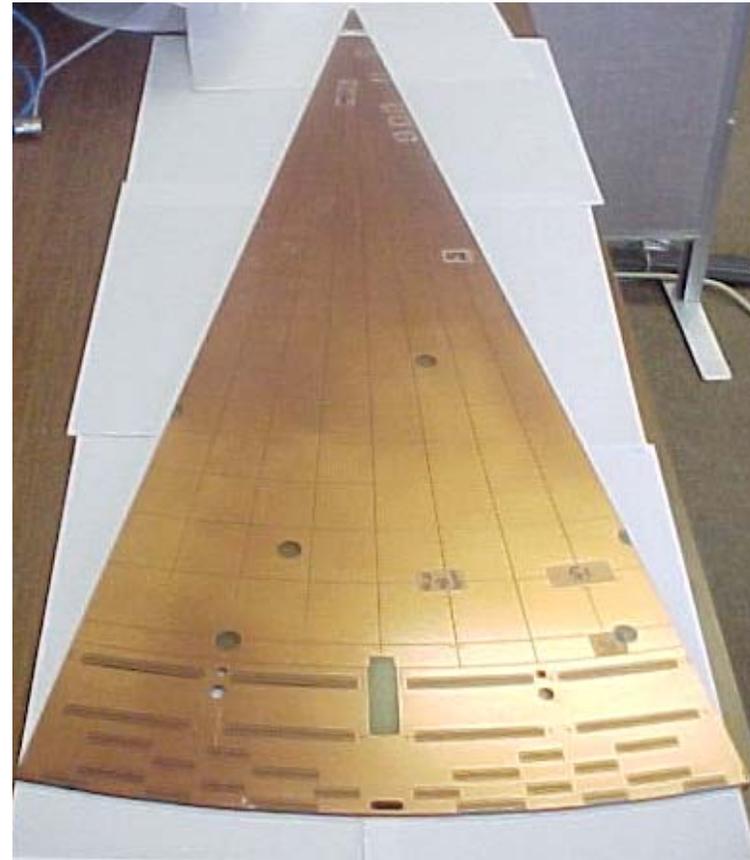
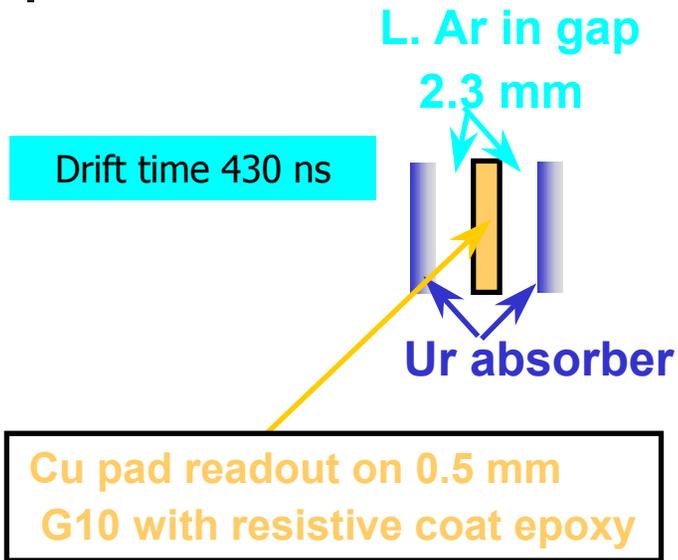
The D0 Detector ("The NIM paper")

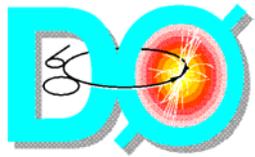
Nucl. Instr. and Methods, A338, 185 (1994)

FERMILAB-PUB-93/179-E PS

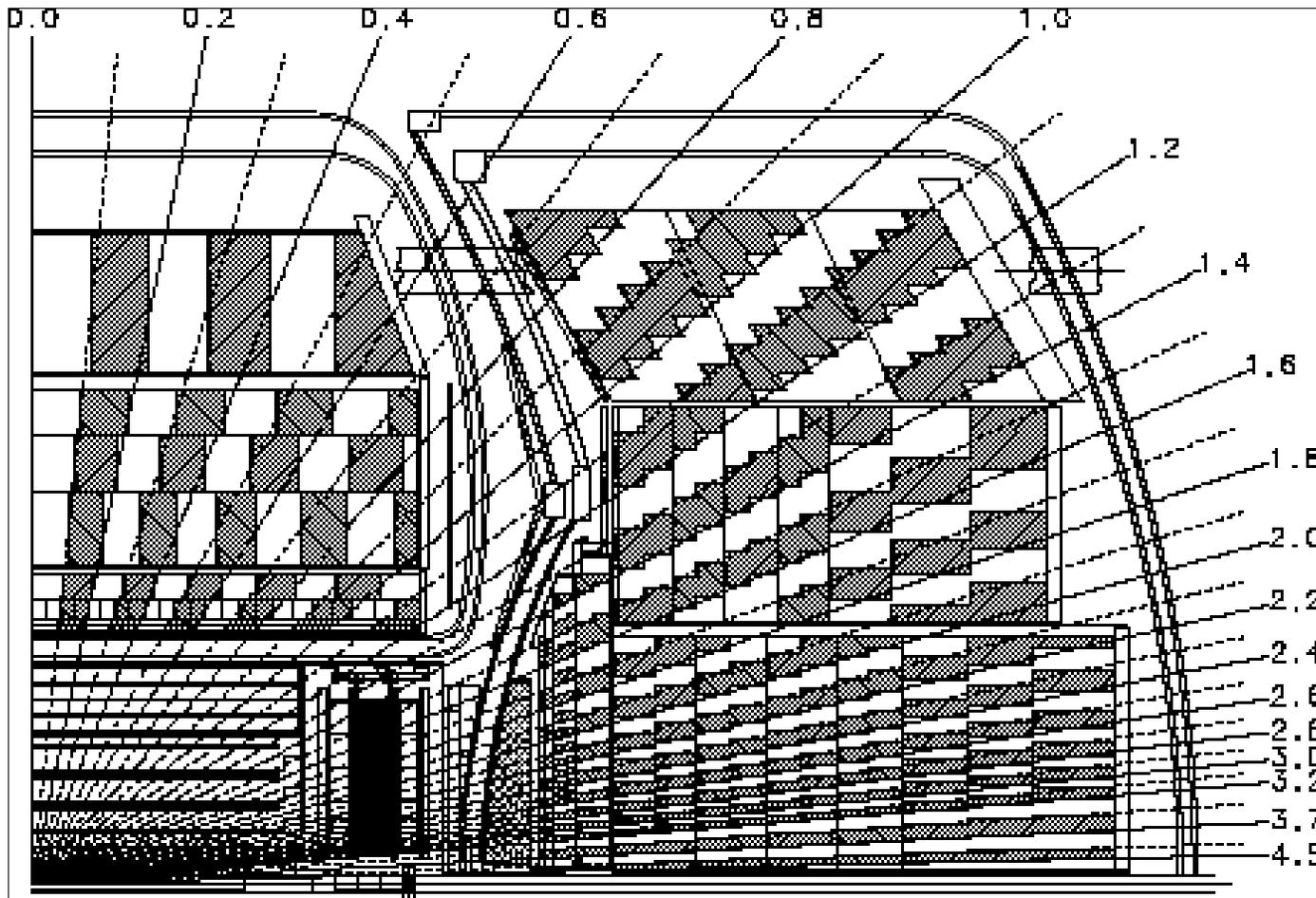


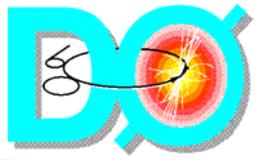
Overview of the Calorimeter





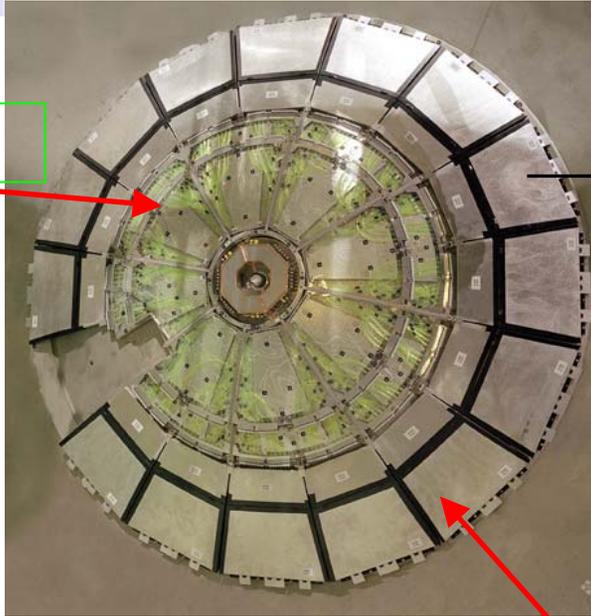
Overview of the Calorimeter



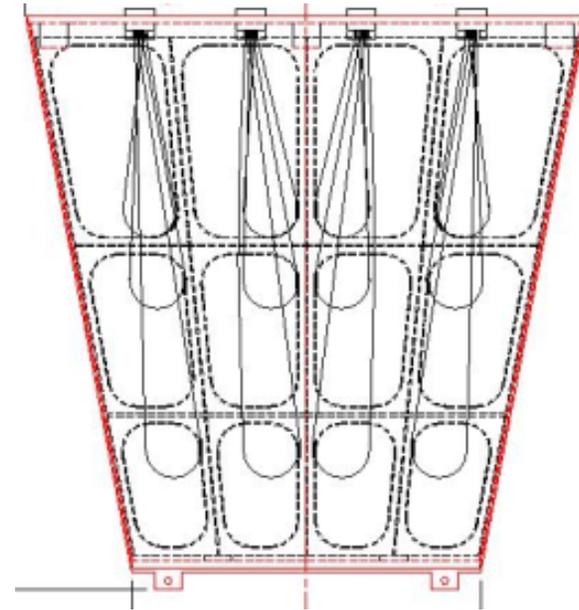


Intercryostat Detector (ICD)

FPS

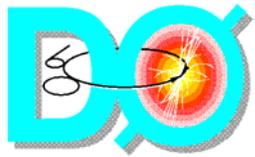


ICD

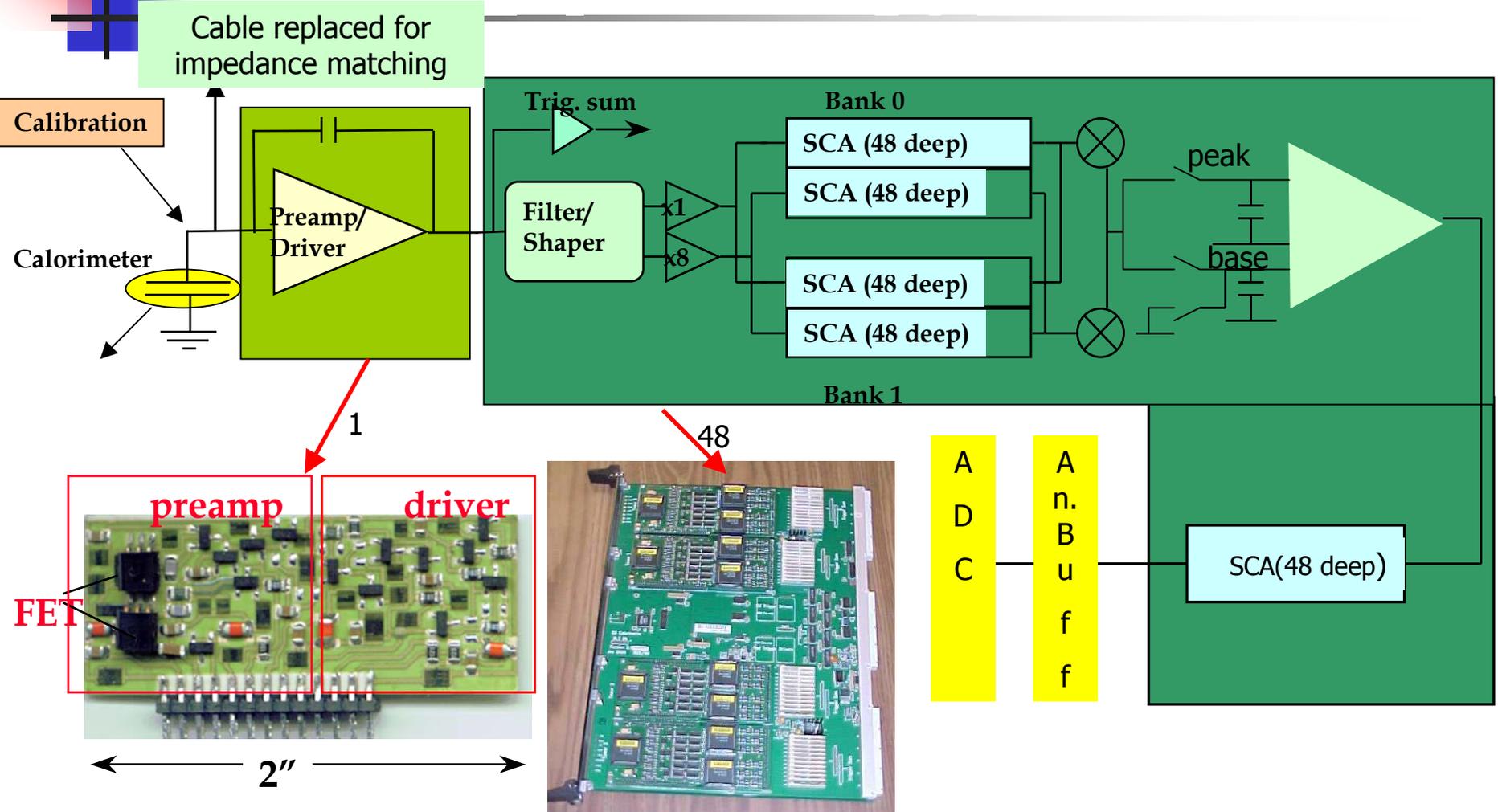


- Design

- ◆ 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 .



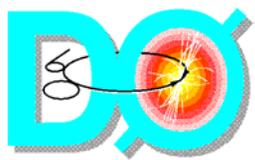
Readout



55k readout channels

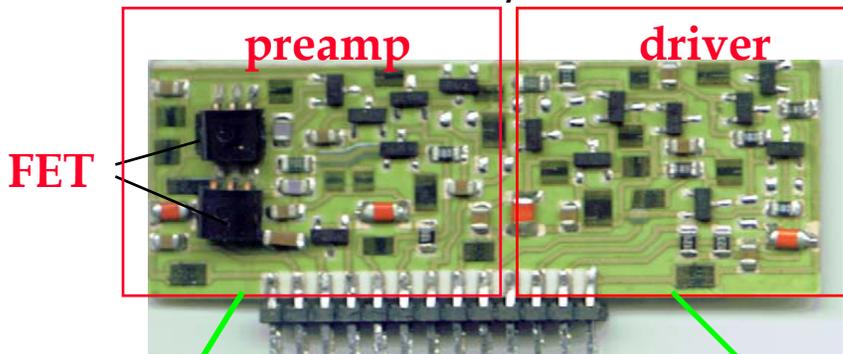
March 17, 2003

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Preamplifier

55296 hybrids



FET

preamp

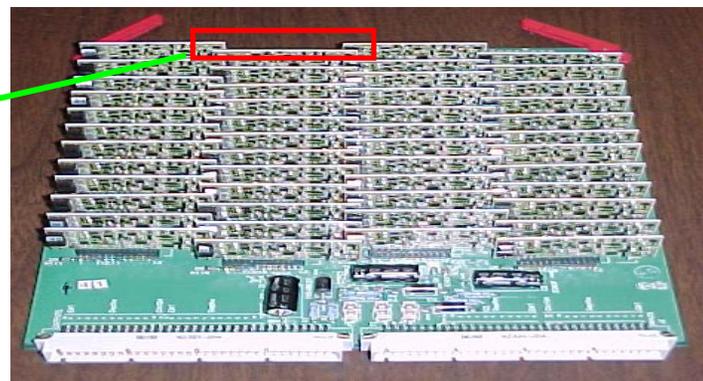
driver

2"

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

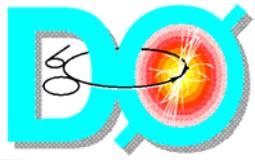
New output Driver for terminated signal

1152 boards

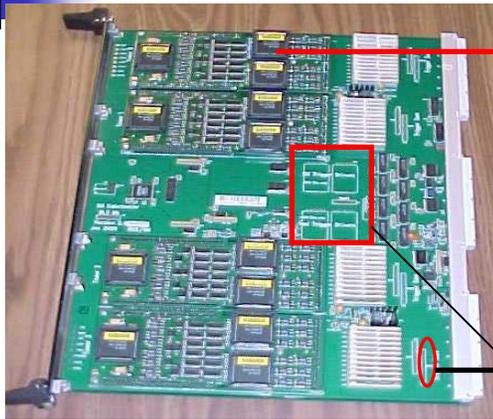


New calorimeter preamp

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



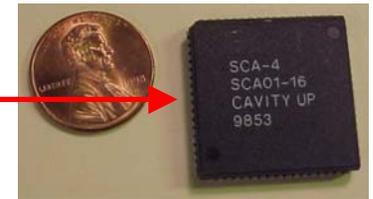
Base Line Subtractor (BLS)



1152 BLS boards



4608 SCA cards



23440 SCAs

Trig Summers
Trigger
summers/Drivers

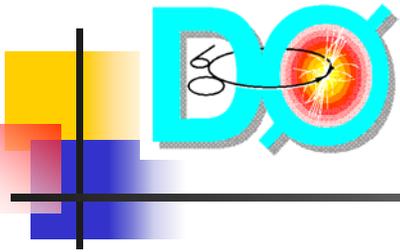


ADC's have 12 bit dynamic range. To achieve 15 bit dynamic range SCAs have low and high gain path for each readout channels (X8/X1)

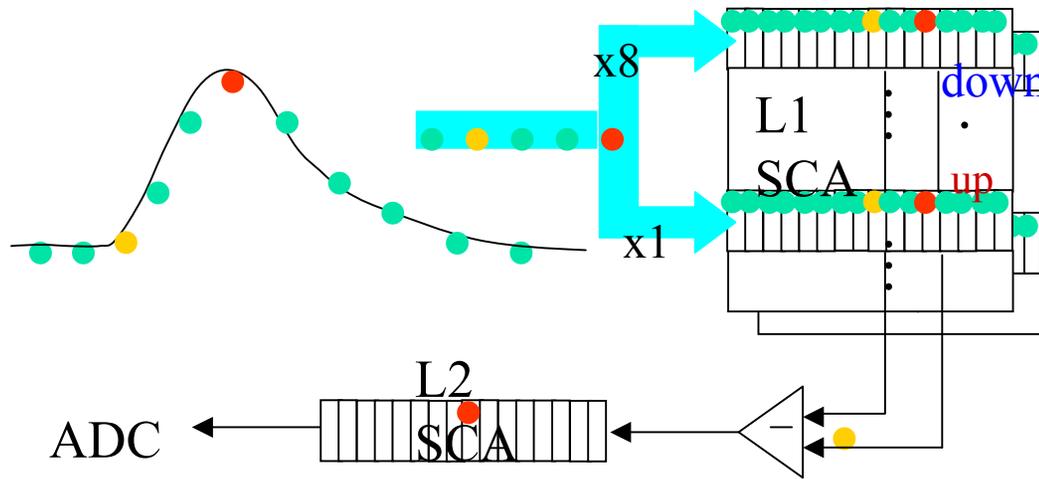
SCAs are not designed for simultaneous read/write operations. Two banks of SCAs, upper and lower (can't see in the picture), for alternate read/write operation.

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

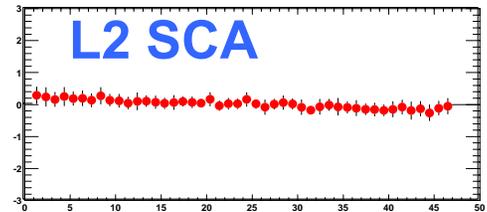
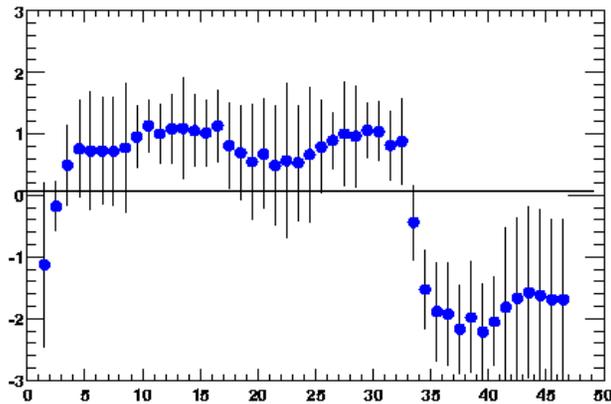
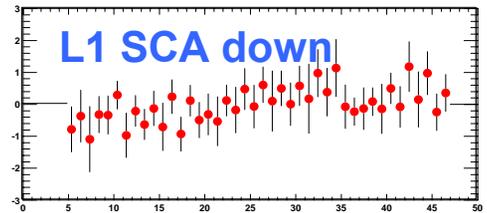
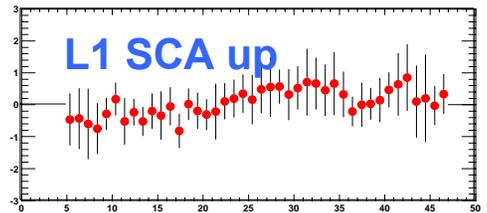
Trigger tower formation 0.2×0.2 for Level 1.

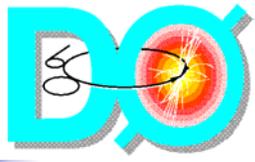


More on SCA's

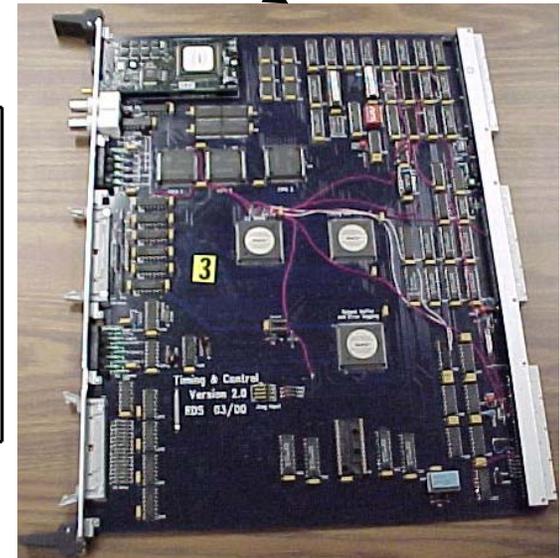
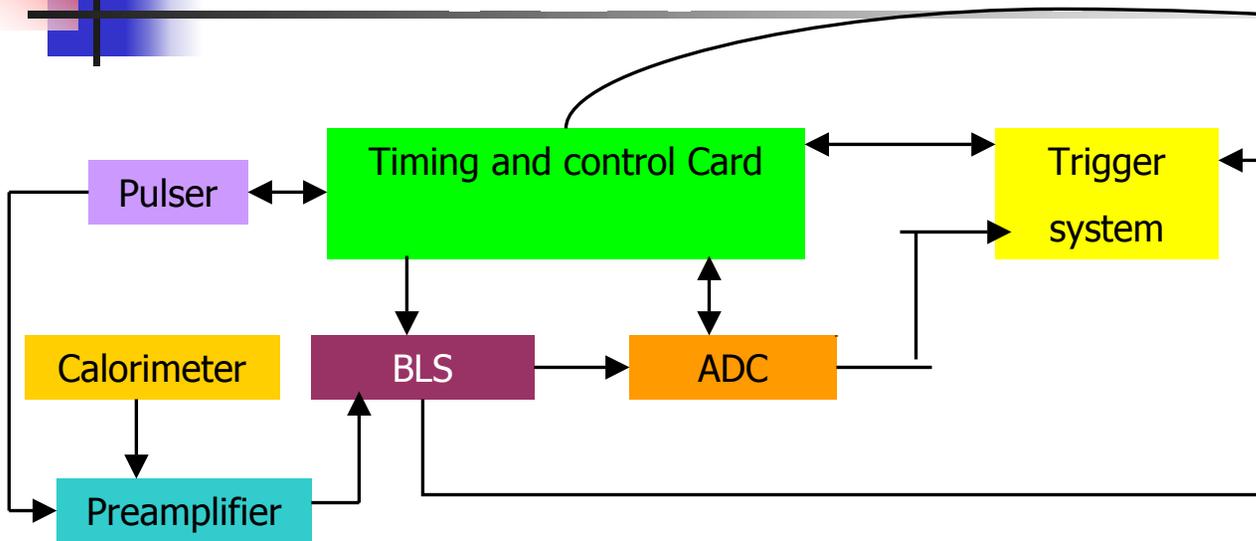


ADC counts



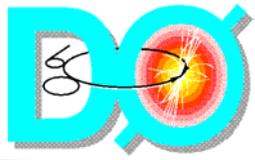


T&C cards



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.



Shifter's task

DO Online Computing Home Page - Microsoft Internet Explorer - AT&T Broadband featuring AT&T WorldNet

File Edit View Favorites Tools Help

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

Search

Choose a category for your search:

- Find a **Web page**
- Find a person's address
- Find a **business**
- Previous searches
- Find a **map**
- Look up a word
- Find a picture

Find a Web page containing:

Brought to you by MSN

Search for other items:
[Files or Folders](#)
[Computers](#)
[People](#)

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Terms of Use

[Logbook](#) | [DO Online](#) | [DO Home](#) | [Fermilab](#)

[Security](#) [Privacy](#) [Legal](#)

Calorimeter group Web page

Shifter's corner:

- [Calorimeter Checklist: in Shifters Manual - goto page 118](#)
- [Today's tasks list](#)
- [Archives](#)
 - [Current PowerSupply Status](#)
- [Calorimeter Shifter's Guide: Word format , pdf, html - courtesy Mike Tuts](#)
- [Calorimeter Shifter Schedule](#)
 - [institutional shift count 2002 - xls-file](#)
 - [institutional shift count 2001 - xls-file](#)
 - [Preparing for owl-shifts - courtesy Tom Ferbel](#)
- [Calorimeter Runs Database](#) (for full functionalities Explorer required) - courtesy Mike Tuts
 - data runs: [Aug 7 -Oct 4 2001](#)
 - non data runs: [Aug 7 -Oct 4 2001](#)
 - [OLD: Useful Calorimeter Runs](#)

Calorimeter Group Task Lists:

- [Current Task List](#)
Previous Task Lists: [Shutdown May 2001](#)

Instructions, etc:

Generalities:

- [Last 72 hours of CAL e-log](#) [Last week](#) [2 weeks](#)
- [General Instructions for Running and Troubleshooting the Calorimeter Crates](#)
- [CAL Quick Guide](#)
- [Calorimeter FAQ \(Frequently Asked Questions\)](#)
- [Contact Information](#)

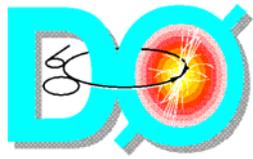
[CAL and DownLeads](#)

<http://d0server1.fnal.gov/projects/calorimetelectronics/tuts/Manual.doc>

www-d0online.fnal.gov -> Group Managed web pages -> Cal

March 17, 2003

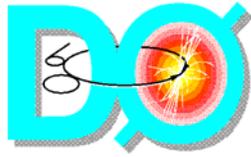
Nirmalya Parua



Shifter's task

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Shifter's task

APPENDIX D - CHECK LIST

Calorimeter/ICD/FPD Checklist Ver 1.1 10/24/02

Complete this checklist soon after the start of your shift. If you don't know what an item means, check the Calorimeter Shifters' manual, for each item the relative page number in the Shifter's manual are given in brackets. Report any special observation in the logbook and call an expert in case of any problem. Current Expert on-call number is given in: http://www.d0online.fnal.gov/www/groups/cal/calb_shift_tasks.html

Name _____ Date _____ Shift _____

Start of your Shift

Time _____

1. Electronic logbook running, you are logged in (p. 12 or 41)
2. Check logbook entries for last shift.
3. Check whiteboards and http://www.d0online.fnal.gov/www/groups/cal/calb_shift_tasks.html for latest shift tasks, status of the calorimeter and special runs to be taken.
4. Check Monitoring GUI's (p. 42) and compare with <http://www.d0online.fnal.gov/www/groups/cal/Monitor/test.html>
 - a. Calorimeter Alarm GUI (*start_cal_alarm*) ok? _____
 - b. Calorimeter/ICD HV Monitoring GUI running (*start_cal_hv*) ok? _____
 - c. Calorimeter Global PS Monitor display GUI running (*start_cal_global*) ok? _____
 - d. Calorimeter Read Out Monitor display GUI running (*start_cal_shift_mods*) ok? _____
 - e. Calorimeter Power Supply Monitor Display GUI running (*start_cal_supply*) ok? _____
5. Channel Archiver running? check if Archiver Icon is green at the bottom of Power Supply Monitor Display-GUI <http://www.d0online.fnal.gov/www/groups/cal/Archiver.pdf> to restart

After Store

Time _____

1. When there is no beam in the Tevatron, do a pedestal calibration:

Check Monitoring GUI's (p. 19) and compare with <http://www.d0online.fnal.gov/www/groups/cal/Monitor/test.html>

- a. Calorimeter Alarm GUI (*start_cal_alarm*) ok? _____
 - b. Calorimeter/ICD HV Monitoring GUI running (*start_cal_hv*) ok? _____
 - c. Calorimeter Global PS Monitor display GUI running (*start_cal_global*) ok? _____
 - d. Calorimeter Read Out Monitor display GUI running (*start_cal_shift_mods*) ok? _____
 - e. Calorimeter Power Supply Monitor Display GUI running (*start_cal_supply*) ok? _____
2. Take a pedestal calibration run (p. 21 or 51): runnumber gain 8: _____ gain 1: _____
 3. Compare reference plots and put them with your name in the "reference Plot Folder" (p. 55)
 4. Report runs with the number of hot-cells in Runs Database (p. 55)
 5. Take the Hot-Cell Finder run, report number of hot cells found in the Runs Database (p.57)
 6. Kill the hot cells identified with the HotCell Finder (p. **Error! Bookmark not defined.**)
 7. Put a summary for the pedestal calibration procedure in the logbook
 8. Take any special runs requested on the white-board or in http://www.d0online.fnal.gov/www/groups/cal/calb_shift_tasks.html

APPENDIX D - CHECK LIST

Before Store (1hour before beam)

Time _____

1. If an pedestal calibration run was taken more than 12hours earlier or if there has been an access with a change in hardware, take a new pedestal calibration while no beam is in the Tevatron, download and check for hot channels, report results in the Runs Database (see section "After Store")
2. **Download *cal_prepare_for_run* trigger, then free the trigger and tell the captain and the daq-shifter that the calorimeter can be taken in the global run.**
3. **Verify that the Pulzers (ICD: p. 13, CAL: p. 44) are off:** <http://www.d0online.fnal.gov/www/groups/cal/Monitor/test.html>
6. Check Monitoring GUI's (p.42) and compare with <http://www.d0online.fnal.gov/www/groups/cal/Monitor/test.html>
 - a. Calorimeter Alarm GUI (*start_cal_alarm*) ok? _____
 - b. Calorimeter/ICD HV Monitoring GUI running (*start_cal_hv*) ok? _____
 - c. Calorimeter Global PS Monitor display GUI running (*start_cal_global*) ok? _____
 - d. Calorimeter Read Out Monitor display GUI running (*start_cal_shift_mods*) ok? _____
 - e. Calorimeter Power Supply Monitor Display GUI running (*start_cal_supply*) ok? _____

After the Run Starts

Time _____

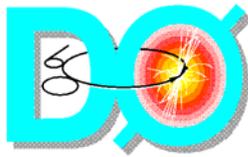
1. Run Cal-Examine (*start_cal_cal_examine* or *Start-button in the xgooy-GUI*) (p. 44)
2. Check detector operation from Examine plots (see also p. 82)
3. Look at hot cell information (p.45)
4. Kill hot cells using the HotCell Killer (p.45)
5. Put observations in logbook
6. Check Monitoring GUI's (p. 42) and compare with <http://www.d0online.fnal.gov/www/groups/cal/Monitor/test.html>
 - f. Calorimeter Alarm GUI (*start_cal_alarm*) ok? _____
 - g. Calorimeter/ICD HV Monitoring GUI running (*start_cal_hv*) ok? _____
 - h. Calorimeter Global PS Monitor display GUI running (*start_cal_global*) ok? _____
 - i. Calorimeter Read Out Monitor display GUI running (*start_cal_shift_mods*) ok? _____
 - j. Calorimeter Power Supply Monitor Display GUI running (*start_cal_supply*) ok? _____
 - k. FPD alarm GUI & histograms running (p. 49) ok? _____
7. Try to run L1Cal-examines: <http://www.d0online.fnal.gov/~kehoce/l1cal/L1CalExamine.cu>. Please comment instructions.

After the Run Stops

Time _____

1. Stop Cal-Examines acquisition (*Stop-button in the xgooy-GUI*) (p. 49)
2. Record run number, #events, data quality in logbook (p. 49)
3. Record run information in PC database (p. 49)
4. FPD in standby **before end of store** (p.50)

Comments _____



Shifter's task

General:

Locate the monitors and orient yourself.

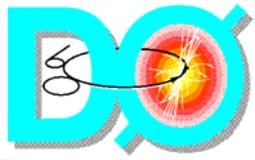
Open/login to the electronic logbook

Recognize/start all calorimeter monitoring GUIs

Fill out the checklist in a timely manner.

Make sure archiver is running

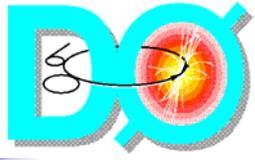
Check the status of the FPDs.



Shifter's task

When There is beam and we are in Global running

- Make sure that all low voltage and high voltage supplies are on and working.
- Reset any tripped supplies.
- Set to data taking mode and download pedestals- `cal_prepare_for_run`.
- Make sure that the pulsers are off.
- Make sure all modes are set correctly.
- Run the examine and `L1cal_examine`, identify hot cells and hot trigger towers.
- Kill hot cells in the precision if needed, if there are hot trigger towers notify L1cal expert.
- Paste examine plots in the logbook.
- If any supplies trip, record trip parameters and reset the trip.
- At the end of every runs stop the examines, at the beginning of runs start those.
- Monitor the FPD running.
- At the end of run record the run information in the database and logbook.
- Place the FPD to standby before the end of the store.



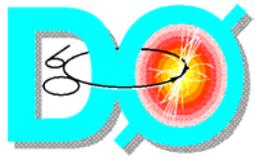
Shifter's task

During quiet time

- Remove the cal crates from Global run and take pedestal calibration run
 - Verify power supplies are off and working.
 - Verify pulsers are off.
 - Set the T&C system to fixed cell mode.
 - Check the calibration manager is running
 - Start the taker, select the trigger file, and take the runs.
 - Make sure the modes are set correctly
 - Enter the run parameters both in the logbook and in the database
 - Edit the trigger file and make the download file
 - Check the output, if satisfactory convert into the correct format and download.
 - Run a zero bias run and identify hotcells, kill if necessary

When there is no beam

- Run Cal examine and L1cal_ examine to find any problem.
- Take any special runs that were requested.



Shifter's task

Alarm Display

File View Settings Help

Group Name	MAJOR	MINOR	INVALID	DISABLED	GOOD
CAL Preamp	0	10	0	1	9
CAL BLS	0	4	0	5	14
CAL ADC	0	1	0	0	0
CAL HV	0	0	0	0	0
CAL MCH Protection	0	0	0	0	0
CAL Platform Protection	0	0	0	0	0
CAL Controls	0	1	1	0	0

Status: Connection to server started

>start_cal alarm

CAL Preamp Minor Alarms

CALC_CMCP_PA02/XTEMP3	SHOW
CALC_CMCP_PA02/XTEMP4	
CALC_CMCP_PA03/LB	
CALC_CMCP_PA03/LT	
CALC_CMCP_PA03/XTEMP3	
CALC_CMCP_PA03/XTEMP4	
CALC_CMCP_PA09/RT	DISABLE
CALC_CMCP_PA09/XTEMP3	
CALN_LVCP_PA00P/DB2T	
CALS_CMCP_PA05/FTB	
ICD_LVCP_PW09/12VA	
ICD_LVCP_PW09/SVF	CLOSE

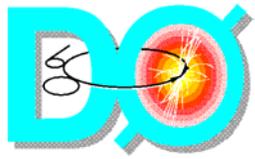
CALC_CMCP_PA03/LT

Alarm cause: High alarm
Alarm value: 55.951569
HiHi limit: 60.000000
High limit: 55.000000
Low limit: 5.000000
LoLo limit: -280.000000

Message contents:

version: v4
utility: ef(0)
timestamp: Sat Mar 15 11:59:12 2003
message type: alarm
name: CALC_CMCP_PA03/LT
priority: 0
host: d0o1ct109
db entry: 0
parent: none
children: none
transition: bad
severity: minor
alarm type: analog
parameters: ai 4 55.951569 60.000000 55.000000 5.000000 -280.000000

CLOSE DISABLE CONTROL GUIDANCE COMMAND



Shifter's task

>start_cal global

Calorimeter Global Monitor Display

File View Help

Global

Device	Preamp	PA Tmp	BLS	Pulser	ADC
EC North					
Crate 00 0x40 NW					
Crate 01 0x41 SW					
Crate 10 0x4A SE					
Crate 11 0x48 NE					
CC					
Crate 02 0x42 NW					
Crate 03 0x43 SW					
Crate 08 0x48 SE					
Crate 09 0x49 NE					
EC					
Crate 04 0x44 NW					
Crate 05 0x45 SW					
Crate 06 0x46 SE					
Crate 07 0x47 NE					
ICD					
Crate 12 ICD					

Status: GUI initialization complete

Reconnect Exit

>start_cal ioc

IOC Resource Monitor Display

File View Help

CAL	CFT	CTL	MUO	MUO/RC	SMT	SMT/RC	STT	Test
IOC Node CPU % Mem % FD %								
MCH Vertical Interconnect								
d0olct103	45	57	46	Reboot				
Platform								
d0olct109	6	42	54	Reboot				
d0olct111	14	71	52	Reboot				
ICD High Voltage								
d0olct126	15	34	46	Reboot				
d0olct127	15	34	46	Reboot				
d0olct133	10	33	46	Reboot				
CAL High Voltage								
d0olct142	16	34	48	Reboot				
d0olct143	15	36	48	Reboot				
d0olct144	14	34	48	Reboot				
d0olct145	16	34	58	Reboot				

Status: GUI initialization complete

Reconnect Reboot

>start_cal rmi

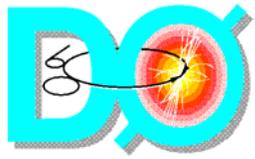
Track Environment Monitor Display

File View Help

Central	North	West	South	East	Cath	Tunnel
Rack	Smoke	Air Flow	Water Leak	Water Flow	Flow g/m	RM DSTAT
PC00					<2	Normal Reset
PC01						Normal Reset
PC02					2-4	Normal Reset
PC03					2-4	Normal Reset
PC04					2-4	Normal Reset
PC05						Normal Reset
PC06						Normal Reset
PC07					2-4	Normal Reset
PC16					2-4	Normal Reset
PC17					<2	Normal Reset
PC18					<2	Normal Reset
PC19					2-4	Normal Reset
PC20					<2	Normal Reset
PC21					2-4	Normal Reset
PC22					<2	Normal Reset
PC23					<2	Normal Reset

Status: GUI initialization complete

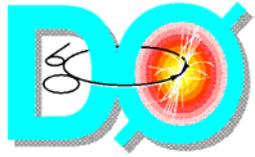
Reconnect



Shifter's task

>start_cal supply

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	-6VC V	-6VC I	-6VH V	-6VH I	Vic Tmp	Shn Tmp	Mag F	D1 Tmp	D2 Tmp	STAT	RM			
EC North																										
CALN_LVCP_PA00P	12.14	-0.23	12.14	-0.45	8.22	-0.06	8.09	-0.11	8.16	-0.31	8.26	-0.31	-6.00	-0.26	-6.03	-0.11	18.41	17.24	-5.13	6.35	4.39	Ox2	On	Off	Reset	
CALN_LVCP_PA00S	12.29	15.99	12.27	16.67	8.35	17.94	8.22	17.71	8.31	15.75	8.37	15.99	-6.25	23.56	-6.26	23.56	32.52	35.25	0.49	42.48	36.13	Ox3	On	Off	Reset	
CALN_LVCP_PA01P	12.39	15.69	12.39	16.66	8.39	17.76	8.13	17.10	8.20	15.69	8.36	16.03	-6.22	23.43	-6.28	23.08	32.37	35.40	-3.17	38.57	33.69	Ox3	On	Off	Reset	
CALN_LVCP_PA01S	12.30	0.09	12.35	0.11	8.32	0.26	8.04	0.35	8.11	0.38	8.31	-0.11	-6.13	0.21	-6.20	0.09	18.41	16.06	-2.69	10.25	10.25	Ox2	On	Off	Reset	
CALN_LVCP_PA10P	12.56	15.91	12.45	16.86	8.38	17.74	8.34	17.88	8.43	16.15	8.40	15.88	-6.28	23.47	-6.30	23.72	32.47	35.21	-0.24	38.57	33.69	Ox3	On	Off	Reset	
CALN_LVCP_PA10S	12.38	-0.13	12.33	-0.09	8.28	-0.11	8.21	-0.09	8.29	-0.09	8.23	-0.13	-6.10	-0.18	-6.15	-0.13	19.09	18.31	-15.38	15.14	12.21	Ox2	On	Off	Reset	
CALN_LVCP_PA11P	12.27	16.47	12.49	16.37	8.44	17.86	8.45	18.10	8.49	16.37	8.37	16.10	-6.27	23.57	-6.27	23.47	34.23	33.84	1.71	38.57	34.67	Ox3	On	Off	Reset	
CALN_LVCP_PA11S	12.12	0.01	12.59	0.23	8.28	-0.26	8.31	-0.04	8.34	0.31	8.26	0.01	-6.12	-0.18	-6.14	0.16	18.02	18.80	4.15	8.30	10.25	Ox2	On	Off	Reset	
CC																										
CALC_LVCP_PA02P	12.36	16.20	12.37	16.66	8.29	17.30	8.11	16.39	8.30	17.42	8.16	17.26	-6.25	23.03	-6.26	23.33	34.33	36.67	-7.57	32.71	36.62	Ox3	On	Off	Reset	
CALC_LVCP_PA02S	12.26	0.33	12.53	-0.04	8.22	0.23	8.04	0.10	8.20	0.11	8.09	-0.31	-6.11	0.16	-6.15	-0.16	18.31	20.75	0.73	10.25	15.14	Ox2	On	Off	Reset	
CALC_LVCP_PA03P	12.41	16.32	12.43	16.00	8.39	17.69	8.39	17.47	8.40	17.40	8.24	16.81	-6.30	23.67	-6.29	23.57	33.20	34.52	6.10	46.39	37.60	Ox3	On	Off	Reset	
CALC_LVCP_PA03S	12.34	0.33	12.35	-0.26	8.33	0.13	8.33	0.04	8.33	0.50	8.15	-0.18	-6.15	-0.33	-6.19	-0.67	18.99	16.16	7.57	11.23	11.23	Ox2	On	Off	Reset	
CALC_LVCP_PA08P	12.43	16.61	12.45	15.81	8.38	17.76	8.40	17.44	8.42	17.47	8.35	17.32	-6.31	23.43	-6.24	24.13	32.86	34.62	3.66	35.64	38.57	Ox3	Ox0	On	Off	Reset
CALC_LVCP_PA08S	12.36	-0.12	12.38	0.07	8.31	-0.16	8.31	-0.07	8.30	-0.22	8.30	0.15	-6.18	0.17	-6.18	0.02	18.85	18.26	7.81	14.65	13.18	Ox2	Ox0	On	Off	Reset
CALC_LVCP_PA09P	12.46	16.64	12.39	16.42	8.42	17.71	8.41	17.18	8.41	17.52	8.39	17.37	-6.29	23.52	-6.30	23.96	33.06	33.94	3.66	25.88	36.62	Ox3	Ox0	On	Off	Reset
CALC_LVCP_PA09S	12.37	0.12	12.37	-0.12	8.32	0.22	8.32	-0.49	8.31	0.29	8.28	0.22	-6.18	0.02	-6.21	0.07	18.21	19.04	-1.46	11.72	7.81	Ox2	Ox0	On	Off	Reset
EC South																										
CALS_LVCP_PA04P	12.39	16.49	12.40	16.87	8.39	17.55	8.40	17.32	8.42	16.02	8.41	16.06	-6.32	24.05	-6.30	23.86	30.37	36.62	-3.17	38.09	29.30	Ox3	Ox0	On	Off	Reset
CALS_LVCP_PA04S	12.34	0.26	12.39	0.35	8.31	-0.31	8.33	0.45	8.33	-0.01	8.35	0.35	-6.25	-0.04	-6.21	0.11	18.12	18.60	5.62	17.09	15.14	Ox2	Ox0	On	Off	Reset
CALS_LVCP_PA05P	12.67	16.31	12.66	16.85	8.43	18.48	8.41	18.38	8.43	16.59	8.43	16.74	-6.30	23.46	-6.25	23.27	31.40	33.50	10.25	32.23	26.37	Ox3	Ox0	On	Off	Reset
CALS_LVCP_PA05S	12.71	-0.06	12.67	-0.18	8.34	-0.40	8.33	0.11	8.37	-0.35	8.36	0.13	-6.16	0.01	-6.16	-0.21	17.92	17.63	3.17	15.14	12.21	Ox2	Ox0	On	Off	Reset
CALS_LVCP_PA06P	12.62	17.21	12.60	16.78	8.54	17.91	8.55	16.54	8.54	16.92	-6.32	23.75	-6.42	23.75	-6.42	23.75	31.74	33.89	16.11	47.85	45.90	Ox3	Ox0	On	Off	Reset
CALS_LVCP_PA06S	12.34	0.45	12.35	-0.48	8.29	-0.26	8.32	0.38	8.34	-0.01	8.33	0.26	-6.10	-0.62	-6.17	0.11	18.60	16.06	-3.66	15.14	14.16	Ox2	Ox0	On	Off	Reset
CALS_LVCP_PA07P	12.42	16.93	12.44	16.15	8.51	18.53	8.53	18.92	8.56	16.92	8.49	17.02	-6.46	23.95	-6.36	23.38	31.40	31.35	6.35	44.43	40.04	Ox3	Ox0	On	Off	Reset
CALS_LVCP_PA07S	12.20	-0.40	12.16	0.48	8.31	-0.04	8.32	0.56	8.37	0.42	8.29	0.17	-6.20	-0.76	-6.12	-0.12	19.43	16.50	17.09	8.79	11.23	Ox2	Ox0	On	Off	Reset
ICD																										
ICD_LVCP_PA09	12.77	2.45										8.70	5.79	-6.36	3.72				26.27	38.09		Ox3	Ox0	On	Off	Reset
Global Buttons																										
Global	Turn ON Primary		Turn ON Second		Turn OFF All		Reset All																			
Status:	GUI initialization complete																									
Reconnect	Archiver														Sun Mar 16 14:05:16 2003								Exit			



Shifter's task

Calculator Power Supply Monitor Display

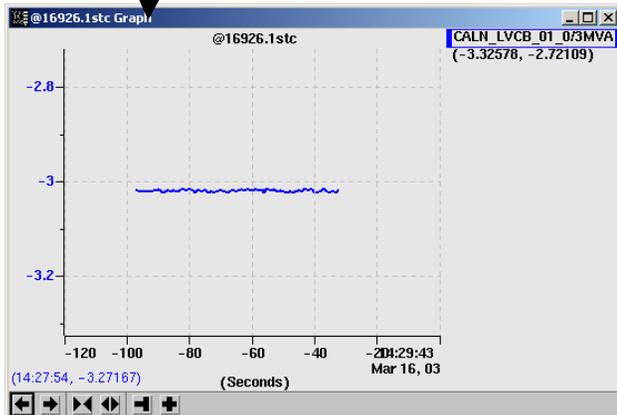
File View Help

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 +7V8 V -38V V -38V V A8Temp +130CV +130CV -120V V -120V V CD Temp +9VE1 +5VE1 -5.20 V -5.20 V 0Temp ST88 ST8M STAB STCD ST8 RM 1 RM 2

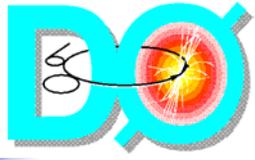
Device	7V8 V	-38V V	-38V V	A8Temp	+130CV	+130CV	-120V V	-120V V	CD Temp	+9VE1	+5VE1	-5.20 V	-5.20 V	0Temp	ST88	ST8M	STAB	STCD	ST8	RM 1	RM 2	On	Off	Reset
EON NW																								
CALN_LVCB_00,0	6.99	19.98	-3.02	17.85	37.60	12.85	11.48	-11.98	1.20	39.06	4.99	11.37	-5.21	9.00	38.09	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_00,1	6.96	19.53	-3.02	17.50	34.67	12.87	11.41	-11.87	1.29	37.11	4.98	11.21	-5.19	9.00	40.53	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_00,2	6.95	19.46	-3.03	17.87	36.62	12.86	11.35	-11.92	1.19	36.62	4.97	11.27	-5.22	8.99	35.64	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_00,3	6.93	19.78	-3.02	17.81	32.71	12.82	11.23	-11.91	1.20	35.16	4.98	11.46	-5.21	9.32	36.13	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_00,4	6.91	19.78	-3.01	18.16	38.09	13.03	11.52	-11.91	1.18	38.57	4.95	10.90	-5.20	9.00	36.13	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_00,5	6.98	19.85	-3.00	18.11	40.53	13.01	11.46	-11.89	1.28	39.55	5.00	11.11	-5.19	9.05	40.53	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
EON SW																								
CALN_LVCB_01,0	7.01	19.91	-3.03	17.99	32.71	12.86	11.27	-11.94	1.23	35.64	4.97	10.80	-5.24	8.96	33.69	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_01,1	6.94	19.65	-3.04	18.07	40.04	12.81	11.39	-11.94	1.22	41.50	4.99	11.23	-5.21	8.96	36.62	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_01,2	6.90	19.98	-3.05	17.93	36.13	12.77	10.98	-12.09	1.20	38.09	4.95	10.92	-5.25	9.36	34.18	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_01,3	6.98	19.56	-3.03	17.95	41.50	12.86	11.31	-12.04	1.21	31.74	4.97	10.88	-5.21	9.01	28.81	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_01,4	7.01	19.46	-3.03	18.14	33.69	12.89	11.27	-11.98	1.13	29.88	4.97	11.21	-5.21	9.19	34.18	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_01,5	7.01	19.65	-3.05	17.99	40.53	12.86	11.23	-11.96	1.22	35.64	4.97	10.95	-5.21	9.05	32.71	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
EON SE																								
CALN_LVCB_10,0	6.93	19.58	-3.01	17.93	31.74	12.87	11.41	-11.98	1.20	35.16	4.93	11.41	-5.19	9.02	28.81	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_10,1	6.96	19.48	-3.02	18.01	37.60	12.87	11.64	-11.98	1.42	36.13	4.99	11.09	-5.18	9.17	36.13	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_10,2	6.93	19.48	-3.01	17.83	38.09	12.89	11.52	-11.95	1.24	40.04	4.98	11.21	-5.19	9.20	38.09	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_10,3	6.96	19.87	-3.06	18.22	30.27	12.90	11.76	-11.91	1.40	30.27	5.01	11.13	-5.19	9.34	29.79	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_10,4	6.96	19.90	-3.00	18.26	35.16	12.82	11.27	-11.98	1.23	36.13	4.99	11.39	-5.22	9.04	36.13	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_10,5	6.98	19.70	-3.00	17.91	37.60	12.94	11.86	-11.94	1.42	36.62	4.99	11.23	-5.19	9.27	34.67	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
EON NE																								
CALN_LVCB_11,0	6.95	19.91	-3.01	17.79	31.74	12.86	11.19	-11.96	1.17	33.69	4.99	11.11	-5.18	8.90	36.62	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_11,1	6.98	19.56	-3.09	18.03	36.13	12.86	11.50	-11.94	1.15	35.64	4.97	11.35	-5.19	8.90	36.62	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_11,2	6.95	19.56	-3.06	18.07	37.60	12.91	10.25	-11.99	1.23	45.41	4.99	10.76	-5.22	9.09	41.50	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_11,3	6.98	19.56	-3.02	18.30	33.69	12.78	11.07	-11.92	1.17	33.69	5.00	11.19	-5.21	9.05	32.71	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_11,4	6.95	19.65	-3.00	17.99	31.74	12.81	11.35	-11.94	1.21	33.69	4.99	11.11	-5.22	9.05	36.62	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
CALN_LVCB_11,5	6.98	19.95	-3.03	18.81	31.74	12.89	11.07	-11.99	1.21	36.62	4.98	10.84	-5.22	9.11	34.67	0x40	0x4	0x0	0x0	0x0	0x0	On	Off	Reset
Global Buttons																								
Global	Turn ON All	Turn OFF All	Reset All																					
Status:	Reconnect	Archive	Sun Mar 16 14:26:29 2003	Exit																				

Rightclick



March 17, 2003

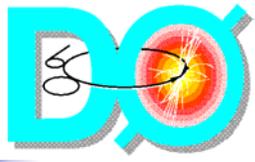
Nirmalya Parua



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

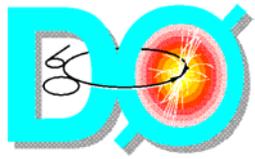
File View

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



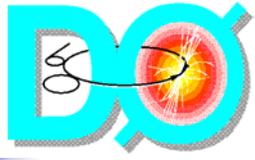
Shifter's task

Calorimeter Power Supply Monitor Display

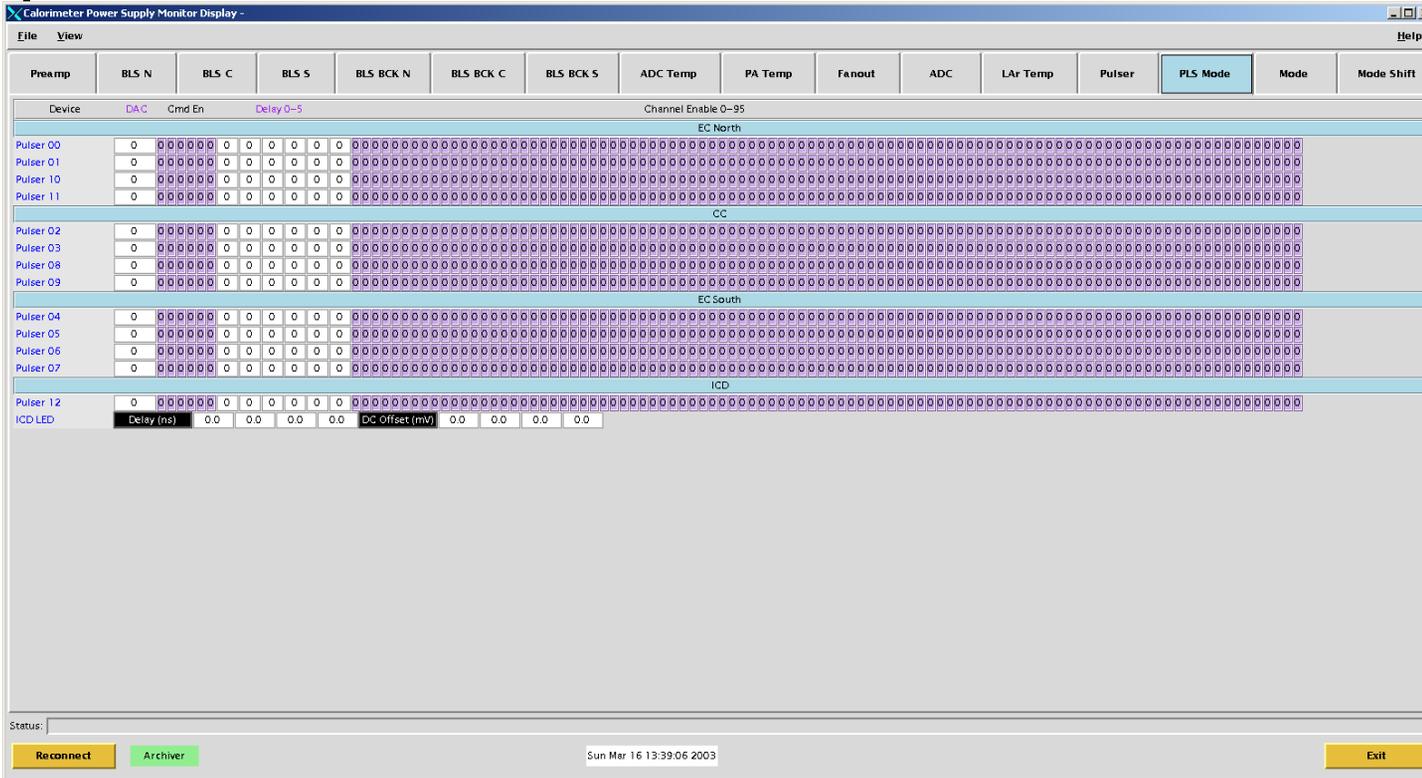
File View Help

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

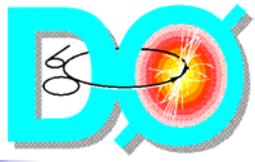
Device	+12VA V	+12VA I	+5.8VB V	+5.8VB I	-5.2VC V	-5.2VC I	+5VDV	+5VD I	SPTmp	MF	STAT	RM					
EC North																	
CALN_LVCC_00	11.90	-0.13	5.64	0.51	-5.11	1.20	4.93	2.37	48.14	4.39	0x3	0x0	On	Off	Reset	Enable	Disable
CALN_LVCC_01	11.88	-0.01	5.62	0.67	-5.07	1.57	4.93	2.59	53.86	7.32	0x3	0x0	On	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										



Shifter's task



Everything should be 0 during data taking.

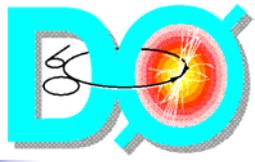


Shifter's task

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	Pulsar	PLS Mode	Mode	Mode Shift
Crte:	TC MODE	STATUS	LSTRAN	ADC ERR	BLS MODE	ADC MODE	PED VERS	PULSER	OCC						
EC North															
CRATE 0x40	Normal	0x10	0x3c7b	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x41	Normal	0x10	0x3c7c	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.10	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x44	Normal	0x10	0x3c7c	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.07	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x4b	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CC															
CRATE 0x42	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x43	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x48	Normal	0x10	0x3c7e	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x49	Normal	0x10	0x3c7f	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.08	Reset T&C	Reset ADC	Reset VBD			
EC South															
CRATE 0x44	Normal	0x10	0x3c7f	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.12	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x45	Normal	0x10	0x3c7f	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.08	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x46	Normal	0x10	0x3c80	0x0	Normal	0 Sign Sup	0xdc	Pulsar Off	0.10	Reset T&C	Reset ADC	Reset VBD			
CRATE 0x47	Normal	0x10	0x3c80	0x0	Normal	0 Sign Sup	0xdc	Pulsar 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											
Status:	Reconnect	Archiver	Sun Mar 16 13:41:36 2003										Exit		

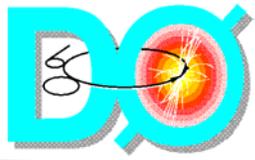


Shifter's task

>start_cal tandc

The screenshot shows the 'Crate Monitoring' application interface. At the top, there are buttons for 'Hex', 'Update Rate', 'Global T&C Reset', 'Global ADC Reset', 'Set BLS Mode', and 'Set ADC Mode'. Below these are dropdown menus for 'Global T&C Mode', 'Global BLS Mode', and 'Global ADC Mode', with 'Normal' selected for all. A 'Mode' dropdown is set to '0' and 'Sin/Mul' is selected. The main area is divided into three sections: 'CENTRAL', 'EC NORTH', and 'EC SOUTH'. Each section contains a table of crate identifiers and their associated control buttons. The 'CENTRAL' section includes NW 02, SW 03, SE 08, and NE 09. The 'EC NORTH' section includes NW 00, SW 01, SE 10, and NE 11. The 'EC SOUTH' section includes NW 04, SW 05, SE 06, and NE 07. A 'CONTROL' section at the bottom contains 'CONTROL BOARDS', 'VBD CTRL', 'T&C CTRL', and 'PIB' buttons. A footer message reads: '----> Time and Control GUI, v1.10, August 17 2002 ... here is some space for your advertisement ...'. A 'Quit' button is located in the bottom right corner.

Section	Identifier	Hex	VBD	ADC	T&C	Pulser
CENTRAL	NW 02	0x42	[VBD]	[ADC]	[Normal]	[Pulser]
	SW 03	0x43	[VBD]	[ADC]	[Normal]	[Pulser]
	SE 08	0x48	[VBD]	[ADC]	[Normal]	[Pulser]
	NE 09	0x49	[VBD]	[ADC]	[Normal]	[Pulser]
EC NORTH	NW 00	0x40	[VBD]	[ADC]	[Normal]	[Pulser]
	SW 01	0x41	[VBD]	[ADC]	[Normal]	[Pulser]
	SE 10	0x4A	[VBD]	[ADC]	[Normal]	[Pulser]
	NE 11	0x4B	[VBD]	[ADC]	[Normal]	[Pulser]
EC SOUTH	NW 04	0x44	[VBD]	[ADC]	[T&C]	[Pulser]
	SW 05	0x45	[VBD]	[ADC]	[T&C]	[Pulser]
	SE 06	0x46	[VBD]	[ADC]	[T&C]	[Pulser]
	NE 07	0x47	[VBD]	[ADC]	[T&C]	[Pulser]



Shifter's task

>start_cal hv

Global Monitor Display - V2.1.7

Rack - M116

B ICD North-East	0	1	2	3	4	5
C ICD South-East	0	1	2	3	4	5
D ICD South-West	0	1	2	3	4	5
E Unassigned	0	1	2	3	4	5

Rack - M118

B CAL North	0	1	2	3	4	5
C CAL South	0	1	2	3	4	5
D CAL Central	0	1	2	3	4	5
E CAL Argon Mon	0	1	2	3	4	5

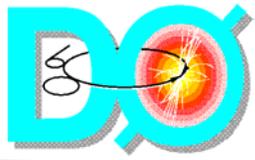
Status: GUI initialization complete

Reconnect Off On Reset Lock Unlock Full Standby

HV Channel Monitor Display - V1.15.7

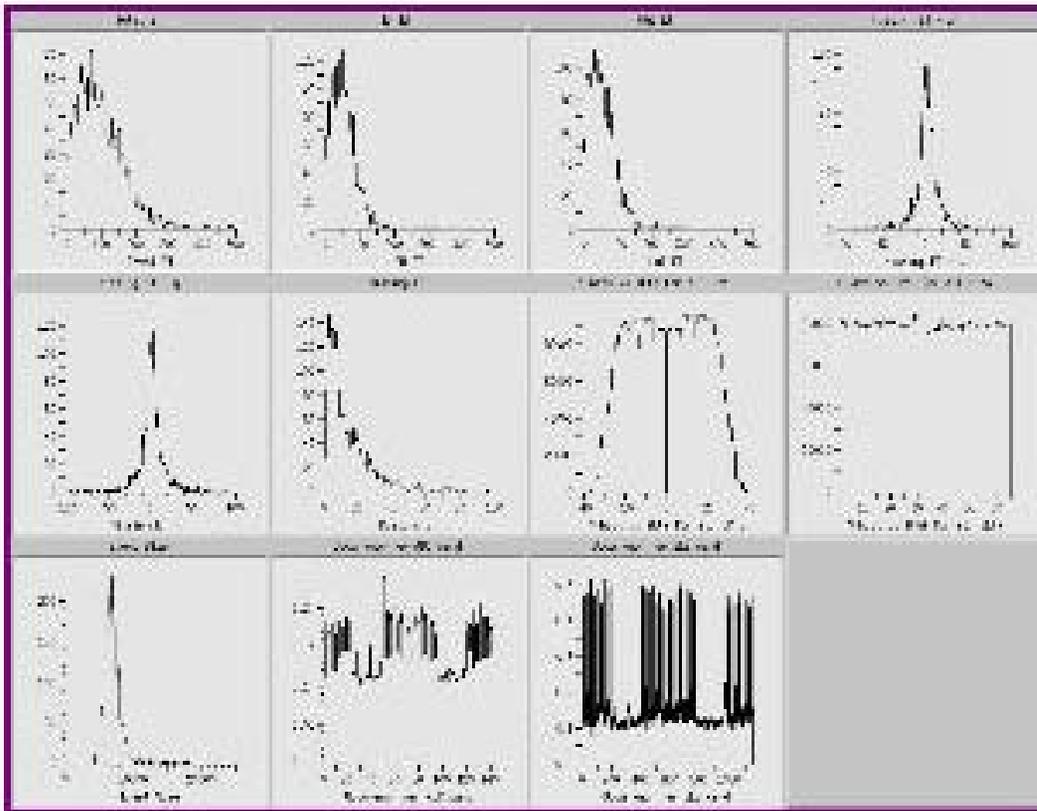
CAL North		CAL Central		CAL South		CAL Argon Mon									
Channel	V_Trip	I_Max	V_Max	V_Set	V_Read	I_Read	State	Channel	V_Trip	I_Max	V_Max	V_Set	V_Read	I_Read	State
00S	3264	500	2000	2000.0	1999.3	13.9	Locked	01S	3267	500	2000	2000.0	1999.9	8.1	Locked
02S	3363	500	2000	2000.0	2000.3	50.0	Locked	03S	3267	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

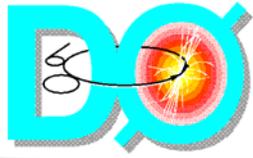
Status: Reconnect Offline Online Off On Ramp Pause Resume Lock Unlock Reset



Shifter's task

Cal_examine's output, Any hotcells are written automatically after 1000 events





New video shifter's guide is being made that should orient the shifter and give them better feelings about the detector.

Preview can be seen at

http://vmsstreamer1.fnal.gov/VMS_Site_02/Training/DzeroShifter/DzeroShifter2.htm