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# 2014 BL4S Runs

In this section, one can find the run numbers and explanations for all the runs. One can download the ROOT file by simply clicking on the run number.

## Tips on Root files

### Downloading ROOT

To use root files, you need to install ROOT to your computer. The recommended version is at the following link:

<http://root.cern.ch/drupal/content/production-version-534>

#### Windows

If you are using windows, go to bottom of the page and download the windows binary.

It is advised to chose the following: [ftp://root.cern.ch/root/root\\_v5.34.21.win32.vc11.exe](ftp://root.cern.ch/root/root_v5.34.21.win32.vc11.exe)

Note: During the installation, select the option "Add root to the system PATH for all users"

#### Linux

On linux, if you use SLC6 (Scientific Linux CERN), you can install root from software repositories (there is a program called "yum" to install packages in SLC)

In other linux distributions(ROOT should work in any linux distribution.), you may need to install it from source code, which is explained at : <http://root.cern.ch/drupal/content/installing-root-source>

Note that it may be complicated, and you may ask help if needed.

### Analysing data using root files

You may already know how to use root files. We changed some variable names, and made a guide to explain each variable: [https://www.cern.ch/test-bl4swebcam/bl4s\\_tree\\_explanation.txt](https://www.cern.ch/test-bl4swebcam/bl4s_tree_explanation.txt)

We also wrote a simple example program, to show how to automatically plot histograms from the root file without using "TBrowser" as you have done at CERN. If you are interested, you can try going further to analyse root files writing your own programs, instead of using the graphical interface. In the file, we explain how to use it. Download the file [here](#).

If the information in the below table is not enough, you can go to [Electronic Log Book](#) to get more information about the runs.

### Going Deeper in ROOT

You can always check root website for tutorials/ guides: <http://root.cern.ch>

You can also find many tutorials on the internet. A tutorial that can be very helpful is below(It has advanced stuff too)

[http://www.linksceem.eu/ls2/images/stories/ROOT\\_Day1.pdf](http://www.linksceem.eu/ls2/images/stories/ROOT_Day1.pdf)

[http://www.linksceem.eu/ls2/images/stories/ROOT\\_Day2.pdf](http://www.linksceem.eu/ls2/images/stories/ROOT_Day2.pdf)

[http://www.linksceem.eu/ls2/images/stories/ROOT\\_Day3.pdf](http://www.linksceem.eu/ls2/images/stories/ROOT_Day3.pdf)

[http://www.linksceem.eu/ls2/images/stories/ROOT\\_Day4.pdf](http://www.linksceem.eu/ls2/images/stories/ROOT_Day4.pdf)

[http://www.linksceem.eu/ls2/images/stories/ROOT\\_Day5.pdf](http://www.linksceem.eu/ls2/images/stories/ROOT_Day5.pdf)

## Detector Calibration Runs 11.09.2014

Run Number	Config File	Trigger	Explanation
1410420649 <a href="#">↗</a>	BL4S_100920142001.cfg	SC0 + Halo Left (moved in front of beam)	4GeV, Used run to focus beam, no need to analyse
1410433832 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 + Halo Left	4GeV, Run after installing DCC off beam axis
1410442261 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 + Halo Left	4GeV, Run to check DWC2 problem
1410444821 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 + Halo L	4GeV, Test Cherenkovs, CH0: 0.5 bar, CH1: 0.5bar
1410446299 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 + CH0	4GeV, Test Cherenkovs, CH0: 0.5 bar, CH1: 0.5bar
1410449833 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 and HaloLeft	4GeV, Test Cherenkovs, CH0: 1.2 mbar, CH1: 0.5bar
1410452450 <a href="#">↗</a>	BL4S_110920141315.cfg	CH0+SC0 and vetoed by CH1	4GeV, Test Cherenkovs, CH0: 1.2 mbar, CH1: 0.5bar
1410454128 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 and HaloLeft	4GeV, Test Cherenkovs, CH0: 1.2 bar, CH1: 1.2bar
1410456004 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 + HaloLeft	4GeV, Test Cherenkovs, CH0: 2.0 bar, CH1: 1.2bar
1410458704 <a href="#">↗</a>	BL4S_110920141315.cfg	CH1+SC0 (mu + e)	4 GeV, Test LG10
1410460208 <a href="#">↗</a>	BL4S_110920141315.cfg	CH1+SC0 (mu + e)	4 GeV, Test LG9
1410461464 <a href="#">↗</a>	BL4S_110920141315.cfg	CH1+SC0 (mu + e)	4 GeV, Test LG5
1410462883 <a href="#">↗</a>	BL4S_110920141315.cfg	CH1+SC0 (mu + e)	4 GeV, Test LG6
1410536278 <a href="#">↗</a>	BL4S_110920141315.cfg	SC0 + CH0	Run to Calibrate DWC positions, beam was 10 GeV, focused on DWC0, intensity high.

## Pion runs

Run Number	Config File	Trigger	Explanation
1410551599 <a href="#">↗</a>	BL4S_120920142203.cfg	Pion(4GeV)	Overnight run with pion trigger. Started with hadron target. Around 11 in the night the target was changed back to electron rich target
1410597627 <a href="#">↗</a>	BL4S_120920142203.cfg	Pion(4GeV)	Pion run.
1410607383 <a href="#">↗</a>	BL4S_120920142203.cfg	Pion(4GeV)	Pion run with 0.5mm Cu-sheet in front of DWC1
1410616279 <a href="#">↗</a>	BL4S_120920142203.cfg	Pion(4GeV)	Added a thicker copper plate was installed behind SC0
1410631881 <a href="#">↗</a>	BL4S_120920142203.cfg	Pion(4GeV)	Overnight run: Pion run with CH1 at 1.4bar
1410687851 <a href="#">↗</a>	BL4S_140920141040.cfg	Pion(10GeV)	First 10GeV Run CH0:1.2 CH1:0.23
1410693263 <a href="#">↗</a>	BL4S_140920141315.cfg	Pion(10GeV)	Same trigger as before.
1410713390 <a href="#">↗</a>	BL4S_140920141315.cfg	Pion(10GeV)	E-Mu Trigger Trial
1410722564 <a href="#">↗</a>	BL4S_140920141315.cfg	Pion(10GeV)	E-Mu Trigger
1410777795 <a href="#">↗</a>	BL4S_150920141240.cfg	Pion(7GeV)	Pion Trigger
1410794919 <a href="#">↗</a>	BL4S_150920141240.cfg	Pion(7GeV)	Pion Trigger-Overnight Run (DAQ crashed at night but still some data taken)
1410856266 <a href="#">↗</a>	BL4S_150920141240.cfg	Pion(7GeV)	Pion Trigger
1410864843 <a href="#">↗</a>	BL4S_160920141250.cfg	Pion(7GeV)	

			Pion Trigger (Cherenkov voltages changed for better particle identification)
1410888987 <a href="#">↗</a>	BL4S_160920141250.cfg	Pion(7GeV)	Pion Trigger (Cherenkov voltages still as last run)

## DCC Calibration Runs

Run Number	Config File	Trigger	Explanation
1410464671 <a href="#">↗</a>	BL4S_110920141315.cfg	4GeV muon	DCC 16-19
1410509094 <a href="#">↗</a>	BL4S_110920141315.cfg	1GeV electron	DCC 16-19
1410511254 <a href="#">↗</a>	BL4S_110920141315.cfg	2GeV electron	DCC 16-19
1410515197 <a href="#">↗</a>	BL4S_110920141315.cfg	3GeV electron	DCC 16-19
1410521088 <a href="#">↗</a>	BL4S_110920141315.cfg	3GeV electron	DCC 20-23
1410526251 <a href="#">↗</a>	BL4S_110920141315.cfg	2GeV electron	DCC 20-23
1410529431 <a href="#">↗</a>	BL4S_110920141315.cfg	1GeV electron	DCC 20-23
1410531716 <a href="#">↗</a>	BL4S_110920141315.cfg	0.5GeV electron	DCC 20-23
1410533293 <a href="#">↗</a>	BL4S_110920141315.cfg	0.5GeV electron	DCC 16-19
1410541155 <a href="#">↗</a>	BL4S_110920141315.cfg	4GeV electron	DCC 16-19
1410544349 <a href="#">↗</a>	BL4S_110920141315.cfg	4GeV electron	DCC 20-23
1410547630 <a href="#">↗</a>	BL4S_110920141315.cfg	4GeV muon	DCC 20-23
1410548915 <a href="#">↗</a>	BL4S_110920141315.cfg	4GeV pion	DCC 20-23

Blocks 16-17-18-19	Electrons	Night Muons+e	Pions
0.5GeV	1410533293		
1GeV	1410509094		
2GeV	1410511254		
3GeV	1410515197		
4GeV	1410541155	1410464671	

Blocks 20-21-22-23	Electrons	Muons	Pions
0.5GeV	1410531716		
1GeV	1410529431		
2GeV	1410526251		
3GeV	1410521088		
4GeV	1410544349	1410547630	1410548915

# BL4S White Board

This is the White Board of the Beam Line for schools experiment. It contains information of the run plan of the week and some information which will help the shifters at the control room. In case you are confused about which action to take, please contact the shift leader or on call experts below.

## Today's shifters (16.09.2014)

	Morning	Afternoon	Evening
Shift Leader	Saime	Cenk	Saime
Run Control Shifter	Augusta & George & Kostas	Rolf & Antonia	Elli & Christodoulos
Detector Shifter	Chris & Milou	Olaf & Nick & Savina	Artemis & Lisa

## Run Plan of the day

### Known Issues

ERROR TYPE	THE MESSAGE	WHAT TO DO
CHIP error on ERS	16:00:44 ERROR CHIP ch::atdaq::ces::utils::CHIPIssue Stopless removal: Failed to reset the ResInfoProvider after stop of run.	Ignore
DWC2 OH counts	on OH Display counts of the DWC2 is ~10 times lower than others	Check the cables
CHIP Error	ERROR CHIP ch::atdaq::ces::utils::CHIPIssue Test failure for application: BL4SApp , result: FAILED	Immediately tell shift leader

## Message Board

### On Call Experts

Cenk Yildiz: 74948 ( +41 22 76 74948)

Saime Gurbuz: 076 609 96 34

Markus Joos: 160663

## BL4S weekly Shift Plan

Shift Leader	Morning	Afternoon	Evening
10.09.2014	No Beam	No Beam	No Beam
11.09.2014	Cenk Y.	Saime G.	Cenk Y.
12.09.2014	Saime G.	Cenk Y.	Saime G.
13.09.2014	Cenk Y.	Saime G.	Cenk Y.
14.09.2014	Saime G.	Cenk Y.	Saime G.
15.09.2014	Cenk Y.	Saime G.	Cenk Y.

16.09.2014	Saime G.	Cenk Y.	Saime G.
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Run Control Shifter			
	Morning	Afternoon	Evening
10.09.2014	No Beam	No Beam	No Beam
11.09.2014	G1	G2	G3
12.09.2014	G2	G3	G1
13.09.2014	G3	G1	G2
14.09.2014	G1	G2	G3
15.09.2014	G2	G3	G1
16.09.2014	G3	G1	G2

Detector And DAQ Shifter			
	Morning	Afternoon	Evening
10.09.2014	No Beam	No Beam	No Beam
11.09.2014	G1	G2	G3
12.09.2014	G2	G3	G1
13.09.2014	G3	G1	G2
14.09.2014	G1	G2	G3
15.09.2014	G2	G3	G1
16.09.2014	G3	G1	G2

Group Members:

G1	Nick	Antonia	Savina	Olaf	Rolf
G2	Elli	Artemis	Lisa	Christodoulos	
G3	Chris	Kostas	Milou	George	Augustus

## Online Histograms for Detector and DAQ Shifter

### Run Plan of the week

08.09.2014 Monday

1. Install the experimental Setup
2. Install Webcam PC's (multiplugs and extension cables)

09.09.2014 Tuesday

1. Check signals, delays etc.
2. Setup the NIM modules for "other" triggers (muon, electron, muon+electron)
3. Students will have lectures, visits. (We probably are not involved)
4. [DONE]Calibrate DWC with fake signals.

10.09.2014 Wednesday NO beam this day!

1. Introduction to Beamline(Lau) (Two sessions for two groups, morning + afternoon 2h each)
2. Introduction to BL4S Detector/DAQ System and Shifter Training (Two sessions for two groups, morning + afternoon 2h each)
3. Patron training with Lau for Cenk, Saime and Markus.

11.09.2014 Thursday

## WhiteBoard < BL4S < TWiki

1. [DONE] Focus the beam at downstream DWC, record magnet parameters 2-4-6 GeV.
2. [DONE] Install Dominicus College Calorimeters.
3. [DONE] Check signals from them with muons.
4. [DONE] Check position of each detector, create a new geometry configuration.
5. [DONE] Check signals from all scintillators, try to see if there are noisy ones. Halo Right is noisy, can be changed.
6. [DONE] Cherenkov tests: Take trigger from SC0 and Halo LEFT (moved in front of beam)
  1. [DONE] Set CH0 and CH1 to accept electrons
  2. [DONE] Set CH1 to accept muons too, keep CH0 as before
  3. [DONE] Set CH0 and CH1 to accept muons and electrons
  4. [DONE] Set CH1 to accept pions too, keep CH0 as before
7. [DONE] Lead Glass Calibration: with the electron beam at 4GeV for central 4 Lead Glass. (Could not do other energies)
8. Lead Glass Calibration: Calibrate Lead Glass Calorimeters with pions (2-4-6 GeV).
9. [DONE] Leave Dominicus college calorimeters in front of the beam for an overnight run.

12.09.2014 Friday

1. [DONE] Calibration of Dominicus College Calorimeters with electron + hadron + muon beam at various energies.

13.09.2014 Saturday

1. [DONE] Take data with "pion trigger", 1-10GeV beam
2. Study "other" triggers from scaler counts.

14.09.2014 Sunday

1. Try "other" triggers, 1-10GeV beam. (For electron trigger, remove DWC?)

15.09.2014 Monday

1. Try "other" triggers, 1-10GeV beam. (For electron trigger, remove DWC?)

16.09.2014 Tuesday

1. Try "other" triggers, 1-10GeV beam. (For electron trigger, remove DWC?)
2. If physics program seems complete already remove detectors?

17.09.2014 Wednesday

1. End of our beam time, remove detectors after checking with RP.
2. Close out session

## Useful Links

- [DetectorShifterInstructions](#)
- [RunControlShifterInstructions](#)
- [ShiftIntroduction](#)

-- SaimeSarikaya - 12 Aug 2014 -- CenkYildiz - 22 Aug 2014

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This topic: BL4S > WhiteBoard

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