

Testbeam2: (Short) Summary and Planning

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Summary of the 1st Week

- During the first week of this testbeam we still had to fight a number of issues
 - Testbeam network changed from June to now and needed to be fixed
 - Angelo set up 5 EUDRBs during the weekend before the testbeam
 - Small bugs in the FPGA programming kept us from data taking for more than a day -> Angelo worked very hard to fix it
 - Synchronisation: all boards are running synchronised now
 - DEPFET: run with TLU and run synchronised with EUDAQ
 - Prepared zero suppressed data taking
 - Wrote Manual and held a number of tutorials
 - Since this Monday: data taking (by now ~60.000 events at 6GeV)



EUDAQ

The screenshot displays the EUDAQ software interface, which is used for monitoring and controlling the data acquisition process. The interface is divided into several sections:

- Control Panel (Top Left):** Includes fields for 'Config' (set to 'beam'), 'Run' number, and 'Log' level. Buttons for 'Start', 'Log', 'Reset', and 'Stop' are present.
- Status Panel (Middle Left):** Shows 'Run Number: 847', 'Rate: 3.61664 Hz', 'Triggers: 374', 'Mean Rate: 3.2223 Hz', 'Events Built: 373', and 'File Bytes: 756364177'.
- Connections Table (Bottom Left):**

type	name	state	con
DataCollector		OK	127
LogCollector		OK	127
Monitor	Root	OK	127
Producer	TLU	OK: Started	131
Producer	EUDRB	OK: Started	131
- Main Monitoring Area (Center):** A grid of plots for 'Board 1' through 'Board 5'.
 - Cluster Profile:** A 2D scatter plot of cluster positions.
 - Cluster X Profile:** A histogram of cluster X positions.
 - Cluster Y Profile:** A histogram of cluster Y positions.
 - Cluster Charge:** A histogram of cluster charges.
 - Noise Profile:** A 2D heatmap of noise levels.
 - Raw 2D Profile:** A 2D scatter plot of raw data points.
 - Raw X Profile:** A histogram of raw X positions.
 - Raw Y Profile:** A histogram of raw Y positions.
 - Raw Values:** A histogram of raw data values.
 - CDS Values:** A histogram of CDS (Charge-Digital Signal) values.
- Log Collector (Bottom Left):** A log window showing system messages and timestamps, such as 'Connection from LogC', 'Starting Run 846', and 'EUDRB data size larger'.
- File Explorer (Bottom Center):** Shows the directory structure: 'eudaq' > 'devel.eudaq' > 'dCacheBuild' > 'dCache-productio...-0-31.tar'.
- TLUProducer.exe -r EUDET.local (Bottom Right):** A terminal window showing a list of memory addresses and their differences, such as '199, 0xafc325d3 (61,4334), diff=14712539, freq=3,39846'.



Planning of 2nd Week

- **ToDo:**
 - Continue RAW data taking until 100.000 events at 6GeV and 3GeV
 - Shift green table to see if “collimator shadow” shifts or disappears
 - Work on zero suppression and take ~1Mio (?) events at 6GeV (zs)
 - As soon as possible: move to new mechanics

