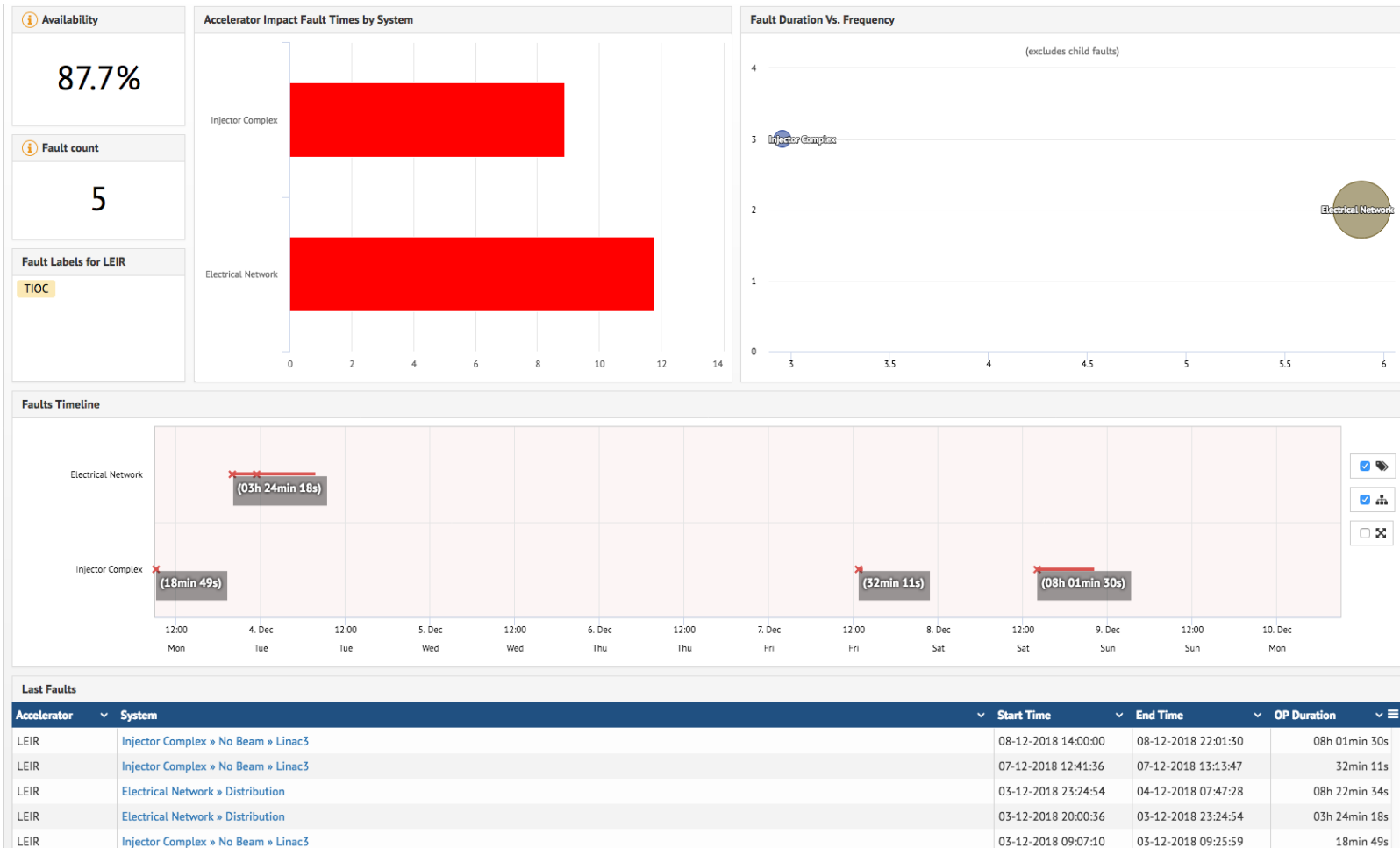


LEIR Summary

Week 49

A. Saa Hernandez for the LEIR team

Performance



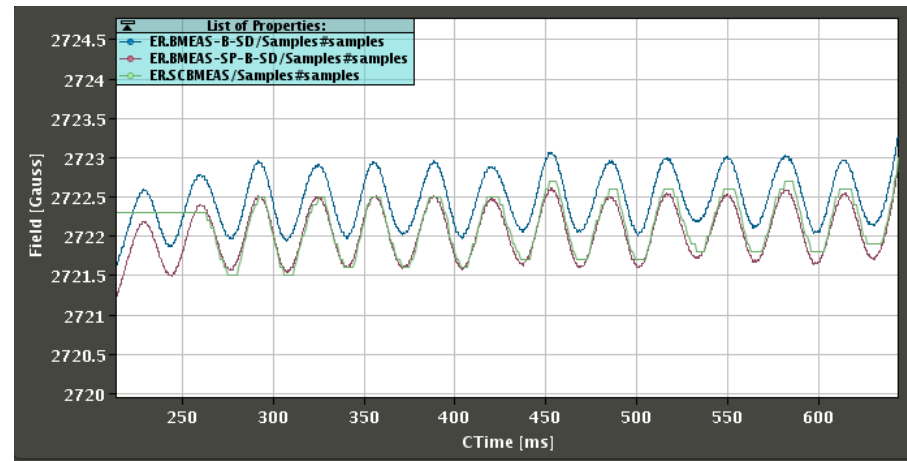
Beam extracted towards the fixed target experiments quasi-continuously from Tuesday noon on, once recovered from the power glitch, except for a couple source interruptions.

Recovery from power glitch

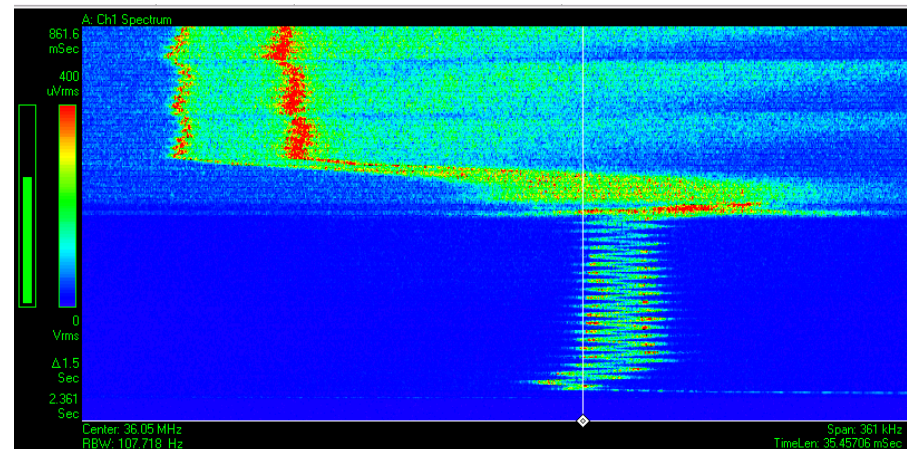
Reboot several servers, with which communication had been lost (confusing in some cases as panels would not show errors)

Tune ripple on main bends: 50Hz and 1G peak-to-peak (usually $<0.2G$)

- Independent from Btrain version
- Could be observed also also for DC field
- Present after change of regulator card
- Not negligible for beam

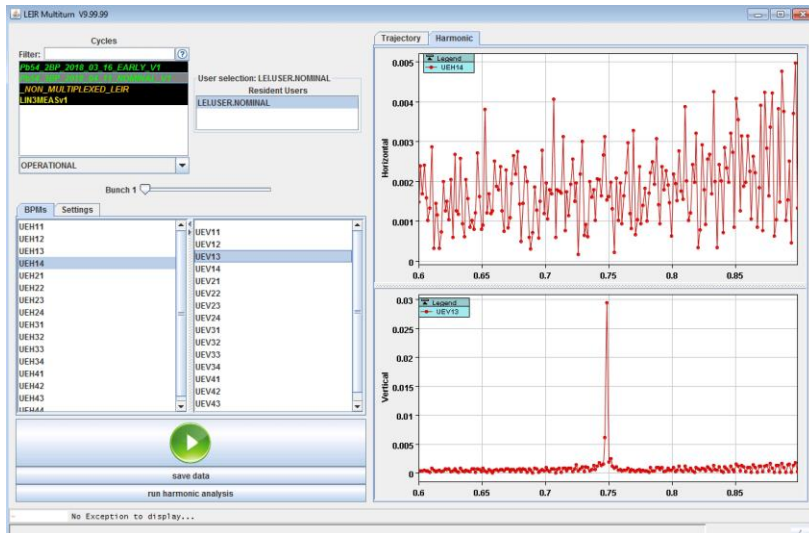


“Spontaneously” cured on Tuesday evening, no source identified 😞



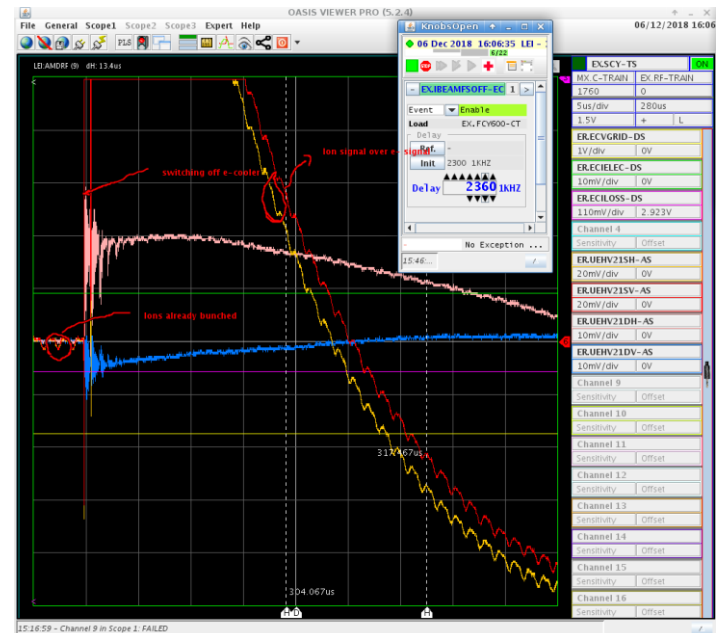
MDs

Tests with turn-by-turn BPM system continued: tune could be reconstructed during ramping and at flattop, with clean measurements.



Thanks Guillaume and Verena!

Investigation to understand if the position of the electron beam in the electron cooler could also be measured with the use of the ion BPMs



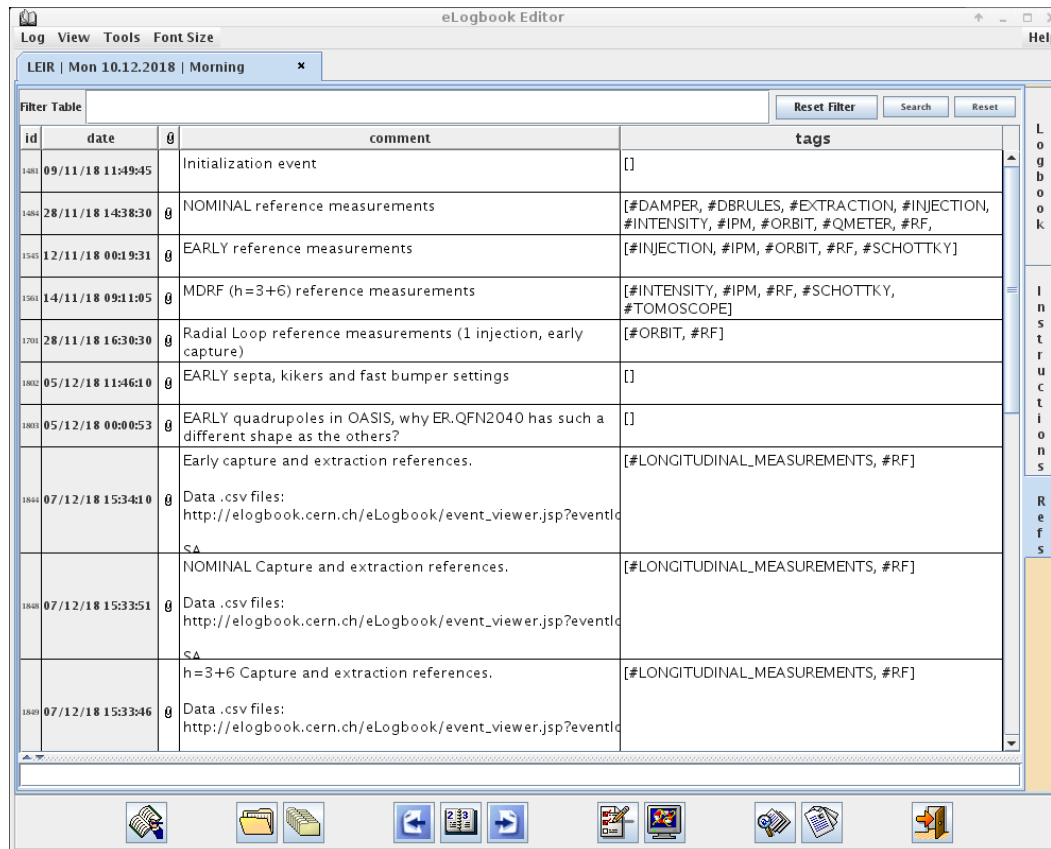
Thanks Davide and Alexandre!

Reinforcement learning: performance as a function the orbit bumps at the cooler while observing the energy distribution and cooling times. Thanks Simon!

Reference Measurements

Many, pretty much of everything, on the different operational cycles...

- On LEIR elogbook
- On project drive: eos/project/l/liu/LEIR/data/2018



The screenshot shows the eLogbook Editor window with a table of reference measurements. The table has columns for id, date, comment, and tags. The data is as follows:

id	date	comment	tags
1480	09/11/18 11:49:45	Initialization event	[]
1484	28/11/18 14:38:30	NOMINAL reference measurements	[#DAMPER, #DBRULES, #EXTRACTION, #INJECTION, #INTENSITY, #IPM, #ORBIT, #QMETER, #RF, #SCHOTTKY]
1540	12/11/18 00:19:31	EARLY reference measurements	[#INJECTION, #IPM, #ORBIT, #RF, #SCHOTTKY]
1564	14/11/18 09:11:05	MDRF (h=3+6) reference measurements	[#INTENSITY, #IPM, #RF, #SCHOTTKY, #TOMOSCOPE]
1700	28/11/18 16:30:30	Radial Loop reference measurements (1 injection, early capture)	[#ORBIT, #RF]
1800	05/12/18 11:46:10	EARLY septa, kickers and fast bumper settings	[]
1808	05/12/18 00:00:53	EARLY quadrupoles in OASIS, why ER.QFN2040 has such a different shape as the others?	[]
1844	07/12/18 15:34:10	Early capture and extraction references. Data .csv files: http://elogbook.cern.ch/eLogbook/event_viewer.jsp?eventid=1844 SA	[#LONGITUDINAL_MEASUREMENTS, #RF]
1848	07/12/18 15:33:51	NOMINAL Capture and extraction references. Data .csv files: http://elogbook.cern.ch/eLogbook/event_viewer.jsp?eventid=1848 SA	[#LONGITUDINAL_MEASUREMENTS, #RF]
1849	07/12/18 15:33:46	h=3+6 Capture and extraction references. Data .csv files: http://elogbook.cern.ch/eLogbook/event_viewer.jsp?eventid=1849	[#LONGITUDINAL_MEASUREMENTS, #RF]