



SPS Status – week 34

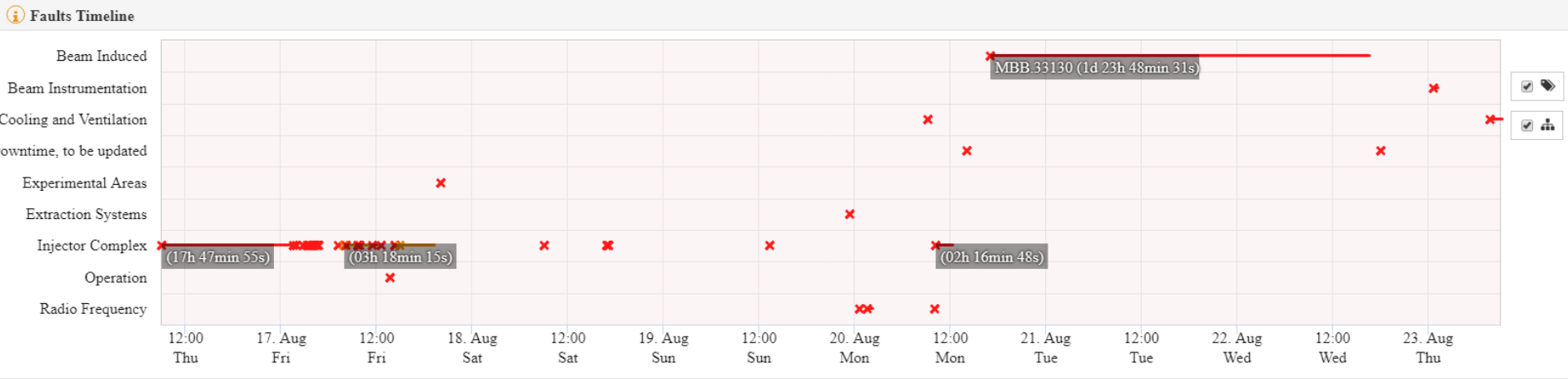
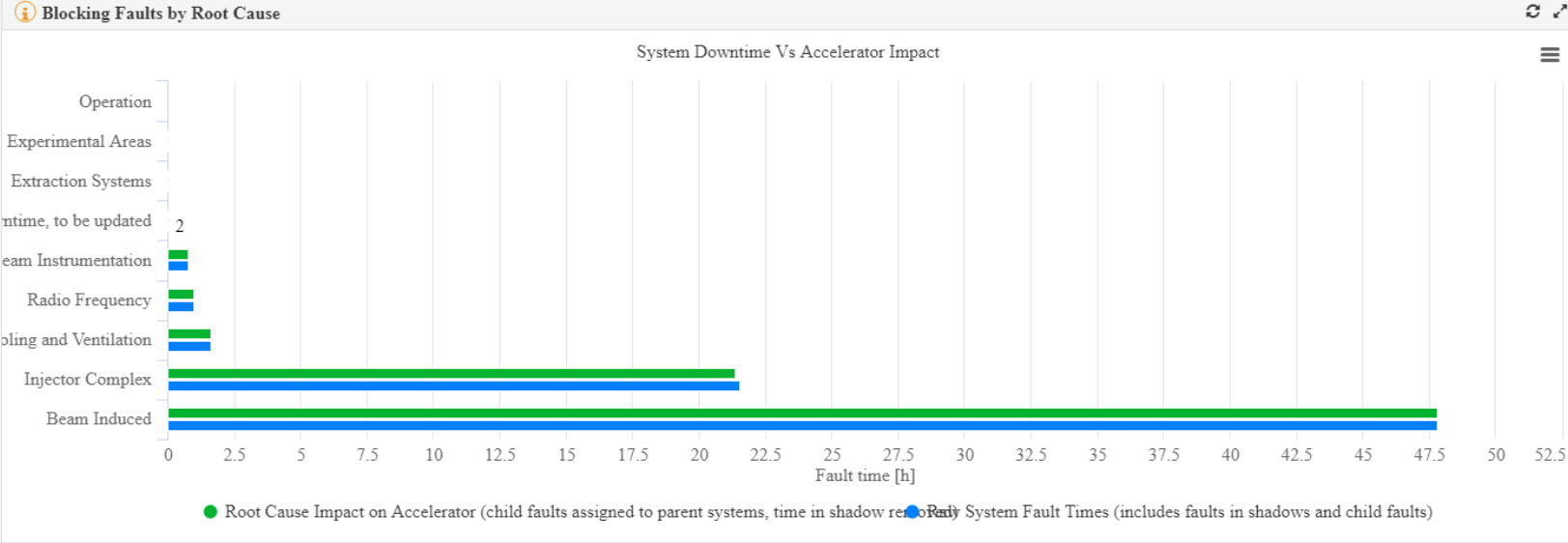
K. Li

Users' Meeting 21. August 2018

Faults



Availability	56.7%
Blocking Faults	42
Total Faults	44
Fault Duration (overlap excluded)	79.8h



Taken from the SPS FOM report



- SPS faults

- Fault on the TX2 driver filament on Monday night - water circuit had to be drained for investigation, but unfortunately after the intervention the valve was left open and the water for the cooling circuit had to be refilled. The fault on TX2 itself was finally resolved by exchanging measurement and interlock cards (**~2 h no beam**)
- TX3 could not be restarted by OP crew after trip on Sunday (**~1 h no beam**)

- SFTPRO

- Successful 24 h test run with diffuser (TPSWA) in front of ZS for reduction of losses in extraction channel on Tuesday
- Issue with increased losses on QDA.219 during the weekend reaching interlock level and **resulting in slightly reduced spill length** – could be resolved by lowering the vertical tune by 0.01 at flat top

- Diffuser

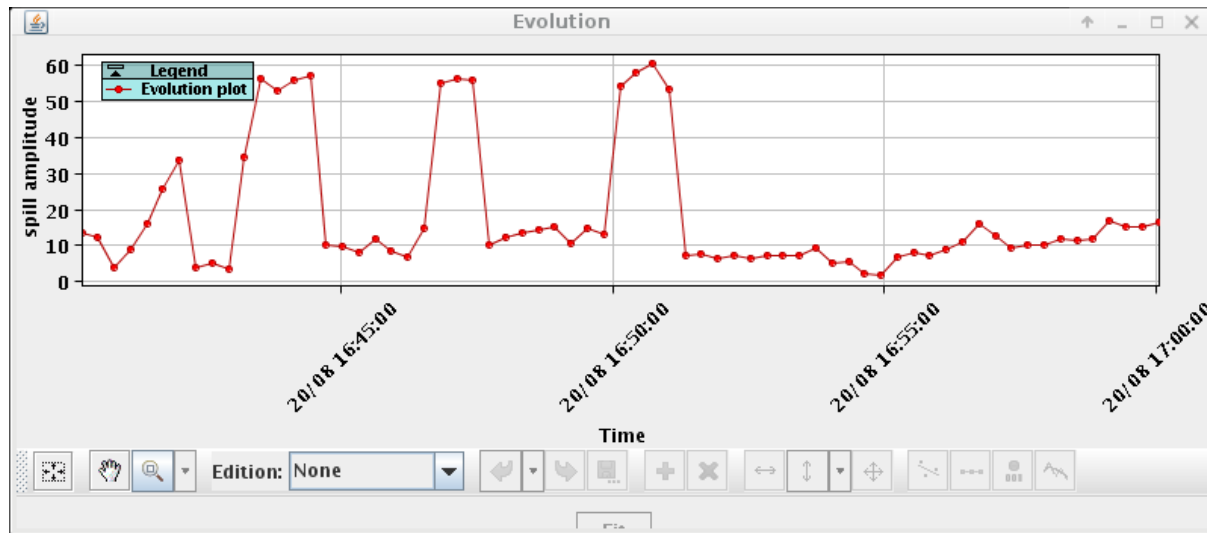
- Normalized losses in LSS2 extraction channel **reduced by 10 %** - stable over 24 h test run period (expect about 15 % in optimum conditions)
- Optimized diffuser position from start of test run still valid after 24 h
- No degradation for physics users

Since then & follow-ups



- Monday

- Unstable compensation of the 50 Hz component already in the morning. Along with this, the **QDA.219 issue came back Monday evening**.
- Adjusting the vertical tune the losses could be further reduced and **also the 50 Hz compensation could be stabilized**.

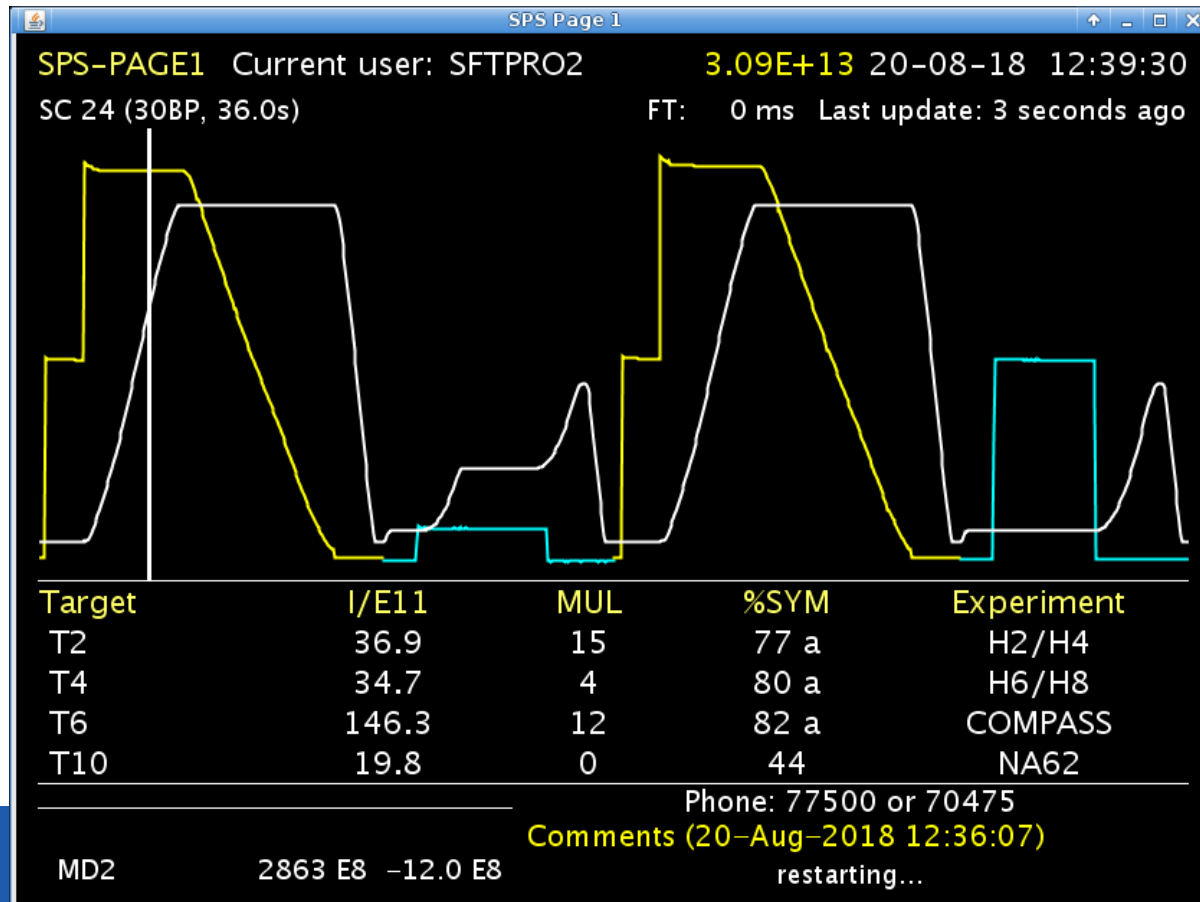


Since then & follow-ups



- Monday

- Unstable compensation of the 50 Hz component already in the morning. Along with this, the **QDA.219 issue came back Monday evening.**
- Adjusting the vertical tune the losses could be further reduced and **also the 50 Hz compensation could be stabilized.**



Since then & follow-ups



- Monday

- Unstable compensation of the 50 Hz component already in the morning. Along with this, the **QDA.219 issue came back Monday evening.**
- Adjusting the vertical tune the losses could be further reduced and **also the 50 Hz compensation could be stabilized.**
- During the optimization process, the beam went unstable causing a **vacuum leak in an MBB.** The magnet had to be exchanged. The exchange was started on Tuesday.



Beam back on Wednesday evening



SPS Page 1

SPS-PAGE1 Current user: SFTPRO2

2.99E+13

22-08-18 18:42:47

SC 11 (34BP, 40.8s)

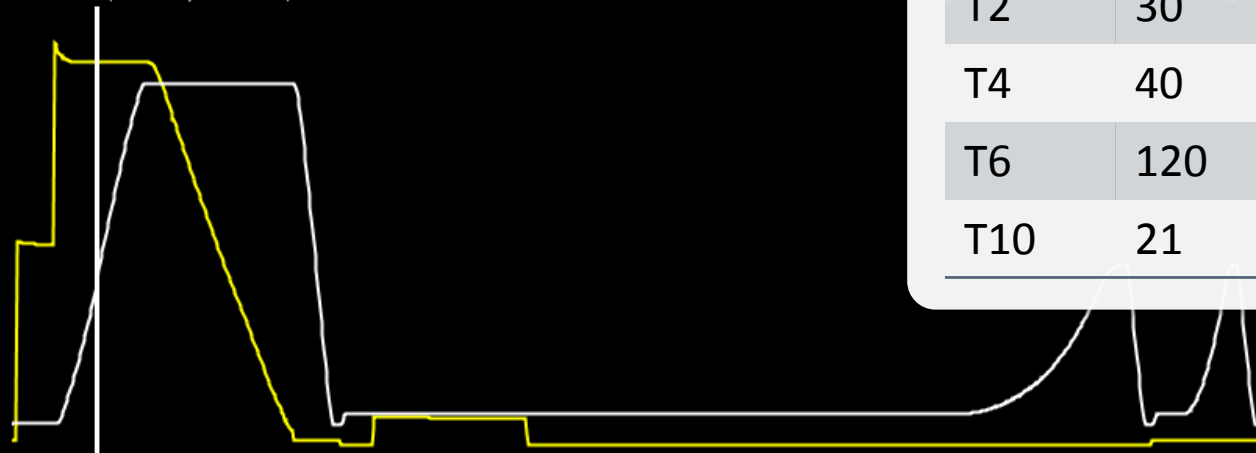
FT: 0 ms Last

T2 30

T4 40

T6 120

T10 21



Target	I/E11	MUL	%SYM	Experiment
T2	48.6	3	96 a	H2/H4
T4	37.9	4	96 a	H6/H8
T6	120.0	2	94 a	COMPASS
T10	18.7	0	46	NA62

Phone: 77500 or 70475

Comments (22-Aug-2018 18:41:38)

Beam expected today
FT beam returns ~18:00hr

MD1 -0.9 E10 1.4 E10

Beam back on Wednesday evening



SPS Page 1

SPS PAGE1 CERN CH-1211 CH-1211 CH-1211 CH-1211

**Thursday morning:
water leak in BA81 – lost ~10 m³ of water... leak was identified. Works
ongoing...**

T4	37.9	4	96 a	H6/H8
T6	120.0	2	94 a	COMPASS
T10	18.7	0	46	NA62

Phone: 77500 or 70475

Comments (22-Aug-2018 18:41:38)

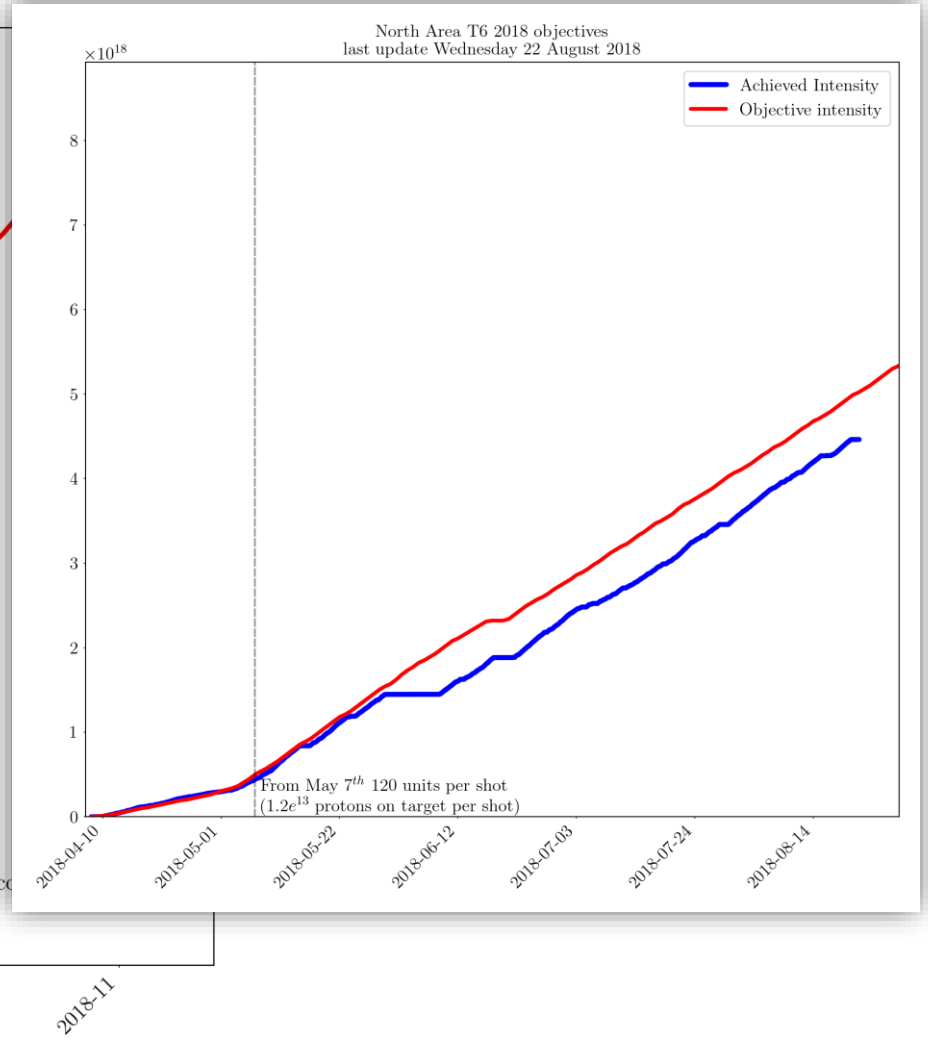
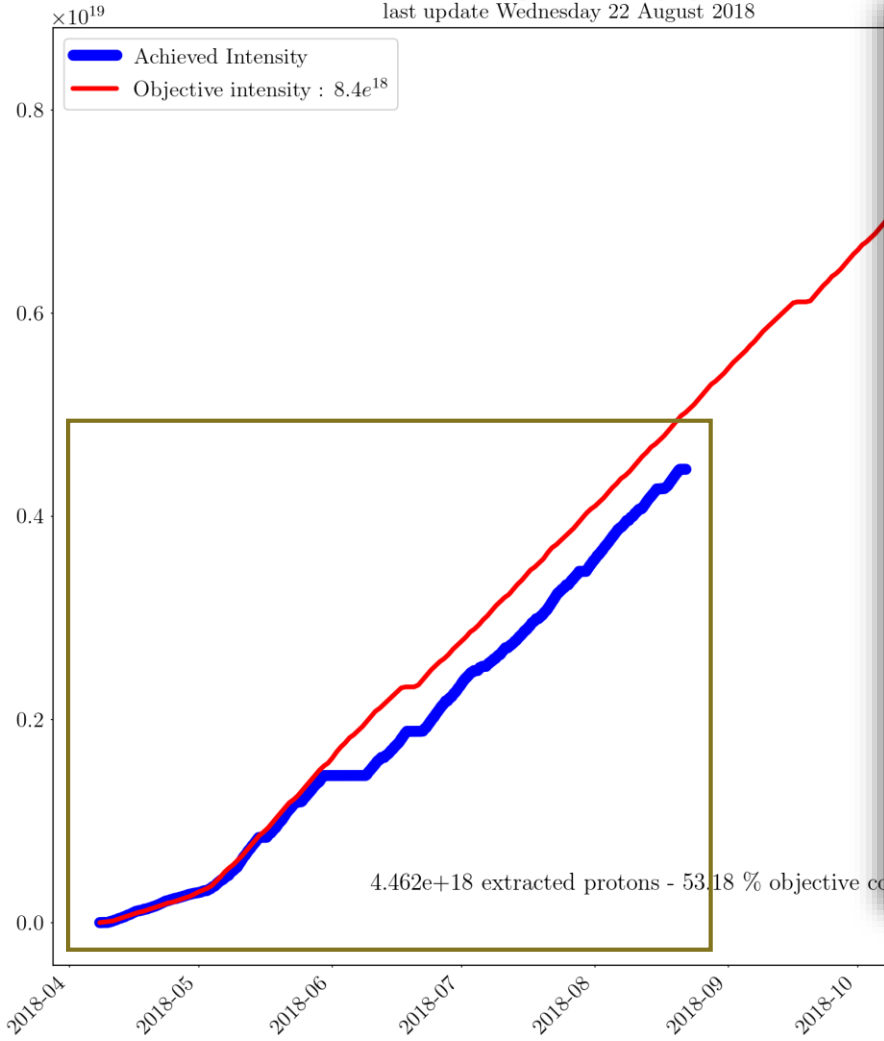
MD1 -0.9 E10 1.4 E10

Beam expected today
FT beam returns ~18:00hr

Intensities



North Area T6 2018 objectives
based on $1.2e^{13}$ protons on target per shot
last update Wednesday 22 August 2018



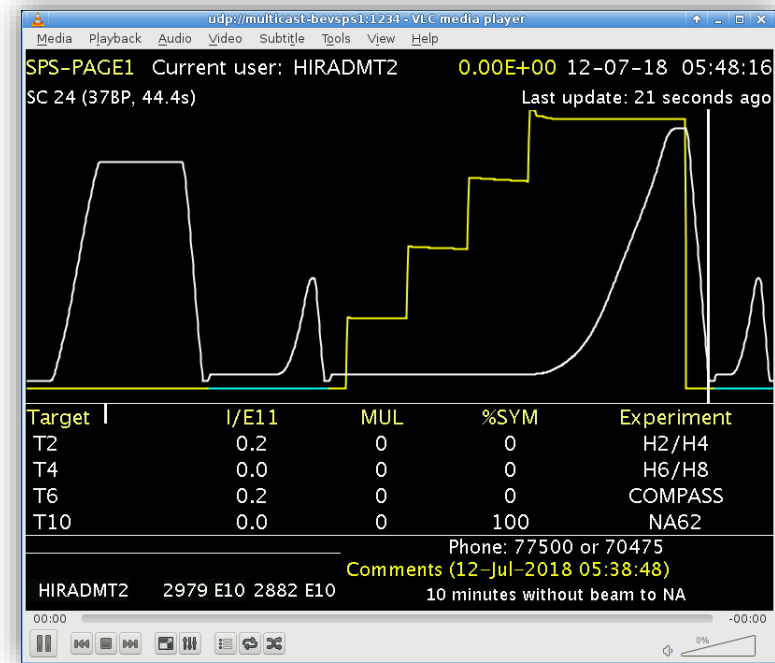
Incoming



- Scrubbing will have to continue for reliable LHC filling!

- HiRadMat beams being prepared

- Earliest possible HiRadMat run on Friday depending on vacuum evolution
- If this is not possible, the HiRadMat run could still be moved to Monday
- 4 shots of 288 planned – we will minimize the impact on physics
- AWAKE is planning to be ready to take beams by Wednesday evening





www.cern.ch

Beam back on Wednesday evening

