

PS Report W15/16

PS & SPS User Meeting



Many thanks
to the PS OP and coordination teams as well as all equipment experts and support teams!

Availability

Availability

87.9%

Blocking Faults

27

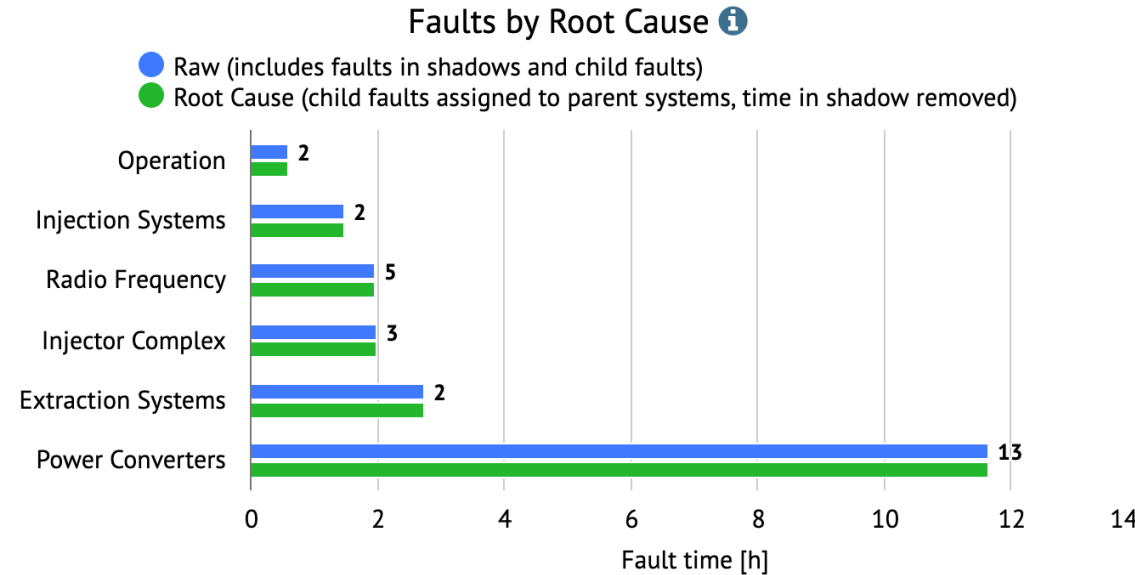
Total Faults

27

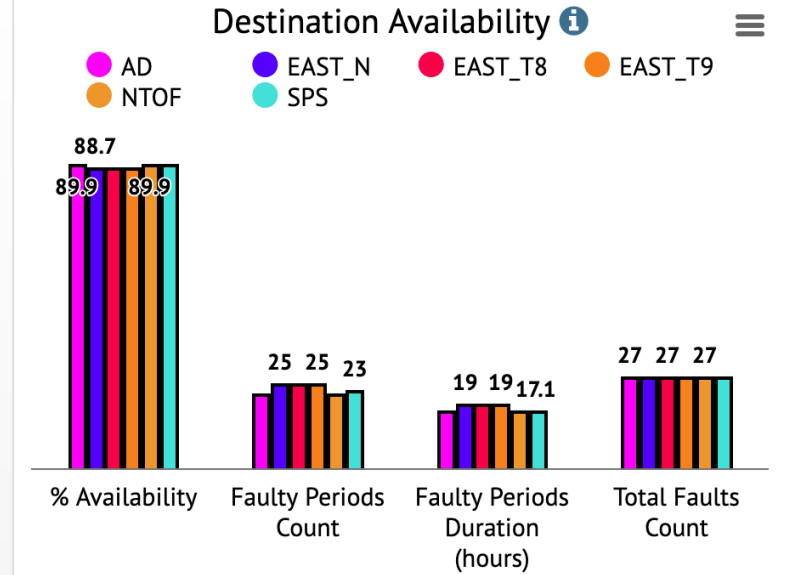
Fault Duration (overlap excluded)

20.4h

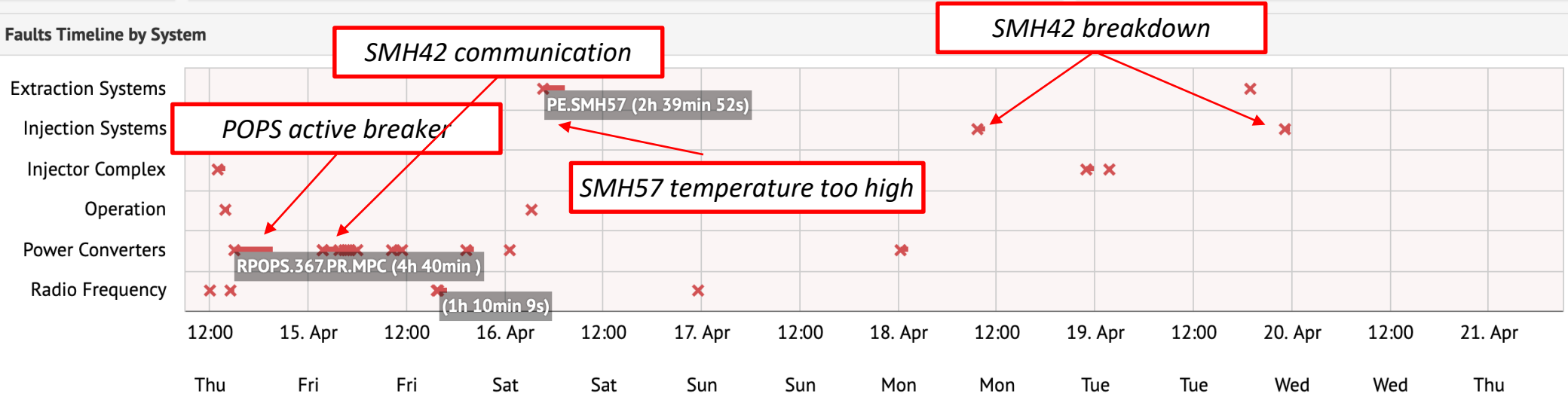
Faults by Root Cause



Destination Availability



Faults Timeline by System



- [Icon]
- [Icon]
- [Icon]

RELATIONS

- is same as
- is similar to
- is related to
- blocks
- is parent of

PS Main Issues

- Analysis of last week's FGC issues (FGCs from building 365) ongoing → **PI.SMH42** not pulsing from time to time caused radiation alarms.
 - Stopped subscriptions partly restarted again to be able to log fault signatures
 - Further investigations to be carried out during next long beam stop (> 4h)
 - **EPC presentation at upcoming FOM**
- **SMH57** → exceeded maximum temperature → **2h30 without beam for EAST area on Saturday**
- **PI.SMH42 vacuum incident on Monday 18/04 and Tuesday 19/04: same signature as event on the 8/04**
 - OK given by ABT for restart in small steps
 - Under close surveillance – in worst case the upgraded spare is available, but would mean >1 week of downtime

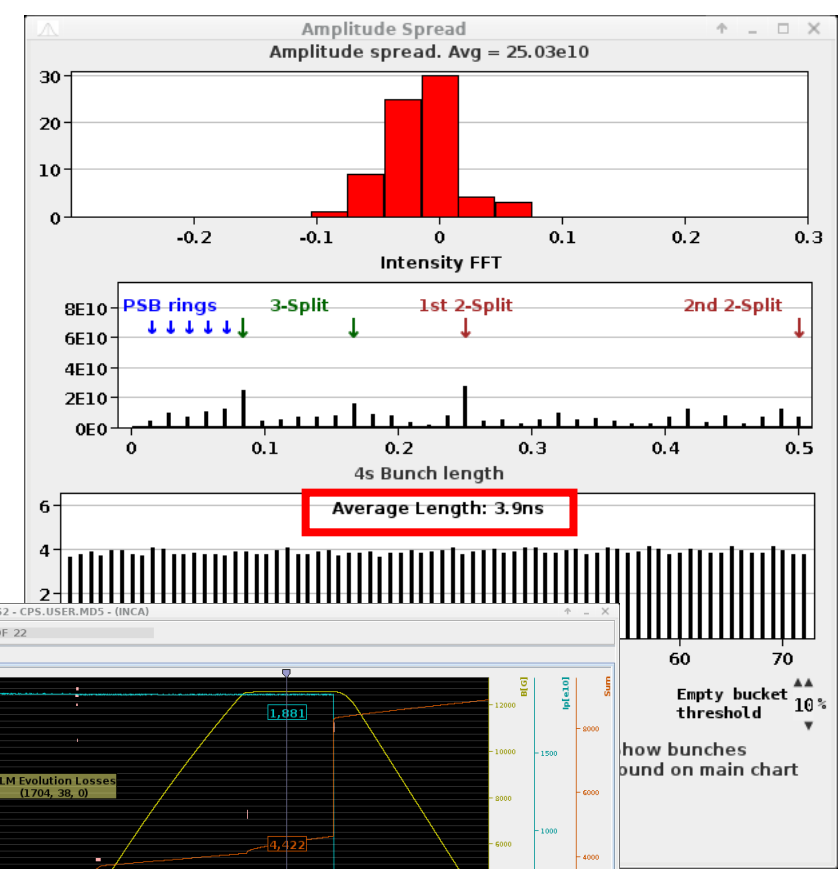
Main Activities

• LHC-type cycles

- LHC25 provided for SPS scrubbing up to $2.2e11$ ppb
- LHC25 variant with LIU intensity of $2.6e11$ ppb and 3+3 PSB bunches (instead of 4+2) prepared yesterday; fine-tuning ongoing
- BCMS provided at $1.7e11$ ppb; fine-tuning ongoing

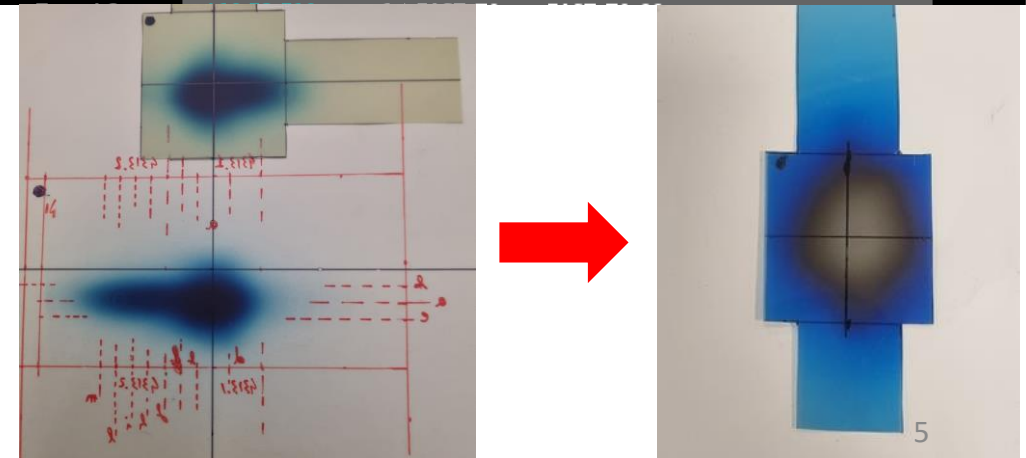
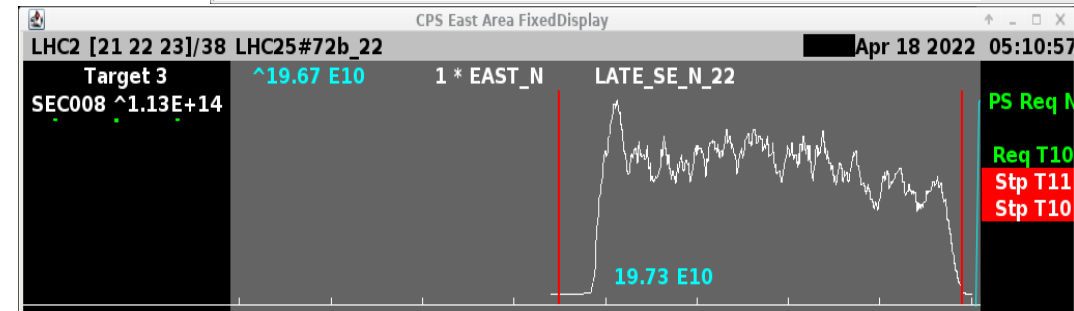
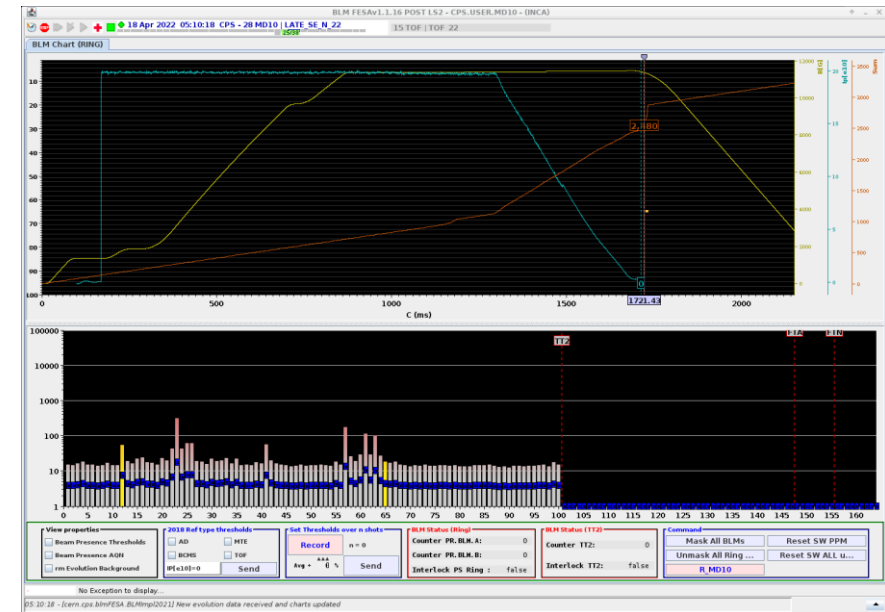
• TOF

- Nominal TOF cycle provided to experiment
- Parasitic TOF cycle set up on EAST cycles
 - Power density on target checked and OK
 - No pre-pulse visible
 - Re-enabling bunch rotation
 - To be validated by STI and n_ToF team



Main Activities

- **EAST:**
 - Optics measurements (quad. scan) started in F61
 - Sweeping compensation implemented (identified to be mainly related to perturbations caused by figure-of-eight loop → ramp down just before arrival at FT to have constant tune during extraction)
 - New version available: late extraction, no-sweep; spill length 400 ms
 - Parasitic TOF setting up on EAST cycle setup at 300e10 ppb
- Results of new sweep control:
 - Very nice round profile on T8
 - Much less dependent on supercycle composition



Status of operational beams

Fixed target beams	Status	Comment
SFTPRO (core only)	Operational	Available up to $2 \cdot 10^{12}$ p/p
SFTPRO (5 turn extraction)	Setup ongoing	Pushed up to $1.8 \cdot 10^{13}$ p/p , beam quality to be optimized for high intensity
AD	Operational	Nominal beam (5 bunches)
TOF	Operational	Nominal beam; parasitic beam ready to be tested by n_ToF
EAST	Operational	New version with late extraction, no sweep, 400 ms spill length
LHC-type beams	Status	Comment
LHCPILOT, LHCINDIV	Operational	
LHC25 (72b)	Operational	Operational at $2.2 \cdot 10^{11}$ p/b; $2.6 \cdot 10^{11}$ p/b with 3+3 injections from PSB prepared (fine-tuning ongoing)
LHC25 (12b or 24b)	Operational	
LHC25 BCMS (48b)	Operational	Operational at $1.8 \cdot 10^{11}$ p/b; setting up higher intensities and improving beam quality
AWAKE	To be started	
HiRadMat	Ongoing	Cycle available; still to be tuned

Questions and Comments

PS Coordinator for week 15 – **Denis Cotte**

PS Coordinator for week 16 – **Bettina Mikulec**

PS Coordinator for week 17 – **Matthew Fraser**



9:00 Daily Zoom meeting (except for Mondays)

Web address: <https://cern.zoom.us/j/9372114100?pwd=L29BcmIjHUENCdFBRStYtXYVcrM1B4Zz09>

Meeting ID : 937 211 4100

Passcode: 525463