

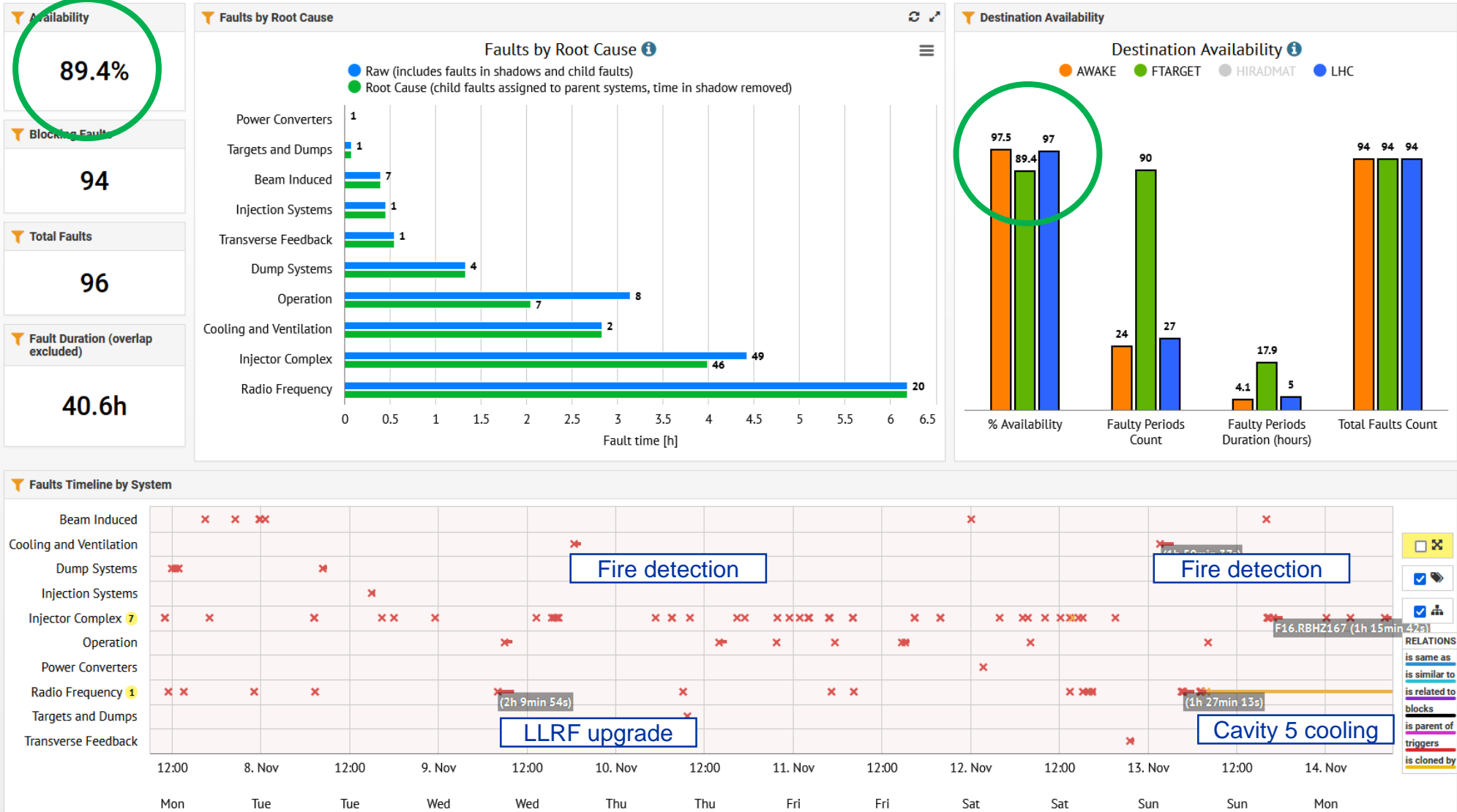


SPS FOM Report – week 45

Arthur Spierer for the SPS team

15th of November 2022

SPS availability overview



SPS week 45 summary

- **North area protons**

- 2.53e13 p/spill T2/T4/T6/T10 37/70/79/35

- **MDs**

- Parallel PS to SPS transfer studies (Thu) and PS to SPS automatic steering (Fri)
- Crystal shadowing (TECA) 24h test cancelled (one BLM reading too high)
- Fast spill monitor in TT20 test completed

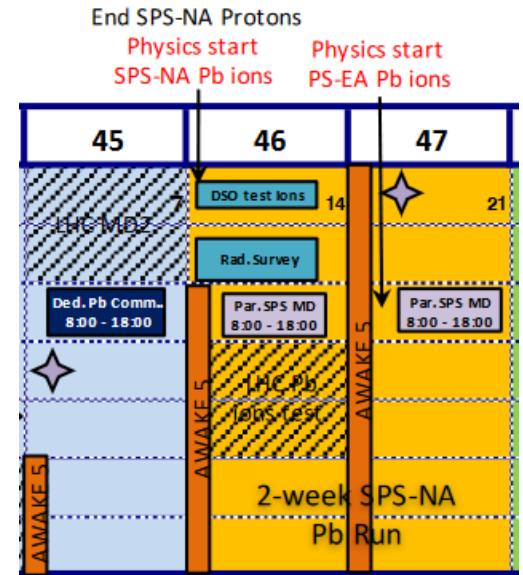
- **LHC**

- LHC MD block (Sat-Tue) with BCMS up to 1.8e11 ppbunch and 8b4e up to 1.75e11 ppbunch
- VdM and BCMS with 1.48e11 ppbunch and Indiv fills

- **AWAKE**

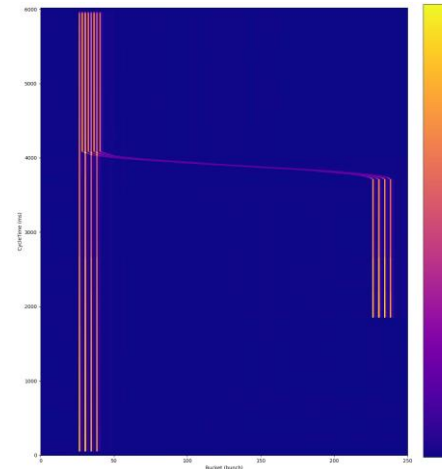
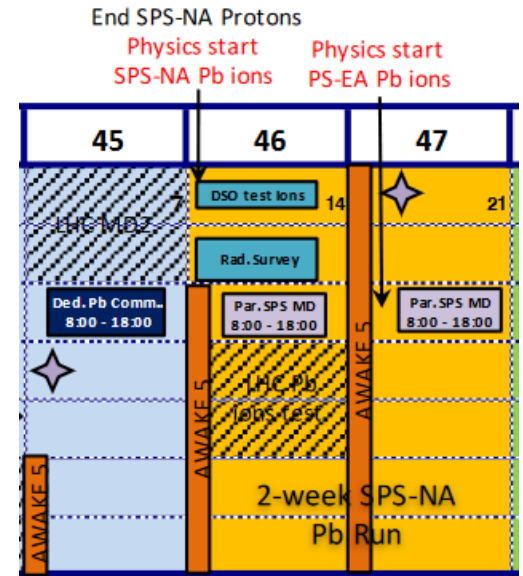
- Start of run 5 on Saturday morning with steering scans

- **Ions ...**

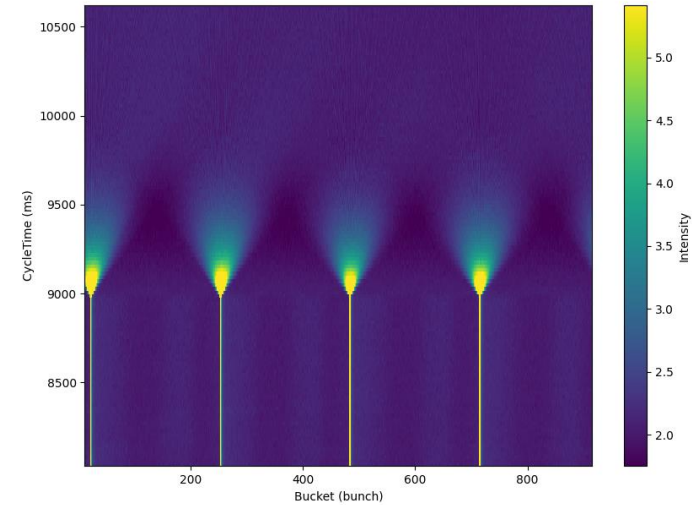


SPS week 45 summary

- **Ions dedicated commissioning (Wed) parallel (Thu-Fri)**
 - LHC 3 injections without extracted to transfer lines (last week)
 - LHC 2 injections with slip-stacking extracted to transfer lines
 - Fixed Target ready for slow extraction commissioning (4xfrev modulation, debunching, recapture and extraction gymnastics)
 - Monday: Difficult steering on target with low intensity but beam delivered to t2, some open questions still.
- **Aperture scans in H and V during the weekend**
- **RP survey at**



Slip-stacking: BCT with RF compensations



SFTION debunching with 4 equally-spaced bunches

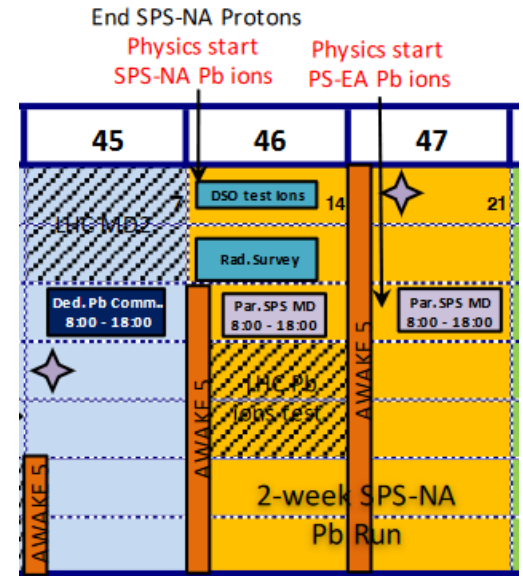
Main interventions

- 30 min RF power intervention on 200 MHz **cavity 3**, Several trips on **cavity 2** during ion commissioning (amplifiers rebalanced by experts)
- 200 MHz **cavity 5**: Several cooling water faults on Saturday, false alarm but a mechanic is needed to fix a switch beginning next week, Currently masked in SIS, Expert informed.
- MKDV1, MKE4, MKP4 piquet interventions during high intensity LHC MDs on Monday/Tuesday
- Access maintenance BA1, BA4, BA5, BA6, BA7
- Wednesday: Fire alarm BA4, BA5 and BA6 and ECA5, **ventilation fault** .
- Saturday: piquet intervention for **damper** (ADT V2) trip around 21:30
- Sunday: Observed increased losses on BLM210558 located near crystal, adjusting crystal angle helped
- Sunday night (no beam ~2 h): fire brigade call about fire alarm in BA1, BA5 and BA6, **ventilation fault**.
- After the **LLRF upgrade** the rephasing settings for LHC/AWAKE and BQM had to be re-calibrated
- Wobbling magnet NR22_007 was in fault, first line called on Wednesday evening
- **50/100 Hz** application sometime does not trigger corrections, experts on it

SPS upcoming

- **Next week**

- DSO test for ions Monday morning (No NA beam from 8 to 12h), parallel intervention on MSE BB4
 - Completed, ion interlock trigger caused some delay
- Followed by setup of slow extraction of NA ions for the beginning of the two weeks run
- RP survey on Tuesday at 2PM (After 30h cooldown)
 - Ions stops at 1.30PM, LHC is filling now
- LHC ions (Thursday and Friday)
- AWAKE from Wednesday



Coordinator this week: Michael Schenk (from Saturday)
Coordination meeting on Monday 11.30