

PS Report week 20



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

Beam availability



PS status:

- Thursday evening: KFA45 issue causing **1h15 downtime**
- Following the electrical glitch on Sunday evening intervention of the HL-RF piquet required for PS cavities (**~3h of downtime**).
- Beam degraded on Sunday night due to PSB R1 issues. Decided to temporarily remove R2 on (**2h for AD with only 3 bunches**).
- **Difficult restart after TS1:**
 - Beam back around 18h30 Tuesday evening
 - needed about 5 hours to recover performance for TOF (started up with only parasitic beams)
 - Constant tuning on SFTPRO beam required
 - Other beams less impacted, 3h of half-intensity for AD target commissioning
 - Situation back to normal at around 23h30 – not clear if related to thermal variations
- Very promising results from **FTN RP survey**
 - Modification of the line and new optics paid off, can continue to provide large beam sizes on the target
- **Current activities:**
 - **SFTPRO intensity ramp-up**
 - extracting $\sim 1.5E13$ per PS extraction, targeting $1.8E13$ over the coming days
 - Regular tuning of the TT2/TT10 trajectories required in collaboration with the SPS while increasing the intensity
 - Vertical emittance increased in PSB to $4.5 \mu\text{m}$ at $1.8E13$ p
 - **HiRadMat beams sent as requested** (emittances $\sim 2.5 \mu\text{m}$ achieved)

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)	Operational	Available up to $1.8 \cdot 10^{13}$ p/p, SPS intensity ramp-up ongoing
AD	Operational	Nominal beam (5 bunches)
TOF	Operational	Nominal and parasitic beams
EAST	Operational	
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 $1.9 \cdot 10^{11}$ p/b 3 eVs optimized
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	Operational	Available up to $3 \cdot 10^{11}$ p/p
HiRadMat	Operational	

Questions and Comments

PS Coordinator for week 20 – **Alex Huschauer**

PS Coordinator for week 21 – **Bettina Mikulec**



9:00 Daily Zoom meeting (except for Mondays)

Web address: <https://cern.zoom.us/j/9372114100?pwd=L29BcmIjHUENCdFBRStXYVcrM1B4Zz09>

Meeting ID : 937 211 4100

Passcode: 525463