

Brief PS status 20 April 2018

Frank Tecker, on behalf of PS operations and supervisor team



PS Beams Overview

Operational Beam Status:

LHCPROBE	Operational
LHCINDIV	Operational
LHC25#12b	Available at nominal intensity ($1.3 \cdot 10^{11}$ ppb)
LHC25#72b	Available at nominal intensity ($1.3 \cdot 10^{11}$ ppb)
LHC25#12b_BCMS	Available at nominal intensity ($1.3 \cdot 10^{11}$ ppb)
LHC25#48b_BCMS	Available at nominal intensity ($1.3 \cdot 10^{11}$ ppb)
LHC50#36b	Not set up
LHC100#18b_Split_1_4GeV	Not set up
LHC25#56b_8b4e	Not set up
LHC25#32b_BCS_8b4e	Not set up
LHC_ION_Early_Pb54	Longitudinal preparation without beam completed. Should be able to take beam
ILHC100#2b	Not set up
ILHC100#4b	Not set up
SFTPRO-MTE	Available, intensity limit: $1.8 \cdot 10^{13}$ ppp (today @ $830 \cdot 10^{10}$)
EAST_North	Operational
EAST_IRRAD-CHARM	Operational
EAST_Irrad_Probe	Not set up
TOF	Available up to $8 \cdot 10^{12}$ ppp (today @ $770 \cdot 10^{10}$)
AD	Available at $1.4 \cdot 10^{13}$ ppp (today @ $1 \cdot 10^{13}$)

PS

- Parallel MDs started this week
- Dedicated MD for transfer line matching PSB -> PS
 - Had to be rescheduled on LHC request on the fly for the morning (instead afternoon)
 - Magnets recabled, Beam steering with ~95% transmission in the line
 - Losses at injection, later attributed to the PS internal dump
 - Measurement with PS horizontal SEMGRIDS, kick response
- Faults
 - Timing repeater failure delayed the startup after dedicated MD on Wednesday by ~3 hours
 - Difficult to diagnose: Beam loss, consequence of MD suspected, Internal dump found blocking, transition problems, extraction bump not pulsing
 - EAST area T10 QDE01 magnet issue, current limits physics to 5 GeV/c (instead of 6)
 - Several problems from the Booster, temperature interlock on quadrupole, now solved

Availability

86.7%

Blocking Faults

46

Total Faults

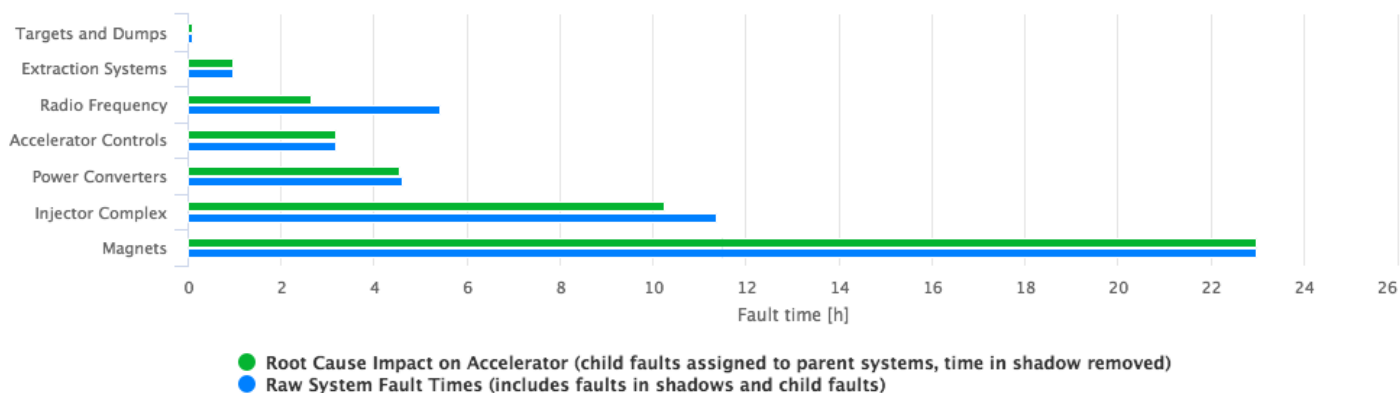
47

Fault Duration (overlap excluded)

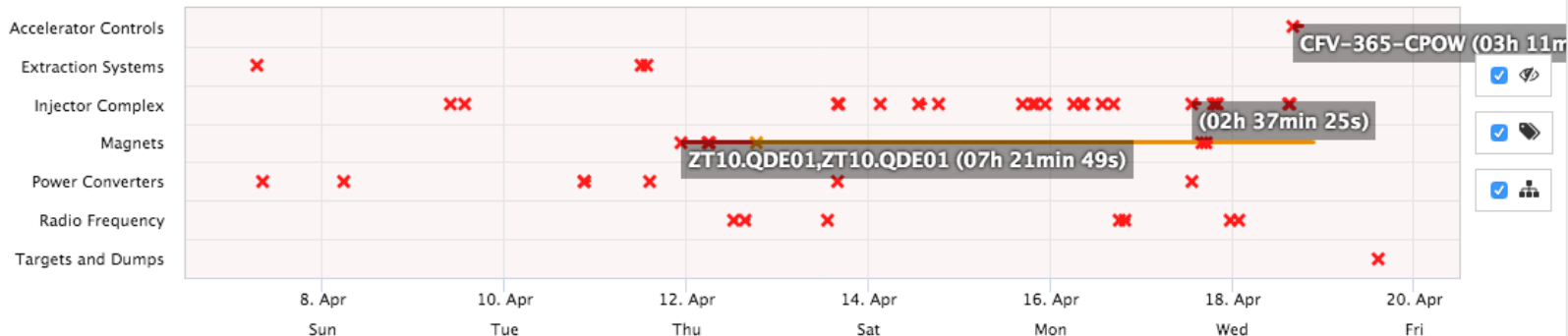
172.9h

Blocking Faults by Root Cause

System Downtime Vs Accelerator Impact



Faults Timeline





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