

# SPS beams status

H. Bartosik for the SPS team

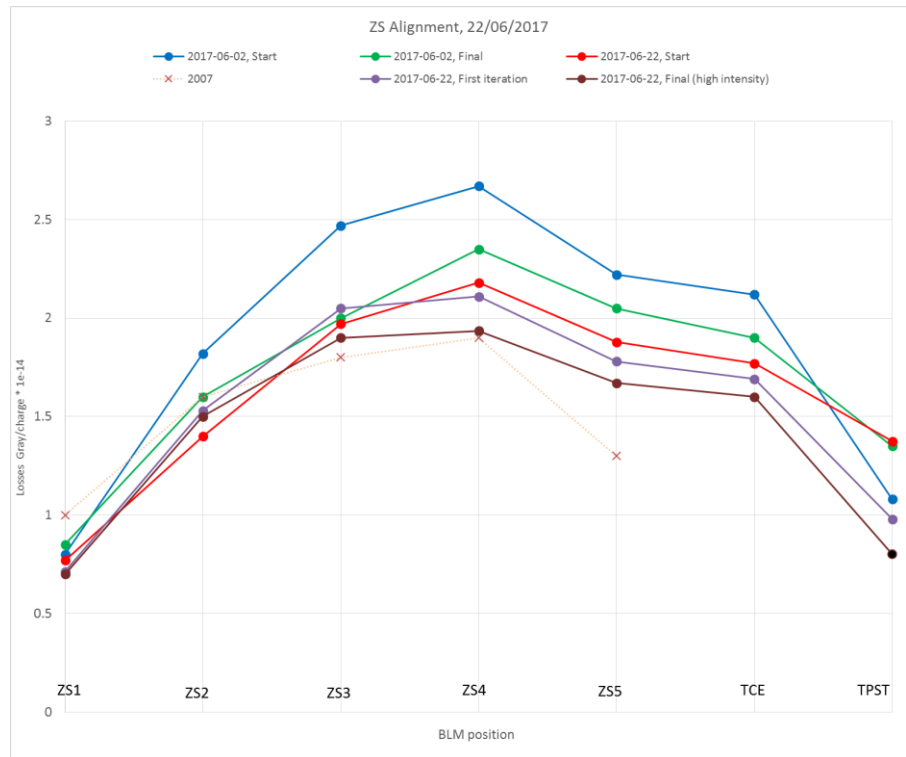
MSWG, 07.07.2017

# SPS beam status

- SFTPRO
  - Investigations on losses in LSS2
  - Transmission in SPS up to 96% with  $3e13$  p total intensity injected with MTE
  - Aperture OK after dipole exchange in 133
- LHC
  - BCMS beam OK –  $1.15e11$  p/b within  $1.7\mu\text{m}$  (before TS)
  - 200 ns bunch spacing used operationally – no issues so far
  - Still without feed-forward on 200 MHz for all LHC beams – investigations of RF experts ongoing today
  - Provided MD beams last weekend – high brightness Indiv with  $2e11$  p/b and  $1.5\mu\text{m}$  was too bright for the LHC 😊
- Xe-ions
  - Setting up of RF on short MD cycle started
- MDs this week
  - Attempt of crystals assisted slow extraction before TS – very limited availability due to issues with LHCMD2 timing user
  - Coast for emittance growth in Q20 optics (see presentation by Fanouria)

# SFTPRO

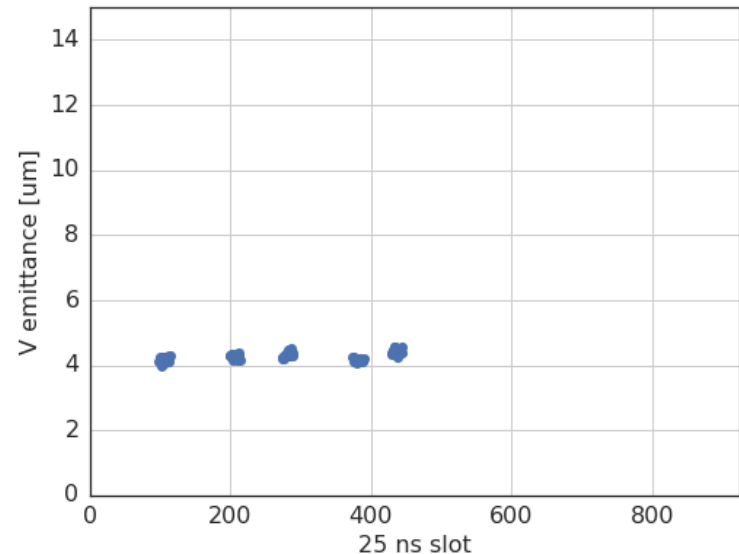
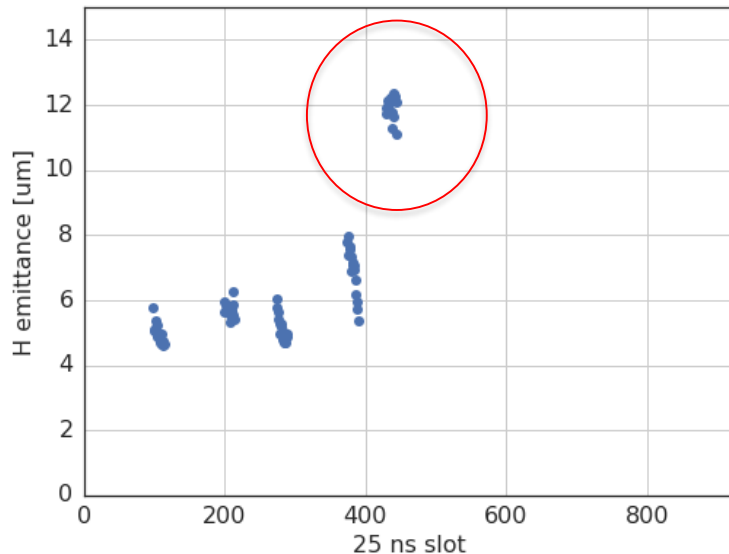
- **Investigations on losses in LSS2 extraction channel to the North Area**
  - increased losses and spark rate at ZS observed with high NA duty cycle after LHC scrubbing
  - Together with TE-ABT it was found that the cathode of ZS2 was misaligned by 2 mm (probably intercepting the extracted beam)
  - After re-alignment campaign, losses at ZS close to 2007 reference values
  - Presently running with 230 kV on ZS – studies ongoing



C. Wiesner, M. Fraser et al.

# SFTPRO

- **Investigations on losses in LSS2 extraction channel to the North Area**
- **Transmission on SFTPRO cycle**
  - Optimization of trajectories from PS to SPS allowed to improve transmission to about 96%
  - H emittance of core seems double compared to islands (without core the losses at injection are reduced by 50%) – investigations on PS side ongoing



# SFTPRO

- Investigations on losses in LSS2 extraction channel to the North Area
- Transmission on SFTPRO cycle
- Exchange of MBA13370 resolved aperture bottle-neck in 133

V. Kain et al.

