

# PSB HW & Beam Commissioning

A. Akroh, F. Chapuis, G.P. Di Giovanni, B. Mikulec

# Booster HDW Commissioning - Feedback from W49 (*the Last One*)

MACHINE STATUS: *5<sup>th</sup>/5 weeks of the BOOSTER COLD-CHECKOUT.*

*The Week 49 was a **Short Recovery** from the 2 weeks of interventions (W47/48)*

## Monday 30/11:

- All the morning, Booster in Access mode for cleaning (HSE-RP, EN-ACE, SMB and BE-OP) → Done;
- Ring BLMs reconnected/tested and WIC checked (direct consequence of the Magnet Covers Consolidation) → No Problem found;

## Wednesday 02/12:

- POPS-B restarted late due to several issues (locked-out due machine cleaning, transfo. plate missing, mechanical interlocks of the 18kV\_Cells broken/replaced) → POPS-B recovered late in the afternoon + FI/BIS output condition checked → OK;
- Blr.BVT10 problem to restart the 3 power-converters the water valve in the machine was closed → Problem solved by TE-MSC;
- QSTRIPs DRY-RUN to test the newly implemented “Function Lists” to synchronize them with the Injection Process (BI.BSW, BI.KSW,...) → Test Successful;
- Simulated B-Train reset implemented by Anthony Beaumont (TE-MSC) → Parameter added in the Knobs/WorkingSets;

## Thursday 03 and Friday 04/12:

- Most of the BIC inputs tested successfully → except RF links, unconformities must be solved, no Impact for the Injection Beam Commissioning;
- SIS new version deployed, and almost all the permits that are necessary for the Beam Commissioning are available.
- BI.KSW control issues found to propagate the High-Level Parameters to the Hardware which convert a Position (mm) to a Current (A) for the 4 BI.KSW  
→ A temporary solution has been put in place by M. Hostettler, while TE-ABT investigate for a final solution;
- BE.BSW pulse delay configuration → fully operational.
- **Issue with the FGC to drive the QSTRIPs+Main.** Random errors returned due to competing requests when a command is sent whilst the properties are being published. In fact, the publication task has higher priority than the command task. Issue followed up by EPC (R. Murillo) and reproduced in lab. Final fix to come in the next days.
- Issue with the **Booster when 0 turns requested** → tripping Linac4\_Source, → Temporary fix and investigation in progress. Discussion ongoing with BE-BI.

# Booster HDW Commissioning - Feedback from W49 *(the Last One)*

This Hardware Commissioning was long and time to time an epic story but, I think we have brought the Booster in good conditions to start the Beam Commissioning.

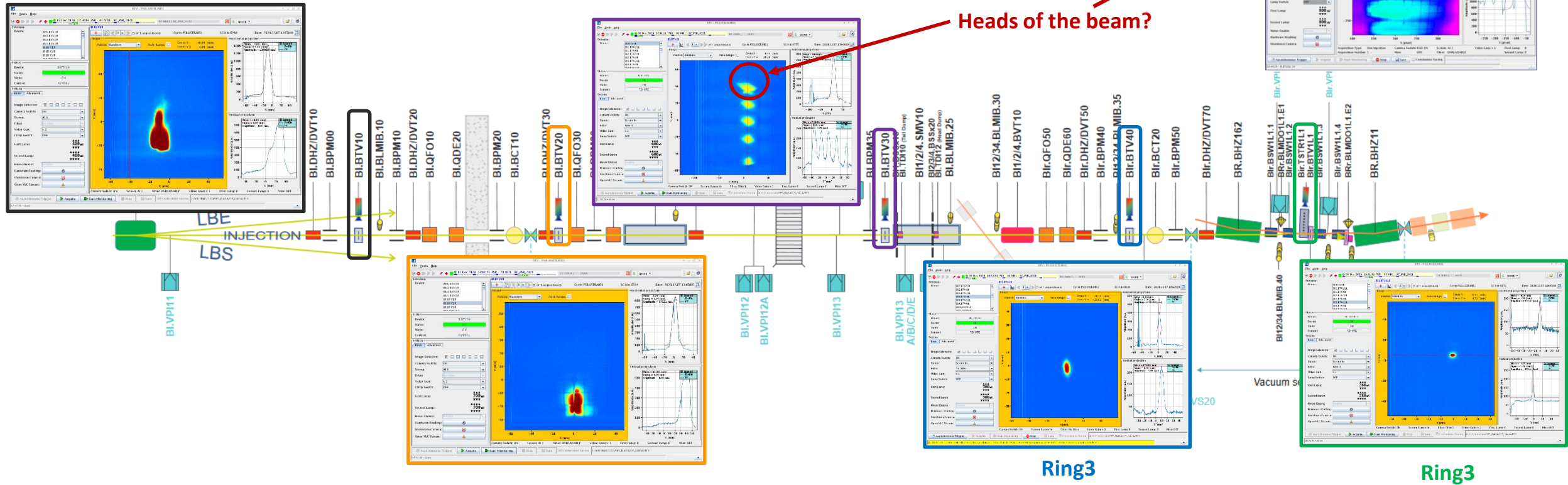
We would like to thank all the Teams and Specialists involved in the Booster Hardware Commissioning for their commitment and availability.

**Now, It is time for Beam Commissioning.**

*F.Chapuis / A.Akroh*

# PSB Beam Commissioning: BI Line Commissioning Started on 7/12

- Rocky start with an access in the PSB to investigate a few issues with the Section 5 of the RF system.
- Most of the morning invested in checking the setting and cleaning-up the interlocks.
- At 13h00 first beam crossing LTB.BHZ40 and threading to the first BTV, BI.BTV10



- By the evening we reached the BTV at the stripping foil location in the PSB Ring3, BI3.BTV1L1
  - Next steps are to calibrate all instrumentations, repeat the process for the remaining 3 rings, inject protons in the PSB