
CERN

SIS status before first Stable Beams

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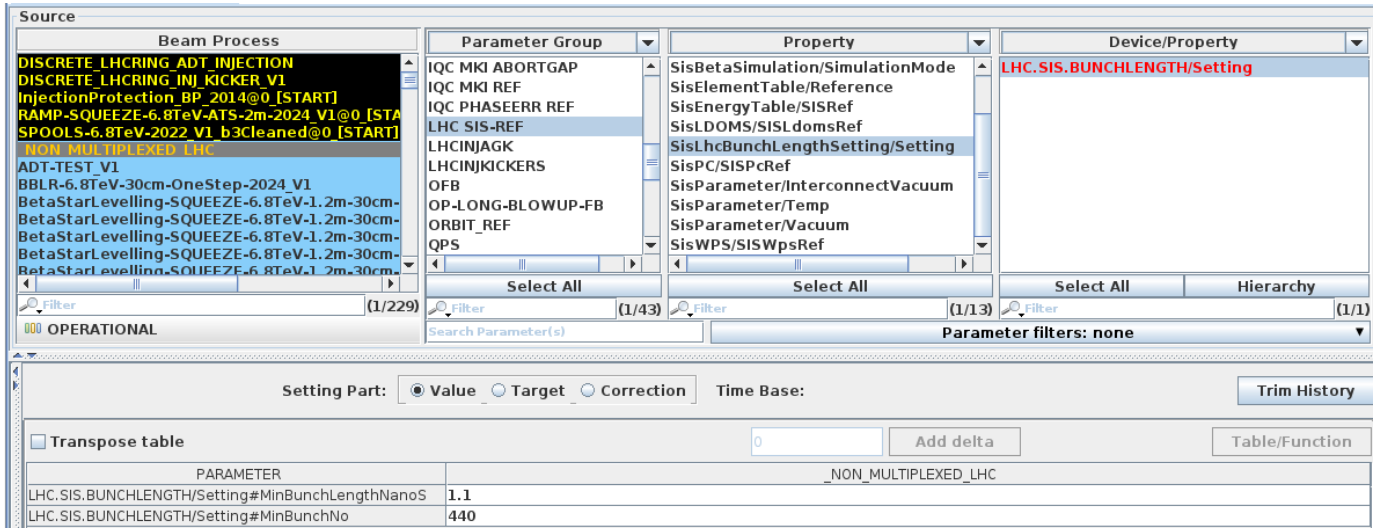
SIS overall status

- Operational, some tests to be completed (automatic (un)masking) require injections of >=12 b trains.
- The new interlocks on TDIS and TCDIL gaps are tested and operational.
- Some new things in the next two slides.

Bunch length interlock

- The bunch length interlock for the ramp was revisited.
- The logic (simple so far) was moved to UCAP node UCAP-NODE-LHC-SIS, one device per beam.
- Introduced a new LSA critical setting with the min. bunch length and a bunch no. threshold below which the interlock does not act.
  - Only applied by SIS if the mode is ramp.
- The logic can of course be made more complex, scaling with no of bunches or with intensity…



SIS interlock for … RF frequency interlock

- During the MPS tests for LBDS, the RF frequency interlock (~ +- 100 Hz) did not work.
  - The root cause was an incorrect configuration of a RF FESA class (A. Butterworth).
  - Once correctly configured, the RF frequency interlock worked as expected.
- A new SIS interlock was added to cover that issue for both beams, it includes the test of the 3 FESA fields that must be correctly set (3 conditions).
- The **interlock acts on INJECTION only**, is that **acceptable?**
  - Can therefore be broken once beam is in. This is unlikely, in addition there is no immediate danger.