Controls Dry Run Planning

Regine Pfeil, *Hanno Hüther*

09.09.2019

- Since the last beam time, substantial enhancements have been implemented on all layers of the control system. Amongst others:
  - Timing Enigma release (saftlib 2.0, DM-UNILAC gateway refactoring, Data Master and WR-to-MIL gateway features for Storage Ring Mode)
  - New FPGA firmware (MIL DAQ, Watchdog, FG, MIL rescan)
  - New SCU Ramdisk (for SCU4 and Libera tests)
  - New FESA 3 7.0.0 release (CMW/RDA 3.0.1, saftlib 2.0, Timing Enigma)
  - Adapted FESA classes (FESA 3 7.0.0)
  - MASP (STABLE_BEAM, MASP GUI, monitored actuators)
  - Storage Ring Mode (BSS/Director, LSA, Model for ESR, Storage Ring Mode Expert App)

This is just an excerpt. See Dry Run Planning wiki page.

- In-depth testing of Storage Ring Mode
  - All features (Break Points, Manipulation, Repetition, Skipping)
  - Storage Ring Mode Expert Application
  - Correct behavior of (a subset) of ramped devices
- Beam transfer from ESR to CRYRING
  - Coupling, timing and trimming
- Function Generator enhancements
  - Preparation time reduced, stopping only affected Patterns during trim
- Devices to be added to LSA data supply
  - ESR Kicker & Timing Generator, timing controlled actuators, new CRYRING source, ...

Where could we use support?

- In general, Controls will only be able to perform depth tests (not breadth tests) due to time and resource contraints.
- In some areas, expert knowledge and/or operating experience might be necessary for testing.
- Additionally, help in organizational matters could free up resources for testing.

What precisely could OP and device experts help with?

Some examples where help would be beneficial:

- Ensuring that all requested devices are available („Freischaltungen schriftlich aufheben“)
- Breadth tests covering a wide range of devices (basic functionality for all devices, but also checking that ramping in Storage Ring Mode works, etc.)
- Testing that Beam Modes work as expected (including MASP GUI, masking and monitored actuators)
- Testing timing-controlled actuators
- Testing ESR Timing Generator and kicker
- Verifying hardware interlock signals for SIS AEG
- ...