Collimation Hardware Commissioning

procedures

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Workflow

installation of electronics

installation of collimators

prelim. commissioning

installation to vacuum

final commissioning

test of cabling

installation of base support assembly
Hardware Commissioning Steps

- Full system tests (with or without vacuum)
  - remove blocking of jaws
  - verification of collimator corner orientation (in the tunnel)
  - check low level control, jaw movement and position sensors/switch response, including the verification of the position of the switch with respect of the end stop (only relative position needed here)
  - check temperature sensors
  - LVDT calibration and resolver check
  - check interlock chain
  - check communication (from top level [CCC-room application to collimator])
  - check water tightness/ adjust flow-rate
Hardware Commissioning Steps

- Full system tests (vacuum required)
  - check LVDT calibration and resolver (if not done before under vacuum)
  - auto-retraction test
  - measurement of mechanical play

⇒ estimated commissioning time per collimator: ≈ 13h / ≈ 11.5h (all test under vacuum)

The results of all steps are entered to MTF, in general an OK, date and operator. For some steps data has to be files in (auto-retraction, calibration).

The hardware commissioning paper can accessed on my dfs public:

\cern.ch\dfs\users\weiler\Public\Commissioning\LHC-CollimatorCommissioning-v1.0_CommissioningChapter.pdf
MTF-Profile (2008/01)
Finding Collimator Related Data I
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Finding Collimator Related Data III

Assembly Tree

Slot Folder: Main Info

Slot Identifier: TCTH.4R1.B2
Other Identifier: None
Description: Collimator

Installation & Commissioning
Type: TC
Status: Manufacturing
Other Identifier: Manufacturing
Parent slot: None
Location: None
Slot details: Link to LHC Layout

Installation data
Item: HCTCSH_202-CR002005
Equipment: HCTCSH_202-CR002005
Docum Start: 146.78
Docum End: 148.25

Navigation

Th. Weiler, AB/ABP-LCU, CERN
Inserting Data / View Progress