Racks Installation

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Racks Installation

Presentation overview

- Injector racks
- MO racks
- XTL racks
- Patch Panels
- Racks AC power and cables ducts
- Inner racks cabling
- Outer cabling
- Cables trays in XTL
- Racks Assembly and Test Facility
- Summary
- 3 cabinets with 3 racks 16U under I1A1 Accelerating Module
- All cabinets present at DESY (UG07, UG05, 3/306)
- Common Radiation Shielding (design ready)
- Inlet/Outlet for cables on left and right sides
- Space between cabinets ~200 mm
All 8 racks are at DESY in XTIN UG05/011
2 racks are on right position
The rest of racks will be placed properly till end of this week (16.05.14)
AC power connection has been ordered (including UPS) – till 23.05.14
Cooling water connection has been ordered – till 23.05.14
Ethernet connection has been ordered – till 30.05.14
Cabling of necessary cables and to Laser Room can start 02.06.14 – need a list of signals very soon to organize a firm
Racks Installation

XTL racks

- 48 standard LLRF cabinets with 3 racks 28U each present at DESY (~20%, ~80% rest in Elmshorn warehouse)
- 2 special LLRF cabinets with 3 racks 28U each for L1 (main and spare systems) are in XSE on UG03 and UG05
- All cabinets have frames (Wanne) on the top to support patch panels and DCM
- Lower rear side patch panel will be used for Piezo cables
- Front-rear cables openings designed, prototypes ready – foreseen one opening if necessary
- Front-rear openings have brush to stop air flow
4 types of PP (different signals and location)
All designs ready
PP for L1 ordered, will be deliver 06.06.2014
Signal/cables names will be laser engraved

Accelerating Module will have 3 PP:
- Probe 1,2,3,4 and Piezo 1,2,3,4 (left from rear side)
- Probe 5,6,7,8 and Piezo 5,6,7,8 (right from rear side)
- Forward and Reflected for Module and HF arms (left or right)
**Racks Installation**

**Inner cables ducts and AC power outlets**

- Brackets for cables ducts and AC outlets designed and prototypes for L1 ordered (end of May 2014)
- Some brackets for L1 and rack cabling example made ourselves
- L1 cables ducts and AC power will be ready just after Workshop – till 20.05.2014
All stages ready

- Racks occupation
- Schematics
- Cables lengths
- List of cables

Cables for L1 Master ordered and will be delivered mid of May 2014
Implementation of all cables in KDS has started.

Cabling schematics

List of cables with estimated length

All stages ready
Cables trays in XTL

XTL Synchro cables connections to LLRF Racks

Cables tray over the concrete radiation shielding

Cables tray between racks and tunnel wall
RATF is placed in XSE on UG05 room 020, 021 and part of 014 (in front of lift)

The space will be limited with fences (solid walls not possible because of air condition) – ready end of May 2014

12 transport platforms (for 6 cabinets) are ordered – will be deliver end of May 2014

AC power and Ethernet will be connected first days of June 2014

Tables, cupboards, shelves will be ordered mid of June 2014 (after fences are ready)
Installation of racks for Injector, MO and XTL is in good shape

Delays in installation are not foreseen, but…

Near future tasks:

- Preparation of inner rack cables ducts and AC power connection model – Wille firm can prepare the work
- Assembly of inner rack cables ducts and AC power connection for L1 Master and Slave cabinets (end of May 2014)
- Mass production of top patch panels for L2 & L3 (find a manufacturer including N-to-SMA feedthrough assembly)
- Mass production of brackets supporting inner cables ducts and AC power outlets (find a manufacturer – may be Wille can do that also)
- Implementation of place holders of RF Synchronization cables trays in 3D XFEL model
- Implementation of all cables in KDS – started, but that is a big work