



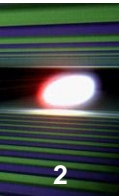
Synchronization System Installation requirements, constrains, remarks

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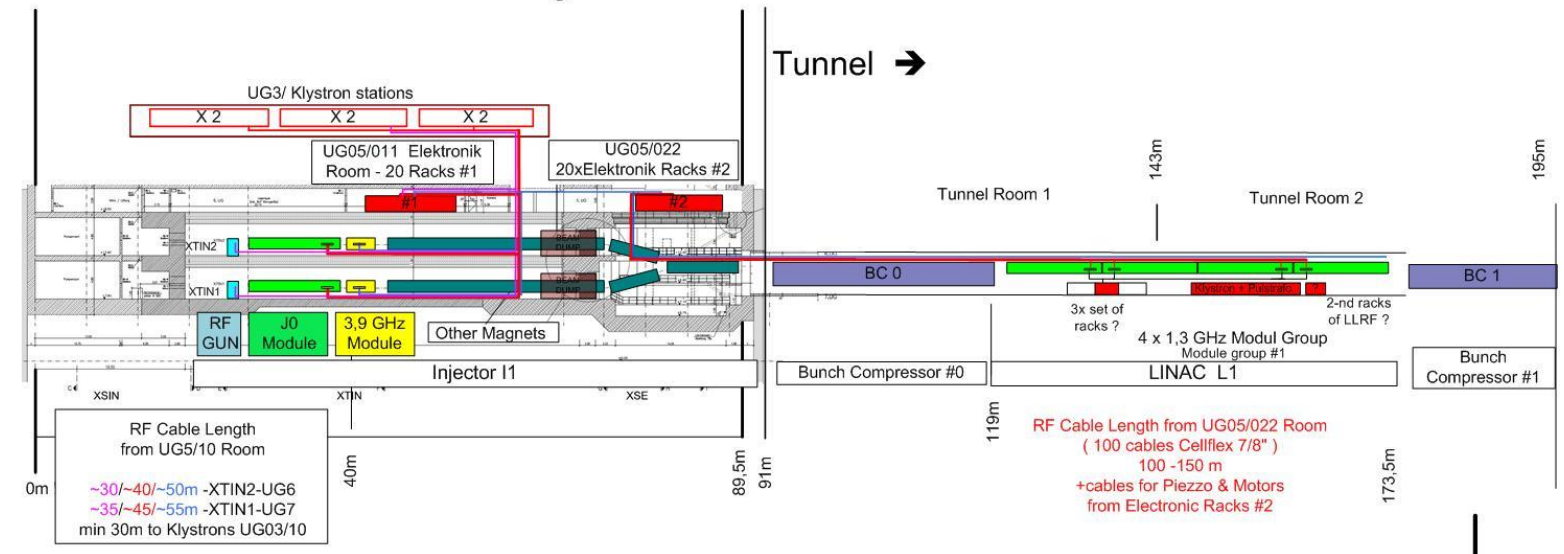
Synchronization System installation needs:

- Space for electronics racks and devices (couplers/amplifiers)
- Space for cables (cables ducts, trays)
- Robust connectors (most probably N-type)
- Redundant systems (to be discussed)
- Redundant Power Supply (to be discussed)
- Air conditioned racks (temp. stability $\pm 0.1^\circ$ C)
- Temperature stabilization of cables (passive or active)
- As much work as possible done outside the tunnel

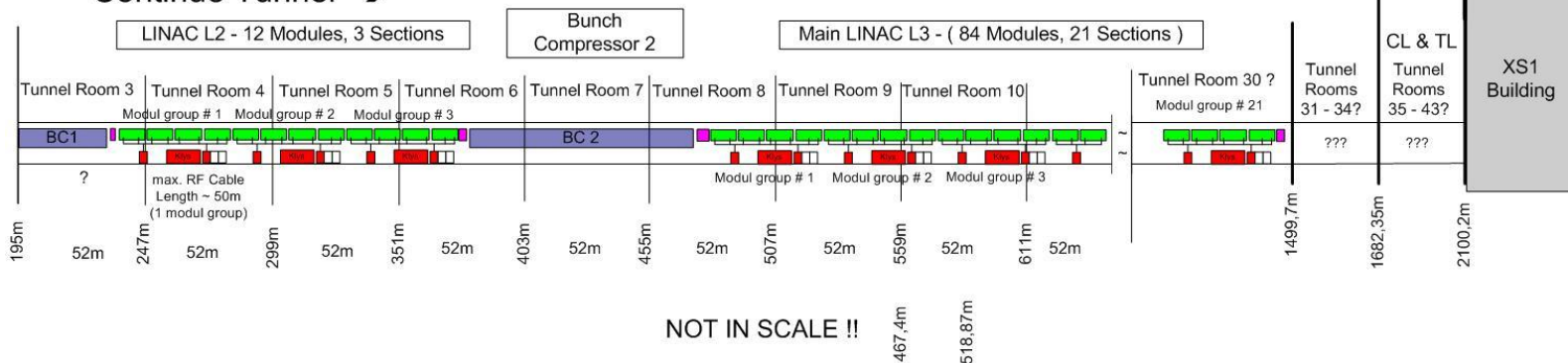
Synchronization RF signals distribution

XTIN & XSE Building

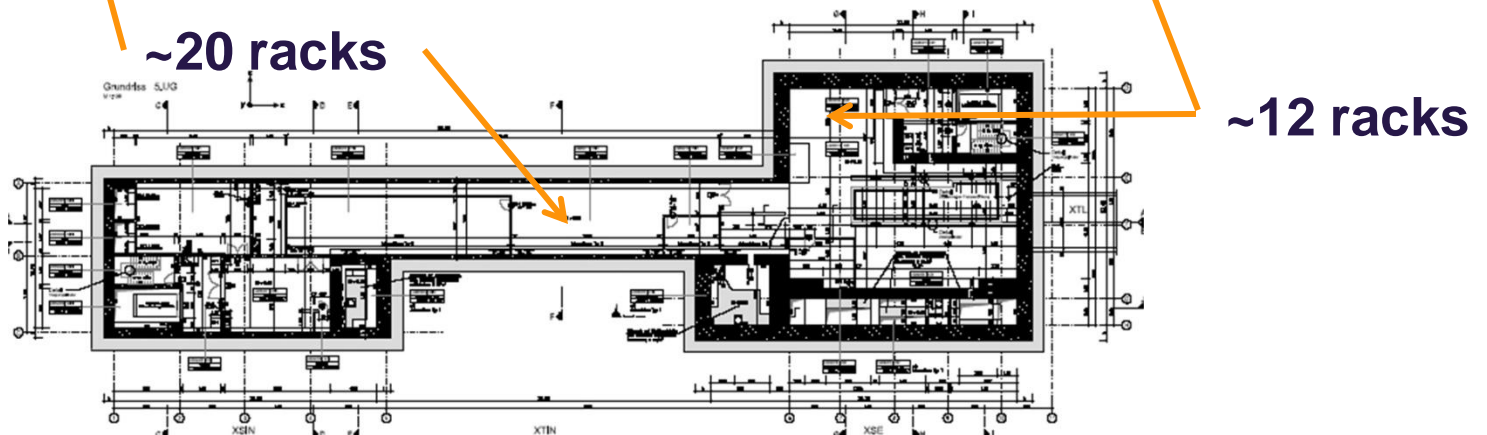
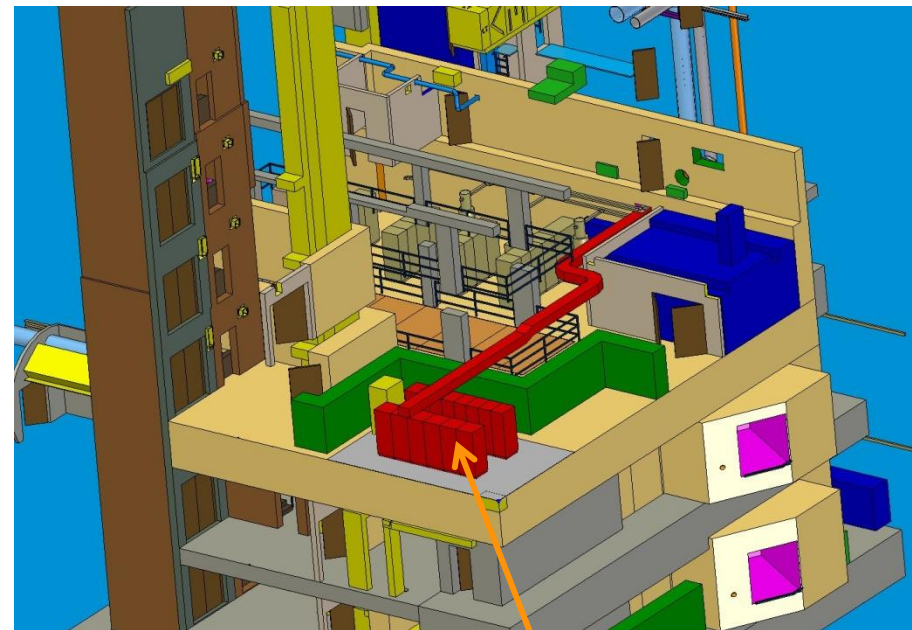
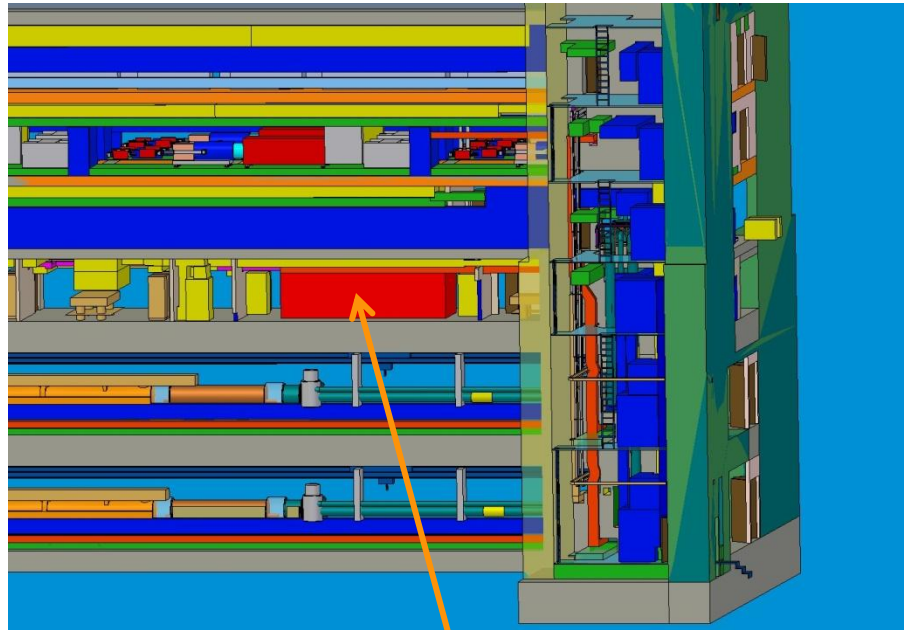
rev. 22.11.2009



Continue Tunnel →

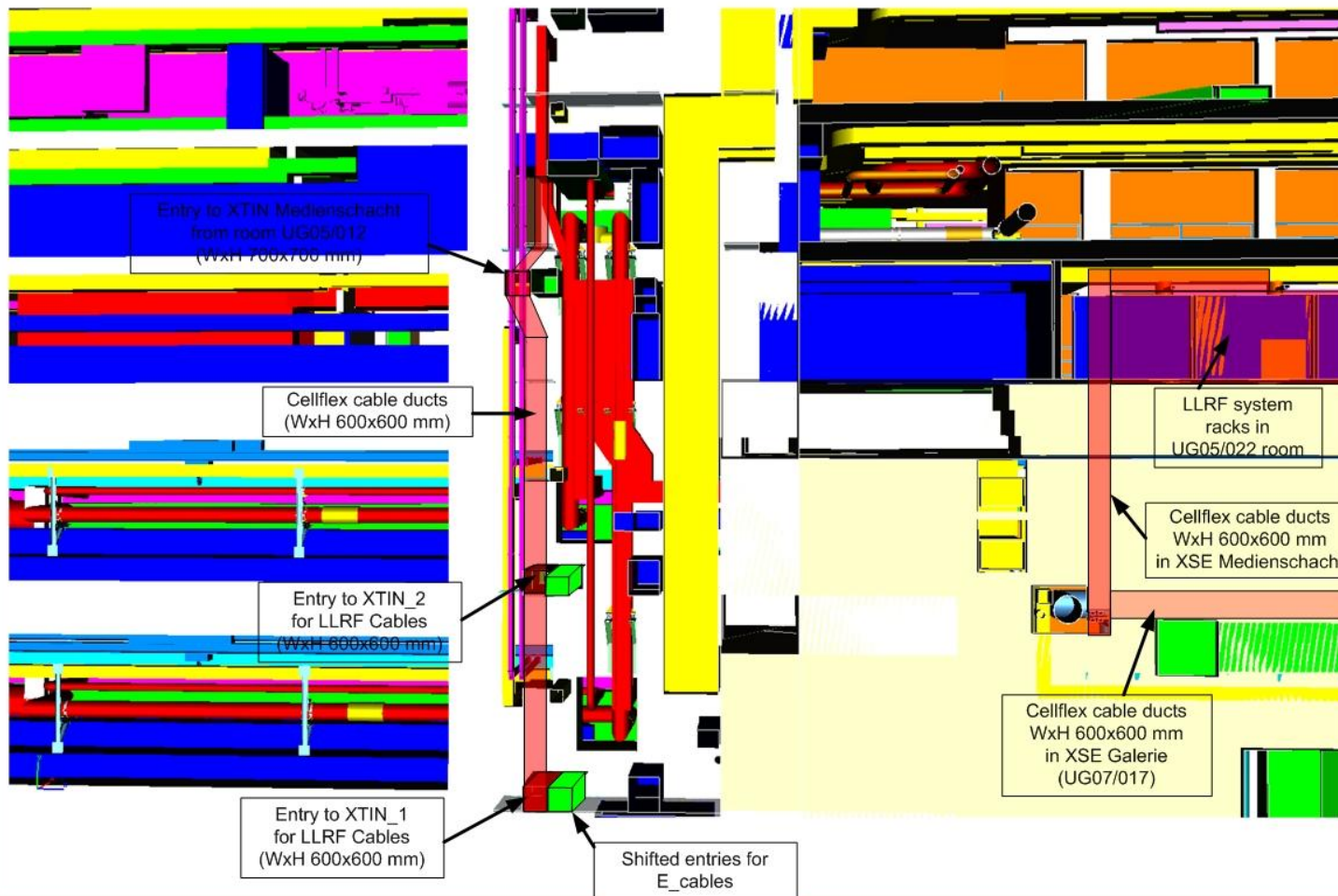


Space for Master Oscillator electronics racks



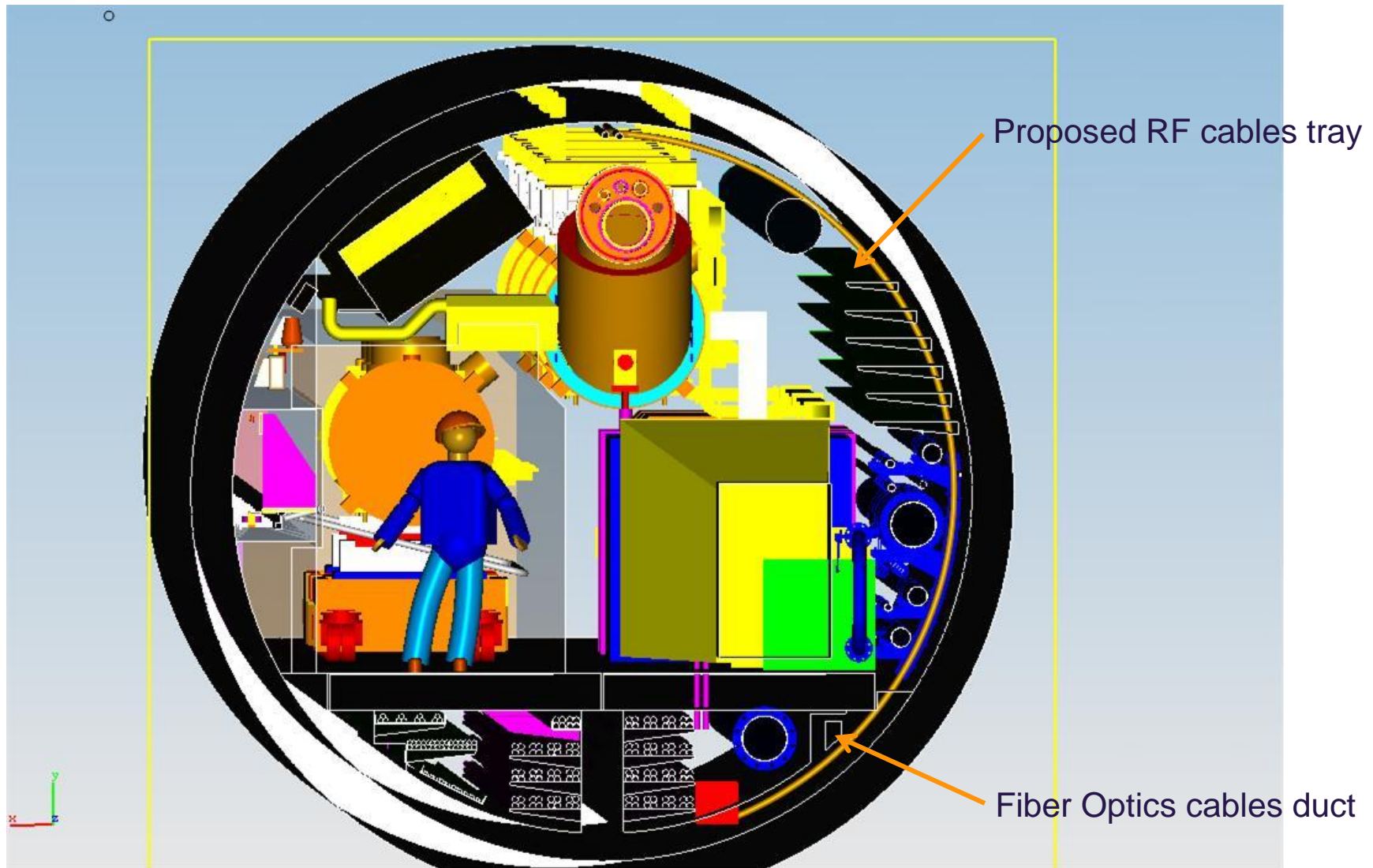
Cables ducts in Injector Complex

Side view on new proposed LLRF cable ducts to XTIN1, XTIN2 and XTL

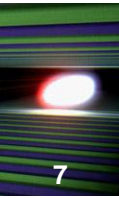


Cables ducts in XTL

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Constraints

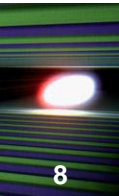


Major constraints to Synchronization System installation:

- Complicated cables ducts in Injector Complex
- Very limited space for cables at the entrance to the XTL
- Limited space in XTL for couplers/amplifiers (on cable tray?)
- Temperature stabilization of RF cables in Injector Complex
- Temperature stab. of RF cables along XTL and photon BL
- Cables ducts to „users” (XTL is very ‘crowded’)

Conclusions:

- As small as possible amount of RF cables
- As soon as possible defined number of cables and „users” position



Installation of Synchronization System point of view:

- Please limit ‘carefully’ your needs (number of cables)
- Please specify your phase stability requirements as soon as possible – decision on temp. stab. of cables has to be taken soon and it has a major influence to the installation design
- Please give us ASAP your exact position in XTL – it is very important to ‘reserve’ a space (place holder in 3D model) for cables to „user”
- Please ‘freeze’ your design as soon as possible – later changes in installation might be very difficult
- Please do not hesitate to contact us in case of changes – some changes might be easily done, some will be not possible later

Thank you