

Notes from the TC Fibre meeting

17.12.2009 15:30-17:00 (CY - last revised 17.12.2009)

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1 Attendance list

TC: E.Negodin

DESY-IT: K.Ohrenberg, T.Witt, NN (Network group)

MKK: J.Havlicek (power, cabling...)

ZM1: K.Jaehnke, T.Stoye (building CAD...)

WP76: C.Youngman (photon: DAQ and control, beam line optics and diagnostics)

WP71: S.Karabekyan (Undulators)

WP28: K.Rehlich (e-machine: control, timing...) [called away after 10']

MPY: H.Schlarb (e-machine: diagnostics)

2 Input

Evgeny's slides showing fibre radiation dose at FLASH. The dose expected at XFEL is a factor 10 higher.

3 Points agreed to

About fibres to be used:

- Single Mode Fibres will be used.
- Fibre radiation dose resilience is improving with new manufacturing methods.
- Damage is proportional to the integrated dose along the entire length.

In all XTD beam lines (XFEL PBS):

- Fibre shielding is not required (includes undulator, e-beam lines and dump areas).
- Fibres can be laid on cable trays (as planned).
- Fibres used will not have to be replaced due to accumulated dose.
- Tunnel floors can be solid concrete (not hollow for cables, etc.).
- Temperature stability in these tunnels is sufficient for timing operation (temp control not required).

In the XTL beam line:

- Fibre shielding is required (under floor routing, etc).
- Temperature control is required(?).

For network fibre connections:

- Fibre length is not important.
- Network operation is not dependent on ambient temperature fluctuations.

For timing fibre connections:

- Fibre length is not important.
- Timing operation is critically dependent on temperature fluctuations (integrated over the fibre length).

Fibre routing:

- No route exists for SASE1 (cable tray) to XTL (under floor fibre blowpipe) fibres, either PBS or timing in spite of room book entries. The route has not been planed and the XS1 tunnel connection is full with moveable shielding blocks, which make fibre routing extremely improbable.
- No direct route exists from tunnel-to-tunnel on other shafts (XSx, x not 1); cable trays go up into the shaft building and then down to the opposite tunnel. This is probably bad for temperature stability of timing fibres.

4 Important time milestones

By mid-January 2010:

- The route for SASE1 cable tray to XTL under floor fibre blowpipe has to be designed and included in the building/tunnel design plans given to the builders.
- Statement that XTD tunnel floors can be solid concrete (not hollow for cables, etc.)

By Sept. 2010

- XS1 - shaft building plan

5 Decisions and actions

The following was decided:

- K.Jaehnke and T.Stoye would provide the SASE1 to XTL route and insert it into the design plans.
- DESY-IT network group would take over full responsibility for all fibre planning using input from user groups (routing, temperature requirements of timing fibres...) and the rooms books.
- Mo. 21.12.2009 (9:00 conference room entrance to building 28c) viewing of FLASH tunnel fibre installation led by H.Schlarb.

6 Other issues raised

Other planning issues raised were:

- Radio telephones in the tunnels – safety regulations will require installing a Betriebsfunk
- WLAN in the undulator region has been requested in the room book