
Number

#16

Participants

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Distribution

Email list OB

Date

19 February 2018

Time & place

13:00 – 14:30; DESY, Bldg 24, R, 242

Agenda

- 1) Minutes and action items
- 2) Last week
 - beam loss in undulators
- 3) Next week
- 4) Improvement activities
- 5) Assessment of operational risks, adjustments of operation schedule, etc.
 - schedule Mar 2018
 -
- 6) AoB

1. Minutes of last meeting and action items

Minutes of meetings #14 & #15 still to be approved. Keep items 4.1 and 6.1 on follow-up list (see below).

2. Last Week

ACC went back to spike compression. Standard (flat) compression still does not achieve proper lasing. Main reason seems to be micro-bunching due to laser-heater malfunction.

Using software tools the electron orbit in SA3 undulator was moved (+/- 0.5 mm front-to-end) such as to move the x-ray beam pointing in the SA3 beam transport (center on screens/mirror). This worked well.

Started again undulator gap scanning (also adjusting the phase shifter), however it is presently not clear if a proper strategy was followed in this attempt to increase the x-ray pulse energy.

Some problems with vacuum in the SA3-XGM, which stopped operation. Fault of Turbopump.

3. Next Week

Optimize undulator gap scanning (also phase shifter). During last week it was not clear if proper strategy was followed. We need to identify the proper strategy for SASE tuning and follow this strategy then.

There seem still issues with specific undulator segments. Once these are identified, one should try to measure the K-parameter for these segments.

This week the air coil correction tables will become available. Tests will be done by the ACC operation team soon to prove that then the orbit variation as a function of undulator gap is gone, or at least much smaller.

On Wed Suren Arabekyan and Wolfgang Freund will be in BKR to test the vertical movement of undulator segments. Establish first of all method of optimization.

In general, the gap control of the undulator segments (U gap, aircoils, phase shifter) is now largely understood and implemented in the ACC controls. Some tests outstanding (aircoils).

Gain curve measurement

- not yet useful due to 28 segments for lasing

- may need MCP to achieve good enough dynamic range since the XGM seems to be limited to 2-3 orders of magnitude

- should attempt to measure gain curve using XGM once aircoil correction of gap adjustments works.

+ try both methods XGM and screen (separately) → Friday

Access Tue at 7:00 (XTD10)

4. Improvement activities

Undulator radiation dose task force

- last meeting seems to have made the suggestion to add Pb-caps for lower RadFETs
- exchange of BLM materials with glass will happen (when ?) and reduce effect of SR
- continue with Pandora and measurements

+ specific idea for 30-bunch measurement with last undulators closed

- plan for next mtg of Undulator radiation dose task force end of feb

Start bunch feedback tests (use first bunches to run ACC feedback)

Should ask for radiation test with 300 bunches/pulses to enable increasing pulse number.

5. Assessment of operational risks, adjustments of operation

None

6. AoB

None.

Follow-up

Follow up	
04.1	Clarification of general safety organization. Ask for safety organigram (→ S. Mohr, S. Kozielski)
06.1	PP laser timing connection Check final status