LCLS UEC Meeting Minutes

June 14th, 2024

Present: Elisa Biasin, Martin Centurion, Margaret Doyle, Nicholas Hartley, Siqi Li, Matteo Mitrano, Dominik Oberthür, Benjamin Ofori-Okai, Silvia Pandolfi, Natalia Powers-Riggs, Artem Rudenko, Marius Schmidt, Sam Teitelbaum, Mariano Trigo, Alfred Zong, Leilani Conradson, Mike Dunne, Brandon Tan

Director's Updates:

- Cascaded superradiant XFEL Terawatt results published in Nature Photonics (2024)

- Superconducting accelerator current status: Running at 8.2 kHz, 200-300 uJ energy at few 100 eV. Delivery to users at TMO and ChemRIXS through 4 July.

- Run 23 starts in August for copper accelerator, October for superconducting accelerator, with the intent to run at 35 kHz

- LCLS-II-HE planning: Long downtime is currently planned to start July 2025 for 15 months, followed by commissioning until Summer 2027, with the Cu LINAC running as usual, delivering to both the hard and soft X-ray undulators. The July '25 date is not yet certain; it depends on superconducting performance reaching required level to continue with the HE upgrade, and also on appropriate balance with scientific users beam time. Decision will be made by 8/24.

- Run 24 in early 2025 (before LCLS-SC shutdown)

- Readiness for the HE project will completely transform the far experimental hall (FEH). End stations will be upgraded. New space will be needed for the new high average power lasers. Control rooms will be moved upstairs to mezzanine to make space for the new laser hall.

- XPP (in the Near Hall) will be first instrument upgraded for LCLS-II-HE, closing 12/2024. MFX, CXI in 2025-2028. DXS 2026-2029.

- The facility understands the frustration for users who have made significant effort to get ready for the high rep rate mode, but are now seeing it shut down for upgrades after only ~9 months of operation. Finding a balance between science delivery and upgrade timing is considered as part to the decision making process for the schedule.

- Regarding how this information should be shared with the user community, the timeline should be confirmed by the time of the user's meeting so information can be shared at that point.

SAC meeting discussion

Particular points raised by the SAC that would benefit from discussion with the UEC include:

Campaigns, including how these conclude, what they should look like in the future, and to balance user time for them and regular access. The chair planned to discuss this in one of the next two meetings.

MEC external review, in particular the move towards high rep rate science, and preparing for MEC-U. The leader of the MEC-U project have been invited to a future UEC meeting.

How to address a diverse range of scientific questions at LCLS, including questions about climate change and human health.

More detailed discussion of the outcome of the SAC at the next UEC meeting, and members are encouraged to share any particular points that they would like to see further discussion on.

User meeting planning

- The workshop schedule is mostly set. It will be posted on the website soon, and the current draft is available to UEC members.

- It is time to nominate new UEC members for next year and for the young investigator award and staff appreciation award. Email has been sent to request nominations, and a reminder will come closer to the deadline.

UEC Scheduling

- Due to this meeting being postponed, there will be no meeting in two weeks, and so the committee will next meet at the end of July.

- The committee thought that reminder emails about meetings, and particularly about cancellations/postponements, will be useful in addition to the calendar invites.

User feedback discussion

- End of run reports. Some users do not provide reports. Users are not clear how this feedback is used, or if anything is done. Negative user reports are taken very seriously, and any 'dissatisfied' results have to be reported and explained to the DOE. There is also an end of shift report from the staff, although this is generally not visible to users.

- Discussion about how to provide feedback to users about what is done with end of run reports. There are issues of confidentiality, the identity of the user providing the feedback should not be disclosed. Results could be shown in aggregate.

- Only some of the questions on the report are reported back to the DOE, but users are not aware of this. Knowing that the information goes back there could influence the feedback that users provide.

- Other facilities share some end-of-run comments with users (e.g. at SACLA), but this needs to be made clear when the feedback is submitted. It was suggested that such feedback could be put on

the website and 'upvoted' by users who agree, with popular comments getting a formal response from the facility.

- In general, the community needs to be aware about what changes are made as a result of user feedback. The main vehicle for this should be the UEC itself, who hear regularly from facility management and can disseminate why choices are being made.