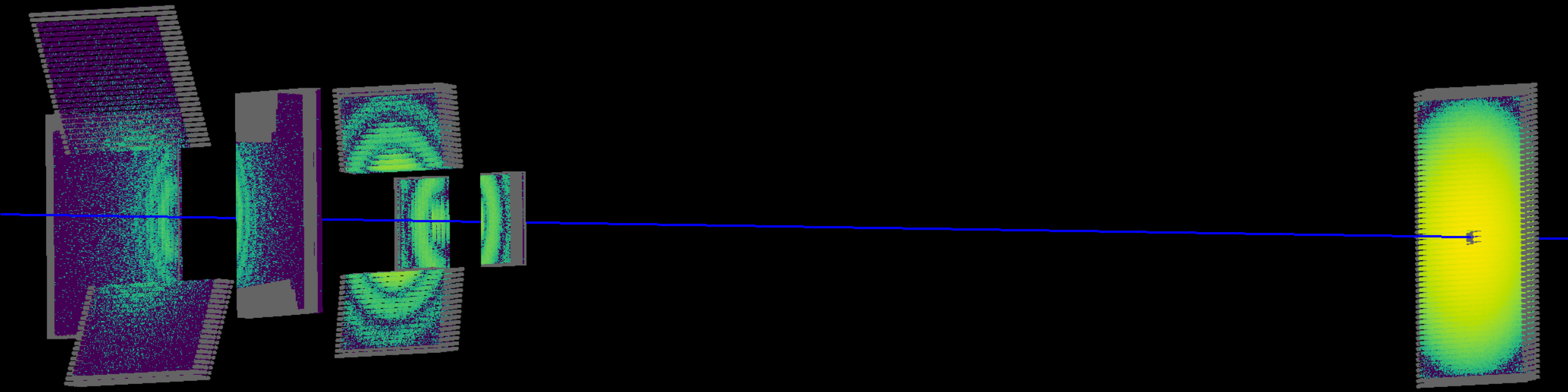

LOKI EARLY SCIENCE WORKSHOP

2024-10-21

Goals for the meeting

1. Provide an overview of the instrument capabilities, expected performance as a function of facility start-up, keys dates, and currently planned sample environment and data analysis abilities.

2. Brainstorm early science experiments within the instrument's target themes: soft matter, materials and bioscience.

3. Ensure we have identified the necessary infrastructure (sample environments, utilities, data analysis, etc) in order to take best advantage of the early beam at the ESS.

Agenda of the meeting

1. Brief introduction on the goal of the meeting by me
2. ESS introduction and description of facility ramp up: Andrew Jackson
3. LOKI introduction with focus on capabilities and capacity during “early science”, some early science examples we have: Judith Houston (20 min)
4. ESS deuteration facility: Zoë Fisher
5. SciLife and SASView update: Wojciech Potrzebowski
6. Data reduction and analysis at ESS with focus on LOKI: Simon Heybrock
7. Discussion

Attendees

25-30 scientists mostly expert users or international neutron facility scientists, as well as contributors from the ESS Science Directorate

Major discussion points (1/2)

- **Ramp-up of ESS:**
  - **Gradual ramp of ESS** will limit flux of LOKI in the early science period (12 months after BOT). Flux on par with SANS2D (ISIS), so not fantastic but certainly reasonable.
  - Potentially **unreliable stability of the target/accelerator** should be taken into account when planning precious and/or expensive samples.
- **Sample environment:**
  - Plan for the **generic sample environments**, e.g. 48 position cell holder, rheometer, stopped flow, rotating cell holders
  - Plan for the more **specialist set-ups**, e.g. in situ setups such as SEC, spectroscopies and DLS, crystats (*all currently in plan*)
  - Items currently **not in the plan**, e.g. high temperature furnaces, high pressure cells, super high temp
- **Extra points:**
  - Downloadable drawings should be available of the sample area to help user-owned sample environemnt integration.
  - **LOKI external webpage should be updated** with useful info for ES, e.g. sample environment, dimensions, etc.

Major discussion points (2/2)

- **DEMAX and bio-labs:**
  - **Deuteration capabilities** and how they useful for early science
  - There will be labs equipped for bio-sample prep, to L1 - no decision yet made on L2 lab availability
  - For samples, that DEMAX isn't able to make due to manpower or sample volume, it is possible for the **user team to send manpower** with the necessary skills (organic synthesis/protein expression) **to do the synthesis.**
  - If samples can't be made by DEMAX, samples may be available through **DeuNet collaboration** (there will be a satellite @ ICNS)
- **Discussion of Early Science experiments:**
  - "Low hanging fruit" experiments. There are samples and studies that will have been performed elsewhere that can be complimented and completed on LOKI
  - Aim for good publicity experiments that are interesting from a press release perspective, e.g. pasta studies, vaccines, etc
  - Take advantage of DEMAX
  - Take advantage of vicinity to MaxIV (CoSAXS and ForMAX).

General Feelings

- Workshop was well-received by the attendees, who were all people who were aware of ESS and SANS. No new users, although this it is probably too early in the timeline of ESS to be getting them involved.
- Attendees generally happy to have another meeting closer to actual early science (realistically still 2-3 years away)
- Approach for the community to get involved in early science on LOKI, is firstly to approach the instrument team for very ES, and then there will be a proper system introduced by ESS with reviews, etc.

All slides from the workshop are available here:

https://indico.ess.eu/event/3478/