Diffraction STAP meeting

Introduction
Feedback to STAP actions

October 2020

Werner Schweika

STAP charge

- **For the instrument teams:**

Prepare instrument progress reports in advance of the meeting and presentations for the meeting.

Consider specific topics as raised in previous STAP meetings

Identify hot topics and raise them at the meeting.

- **For NSS management:**

Organise the meeting

Provide feedback on the actions identified at the last STAP meeting.

Update the STAP on ESS progress

STAP charge

- **For the STAP:**

Comment on the progress of the instrument projects in the context of their schedule.

Provide advice on early science for the instruments.

Provide feedback to the instrument teams on their progress and actions to be taken.

Provide feedback to the Science Director on the progress of the instrument class and any management actions that are needed to support the instrument projects.

The findings and recommendations should be formulated in a written report which will be presented at the next SAC meeting.

* For the joint meeting with the DMSC STAP see the link to DMSC_STAP_charge.pdf
https://project.esss.dk/owncloud/index.php/s/oW34LtjGYAxlyx1#pdfviewer

Functionality and development status in the DMSC core areas.

Development status for instrument specific reduction and analysis for instruments 1-3 & 4-8.

Feedback on our position paper for Mantid & SCIPP at ESS.

Advice on user experience expectations for GUI interfaces and scripting environments.

Feedback to STAP actions from April 2020

- Sorry – this time no optional site tour, no dinner on Tuesday

- Schedule and possible delays:

  see general ESS presentation Q&A Monday and instrument reports

- Suggestion for First Science MS is noted:

  Refinement of a crystal structure of an interesting new functional material using powder diffraction data collected on DREAM.

- DMSC support for diffraction data analysis.
  Interfacing ESS software to Fullprof etc., Tuesday presentation at Joint DMSC STAP
  Your feedback in Diffraction STAP report is welcome.

- Polarisation

  No budget outline yet.
  Instrument teams have been asked to discuss and update their priorities for upgrades including polarisation needs.

- SAD

  no particular actions, updated SE priorities

From Caroline Curfs, group leader of sample environment

Updated

SE Priorities for Diffraction *see also instrument reports*

DREAM

System	Details	partners	comment	status
Cryofurnace	Instr. specific; 20-position changer	LLB	CTV completed; challenging specs.	HC
Wet Cryostat & heatgun-cryojet	Standard Orange Cryostat required for high T; added 9/2020	LLB	2nd hand, OC sample sticks available, mechanical & control integration started	HC
Magnet	Asymmetric 8T + Dilution / ^{3}He	LLB	8T: CTV completed, LT: prepare CTV	FS
hi-p: clamp, PE	2, 20 GPa + low T	LLB	TA ready to be activated	SOUP
hi-p: PE, DAC	20, 50 GPa (RT and low T)	ESS/SNS	PE available with specific inserts (RT)	FS
Gas Processing	Automated	EE	commissioning started with partner	FS
Electrochemistry	Multi-parameter cell	EE	TA recently activated; some C-19 impact	FS

MAGIC

System	Details	partners	comment	status
Vertical Magnet	Asymmetric 8T + Dilution / ^{3}He	LLB	8T: CTV completed; LT: prepare CTV	HC
Wet Cryostat	Instrument specific	FZJ	according to schedule not yet started	HC
hi-p: clamp, PE	2, 20 GPa + low T	LLB	TA ready to be activated	SOUP
heatgun-cryojet	required for high T (phase transitions)	?	added 9/ 2020 (initial operation)	SOUP
hi-p: PE, DAC	20, 50 GPa (RT)	ESS/SNS	PE available with specific cells (RT)	FS

HEIMDAL see report

* *initiated by Nordforsk Proposal from Aarhus University (Mogens)*

Feedback to STAP actions from April 2020

ESS / HEIMDAL

ESS should establish a clear timetable for appointment of a staff scientist to run HEIMDAL, keeping the build team members informed.

"Continuity of staffing for instrument from construction, into hot commissioning, and on to operations is important for ESS to deliver the maximum impact from the instrument suite. We are working with all the partners to determine the best way to ensure that continuity. In the case of HEIMDAL, the current instrument scientist is employed by Aarhus university with a contract that runs until the end of 2021. The 2021 staffing plan has now been approved and this includes the recruitment of a scientist for HEIMDAL. We will be advertising the position as soon as is practical within the ESS recruitment process." Andrew Jackson

Feedback to STAP actions from April 2020

- Detectors

STAP is concerned that experimental testing of the Jalousie type detectors to be used on all three instruments under realistic neutronic conditions (i.e. on intense pulsed sources over appreciable periods of time) has not progressed since this issue was raised at the last meeting. This issue was not identified as being on the critical path earlier because modules were supposed to be tested on POWTEX@FRM-II but this has not happened. Coronavirus is now adding further delays to other testing options, but in our view it is imperative to arrange tests of Jalousie detector modules on spallation instruments soon, e.g. at ISIS or SNS.

Today, Andreas Houben is invited to report on Jalousie detector tests and data analysis for POWTEX at the instrument POWGEN@SNS.

ESS view, of detector group and instrument class:
Functionality of the detector concept is sufficiently approved.
Production of new elements will be accompanied with tests at the TRIGA reactor Mainz.