**Mantid Priorities: Engineering and Imaging**

Discussion 15/03/2019

R3 2.09

Present: WK, MG, SK, GB, SH, PM

Notes: WK

## Engineering Diffraction/ ENGIN-X

**Discussion:**

* Sam Jenkins will be responsible for the work on ENGIN-X (Correct? It’s not in my notes.)
* The current script sort of works but it is “rough around the edges”. The script requires exposure to users (who still use the OpenGenie package).
* Incorporate GSAS-II or not with priority? Problem: GSAS-II is still changing too often
* The script for ENGIN-X will work for IMAT-diffraction as well; available profile functions in GSAS-II could be an issue for IMAT;
* No target dates for completion are given for tasks.

**Mantid priorities:**

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| --- | --- |
| **Priority Task** | **Comments** |
| Finalize reduction script and single peak fitting | Use the right profile function  Improve robustness of the script  Gather user feedback |
| Include full pattern / Rietveld fits with GSAS-II | TOF<>d conversions need higher than quadratic terms |
| Convert reduction script for autoreduction | Does it need a GUI?  It must be made easier to change the detector selection, i.e. to use a custom detector grouping |
|  |  |

## Imaging / IMAT

**Discussion:**

* Dimitar Tasev will take over from Dan Nixon. Dimitar will likely continue working on imaging from April 2019.
* Implementing SAVU for white beam reconstruction has high priority.
* Making SAVU available for users is important, locally and on a cluster; ideally on iDAAS; with access through web interface (being driven by DLS)
* Development of MANTID GUI is still important: for pre-processing; preparation of data for SAVU; centre of rotation / tilt determination
* No target dates for completion are given for tasks

**Mantid priorities:**

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| --- | --- |
| **Priority Task** | **Comments** |
| SAVU able to perform IMAT reconstruction for white-beam | Reconstruction for full spectrum;  Reconstruct for a selection of a wavelength band as if it was white-beam data; |
| White beam reconstruction using Tomopy | This can be done via Mantid GUI or directly through SAVU; includes Tomopy/ ASTRA Tool box with all options for Filtered Backprojection and iterative reconstruction; |
| Provide GUI to prepare data for SAVU | Either locally or on cluster (must include a lot of GPU) |
| Further down the line: |  |
| Analysis of 4D data sets, including reconstruction for (multiple) sub-wavelength ranges | Reconstruct 4D data volumes; visualisation is a challenge;  Reconstruction has been done for IMAT data using Tomopy and Muhrec; needs to be offered to users |
| 4D data reconstruction in SAVU | Perform previous task in SAVU pipeline; ideally with NXS format |
| Gather requirements for Bragg edge analysis | see what the tiny number of other codes do well, and do not so well; |