**Minutes of the Simulation Meeting at Lund, August 15, 2012**

**10 am – 4pm**

**participants:**

Kim Lefmann, Kaspar Klenø, Ken Andersen, Werner Schweika, Jan Saroun, Mads Bertelsen, Henrik Carlsen, Anette Vickery, Phillip Bentley, Ruep Lechner, Ursula Bengaard Hansen,

Peter Willendrup, Johan Sejr Brinch Nielsen, Esko Oksanen, Paul Henry, Andrew Jackson, Markus Strobl, Nikolaos Tsapatsaris, Leo Cussen, Klaus Lieutenant, Pascale Deen, Britt Hansen.

**1. News**

**- From ESS – Ken A.:**

a) New brightness curves for the ESS source are available. Cold spectrum has still the same shape above about 2Å, however is more intense by ~2. The updated thermal will be given next years, however, it will not be not very different from 2002 data (Luca).

Peter W.: This can be included into the next release of McStas in about a month.

Klaus L. : same for VITESS, new release soon.

b) ESS positions

Robert Connatser, has joined the Programme office as Chief Instrument Project Engineer.

 3 post-doc positions soon open – reflectometer, powder diffraction, chopper spectrometer

 3 instrument scientist positions will open next year for instruments being constructed

c) IKON3 will take place in September 19-21

d) TDR (technical design report) is in progress, the 2nd draft end of October, the 3rd final draft end of November. There will be 22 reference instruments. The ESS may ask for help at short notice from the simulation groups for a few cases.

**From the groups**

 **Kim L.**

 Henrik Jacobsen started PhD

 Robert Feidenhansl now institute leader Nils Bohr institute

 **Peter W.**

 new McStas release features

 **Jan S.**

using recent results of guides simulations for powder diffraction in the CEED project,

 start direct coordination with GKSS

 **Klaus L.**

 The group has work on: Liquids reflectometer, bi-spectral extraction, Extreme environment

 instrument, and imaging. Part of the results will be presented here.

**2. System and component update**

**Johan Sejr Brinch Nielsen McStas web interface for running McStas simulations**

Summary of interactive web demonstration:

*\* Users don't have to install software*

*\* Simulations run on a server with a configurable number of workers (and optionally MPI)*

*\* Support for: range scannings, mcstas.dat raw output, plots, instrument documentation and list of latest simulations*

*Try it at:* [*http://mcstas-02.risoe.dk*](http://mcstas-02.risoe.dk/)

*User: ess-test*

*Password: 1508*

*mcplot*

*\* Replacement of mcplot written in Python*

*\* Standard plotting features supported: error bars, zoom, pan, point tracking, log y-axis, pdf output*

*mcdisplay*

*\* 3D interactive visualisation of instrument setup in OpenGL*

*\* Cannot yet show neutron paths – (Kim: would be good for debugging)*

 (remarks: PW McStas will be integrated into Mantid)

**Henrik Carlsen New McStas guide component**

*there is a a new McStas guide component,*

 *a parabolic correction for elliptic guides for compensating gravitational aberration*

**3 Guide updates**

**Mats Bertelsen Feeder for eye of the needle guide system**

 *considers feeder + one ellipse with systematic variation and optimization for L=24-150 m,*

 *divergence +/- 0.5 to +/-2, degree, lambda 2 -10 Å, pinhole size*

**Leo Cussen ESSEX**

 *new guide concept for ESSEX, which achieves a homogeneous divergence profile for 150 m*

 *instrument for 1-6 Å neutrons, see presentation:*

 *vertical ellipctic feeder - eye of the needle - elliptic straight – parabola*

 *horizontal parabolic feeder/long wavelength, elliptic feeder/short wave length –*

 *straight part/eye of the needle - ellipse - kink - ellipse*

**Klaus Lieutenant Bi-spectral extraction systems for feeders**

 *discusses different mirror concepts for bi-spectral extraction,*

 *e.g. 25 cm stack of parallel mirrors extacting up to 90% of the sum of cold + thermal spectra*

 *good solution with homogeneous profile*

**Anette Vickery**  **FREIA Fast Reflectometer for extended interfacial analysis**

 **– McStas simulation status**

 *Mirror in-pile to go vertical out of direct line of sight (fast neutrons from Be reflector)*

 *Not all grazing incident angles can be used, however, Q-range is continuously covered*

 *Flux more than 1 order of magnitude higher compared to Figaro*

**Kaspar Klenø Inelastic SANS**

 *Pinhole SANS + Mirror to go out-of direct line of sight + Chopper (with duty cycle ~0.1).*

 *Inelastic scattering will be included in forthcoming simulations.*

**Closing Ken A:** about possible request for the TDR, we let you know soon.

notes taken by Werner Schweika

**Results of coordination meeting**: Ken A, Markus S, Phil B, Kim L, Peter W (for 10 minutes), Klaus L, Jan, S

**New dates:** September 18 Guide workshop cancelled,

 September 19 [only for coordination]

 October 24 Simulator meeting - Diffraction

 November 27 Guide workshop

 November 28 Simulator meeting - SANS

 January 9 Simulator meeting - Indirect geometry

 February 12 Simulator meeting - undecided topic

 March XX Guide workshop + simulator meeting

Actions:

Ken will e-mail presentations and minutes from today to Peter for placing on the esss.dk website

Ken will distribute ILL and ESS reference curves with a short report describing references

Klaus will send Ken reference curves for FRM2 (from the FRM2 Blue Book)

A meeting on source brightnesses will be held at ESS immediately after IKON3: Friday 21/9 at 14:00. Participants: Klaus, Peter and Ken. Ken to check Peter’s availability. The meeting will focus on the ISIS moderators.