

Detailed Programme second week of

Neutron Instrument Design School 7-17th June 2011

Location: Lund then Lilla Vik, Skåne, Sweden

Organising committee: Ken Andersen, Monica Nilsson, Linda Udby, Peter Willendrup, Kim Lefmann, Klas Risveden, Axel Steuwer

First week: Lectures and written excersises – see seperate document

Second week: McStas tasks tentatively assigned, KLi assigns VITESS crew

The second week of the school will consist of:

- 1) Miniature lectures about components of different classes including physics
- 2) Hands-on exercises – participants (in groups of 2 or so) solve small problems corresponding to the lectured topic
- 3) Feedback – participants/lecturers present solutions to the exercises, discussion

If nothing else is specified in the programme below the times are approximate and each topic will include the three subtasks specified above. Material in red was not (complete) in the Ven 2010 workshop.

Lecturers: Emmanuel Farhi (ILL), Peter Willendrup (Risø-DTU), Linda Udby (UCPH), Phil Bentley (ANSTO)

- Monday 13/6 (day 6):
(9-10) Introduction to Monte Carlo techniques, the codes, basic use
(10-11:30) Sources(Continous) , Brilliance, Monitors, Capture flux
(13-15) Sources(TOF) , Brilliance, Monitors
(15-17) Guides of various shapes
- Tuesday 14/6 (day 7):
(9-11:30) Collimation devices
(13-15) Moving optics (disk and Fermi choppers, velocity selector)
(15-17) Monochromators, single crystal
- Wednesday 15/6 (day 8):
(9-11:30) Virtual experiments
(13-15) Sample environments
(15-17) Open session
- Thursday 16/6 (day 9)
(9-11:30) Acceptance diagramme techniques
(13-15) Build TOF guide and chopper system
(15-17) Build TOF powder backend, simulation powder sample
- Friday 17/6 (day 10):
(9-11:30) Summary and discussion

Scope of the school:

This school aims to train the people working on ESS instrument design to optimise a long-pulse instrument for neutronic performance. It is anticipated that most of the participants will be scientists who have not designed a neutron instrument before. A few will have no neutron background at all. In order to address the range of backgrounds of the participants, the first 1.5 days of the course provide an introduction to neutron scattering culture, addressing a broad audience, some of whom may participate only in that part of the school. We aim to have 30 participants for the main part of the school with perhaps 60 participants the first 1-2 days.