

Notes from the flat moderator meeting, 12/2/2014

Ken Andersen, 14/2/2014

Participants:

Ken Andersen (chair), Alan Takibayev, Luca Zanini, Werner Schweika, Paul Henry, Niccolo Violini, Stefano Pasini, Pascale Deen, Stuart Ansell, Dimitri Argyriou, Rued Lechner, John Haines, Arno Hiess, Eric Pitcher, Emmanouela Rantsiou, Phil Bentley, Nataliia Cherkasyna, Doug Di Julio, Carolin Zender, Hanna Wacklin, Camille Theroine, Andrew Jackson, Troels Schönfeldt, Konstantin Batkov, Nicolo Borghi, Jan Saroun, Xavier Fabrèges, Arsen Goukassov, Peter Willendrup, Nikolaos Tsapatsaris, Mads Bertelsen, Kim Lefmann

Agenda:

12:00 Meet in ESS lobby for lunch in the canteen
13:00 Ken Andersen: Welcome
13:20 Alan Takibayev: Flat moderators and beyond: Current status of neutronic work
13:40 Konstantin Batkov: Flat moderator and beyond: Other flat features
14:00 moderator discussion
14:20 Instrument clip session
15:00 coffee break
15:30 Ken Andersen: overview of instrument optimisation work
16:00 instrument discussion and future work
16:50 Ken Andersen: wrap-up
17:00 end

All presentations are available at:

<https://indico.esss.lu.se/indico/conferenceDisplay.py?confId=156>

Agreed actions from meeting:

1. **Luca's team** will add realistic pipework and refine (where needed) other engineering constraints to the moderator models. Deadline: 7/3/2014
2. **Ken** will send out all the gain factor curves for checking by each instrument team. Deadline: 17/2/2014
3. **All teams** will change all gain factors to the same definition: brilliance transfer times source gain. Additional request resulting from discussions at the end of the meeting: all teams should also provide the pure brilliance transfer curves. Deadline: 7/3/2014
4. **All teams** will modify their gain factor curves at the smallest heights when appropriate, to reflect when the divergence distribution is deemed unacceptable: Below a critical height, simply set gain factor to zero. Deadline: 7/3/2014
5. **Ken** will organise that a small team from ESS checks everybody's calculations. Each instrument team will be allocated an ESS contact from the ESS team who will contact them directly with feedback and, possibly, requests for more calculations. The contact will answer any questions. Deadline: 21/3/2014
6. **Phil Bentley and Troels Schönfeldt** will formulate the definition of a selection of beam extraction integral boundaries to compare performance and

fast neutron backgrounds on the different moderator geometries. Deadline: 1/4/2014

7. **Luca's team** will study the dependence of the vertical position on the brightness of the tall moderator and produce data which can be fed into instrument simulations. The tall moderator geometry should also be optimised to enhance this effect. Deadline: 7/3/2014
8. **Ken** will coordinate that a comparison is made between the instrument performance obtained from a pancake moderator, compared to viewing the equivalently-sized most intense strip of a tall moderator. Output from action 7 will be used. Deadline: 1/4/2014
9. **Instrument teams** working on the critical instruments (those which are likely to be unhappy with a 3 cm moderator) should be given the highest priority: MODI, VOR, T-REX, FP, n-nbar, thermal chopper, Miracles backscattering, wide-angle spin-echo. Deadline to complete the calculations: 7/3/2014.