Minutes of User Group Meeting 9
(6-7 May 2008)

Edited by Matthias Ehle

Approved by voting members on 18 July 2008

Participants:

Monique Arnaud (chairperson), Massimo Cappi (external), Frank Haberl (external), Miguel Mas Hesse (external), Richard Griffiths (Mission Scientist), Richard Mushotzky (Mission Scientist), Roberto Pallavicini (Mission Scientist), Jelle Kaastra (RGS-PI), Matthew Page (OM-PI delegate), Steve Sembay (EPIC-PI delegate), Mike Watson (SSC-PI), Arvind Parmar (XMM-Newton Mission Manager), Norbert Schartel (XMM-Newton Project Scientist), Matthias Ehle (User Group executive secretary).

Margueritte Pierre (Invited Guest), María Santos-Lleó (Science Support Manager), Ramon Muñoz (Instrument Operations Manager), and interested staff from ESAC and XMM-Newton instrument teams.

Absent: Jacqueline Bergeron (Mission Scientist) and Gregor Rauw (external) had excused themselves.

Welcome:

M. Arnaud (Chairperson) opened the meeting on May 6 at 10:00 and welcomed F. Haberl as new member of the Users Group.

Adoption of the agenda:

The agenda was presented and approved by the participants after a few changes.

Presentations:

The following presentations were given on May 6:

3. Overall Mission Status (A. Parmar; 10:04-10:26)

4. Instrument Operations (R. Muñoz; 10:28-10:51)

5. Report of the Project Scientist (N. Schartel; 10:54-11:16) (End session at 11:20)

6. Mosaic Observing Mode (P. Rodríguez-Pascual; 11:44-11:57)

7. Background (M. Ehle; 12:30-12:45)

8. Calibration

    8.1. EPIC Calibration Status (M. Guainazzi; 13:49-14:05)

    8.2. RGS Calibration Status (A. Pollock; 14:11-14:30)
    Implementation of the RGS Multipointing Mode (R. Gonzalez; 14:37-14:47)

    8.3. OM Calibration Status (A. Talavera; 14:50-15:05)

    8.4. Cross calibration status (M. Stuhlinger; 15:10-15:32)

9. Input from the community: Outcome of the XXL Meeting and ELP (M. Pierre; 15:36-15:48) (End session at 15:55)

10. SAS developments and future plans (C. Gabriel; 16:20-16:43)

11. SSC status (M. Watson; 17:05-17:21)

12. Action items from last meeting (M. Ehle; 17:30-17:43)

The viewgraphes of the presentations are available on the XMM-Newton public web site, under "General User Support" → "Users Group".

Discussions:
During the presentations, the speakers were frequently interrupted with questions and short discussions, in particular:

3. After A. Parmar's presentation there were a few questions related to ESA mission extensions and the 2008 November SPC meeting.

   M. Mas Hesse asked if Planck and Herschel would already be asking for mission extensions at that time. A. Parmar confirmed and mentioned that even Gaia would be included. M. Arnaud expressed her doubts on this approach as Planck, Herschel and Gaia would still be in a rather early mission phase. A. Parmar explained that XMM-Newton will not compete with any of these missions as it is due for mission extension request only in 2010. He underlined the importance of keeping a high publication rate for the high science profile that XMM-Newton currently has.

   Being asked about the possible impact of the STFC funding situation should the financial support for XMM-Newton be cut, A. Parmar explained that any analysis will have to wait for the final decision on STFC funding which is expected for July 2008. M. Cappi's question about the current level of funding from the UK was answered by M. Watson as being at about 1 million pounds per year.

   After meeting development: The Project Scientist, N. Schartel, informed the UG members via e-mail, on the 21st of June, about the new mission extension scheme of ESA. XMM-Newton will have to present a science case which allows to compare XMM-Newton with all other ESA missions with the aim of unifying the extensions decisions and dates. UG members were asked for input for the science case on the 26th of June with the (latest) due date being the 4th of August.

4. After R. Muñoz's presentation, R. Mushotzky asked about the expected impact of the changed operational concept on the science performance of XMM-Newton. R. Muñoz explained that currently no impact greater than expected has been seen and that the overall efficiency has slightly decreased as foreseen. He underlined that, however, only a longer period (next 6 months or so) really can show. Expectations are that reaction times to contingencies might become somewhat longer leading to some science time lost and that the rate of needed re-processing (currently at 2-3 % level) could increase to about 10% if no real-time data is available at the SOC. It was also mentioned that the new operational software (auto-commanding) is planned to help reducing any impact.

   M. Arnaud raised the question if there are any plans to generate additional new data products, for example allowing the traceability of the product generation. The reply was deferred to the next talk given by the Project Scientist, where ODF and PPS delays will be discussed.

   M. Cappi expressed his satisfaction about the new version and layout of the XMM-Newton SOC web pages. R. Muñoz replied that changes have been introduced just recently and that it might be a bit early for a general evaluation. He explained that external web pages should be fine already but that the transfer of all the internal pages including the many SOC tools is rather challenging.

5. After the Project Scientist's presentation, some discussion about the Large (LP) and Very Large Programmes (VLP) started that was continued in detail on the following day.

   M. Watson recommended that the description of the visibility problem for such programmes should be improved. N. Schartel replied that the issue of limited visibility of certain sky areas is

already described in the XMM-Newton Users' Handbook and that further details will be added in the update of this document for the next Announcement of Opportunity (AO).

M. Cappi asked about the over-subscription factors for the LP and VLP. N. Schartel explained that LP and VLP together have about the same over-subscription as the non-LP/VLP programmes. For VLP alone the fact of small number statistics has to be considered and as such the over-subscription reflects directly the OTAC decision. In AO-7 ten VLP were received from which two were accepted. One of the accepted programs got 10% of the total observing time available. However, the time was reduced with respect to the total requested time reflecting the visibility constraints and pointing to the need to allocate such programmes over more than one AO. Comparing the time requested by VLP with the total time allocated for VLP the over-subscription factor is 10.

M. Arnaud brought forward a question raised by the OTAC chairperson, namely if it could be possible to grant time for a VLP from more than one AO. Currently, the OTAC can not make any decision on time allocation for the following AO(s). Several comments and ideas were discussed amongst the UG members and N. Schartel which were continued on the next day (see summary and resulting recommendations below).

6. After P. Rodríguez presentation, R. Mushotzky asked about a possible impact of missing offset maps on the pn spectra obtained from mosaicing mode observations. P. Rodríguez explained that optical loading might be an issue for spectra extracted from detector regions including bright optical sources. S. Sembay added that it should be noted that only one filter position is allowed per mosaic, i.e. no filter change is possible between the different sub-pointings. N. Schartel added that the strategy applied for the COSMOS survey also was to use a single filter for all pointings chosen such that the brightest target in the field is not a problem. The same approach should be followed in case of the mosaicing mode, too. M. Cappi raised the concern that the allowed large offsets of up to 1 degree would create non homogeneous exposures that might even have holes or gaps. P. Rodríguez explained that the value has been chosen to define an upper limit. Actually, no mosaicing proposals asking for such a big spacing are expected.

There were a few questions related to the handling of the new mode by SAS: C. Gabriel explained that SAS pipeline processing of the new modes is in principle solved but a strategy e.g. for the source detection is still needed. F. Haberl added that based on his experience with the M33 survey, highest sensitivity for source detection is achieved if images from all pointings are created separately and analysed simultaneously. M. Arnaud expressed her concern that mosaicing mode data merged in a single ODF might be a problem for the analysis especially for the generation of background and exposure maps. C. Gabriel explained that pointing information is available through the event time or could even be added as a new events table column. P. Rodríguez confirmed that the pointing information could also be handled via GTI files. M. Page and M. Arnaud recommended that it must be made sure that the mosaicing mode can be identified later in the XSA, in order to make the user aware of the specialities and possible issues of this mode. M. Santos commented that in any case the mosaicing mode is just an additional option offered that should be justified in the proposal and which scientific merit is to be evaluated by OTAC.

7. After M. Ehle's presentation, M. Arnaud expressed the importance of the ongoing collection of filter wheel closed data for the analysis of extended sources. She further commented that provided blank sky field data are showing artefacts that might in some cases hamper the science goal. M. Arnaud recommended that the Background Working Group tool 'BGselector' should offer, as an additional selection criterion, to limit the search to a user defined count rate interval. R. Mushotzky and R. Griffiths recommended and supported the plan that highest priority should be given in making the ESAS software package also working for EPIC-pn data.

8. Calibration

8.1. M. Guainazzi presented the status of the EPIC calibration.

After the talk, R. Mushotzky asked about the flux discrepancy still existing between pn and MOS at high energies. M. Guainazzi explained that the deviations are about 7-10% for off-axis and 5-7% for on-axis sources.

M. Arnaud asked if the old PSF parametric model would still be valid. M. Guainazzi replied that this model, which is not taking into account any ellipticity, will remain valid for on-axis sources. Improvements due to the new 2D model are expected for off-axis sources.

8.2. A. Pollock presented the calibration status of the RGS instruments. Afterwards R. Mushotzky asked about the remaining wavelength shifts. A. Pollock explained that these shifts are random and a systematic error of the order of 10 mÅ both in RGS1 and RGS2.

In relation to the found small geometrical misalignment of the RGSs and the derived correction of the wavelength shift by a few mÅ, M. Page asked if a SAS task like eposcorr could help to better locate a source. A. Pollock explained that this seems impossible as RGS does not display the 0th order image of the sources and as a displacement of just 1 arcsec already corresponds to a wavelength shift of 2.3 mÅ. J. Kaastra addressed the question if any thermal effects could explain the found wavelength error. This hypothesis is currently under investigation.

After R. Gonzalez's presentation, S. Sembay asked if the 30 arcsec offset is a maximum and suggested that the MOS RFS mode (currently not offered as a calibrated mode to the guest observer) might be needed for bright sources. R. Gonzalez explained that the offset is a fixed value that cannot be changed by the user and that the RGS multipointing mode is not only offered for bright sources but in general for observations with high numbers of counts, i.e. also for long exposures of weaker sources. In fact, the main reason for this new mode is to get rid of bad pixels (similar as a dithering mode). J. Kaastra added that this method is important both for absorption and emission spectra aiming for density diagnostics (not only of the ISM).

8.3. After the OM presentation by A. Talavera, R. Mushotzky proposed the idea that elliptical galaxies could be used as very red sources for calibration purposes. A. Talavera replied that extended sources are treated as point-like sources (i.e. not corrected) by the OM system. R. Mushotzky added that the 'red leak' into the UV was found to be very weak indeed.

M. Mas Hesse asked about the accuracy of the OM photometry and if the throughput feature seen at 200 nm could be due to carbon contamination. A. Talavera answered that the photometry is good up to 0.02 mag for Main Sequence (MS) stars and up to 0.1 mag for non MS stars. Carbon contamination has been mentioned being visible in the RGS energy band only.

8.4. After M. Stuhlinger's presentation about cross-calibration, R. Mushotzky congratulated the calibration teams for their work done over the last years.

S. Sembay highlighted that the slope discrepancy between pn and MOS at high energies has gone.

To conclude the calibration session, M. Arnaud underlined the importance of the achieved goal that XMM-Newton and Chandra finally agree wrt the slopes of fitted power law models. Remaining flux discrepancies still need to be addressed.

9. After the presentation by M. Pierre, M. Arnaud expressed the opinion that it might be good time to start thinking about Extremely Large Programmes (ELPs).

R. Mushotzky asked about the technical feasibility of such ELPs. N. Schartel explained that the sky visibility of course will be a strong constraint; the LMC would probably be one of the best regions. M. Watson added that for surveys in bad visibility sky regions, an optimization of the programme would be needed.

R. Pallavicini asked why in the given example of the CFHT Large Programmes the evaluation was not done by a 'normal TAC' but instead by an 'independent committee'. M. Pierre explained that the TAC of the CFHT is restricted to members of French, Canadian and Hawaiian origin. For the Large Programmes, however, a 'worldwide' opinion was needed.

N. Schartel stressed the point that the introduction of ELPs actually would need to be presented to and approved by ESA's SPC or AWG as it presents a change in the XMM-Newton science case. A. Parmar expressed his concern that a change of the science case needs to be very carefully considered, especially as it is timely related to the mission extension process.

M. Cappi asked about the numbers of publications resulting from the GO, LP and VLP projects. N. Schartel explained that no statistics is available but that based on checked abstracts, the LP show a lower ratio of papers per granted exposure time (COSMOS published about 10 papers so far). The return of publications based on the GO programme is significantly higher. M. Pierre added that naturally survey programmes do need much more time for publications, cf. the Palomar Sky Survey.

M. Arnaud suggested to shift further discussions on this item to the closed session discussion on the following day.

10. C. Gabriel's presentation triggered a number of questions about RISA (Remote Interface for Science Analysis): R. Mushotzky asked about any plans to use RISA also for other missions (cf. ftools). C. Gabriel explained that the RISA infrastructure and interface could certainly be re-used but that the expertise currently is linked to the XMM-Newton project only. M. Arnaud asked about the possibility to use user provided threads or scripts within RISA. C. Gabriel explained that this is not possible because of principle security constraints related to the usage of the grid. Nevertheless, scripts can be submitted and become part of RISA after authorization by a TBD control board. It is also foreseen that specific task parameter settings and work-flows previously used in RISA, can be stored locally, changed interactively and re-used. In addition the plan is that user generated (intermediate) products can be uploaded for further processing within RISA.

C. Gabriel was asked about differences and similarities between RISA and Hera, a new data processing facility provided by HEASARC. C. Gabriel underlined that these two packages represent two rather different concepts. R. Mushotzky added that Hera currently (and for at least another year) is work in progress and that the XMM-Newton analysis within Hera is slowly building up. His understanding is that the general idea of the two projects actually is rather similar. C. Gabriel clarified that the motivation for the RISA development is coming from the commitment of the XMM-Newton SOC to maintain software support for users also in the long term. R. Mushotzky suggested that there should be more communication between both teams in order to avoid duplication of work and to join forces in this undertaking.

M. Arnaud expressed the concern that, as users will start analysing big XMM-Newton surveys, the processing speed of the SAS will become an issue. C. Gabriel replied that this concern actually is taken into account by RISA making use of a computing grid. He further explained that the SAS team at the SOC will continue to support building the SAS on different frequently used operating systems. The development of building SAS on virtual machines, different operating systems and RISA will continue to be done in parallel.

11. After M. Watson's presentation, N. Schartel recommended that the OM catalogue should be extended to include also sources that do not have detections in the UV. M. Page replied that the 1st release has the goal to emphasize the usefulness for UV and was easier to produce avoiding optical filter detections that more frequently are affected by stray-light. But as there are no fundamental differences between the UV and optical sources, a future version of the OM catalogue could indeed include everything.

M. Cappi asked if there is any feedback available on the usage of the 2XMM catalogue. M. Watson explained that there is no formal way to trace the usage which anyhow would be difficult to put in place due to the different ways the catalogue can be accessed. M. Watson underlined the importance of publishing the paper on the catalogue in order to get citations which are a measure for the usage of the 2XMM.

Action items from last meetings:

Three Action Items, nine Recommendations and four Endorsements were pending since last meeting. Their disposition was as follows:

Action Item 2007-06-07/13: The UG should provide the XMM-Newton SOC with two or three typical examples of slew surveys, with details about the needs on exposure time, sensitivity to be achieved, sky area to be covered and typical sky position. Deadline: end of June, 2007: **Closed. N. Schartel provided Flight Dynamics Team with two cases.**

Action Item 2006-06-07/14: On the EPIC team, to report on the impact of reducing the overhead for EPIC-pn thin, medium and thick filter exposures in modified mosaicing mode, by using a fixed offset table: **Closed. Ref. P. Rodríguez presentation.**

Action Item 2007-06-07/15: The UG should write the scientific requirements of the RGS multi-pointing mode, when it is recommended to be used and how many observations are expected to benefit from it: **Closed.**

Recommendation 2006-05-19/33: As far as possible, the UG recommends regular updates of 2XMM catalogue in an incremental fashion plus periodic reprocessing of the archive: **On-going. Ref. M. Watson presentation.**

Recommendation 2006-05-19/37: The UG recommends that the XMM-Newton project and the instrument teams study slow-slew observing and modified mosaicing modes: **Closed; slow-slew mode stopped (see Recommendation 2008-05-07/03); EPIC mosaicing mode is offered from AO-8 onwards.**

Recommendation 2007-06-08/39: The priority for timing modes of EPIC-pn needs to be focused on solving the current problems of the timing and burst calibration. Only after they are fixed, the UG would be glad to revise its recommendation about the modified timing. For the time being, the modified timing mode should only be made available on a case by case basis: **On-going.**

Recommendation 2007-06-08/45: The UG recommends that the Background Working Group makes a study of the needs for closed filter data: **On-going.**

Recommendation 2007-06-07/42: To introduce a new proposal type for very large programs, asking for 1-3 Ms of time and to increase the time dedicated to large and very large programs to about 30% of the total available time for priority A and B observations. The distribution of time between Large and Very Large Programs shall be left flexible to allow OTAC decisions be based on the expected scientific outcome: **Closed.**

Recommendation 2007-06-07/43: Data resulting from observations of Very Large Programs will be immediately public, but principal investigators can request a period of proprietary rights on the data. This request shall be explicitly mentioned in the scientific justification submitted for OTAC review and within the same page limits that are applied to Large Programs: **Closed.**

Recommendation 2007-06-08/44: The UG recommends that SOC and SSC come with a clear plan for handling failed processing issues. The plan should detail a procedure that allows a report

to be issued when six months after an observation is performed, the corresponding data-set has not been processed and ODF and PPS products have not been made available to the principal investigator. This report has to include a complete analysis of the problem and an assessment on whether the data is processable or not. It will be reference for the Project Scientist to decide whether there is a need for the field to be re-observed. The decision will be taken shortly after: **Closed. Project established tools, cf. N. Schartel presentation.**

Recommendation 2007-06-08/47: The UG recommends that the target visibility tool on the XMM-Newton web site provides ways to provide the astronomers with an assessment on whether a given target can only be scheduled at the revolution ends. To this end, a link should be provided to the report on the background behaviour with time: **Closed.**

Endorsement 2006-05-19/11: The UG endorses the future plans for calibration improvements, with particular emphasis on the following areas:

Solve the high energy discrepancies between EPIC-pn and MOS: **Underway**

Pursue the development of background estimation tools: **Underway**

Develop the off-axis PSF: **Underway**

Further improve the RGS calibration: **Underway**

Endorsement 2007-06-07/15: The UG endorses current OTAC policy that allows OTAC chairpersons to be principal investigators of Large Programs but in this case they can only take part of the discussion in the OTAC chairperson meeting, without rating the Large Program proposals: **Closed & implemented in AO-7.**

Endorsement 2007-06-08/17: The UG endorses the new AO policy which allows to propose ToO observations of targets whose coordinates are not known at the time of writing: **Closed & implemented in AO-7.**

Endorsement 2007-06-08/16: The UG endorses the currently applied SOC policy: Observations that were given highest priority by OTAC, i.e. priority A, are scheduled, when all observing constraints allow it, away from the ends of the science window. This is because, at both ends, the probability for the radiation background to be high is significantly greater than anywhere else in the orbit: **Closed & implemented since many years.**

Related recommendation 2007-06-08/46: The UG strongly recommends that the above policy (e.g. endorsement 2007-06-08/16) is highlighted in the OTAC instructions and guidelines, to ensure that it is considered by the panels when prioritizing the observations: **Closed.**

No formal actions or recommendations were issued during the presentations, rather it was decided to postpone them to the general discussion session which took place during the morning of May 7.

Input from the community and general discussion:

The general discussion was based on the inputs from the Mission Scientists, UG external members and points collected through the previous discussions. The issues addressed and the recommendations are detailed below.

- Additional Workload and Risks due to New Modes

  The question on additional workload on the SOC and risks due to the introduction of the new modes, RGS multipointing and EPIC mosaicing, was forwarded by M. Arnaud on behalf of G. Rauw et al.

M. Santos explained that there is no increased risk as the new modes are not really introducing anything new wrt the operations of the cameras. The preparation, documentation, testing and implementation of the new modes indeed has an impact on the workload of the SOC. In addition, the enhancement process of proposals asking for the new modes will be more complicated.

M. Arnaud asked if there will be any limit on the observing time given to proposals asking for the new modes. M. Santos and N. Schartel explained that the expectation is that not many proposals will be asking for the new modes. The OTAC will need to check if, depending on the scientific objectives and needed exposure times, a proposal requesting it actually has to be done in a new mode. No a priori limit will be set.

- Extremely Large Programmes (ELPs) and possible time allocation through more than one AO

  It was discussed that the introduction of extremely large programmes can not be done under the current and earlier discussed AO scheme (current VLP have a maximum of 3 Msec). ESA's AWG and SPC would need to be consulted introducing such a new concept for XMM-Newton. The acceptance of an ELP will have a big impact on the Guest Observers Programme, dramatically increasing the over-subscription factor, taking the risk to loose most of this group of observers. The science case of introducing ELPs hence would need to be extremely strong in order to have a chance of getting enough support from the community. N. Schartel summarized the main problem with the ELPs, that XMM-Newton has to continue serving a very large scientific community and should hence not focus on a specific topic.

  The fact that currently about 4 Msec (i.e up to 30% of the total available time) is made available to LP and VLP was pointed out. It was therefore mentioned that removing the current limit of 3 Msec for a single VLP would already allow a program with a really good science case to get all this time. Even more time could be granted if an OTAC could allocate time over the following AO(s).

  The question if and how OTAC should be allowed to distribute VLPs over several AOs in order to approve programmes that cannot be fulfilled in a single AO (e.g. due to visibility constrains) was discussed. Currently OTAC can only allocate the time available in a single AO.

  UG discussed that the PI of VLPs should be aware of possible constraints that could make it impossible to fulfill the programme within a single AO (i.e. limited sky visibility; 1 Msec is possible on most regions). The PI should make clear which amount of time and observations is need to be performed when.

  It was also discussed how proposals are handled that scientifically request their observations to be spread over several years. Probably a review after a year might be needed although first results might come too late related to the start of the next AO. Alternatively a review could be done after 2 years or at least the science case could be reviewed earlier.

  An additional problem might arise if a VLP is hampered by observing time lost due to high flaring background intervals. Normally this would trigger a re-submission of a proposal to OTAC but this could result in a spread of a VLP over even more years, blocking other possible VLPs. Therefore it was seen to be necessary to introduce an upper limit of time that can be given to large programmes per AO.

  As a result of the discussion, the UG decided to issue the following recommendations:

  Recommendation 2008-05-07/01: In view of the current pressure on XMM-Newton in a large variety of science areas, and the impact on the Guest Observer Programme, ELPs should currently not be introduced.

  Recommendation 2008-05-07/02: The XMM-Newton AO policy should be changed such that VLPs may be accepted for observation in two consecutive AOs. In this case

up to 1.5 Msec of observing time may be allocated for observations in the following AO. However, for each individual program the time allocated in the second AO shall not exceed the time allocated in the current AO. The total time allocated to LPs and VLPs together shall remain about 30% of the time available for the AO, but with full flexibility in the time distribution between LP and VLP programmes. Within this limit, the total allocated observing time for a specific position on the sky may be as large as the total visibility period during one year.

In this context, the UG also discussed programs (not only VLP, but also LP and GO) like monitoring campaigns that are requesting observations in more than one AO and made the following endorsement:

Endorsement 2008-05-07/01: The UG endorses the current policy that GO or LP programmes which cannot be fulfilled in a single AO, like monitoring programmes, will have to be re-submitted in each AO for re-approval.

- Joint XMM-Newton/INTEGRAL proposals

  N. Schartel explained the concept of joint XMM-Newton/INTEGRAL proposals that already has been approved by the INTEGRAL TAC: Up to 300 ksec of XMM-Newton open time, split in 10 ksec blocks, can be granted by the INTEGRAL TAC to proposals asking for this joint approach. This time is not part of the discretionary time as this is reserved for other, otherwise difficult to be observed, XMM-Newton targets.

  The UG made the following endorsement:

  Endorsement 2008-05-07/02: UG endorses the introduction of the presented joint XMM-Newton/INTEGRAL programme and asks for a review of this concept after one year.

- New Chairperson for XMM-Newton OTAC

  N. Schartel reminded the UG that there is a need to find a new chairperson for the XMM-Newton OTAC. Selection criteria were explained in his presentation and UG members are invited to send any suggestions to him as soon as possible.

- New observing modes for XMM-Newton

  Based on the received presentations and related discussions, UG issued the following endorsement and recommendation:

  Endorsement 2008-05-07/03: The UG endorses the introduction of the RGS multipointing and EPIC mosaicing modes for AO-8. All related open actions on these modes can be closed.

  Recommendation 2008-05-07/03: The introduction of the slow-slew mode should no longer be investigated.

- Calibrations

  The UG congratulated the SOC and Instrument Teams for their work on the new Point Spread Function model and on solving the problem of the effective area between pn/MOS and Chandra (i.e. improving the cross calibration).

  S. Sembay listed calibration work still to be done in the area of the off-axis calibration, transmission of the gratings and flux discrepancies. M. Cappi's question on received feedback from the community on the calibration was answered by N. Schartel stating that there are still complaints related to the calibration of the EPIC timing modes and the discrepancy between RGS and pn

in the softest energy band. M. Mas Hesse added that his experience is that most XMM-Newton users have the impression that the XMM-Newton calibration is in rather good shape.

The UG issued the following endorsement:

Endorsement 2008-05-07/04: The UG endorses the current XMM-Newton calibration plans and especially the further study of the EPIC PSF.

and made the following recommendation:

Recommendation 2008-05-07/04: The new 2D PSF model should be described in a technical document such that derived model parameters (that will be stored in a calibration file), can be understood and interpreted without the need of using SAS.

- EPIC Background Treatment

  Based on the received presentation and related discussion, UG issued the following recommendations:

  Recommendation 2008-05-07/05: XMM-ESAS should allow the analysis of all extended sources, i.e. it should also accept pn data as input. If possible, XMM-ESAS should also be made easier or simplified, especially wrt the fitting process.

  Recommendation 2008-05-07/06: The EPIC Background Working Group (BGWG) should continue their ongoing work.

  R. Mushotzky explained that support for the BGWG by the US GOF is likely to be maintained. S. Sembay added that the UK (i.e. LUX) is contributing significantly to this work and expressed the hope that others would join in to support the work of the BGWG.

  Recommendation 2008-05-07/07: It should be possible to select blank sky fields based on the count rate value, i.e. level of background.

  It was also discussed if it would be a good idea that the community is asked about their needs wrt the provision of blank sky or filter wheel closed data. M. Arnaud suggested to provide input on this topic.

- SAS

  UG expressed their concern about too much effort being spent in the development of RISA whereas the SAS is facing increased demands on processing speed and memory needs.

  Based on this, UG made the following recommendations:

  Recommendation 2008-05-07/08: The RISA team should aim at improving their communication with the Hera team to avoid duplication of work.

  Recommendation 2008-05-07/09: RISA should be evaluated some time after the first public release.

  Recommendation 2008-05-07/10: SAS should continue to support different platforms and operating systems.

  F. Haberl suggested that, as the current SAS (32 bit version) allows only the allocation of 4 GByte of memory, the transfer of SAS into a 64 bit version should be given highest priority. UG therefore formulated the following action item:

  Action 20078-05-07/01: On the SAS team, to check the possibility of improving the SAS wrt processing speed and allocatable memory.

- SSC/2XMMi/OM catalogue

  Based on the presentation on SSC, 2XMMi, and the OM catalogue, the point of different access possibilities to 2XMM was discussed and it was suggested that all the different access points

could be explained on the SOC pages. N. Schartel expressed his opinion that this probably is not needed as users would anyhow choose the way to access 2XMM that they know already from other catalogue searches.

Related to the further updates of the XMM catalogue, UG continues its **Recommendation 2006-05-19/33** to aim for one update every year.

Related to the OM catalogue the following recommendations were made:

Recommendation 2008-05-07/11: The 1st version of the OM catalogue should be released as planned including only sources with UV detections.

Recommendation 2008-05-07/12: It should be investigated if a cross correlation of the OM UV catalogue with 2XMM is possible.

- Miscellanea

  The UG acknowledges the work of Leo Metcalfe, former XMM-Newton Science Support Manager, who left the project in autumn 2007 becoming Herschel Science Operations Manager.

  Related to the coordination of XMM-Newton and INTEGRAL wrt the mission extension discussions, the UG made the following recommendation:

  Recommendation 2008-05-07/13: The XMM-Newton and INTEGRAL Users Groups should continue and improve their coordination and interaction wrt future mission extensions.

  N. Schartel reminded the UG members to start thinking about a possible topic for the next (annual) XMM-Newton workshop. Possible topics were shortly discussed but the decision delayed for the time after the Granada conference "The X-ray Universe 2008".

The discussion ended at midday on May 7th. M. Arnaud thanked everybody for their contributions to the meeting.

Date of next meeting: May 6 and 7, 2009, starting at 10 am at ESAC.