



esac

European Space Astronomy Centre (ESAC)
 P.O. Box, 78
 28691 Villanueva de la Cañada, Madrid, Spain
 Tel (34) 91 8131100
 Fax (34) 91 8131139
 www.esa.int

MEETING

Meeting Date 12-13 May 2010

Ref MoMUG#11

Meeting Place ESAC/XMM-Newton SOC B5

Chairperson Monique Arnaud

Minute's Date 17 May 2010

Participants Monique Arnaud (Chair), Xavier Barcons (Chair-Elect; via videocon), Jacqueline Bergeron (Mission Scientist), Richard Mushotzky (Mission Scientist), Gregor Rauw (external), Massimo Cappi (external; via WebEx & telecon); Frank Haberl (external), Mariano Mendez (external), Jelle Kaastra (RGS-PI, May 12 only), Matthew Page (OM-PI delegate), Steve Sembay (EPIC-PI), Mike Watson (SSC-PI), Arvind Parmar (XMM-Newton Mission Manager), Norbert Schartel (XMM-Newton Project Scientist), Matthias Ehle (Users Group executive secretary), Maria Santos-Lleo (Science Support Manager), Ramon Munoz (Instrument Operations Manager), and interested staff from the XMM-Newton Science Operations Centre. Absent: Richard Griffiths (Mission Scientist) & Catherine Cesarsky (OTAC Chairperson) had excused themselves.

Subject
 Minutes of XMM-Newton Users Group Meeting 11

Copy

Description	Action	Due Date
Edited by Matthias Ehle. Approved by voting members on 23-06-2010		

WELCOME:

M. Arnaud (Chairperson) opened the meeting on May 12th at 10:00.

ADOPTION OF THE AGENDA:

The agenda of the meeting was presented and approved by the participants.

PRESENTATIONS:

The following presentations were given on May 12th:

- | | |
|---|--|
| 3. Overall Mission status | (A. Parmar; 10:02-10:12) |
| 4. Instrument operations | (R. Muñoz; 10:13-10:30) |
| 5. Report of the Project Scientist | (N. Schartel; 10:34-10:51) |
| 6. Calibration | |
| 6.1 EPIC Calibration status
(& cross-calibration MOS/pn & timing mode) | (M. Guainazzi; 11:05-11:33) (End session at 11:40) |
| 6.2 RGS Calibration status
(& cross-calibration RGS/EPIC) | (A. Pollock; 12:00-12:30) |
| 6.3 OM Calibration status | (A. Talavera; 12:34-12:44) |
| 6.4 Cross-calibration status with other missions | (M. Stuhlinger; 12:48-13:03) |
| 7. SAS developments and future plans | (C. Gabriel; 13:07-13:26) (End session at 13:33) |
| 8. SSC status | (M. Watson; 14:42-14:58) |
| 9. Action items from last meeting | (M. Ehle; 15:18-15:45) (End session at 15:45) |
| 10. Input from the community | (Mission Scientists; 16:00-17:15) |

The view-graphs of the presentations are available on the XMM-Newton public web site, under “General User Support” → “Users Group”.

DISCUSSIONS:

During the presentations, several questions were raised and discussions took place:

3. After A. Parmar’s presentation and based on questions from R. Mushotzky, it was explained that methods to reduce the fuel consumption are under investigation; and that at least up to 2012 no further budget reductions in the XMM-Newton project are expected.
4. After R. Muñoz’s presentation, R. Mushotzky asked about the efficiency of the Mosaic Mode observations. M. Santos-Lleo explained that, yes, the mode is efficient as shown, e.g. in the paper by Suhada et al. (accepted Letter to A&A). X. Barcons asked about the impact of groundstation unavailability due to maintenance on the science. R. Muñoz explained that maintenance periods are of the order of days to weeks; the aim is to avoid overlap of maintenance with XMM-Newton needed coverage and to look for replacement groundstations whenever possible. Sometimes there is an impact on science due to short notice on interruption of support by back-up groundstations. Net impact on science time lost is of the order of few days along a year at most. Main impact is on manpower both at the SOC and MOC. M. Mendez asked about ‘ill-fated’ ODFs (that are still not possible to be fixed and ready for pipeline processing): Since AO-6 there are two ODFs remaining that have not been recovered. These ODFs had problems with the execution of the observation, e.g. anomalies or TM gaps, and the observations were repeated in the meantime. PIs are informed automatically as soon as a new ODF arrives in the XSA. Data rights of the repeated observations depend on what was agreed with the Project Scientist when PIs were informed.
5. After N. Schartel’s presentation, J. Bergeron asked about the number of selected Large Programs (LP) for AO-9: N. Schartel explained that in his presentation the fraction of total time is given as 43.6% for LPs corresponding to 14 accepted proposals.

M. Watson asked about the rather high percentage of C-targets observed in AO-8: N. Schartel explained that the overall observing efficiency in this AO was very good, the best up to now, for a number of reasons that include, among other, that there were no (big) solar flares, no spacecraft problems and different scheduling strategy with regard to radiation predictions at the end of the revolution. As radiation is likely to change with the coming solar maximum, there is currently no plan to change the amount of accepted C versus A+B targets. N. Schartel further clarified (after a question by M. Arnaud) that the likelihood for a C-target to be scheduled depends on its visibility (higher if in the South) but also on the accepted large or very large programs (VLP) that might 'block' a certain area of the sky and hence a period of the year. Unfortunately, users cannot be informed in advance about such constraints as OTAC has not yet made the decision. Only in the case of a VLP covering more than one AO this information could be provided.

G. Rauw asked about the joint VLT/XMM-Newton programme and expressed his concern that the programme might not get enough attention from ESO. X. Barcons replied that, actually, this joint programme is advertised in the ESO policy & procedures but is under-subscribed. A possible reason might be that both communities do not yet have much overlap. M. Arnaud expressed the opinion that people might not often think and know about the advantages of joint programs in general. Documentation might not be enough. X. Barcons proposed that one could try and see if there is a very successful example of a joint programme that could serve for further promotion.

6. Calibration

6.1 After M. Guainazzi's presentation on the status of EPIC Calibration, R. Mushotzky was asking why the change in energy resolution observed for EPIC-pn at 6 keV is not included in the SAS. F. Haberl & M. Guainazzi explained that results shown are based on observations of the internal calibration source (that is illuminating most of the detector field of view area and in an inhomogeneous way); for other (point-like) sources like AGNs or η Car no evolution of the energy resolution is visible. Both CAL and SAS would need to be changed or time-dependent CCFs would need to be introduced if the effect would need to be corrected for.

R. Mushotzky further asked if the seen flux differences between MOS and pn could be explained by the differences found between mirrors, i.e. the differences in the core of the PSFs that are known to exist from ground calibrations. S. Sembay and M. Guainazzi replied that the new 2D-PSF model will have these differences in; an improvement of about 2% is expected due to the new PSF.

M. Watson asked for further details on the activity of the Background Working Group (BGWG) studying the Solar Wind Charge Exchange (SWCX): S. Sembay & M. Guainazzi explained that currently this investigation is a Leicester University only activity; the importance of SWCX depends on the science goals; SWCX can be the dominant O-emission component; a paper based on the study of the entire MOS full-frame archive is in preparation; the analysis might be extended to pn data such that in about 6-12 months time a database of all public observations might become available. M. Watson added that although the fraction of PI observations affected by SWCX might be small, the impact especially for SNRs, galactic plane or extended emission studies might be high.

R. Mushotzky asked how users are informed about such kind of caveats and how they can know if a seen inconsistency in their data is real or due to calibration. M. Guainazzi explained that the current status of calibration is always described in the Status of Calibration and Data Analysis Documents, available from the XMM-Newton Calibration portal web page; one could think about possible ways to increase visibility of this document and/or adding watch-out items for calibration and mentioning of caveats in the data analysis threads. S. Sembay commented on the expected significant changes for the MOS-pn cross calibration when recent calibration updates are in place. M. Arnaud stressed the point that energy dependent differences do have an impact on fitted slopes and temperatures. S. Sembay agreed but also commented that the soon to be achieved agreement of the XMM-Newton instruments is significantly better than the existing differences with Chandra data.

6.2 A. Pollock presented the status of the RGS calibration with special attention to the cross calibration RGS-EPIC. The explained RGS rectification approach triggered several questions: M. Watson asked if the rectification factors do have any physical meaning or motivation. A. Pollock replied that, no, they are pure fudge factors. He further explained that quoted errors are errors on the mean values and do not show the real rms dispersion that would be expected in one measurement; the biggest change in the rectification factors computed for the three different versions (v1,2,3) is due to the change in the pn redistribution and the change of the RGS contamination which is significant over the last 2 (mainly 1) years. However, in the plots that show values averaged over all observations, this effect is not seen because there are very few observations (3 out of 45) from the last 1-2 years. Asked by R. Mushotzky about remaining anomalies visible at about 22 Å, A. Pollock explained that many ingredients were going into the computation of rectification factors and also that used spectral models might be imperfect.

M. Mendez expressed his view that the achievable agreement of RGS and pn within 2% on average even without the rectification applied is a very good result that can be accepted as final, if all remaining uncertainties are well documented.

M. Arnaud thanked all people involved in the rectification activity and expressed her appreciation for results obtained and work done.

6.3 After the presentation by A. Talavera on the status of the OM calibration, some discussion about the OM catalogue took place: R. Mushotzky asked about the timescale for the next version of that catalogue. A. Talavera explained that the catalogue generation is a MSSL activity with support from the SOC. Due to the new financial constraints in the UK the future of the catalogue is rather unclear; the next release will at least need another year from now. R. Mushotzky underlined the importance of the OM catalogue: with respect to sensitivity, the OM catalogue fits well into the gap between HST and GALEX catalogues; SWIFT flies a telescope similar to the OM but SWIFT exposure times are normally significantly shorter; there are papers published studying the logN-logS correlation based on the OM catalogue; the OM catalogue update should definitively be made and the catalogue properly promoted.

6.4 M. Stuhlinger presented the Cross-calibration status of XMM-Newton (based on SASv9.0) with other X-ray missions. R. Mushotzky reminded on the expectation that anything better than 10% in cross-calibration is unlikely – we are probably at the limit now.

M. Arnaud's question on the cross-calibration status with respect to clusters of galaxies was answered by giving a reference to the work by J. Nevalainen that was presented at the 5th IACHEC meeting (paper in preparation).

M. Watson added that a comparison of the XMM-Newton versus the Chandra Source catalogue in the one energy band that both have in common, did not show any systematic differences. These source catalogues are based on the status of calibration from about one year ago.

7. After the presentation by C. Gabriel on the SAS developments and future plans, M. Watson asked for a comment about a statement in the last US Senior Review “the science analysis software can be difficult to install and maintain” and whether this is the real perception in the US. C. Gabriel drew the attention to his viewgraph #6: the installation has been “extremely simplified for all platforms”. This is confirmed by almost no complains or questions on the HelpDesk related to the installation of SAS 10. The perception might come from some incompatibilities in different low level libraries used by different packages if e.g. Ciao, ftools and SAS are all installed on a single machine. An easy solution to avoid such conflicts is to initialize and run the different s/w packages in different terminals.

M. Arnaud expressed the opinion that – as SAS uses other s/w applications – it may be difficult to install appropriate versions of required external tools or even to know which ones are needed for a new SAS version. C. Gabriel explained that the chosen approach is to link to the main web page of all additionally needed s/w packages as there the user can always find most up-to-date information and latest versions. M. Arnaud proposed that – just as an option – every SAS release could also provide a tar file with all the additional s/w that is known to run with this SAS version (even so that these might not always contain best and latest versions). C. Gabriel replied that (not only) documentation of this might be difficult and that his team will nevertheless look into this proposal.

8. M. Watson presented the status of the Survey Science Consortium (SSC) which triggered some questions about the XID programme: A. Pollock asked about the number of optical spectra that are included in the XID data base. According to M. Watson, close to 3000 sources do have them. N. Schartel asked if, now that the ground based observations within the XID programme are coming to an end, there is still a need to ask guest observers in the proposal submission tool to allow for SSC follow-ups. M. Watson explained that this option is not needed any longer. R. Mushotzky asked about any cross identification of XID sources with Chandra and about the fraction of incorrect optical identifications. M. Watson replied that the fraction of incorrect XID identifications is supposed to be very small as most sources are AGNs for which the probability of misidentification is low. M. Arnaud asked if based on results obtained so far any thoughts towards automatic identification had been given. M. Watson explained that there is one paper and one PhD thesis trying to look into this complicated subject: (quantitative) source classification based on the position of a candidate in the addressed parameter space is difficult.

Related to the XMM-Newton catalogue, X. Barcons asked if the amount of new serendipitous sources is subject to future decrease as new observations are repeating earlier pointings and are longer exposures nowadays. N. Schartel confirmed that the typical length of an observation actually is increasing. M. Watson added that, yes, about 30-40% of the new observations are looking at the same sky area that previously already had been observed.

ACTION ITEMS FROM LAST MEETINGS:

5 action items, 14 recommendations and one endorsement were pending since last meeting. Their disposition is as follows:

Endorsement 2009-05-07/01: UG endorses the new approach for the collection of EPIC filter wheel closed (FWC) data, as recommended by the BGWG and EPIC-Cal team: **Implemented & 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**, see M. Watson presentation.

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: **Closed:** CCF release note & public SAS thread “2-D PSF a la carte” available.

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: **On-going**

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

Recommendation 2009-05-07/01: Although the idea of having a dedicated repository for high level XMM-Newton data products (à la MAST) is interesting, XMM-Newton SOC should not take the lead in such initiatives. **Closed**

Recommendation 2009-05-07/02: UG recommends that LPs should be considered as coherent entities that should not be cut in time – but the final decision certainly remains with OTAC panels. **Closed**

Recommendation 2009-05-07/03: The BGWG should continue their study of the evolution of the FWC data with time: **Open:** No news wrt study of evolution

Recommendation 2009-05-07/04: The BGWG should provide the community with a tool that allows to select FWC data from the repository based on the time when the data was collected. **On-going:** maintenance of data repository is becoming SOC activity.

Recommendation 2009-05-07/05: The MOS and pn Instrument Teams should focus on establishing a common calibration for both instruments such that adding the spectra of both instruments can generally be recommended, with the aim to make it available to the general user after the next UG meeting in 2010. In any case, remaining uncertainties in the calibration will need to be well and clearly documented. **Closed:** Public SAS thread “Combining the spectra of the 3 EPIC cameras” available, see **Action Item 2010-05-13/01**

Recommendation 2009-05-07/06: The XMM-Newton calibration teams should continue to play a leading role in the cross-calibration work involving other current missions and also in preparation for future missions. **Closed:** IACHEC leadership and involvement.

Recommendation 2009-05-07/07: As the need for RISA is not clear yet, development of this project should remain a long-term task with lower priority. Other options (e.g. virtual machines, support for new platforms) should be kept open and investigated as well. **Closed:** see C. Gabriel presentation.

Recommendation 2009-05-07/08: The SAS team should investigate if coordinated efforts can be done to maintain current (X-ray) scientific analysis software packages and prepare for the future with colleagues from Chandra, HEASARC, Suzaku and other interested projects (maybe in the form of a workshop). **On-going:** see C. Gabriel presentation.

Recommendation 2009-05-07/09: The spectral binning tool, currently approved as a future SAS task, should be released as soon as possible. **Closed:** task ‘specgroup’ in SASv10.

Recommendation 2009-05-07/10: The SSC XID programme is considered an important project that should continue to be funded. **Dropped:** see M. Watson presentation.

Action Item 2008-05-07/01: On the SAS team, to check the possibility of improving the SAS wrt processing speed and allocatable memory. **On-going:** gcc4 done with SASv10, 64 bit pending due to NAG problem, see C. Gabriel presentation.

Action Item 2009-05-07/01: On UG: As M. Arnaud is finishing her mandate as UG chairperson, UG members should

send suggestions for a successor to N. Schartel within the next 4 weeks. **Closed**

Action Item 2009-05-07/02: On UG: In order to start preparations for the next annual XMM-Newton Science Workshop in spring 2010, UG members should send suggestions for possible workshop topics to N. Schartel within the next 4 weeks. **Closed**

Action Item 2009-05-07/03: The Instrument Teams should establish a time epoch-dependent fudge function for the RGS effective area such that the joint analysis of RGS and EPIC data is possible. Results of this effort should be presented at the next UG meeting in 2010 with the aim to make it available to the general user after the review. **Closed:** Results presented (see A. Pollock presentation). Availability according to **Recommendation 2010-05-12/05**.

Action Item 2009-05-07/04: A SAS watch-out item should be formulated in order to inform users about the need to re-bin their EPIC spectra before performing spectral fits. **Closed:** watch-out available since July 2009, see also **closed Recommendation 2009-05-07/09**.

After the presentation of the status of **Recommendation 2009-05-07/05** that is closed providing the public SAS thread “Combining the spectra of the 3 EPIC cameras”, UG took the following action:

Action Item 2010-05-12/01: UG members should make use of the new SAS thread “Combining the spectra of the 3 EPIC cameras” in order to check its functionality and documentation.

INPUT FROM THE COMMUNITY AND GENERAL DISCUSSION:

(This part of the meeting started at 16:00 on May 12th, and finished with the end of the 1st day of the meeting at 17:15. The discussion continued then on May 13th at 09:20.)

EPIC-pn timing mode calibration

As input from the community, M. Mendez gave a presentation on pn timing mode observations. M. Mendez is involved in the analysis and interpretation of such data by a PhD student under his supervision and through a collaboration with, among others, M. Diaz-Trigo from the XMM-Newton SOC. The science driver being that they found a very broad Fe-line with about 500 eV equivalent width, i.e. 5 times larger than normal. M. Mendez brought forward the following issues:

- 1) Spectra in the energy range 1.5 – 2.3 keV show strong wiggles and therefore had to be excluded from spectral fits.
- 2) There is a lot of emission below about 1.0 keV that is not confirmed by RGS: is this an issue with redistribution or is it something real?
- 3) Defining a background spectrum for the data in pn timing mode is difficult/impossible as PSF wings centred on the source are extending into the area that one needs to choose for background extraction. This last point is probably not important for the Fe-line but an issue for the determination of the continuum.

M. Mendez also showed a plot demonstrating the mismatch of PCA/RXTE with pn in timing mode for the 3-8 keV energy band.

After the presentation, R. Mushotzky commented that according to an RXTE memo, the PCA calibration is such that a perfect spectral fit to the Crab is possible. But there is also a paper by Weisskopf (M. Guainazzi co-author) that discusses the correct fitting of the Crab: a powerlaw was found to be OK for pn. He further thinks that the observations obtained through pn timing mode observations are addressing hot scientific topics so that the calibration of this mode needs now further attention.

F. Haberl expressed his concern that actually the pn timing mode is not designed for detailed spectroscopy due to the fact that during the readout macro-pixels are generated which do no longer have all the spectral information. In addition the low-energy threshold in timing mode is twice as high as in the imaging modes. Both effects strongly influence pattern distributions, pile-up behavior and redistribution depending on the source spectrum and brightness. First steps were undertaken to better understand these effects and to improve the calibration (rate dependent CTI, position dependent pattern ratios) but given the increasing scientific interest in this mode, calibration of timing mode should be given higher priority.

M. Guainazzi explained that rate dependent CTI calibration is already applied. The next step is to apply an energy dependent, rate dependent, correction that might bring improvement with respect to big residuals seen close to sharp features/instrumental edges. However, it could well be that – as we are at the limit of this mode – the issue might not be

solvable. Rate dependent CTI can probably not explain the broad high-energy feature although it might have an impact on the line position. S. Sembay commented that also the MOS timing mode has the same issues as the pn. M. Guainazzi added that, yes, the effect of soft excess in timing mode is known: a preliminary analysis shows that no excess is seen for sources with absorption less than 10^{22} cm^{-2} , whereas the soft excess is found to increase with increasing N_{H} . Whether this is an astrophysical effect, bad calibration or an effect of bad data reduction is currently under investigation. In summary: lots of challenging work still needs to be done: dependencies on the source and calibration need to be disentangled; blank sky data might be needed for the generation of background spectra (currently about 80 observations for possible blank sky data generation are in hand). On May 24-26, M. Guainazzi is going to discuss these issues with experts at the University of Tübingen (E. Kendziorra plus a student whose work will be mostly dedicated to timing mode calibration). The EPIC calibration priorities until now were necessarily put on the significantly much more used imaging modes. Currently most of the issues there and in the cross-calibration are understood and solved and it is therefore the right time to put stronger efforts now into the calibration of the timing modes.

Based on the discussion, UG appreciates the efforts already started to look into these issues and formulated the following recommendations and action item:

Recommendation 2010-05-12/01: The calibration of the EPIC-pn timing and burst mode should be assessed: what are the limitations of these modes, what can be done to improve the calibration? The calibration should be tried to be good within the limitations dictated by the special readout modes.

Recommendation 2010-05-12/02: It should be checked if EPIC-pn timing mode observations for possible background generation exist and can be made available to the community.

Action Item 2010-05-12/02: The status of the calibration of the EPIC-pn timing mode shall be clearly documented. Limitations of this mode shall be made very clear to XMM-Newton users, proposers and OTAC members.

RGS rectification and XMM-Newton cross calibration:

UG expressed their satisfaction about the now achieved (soon to be available to the users) agreement of the EPIC-pn and RGS calibration and commended the team for a job well done. The remaining task being to achieve better agreement between MOS and pn. N. Scharfel presented his opinion that RGS should be adjusted now to pn that is using ground based calibration and – in contrast to MOS – not affected by time dependent redistribution. Based on further discussions, UG in the end made the following related recommendations:

Recommendation 2010-05-12/03: The XMM-Newton project should aim to an XMM-Newton common calibration across all instruments. However, the UG does not see the need to recommend adjusting MOS to pn at this stage. Project resources should continue to monitor instrumental changes with the aim to maintain current agreement.

Recommendation 2010-05-12/04: Major calibration efforts should now be devoted to modes used for bright sources, e.g. the timing and burst mode calibration (see **Recommendation 2010-05-12/01**).

Recommendation 2010-05-12/05: The XMM-Newton project shall continue with its active involvement in IACHEC with the aim of allowing users to fit simultaneously data from different X-ray missions.

With respect to the RGS rectification, the following recommendations were formulated:

Recommendation 2010-05-12/06: As the application of RGS rectification factors allows to bring the current few percentage level average agreement of the RGS/pn calibration down closer to 0%, it should be offered to the users.

However, as the current approach may introduce spectral features (due to steps/binning), UG also made

Recommendation 2010-05-12/07: The current rectification method should be improved in order to provide smooth corrections, for example via linear interpolation between rectification factors.

SAS:

R. Mushotzky proposed that an ‘inverse’ SAS task index should be prepared: currently SAS tasks are documented ‘sorted by group’ (calibration, instrument specific tasks, etc.). The new idea foresees an alternative grouping based on scientific tasks, e.g. “to do this scientific task (e.g. spectral analysis), one needs to make use of these SAS packages”. This proposal got support by X. Barcons, and UG formulated the following recommendation:

Recommendation 2010-05-12/08: XMM-Newton SOC should prepare an ‘inverse’ SAS task index that allows identification of individual SAS packages needed to be executed in order to allow performing a specific scientific analysis task.

In addition, UG formulated the following Action Item:

Action Item 2010-05-12/03: on UG members to consider if any additional tools are necessary to be implemented into SAS related to the 2D-PSF model (or if existing task ‘eradial’ is sufficient?).

ESA Press Releases:

Based on information, given in N. Schartel’s presentation, about the situation of XMM-Newton promotion via press releases, UG made the following endorsement:

Endorsement 2010-05-12/01: UG considers it important that public relation work for XMM-Newton continues to be done by ESA with sufficient manpower.

Funding and Mission Extension:

A. Parmar presented to the UG information about the UK funding situation and next mission extension for XMM-Newton: Following the STFC announcement that they will make a “managed withdrawal” from funding XMM-Newton activities in the UK, ESA is currently looking into ways to make sure that essential support continues to be provided. With respect to the mission extension procedure A. Parmar explained that all ESA science missions have a 2+2 year renewal cycle. Preparations for obtaining confirmation of XMM-Newton operations in 2011-2012 and for the proposal for an extension in 2013-2014 are ongoing. The next milestones for the approval procedure by the different ESA committees were illustrated, as well. UG is asked, as in the past, to actively support the XMM-Newton extension proposal.

In relation to this, the following action item was created:

Action Item 2010-05-12/04: on UG members, to provide N. Schartel with input on the science case for the mission extension, specifying scientific highlights in their research areas achieved during the last two years and giving perspectives for the future; Due date: May 28th, 2010.

J. Bergeron communicated the strong wish (of the community) that XMM-Newton should certainly be extended beyond the year 2012. All UG members agreed about the strong scientific arguments for a further XMM-Newton mission extension and agreed on the following:

Action Item 2010-05-12/05: on UG, to write a letter to the Astronomy Working Group (AWG) of ESA, stating their strong support for the XMM-Newton mission extension.

M. Arnaud agreed to pass letters sent to AWG on previous occasions on to the new UG chair X. Barcons.

Input from Mission Scientists:

J. Bergeron proposed to discuss large programs (LP) versus very large programs (VLP) for XMM-Newton and their handling by OTAC, raising the following three questions:

- 1) Rules and Procedures for AOs: who decides on them and what is the timescale for changes?
- 2) With respect to the nature of a program being LP or VLP – is a shift between these categories still possible when OTAC meets?

3) How are LPs and VLPs discussed?

The detailed discussion of these raised questions was deferred to the next day of the meeting:

N. Schartel explained that rules and procedures for an AO are always discussed with and approved by the OTAC chairperson beforehand. In the last AO, OTAC panels could only forward a certain amount of LPs and VLPs (corresponding to the oversubscription) to the chairpersons meeting for further discussion. UG agreed that this policy is fine but also made the following recommendations:

Recommendation 2010-05-12/09: Guest observers should be provided with more information about the handling of VLPs by OTAC.

UG discussed the idea that the OTAC chairperson should read all VLPs, independent of whether they had been forwarded to the chairpersons meeting or not. OTAC chairperson or panel chairs could also have the option to resurrect a VLP for further discussion that was not brought forward. Panel chairs could even be asked to explain why a certain VLP was not forwarded. After the discussion and evaluation of the different options, the UG decided to make the following recommendation:

Recommendation 2010-05-12/10: During the VLP pre-selection there should be a separate limitation to each panel on the number of VLP programs to be put forward to the chairperson session for discussion.

M. Cappi proposed a discussion on the issue of conflict of interest for proposal peer review in case a panel chair being PI or CoI on a LP or VLP proposal. The current policy is that they have to leave the room when the proposal is discussed and are not allowed to vote. Alternatively one could think about changing the policy such that PI-ship is not allowed for panel chairs. UG recognized that there is no clear solution to avoid conflicts of interest and suggested the following recommendation:

Recommendation 2010-05-12/11: OTAC chair and Project Scientist should consider, as far as possible, the introduction of deputy chairs to attend the chairperson's meeting in case of conflict of interests of the panel chair.

UG members and N. Schartel received an e-mail asking for a change in the policy of ToO and triggered observations, signed by Nanda Rea (ICE-CSIC, Spain), Andrea Possenti (INAF, Italy), Marco Feroci (INAF, Italy), Silvia Zane (MSSL-UCL, UK), Roberto Turolla (Uni.Padua, Italy), Diego Gotz (CEA-Saclay, France) and Gianluca Israel (INAF, Italy). Two opinions were communicated in that e-mail: 1) A ToO that was scientifically meaningful some years ago might not be so anymore, 2) ToO procedure with respect to OTAC approval and reminder to PIs have some shortcoming. N. Schartel explained that the items brought forward related to procedures are actually not an issue rather they were misunderstandings as he explained in the meeting and to the authors of the e-mail before. UG rather positively discussed the idea that old ToOs will need to be re-proposed. N. Schartel listed possible drawbacks: increased workload on OTAC members, especially in the X-ray binaries panel; old proposals that are expiring might be triggered in order not to lose them, even so the originally described trigger criteria are not fulfilled. In the end the following recommendation was formulated:

Recommendation 2010-05-12/12: The Policies and Procedures shall be changed such that OTAC can approve ToOs and triggered target observations either as being valid for triggering for three consecutive AOs or such that they expire after one AO. This change of Policies and Procedures shall also be applied to ToOs and triggered observations that were accepted in the past.

M. Arnaud and J. Bergeron had to leave the UG meeting at 13:00 to catch their plane.

N. Schartel expressed many thanks also on behalf of the project to M. Arnaud for her dedicated commitment to XMM-Newton over all the five years that she served so well as Users Group Chairperson. This statement was strongly supported by all meeting participants who applauded her as well. M. Arnaud thanked the group and team and asked X. Barcons to take over the chairperson task already now in order to address the remaining few points on the meeting agenda.

UG discussed if external referees should be contacted for VLPs, based on the fact that for the last AO none of the 13 VLP proposals was accepted. As this activity would create high additional workload (evaluating and discussing so many scientific justifications), UG decided in the end not to recommend the involvement of external experts.

UG discussed if VLPs should have the option to be extended over more than 2 years/2AOs in order to 'make VLPs cheaper' for an AO specific OTAC. N. Schartel opposed to that idea as XMM-Newton budget approval cycle covers always only the following two years for operations (plus two years for post operations). Experience with the currently accepted 3 Msec VLP split over 2 AOs is good. Based on this discussion, UG agreed that there was no clear compelling case yet supporting the need for an extension of a VLP, unless the project needed it for visibility and more flexibility for the scientific scheduling (which currently is not the case).

The discussion ended at ~13:30 on May 13th.

Date of next meeting: May 19 (Thursday) and 20 (Friday) 2011, starting at 10 am at ESAC.