

Minutes of User Group Meeting 7 (18-19 May 2006)

Edited by María Santos-Lleó

Approved by voting members on June 2006

Participants:

Monique Arnaud (chairperson), Massimo Cappi (external), Miguel Mas Hesse (external), Gregor Rauw (external), Jacqueline Bergeron (Mission Scientist), Richard Griffiths (Mission Scientist), Richard Mushotzky (Mission Scientist), Jelle Kaastra (RGS-PI), Simon Rosen (OM-PI delegate), Martin Turner (EPIC-PI), Mike Watson (SSC-PI), Fred Jansen (former XMM-Newton Mission Manager), Arvind Parmar (XMM-Newton Mission Manager), Norbert Scharrel (XMM-Newton Project Scientist), María Santos-Lleó (User Group executive secretary).

Leo Metcalfe (Science Support Manager), Ramon Muñoz (Instrument Operations Manager), and interested staff from ESAC and XMM-Newton instrument teams.

Didier Barret, Keith Mason and Brian McBreen could not come and excused themselves.

Welcome:

M. Arnaud (Chairperson) opened the meeting on May 18 at 10:00. She introduced Massimo Cappi, a new member of the User Group (UG).

Adoption of the agenda:

The agenda was approved by the participants.

Presentations:

The following presentations were given:

1. Overall mission status (A. Parmar; 10:05-10:10)
2. Instrument Operations (R. Muñoz; 10:11-10:30)
3. Report of the Project Scientist (N. Scharrel; 10:30-10:55)
4. EPIC calibration status (M. Kirsch; 11:10-11:36)
5. Cross calibration status (M. Stuhlinger; 12:00-12:20)
6. RGS calibration status I (A. Pollock; 13:50-14:15)
7. RGS calibration status II: sensitivity (J. Kaastra; 14:22-14:45)
8. OM calibration status (A. Talavera; 14:48-15:10)
9. SAS developments and future plans (C. Gabriel; 15:16-15:41)
10. SSC status and 2XMM catalogue (M. Watson; 15:50-16:10)
11. The Slew Survey catalogue (R. Saxton; 17:00-17:20)
12. Action items from last meeting (M. Santos-Lleó; 17:25-17:30)

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

Discussions:

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

2. After J. Muñoz's presentation, M. Arnaud asked why the bit-rate-allocation table has been changed. J. Muñoz and M. Turner explained that the change has been done to adapt the operations to the fact that EPIC-pn requires a wider band-width than the EPIC-MOS cameras.
3. During the Project Scientist's presentation, M. Arnaud asked for some details about the time allocation process, like which is the over-subscription of the Large Program (it is a bit more over-subscribed than normal programs), or why the time allocated to A and B priority observations has been reduced (it is mainly because of the overlap in the visibility of a few Large Programs). After the presentation, the discussion was first focused on the impact of Large Programs on the refereed literature. Although N. Schartel said it has been quite low, there was a general feeling that it may be too early and that the first publications from the first Large Programs, in AO3, should come now.

Following a question from M. Arnaud about the time allocation of Large Programs, it was agreed to come back to this point in the general discussion.

N. Schartel asked the UG for a recommendation related to the proceedings of the upcoming Science Workshop. They can be published through the ESA publications office, but then only papers given at the workshop itself in its final pdf format would be accepted and the proceedings will only be issued in electronic form, with no printed version. The UG did not find this was the optimal solution, in particular it is inconvenient for people to come to the workshop with the paper already written in its final version, and it would be better to find alternative ways of publication.

S. Rosen reminded that in the previous UG meeting there was quite some discussion about the follow up of Swift Gamma Ray Bursts, GRB, and asked whether there is any feedback from Swift. N. Schartel explained that J. Osborne provided details about Swift flux and predicted flux after a few hours that have been used to define the new criteria for XMM-Newton follow up with the aim of obtaining good quality spectra. It was noted that the pressure on XMM-Newton to perform fast reaction-time GRB observations has been decreased.

M. Cappi congratulated the mission planning team for the successful fulfillment of a late request for simultaneous observations with Suzaku. He explained that the coordination worked quite well. Cappi asked whether similar requests are common. N. Schartel explained coordinations and fixed-time constrains are only granted in case requested at the time of the call and approved by the time allocation committee (OTAC). However, late request are indeed common and as far as possible, the XMM-Newton mission planning team always tries to follow them, up to now, no feasible request has been rejected.

4. After M. Kirsch's presentation, M. Arnaud said she was quite impressed by the work done by the whole team.

R. Mushotzky remarked upon the importance of getting a better parametrization of the off-axis point spread function, PSF.

M. Cappi asked whether pile up is still an issue and M. Kirsch explained pile up is currently only dealt with by removing the core of the PSF.

5. After M. Stuhlinger's presentation, one of the main features of which was the great improvement of the RGS and EPIC cross-calibration, R. Mushotzky remarked upon the excellent behaviour of the Suzaku internal cross-calibration: all instruments but one agree within the 5 % level and suggested to compare XMM-Newton with those. M. Stuhlinger explained that coordinated calibration observations with Suzaku of PKS 2155-304 recently performed are currently being analysed.

M. Arnaud asked whether comparison with the Chandra ACIS instrument without gratings has also been performed, the answer was no. She also asked about a residual in the EPIC-pn

spectral fit of the line-rich SNR 1ES0102-72, centred around 0.5 keV, or 25Å. The answer was that it is not fully understood. It is only seen in the combined fit and may be due to both effective area and PSF uncertainties.

6. After the presentation of A. Pollock, it was made clear that the great improvement in the RGS calibration will be made available to the community together with the new version of Science Analysis Software, SAS, planned for June 30. Since this is less than one and a half months after the UG meeting, it was not considered necessary (nor indeed practical) to do any pre-release of calibration software or scripts.

J. Kaastra reminded that, for very long RGS observations, the RGS team recommends to split the observations changing the pointing along the dispersion axis. As an example, he mentioned that for a three-orbit duration observation, the pointing could be changed once every orbit. R. Mushotzky asked whether this could be automatically done and also for shorter observations. N. Schartel explained that this is not simple for planning and would be, in addition, very inefficient because of the extra overhead implied by the need of re-calculating the EPIC-pn offset map after every re-pointing. Moreover, the time spent re-calculating the offset has severe negative implications in timing studies. There was therefore no recommendation regarding this issue.

7. After J. Kaastra's presentation, M. Arnaud asked what is the RGS sensitivity to detect weak absorption features and J. Kaastra answered that it is of the level of 5% of the continuum.

M. Cappi wanted confirmation on whether RGS observations of Mrk 421, can reject the claim of WHIM – Warm-Hot Intergalactic Medium – previously reported by other scientists. J. Kaastra answered that indeed, as shown in a paper submitted for publication in the refereed literature and to astro-ph (0604519), the previously detected features, attributed to WHIM absorption, are not significant.

N. Schartel asked whether the general scientists can analyse the RGS data in the same way as J. Kaastra et al. have done. J. Kaastra and C. Gabriel answered that this will be possible with the next SAS release, foreseen on June 30. This was already possible with SAS 6.5 but it required manual treatment of suspicious column and pixels.

8. After the OM presentation by A. Talavera, R. Mushotzky asked about the number of XMM-Newton publications including OM data and A. Talavera replied that it has increased. R. Mushotzky announced that there is an OM catalogue available on line from MAST. A. Talavera explained that there is a plan to produce an OM catalogue at MSSL. Once the catalogue is complete, it will be made available from the XMM-Newton Science Archive, XSA.

9. After the SAS presentation by C. Gabriel there was some discussion about the possibility to distribute SAS compiled versions together with all third parties' software, i.e. an integrated version in a way similar to what is planned for the VM version for windows. C. Gabriel promised to check if it can be done for the Mac as well, but it was clear during the discussion that it is not straight-forward and might even not be recommended.

There were a few questions about other platforms, C. Gabriel explained that all supported platforms are publicised on the SAS web pages.

M. Watson and R. Griffiths asked about a known problem with an EPIC-pn quadrant that sometimes has fewer events than expected. C. Gabriel said that the problem is still under investigation: although probably understood, the proposed reason for the problem still needs to be checked. There is a SAS Watchout item on this subject on the SAS web pages.

10. After the Survey Science Centre (SSC) presentation, two items were identified as to be dealt with in the discussion. They were related with a potential pre-release of the 2XMM catalogue

and with the SAS version to be used for the SSC re-processing of the whole XMM-Newton archive.

11. After the slew survey presentation by R. Saxton, M. Cappi and M. Arnaud asked whether XMM-Newton is still acquiring slew data and whether there are plans to continue updating the slew catalogue. The answer is yes to both questions. About 70-80% of the sky is expected to be covered in the case of the mission extending up to 2014.
12. Four recommendations and five endorsements were pending since last meeting. Their disposition was as follows:

Recommendation 2005-05-19/28 The UG recommends to continue the joint XMM-Newton – VLT program as is: **Closed**

Recommendation 2005-05-19/29 The UG is extremely concerned about the adequate support of the XMM-Newton project by contractors. A timely and unbureaucratic renewal of contracts is mandatory to be able to keep the required expertise in the project and guarantee a successful mission continuation: **Closed**

Recommendation 2005-05-20/30 The UG encourages an early release of the 2-XMM Catalogue. Given the concerns about the integrity of the product, it can be released with appropriate advertisements to the community that SSC counts on them to verify the product integrity and will revise the catalogue as necessary. If possible, a release before the end of 2005 is recommended: **To be replaced by Endorsement 2006-05-19/14**

Recommendation 2005-05-20/31 The UG would like to see a unique web interface to all information pertaining to observations planned and their processing status: **Closed**

Endorsement 2004-06-03/06 The UG fully endorses that the Project organize a big X-ray conference: **Closed**

The UG recommends to issue written proceedings shortly after the conference: **Closed**

Endorsement 2004-06-03/07 The UG endorses scientific workshops. Every UG member will suggest scientific topics and volunteers to help in the organization should their topic be accepted: **Closed, workshop currently being organized for June 2006**

Endorsement 2005-05-20/08 The UG endorses the XMM-Newton Large Program, LP, handling; the OTAC panel chairs should continue to be consulted for their views of the quality of the submitted LP programs to obtain a clear view on whether the LP time share in the overall program should be changed: **On-going**

Endorsement 2005-05-20/09 The UG endorses the ongoing calibration activities by the XMM-Newton Science Operations Centre, SOC, with particular emphasis on the following areas:

EPIC-MOS and EPIC-pn discrepancy at high energies: **To be replaced by Endorsement 2006-05-19/11**

EPIC and RGS discrepancy at the long wavelength end of RGS: **Closed**

background estimation tools: **On-going: to be replaced by Endorsement 2006-05-19/11**

Endorsement 2005-05-20/10 The UG endorses the activities currently being performed at SOC to develop SAS tools to deal with slew exposures and that these tools, together with the slew data, and a catalogue are made available to the general public **Catalogue released, SAS tools under development**

No actions or recommendations were issued during the presentations, rather it was decided to postpone them to the general discussion session.

The presentations ended at 17:30.

Input from the community and general discussion:

The meeting continued with the general discussion based on the inputs from Mission Scientists, UG external members and points collected through the previous discussions. The Mission Scientist and UG external members reviewed the comments collected from the XMM-Newton users. This was followed by a summary from M. Arnaud who identified the pending points for the next day. The session ended at 18:45 on May 18 and resumed on May 19, at 9:00. The summary is given below.

NASA Senior Review: R. Griffiths reported that the 2006 NASA Senior Review held in this spring was a great success for XMM-Newton which got the requested budget. This includes as the largest component funding for Guest Observer grants. US principal investigators of XMM-Newton proposals will be supported as they have been in previous years. Griffiths acknowledged the work done in preparation for the review by R. Mushotzky and S. Snowden.

US Users' Group: R. Griffiths also summarized the results of the meeting of the US Users Group for XMM-Newton. The general conclusion was positive with no major concerns from US XMM-Newton users. The only issue raised was the need of a quite close coordination between software efforts on both sides of the Atlantic. On this point, the international, multi-mission, calibration meeting to be held in Iceland in mid June, is a good opportunity to ensure the coordination and optimization of efforts.

Remote processing of data: R. Griffiths and R. Mushotzky reported that the HERA computer service provided by the HEASARC at the NASA Goddard Space Flight Center now enables remote processing of the XMM-Newton data. It was mentioned that the remote SAS capability exists in XSA since two years ago. This kind of projects is considered as a great contribution to the future and to both non-X-ray astronomers and astronomers with reduced computer support at their institutes. Some of the ideas for improving HERA were discussed and it was realized that M. Watson's team has very similar ideas for improvement of the 2XMM catalogue. It was clear that M. Watson and R. Mushotzky should talk to coordinate both projects and that the results will probably be seen in the next User Group meeting.

Composition of the UG: The issue of the composition of the XMM-Newton User's Group was briefly addressed. It was noted that this composition is defined by the Science Management Plan and it was agreed that there is no need to revise it at the current stage.

Scheduling of C-priority observations: M. Cappi asked whether OTAC recommendations include specifying which C targets are to be observed in case there is an opportunity to do it. The question of partially completed samples was mentioned as an example for problems with C target observations. Sometimes it makes no scientific sense to end up with only one or two targets measured from an originally proposed sample. N. Schartel explained that scheduling of C targets is based only on visibility and efficiency (such as minimization of slews) arguments. Regarding proposals to observe samples of objects, OTAC is asked to give priority C to individual observations of a sample only in those cases where it is still scientifically useful to make such individual observations.

Miscellanea: M. Cappi explained that he tried to get comments from a wide X-ray community, but got only a few. In general all comments were positive, and the concerns have already been addressed in the presentations and discussion. In particular, regarding the RGS reliability to detect weak features, M. Cappi found the presentation by J. Kaastra very interesting but hoped that when the paper is accepted the issue can be successfully understood and agreed-upon by all users working with RGS data.

J. Bergeron said that, in general, the users that reported to her are happy with the XMM-Newton data and software. There are some issues on calibration that have been addressed in the presentations. Users appreciated the OTAC comments on rejected proposals and there were suggestions to extent comments also to accepted programs. The only issue was a request from some scientists to be able to ask for a few months of proprietary rights for Target of Opportunity observations. N. Schartel explained that in the early days of the mission there were some attempts in this direction, but

the community reaction was very negative. In any case, the proposers can indeed ask for some proprietary period, it is up to the Project Scientist to grant or reject it. The UG suggested to collect some experiences with granting of proprietary rights for TOOs.

The general discussion ensued with the items as follows:

- Calibration

The UG supports the approach for the ongoing improvements in calibration with the following priorities:

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

solve the high energy discrepancies between EPIC-pn and MOS

pursue the development of background estimation tools

refine the EPIC redistribution for line rich sources

develop the off-axis PSF

further improve the RGS calibration

- SAS development and future plans

The UG made the following endorsement

Endorsement 2006-05-19/12: the UG endorses the plan of the SAS development team to release new versions of the SAS with nearly one-year intervals

Regarding the recent improvements in the RGS calibration, since the next SAS version, with all corrections in place, is currently foreseen for the 30th of June, i.e. in less than 2 months from the UG meeting, the UG felt that the time scale is fine. There is no need to make scripts or threads publicly available earlier than that.

- Slew catalogue

The UG supports current plans related to the slew catalogue and made the following

Endorsement 2006-05-19/13: the UG endorses SOC plans to regularly update the slew catalogue with the new data

- 2XMM catalogue and SSC plans

A few issues related with current and future work of the SSC were discussed:

- Pre-release of the 2XMM catalogue

M. Watson explained that it is possible to do a pre-release of the 2XMM catalogue via XSA, without source products (spectra and light curves). This pre-release would contain about 80% of the full 2XMM catalogue, with only the sources that are considered of good quality after the screening.

The UG feels that there is a lot of potential use of the catalogue and therefore makes the following:

Endorsement 2006-05-19/14: the UG supports a pre-release of the 2XMM catalogue in July 2006

- SAS version to be used in the archive re-processing

A second issue is which SAS version should be used for the reprocessing of all XMM-Newton data currently in the science archive, XSA. M. Watson explained that it would be a shame to do this exercise without the latest version of SAS. Reprocessing could begin almost

immediately with the SAS version already thoroughly tested for that purpose. There is a risk that the new SAS version may trigger new pipeline failures. In the latter case, it would mean a delay in the reprocessing, M. Watson estimated likely potential impacts to be of about two months. It was felt that this delay is worth ensuring that the great improvement in the RGS calibration is taken into account when re-processing the data. This is especially true since currently there is no date for another reprocessing exercise, and therefore, the products of the current reprocessing are likely to remain in XSA for some years. The UG therefore made the following

Recommendation 2006-05-19/32: The UG recommends the reprocessing of the archive data to be performed with SAS version 7.0

- Future work at SSC: new releases of the 2XMM catalogue and/ or further re-processing
M. Watson asked what should be, in the view of the UG, the future work of the SSC, in a two to three years time-frame. Should there be regular reprocessing and incremental releases of 2XMM ? There was some discussion on the two issues and whether they should be coupled or not. It may be un-realistic to propose annual reprocessing coupled to calibration updates linked to annual public releases of the SAS software. However, the catalogue should be periodically updated, and periodic reprocessings are desirable.

The UG agreed to do the following:

Recommendation 2006-05-19/33: as far as possible, the UG recommends regular updates of 2XMM catalogue in an incremental fashion plus periodic re-processing of the archive

- Soft proton flares

One of the issues identified by users and in the UG discussion as well was the number of observations that get spoiled by soft proton flares. Both R. Mushotzky and M. Arnaud asked whether it could be possible that the scheduling of some observations, like clusters of galaxies, that need very low background conditions, could be done trying to ensure optimal background conditions. N. Schartel explained that in the last OTAC chairpersons meeting there was only one OTAC chair in favour of such a possibility, but not the rest of the chairs. He also pointed out that there are several kinds of observations that may need similar background conditions to achieve the science sought. There was general agreement that this is true and that it should be up to OTAC to recommend a particular observation for that strategy, in case it finally is considered in the scheduling.

There are however several issues related to this point. One is whether the behaviour of the soft proton flares has or not a seasonal behaviour that may make it predictable to a certain level. M. Arnaud said that some observers' experience seems to indicate that winter periods are quieter than summer ones. F. Jansen gave some historical perspective explaining that a few studies have already been done and shown in previous User Group meetings. There is so far no clear indication of a seasonal dependence of the outside the radiation belts background, but it is recognized that the studies done so far can be made more comprehensive. It must be kept in mind that results of new, more complete, studies may be difficult to extrapolate to the future because of the large changes of the XMM-Newton orbit. Also, even if a seasonal effect is present, the soft proton flares have a significant unpredictable component. It is in no way expected that an observation can be guaranteed to be scheduled under low background conditions in the same way that optical observatories can guarantee dark nights.

Other related issues also discussed were how people could request particular observing conditions to be met, how to grant them and how to check whether they are indeed met or not. The answers to these questions are difficult, so they were postponed until there is a better knowledge of the proton flare behaviour.

Finally, N. Schartel also explained that the implementation of further scheduling constraints is not straight-forward. We are already close to the maximum number of constrained observations that can allow enough flexibility for scheduling optimization. If a new constraint is implemented, we may need to drop others. For instance, we may need to reduce the number of coordinated observations and restrict fixed-time observations to only those explicitly approved by OTAC.

The UG therefore made the following

Recommendation 2006-05-19/34: The UG recommends to reassess the EPIC background loading for a 1 year sample in order to investigate a seasonal dependence.

Pending on the results, future recommendations can be made. However, care should be taken on the impact that the evolution of the orbit can have on the predictions.

- Optimization of the science time within one revolution

M. Mas Hesse asked whether it would be possible to offer the very last science time of the revolution, which is more affected for radiation, for bright-source observations. This should be under the basic conditions that the scientific objectives can be achieved even with high radiation background and that the principal investigator assumes the risk to lose his or her observation. The maximum duration of these observations should be about 10 ks. The idea had different degrees of acceptance among the UG members. It was agreed to make a recommendation to the XMM-Newton SOC to study the possibility of a new type of proposal, but with no need to have it for the next call, too close in time.

Recommendation 2006-05-19/35: The UG recommends to study the possibility to define a new type of proposal whose scientific objectives can be achieved with short observations performed in high background conditions at the last science time of the revolution

- XMM-Newton extension after 10 years of operations

N. Schartel explained that the extension of XMM-Newton is currently granted until 2010 (rolling 4 years: funded 2006-2008, provision 2008-2010). The next extension discussion, in late 2007, will have to allocate funding to support XMM-Newton beyond the 10 year boundary. Although the current predictions are that there are on board spacecraft resources for up to 2018, it would be good to prepare strong scientific cases in support for years of operation beyond 2010.

The question is two-fold: should the XMM-Newton SOC study the potential of legacy-type scientific programs ? and should the SOC start studies for development of new operational modes with a high a priori scientific potential?

Regarding legacy-type programs N. Schartel presented two examples, one of which was complemented with a presentation of M. Watson with a different science case.

There was some discussion on the programs presented and it was clear that they are just examples and that the need is to define a process which aims at getting the best ideas and to ensure that the whole scientific community is involved in it. Once the ideas are identified, other aspects would need to be defined. Guidelines that can already be given are: programs will most probably have to lie in a new category of “Extremely Large Programs”, with a total time per call of about 4 to 6 Ms, i.e. twice to three times the current time dedicated to Large Programs; the whole process should involve as many astronomers as possible, probably via open calls and OTAC reviews; and the data resulting from these extremely large programs should become immediately public.

N. Schartel explained that his plan is to hold a science workshop at ESAC in late spring 2007 to call for ideas on legacy programs with XMM-Newton. The UG strongly supported this idea. The workshop organization was then discussed. It was agreed that it will consist of invited talks

plus contributions selected by the Scientific Organizing Committee from those freely submitted by the whole community. The Scientific Organizing Committee would be composed of the UG members plus some invited members. AO6 OTAC chairs will meet in November 2006. It would be good to involve some of them early in the workshop organization, in particular for the definition of the topics and for the selection of experts in each topic.

The aim of the workshop will be to clearly identify open questions that can only be answered with long projects in the X-ray regime with XMM-Newton.

The complementarity of the two big X-ray satellites currently operational, XMM-Newton and Chandra, should also be considered.

The best date for the workshop was identified as the week of May 21, 2007.

The following recommendation was issued:

Recommendation 2006-05-19/36: the UG recommends to have a science workshop to identify open questions that require legacy-type projects in the X-ray regime with XMM-Newton.

The second point related to the issue of XMM-Newton extension after 10 years of operations concerns the technical preparation of the satellite to enhance XMM-Newton capabilities. An example is the possibility of developing new operational modes. To put this subject into context, N. ScharTEL and M. Watson offered examples. One of the suggestions for legacy-type programs was to do surveys of given areas of the sky, for instance the Galactic plane and bulge. In order to make it feasible to cover large areas without expending all the XMM-Newton science time, exposures would be done while the space-craft is slewing across the sky, similar to the current slew exposures, but allowing the satellite to move three to four times slower than in normal slews.

R. Mushotzky reminded that XMM-Newton was designed as a high throughput spectroscopic mission.

It was clear from the discussion after the presentations that while it is too early to make a recommendation about the scientific merit of slew surveys, the development study of such an observing mode, if it is to be implemented, needs to be done now. The reason behind this is that the instrument, planning and operations experts are still available in the XMM-Newton team. This may not always be the case. The UG agreed to do the following recommendation:

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

Bearing in mind the time-line for the next mission extension review, the aim would be that the studies are finished by July 2007.

- Large Programs

N. ScharTEL explained that after having asked a few of the OTAC chairpersons from last year's review, they all had very similar experience and were very happy with the programs from the scientific point of view.

The threshold of 300 ks for a program to be considered large, though somehow artificial, was considered adequate. Similarly, although it is subject to some problems, it was considered that the decision to submit a program as large or not is to the principal investigator, but the OTAC panels should retain the possibility to move some programs from normal to large and vice-versa.

The Large Program over-subscription seems acceptable and it is not felt that an increase of the time allocated to this kind of program is needed.

The only possible concern from the OTAC chairpersons is that an even larger program might be missing.

M. Arnaud explained that she has also the impression that it might be time to introduce a very large program for proposals asking more than ~ 1 Ms. It was decided to wait for the outcome of the science workshop next year before making any recommendation in this sense.

J. Bergeron and M. Arnaud suggested that a way to improve the scientific merit of the Large Programs was by changing their current reviewing process by OTAC. In particular, the suggestion was to submit every Large Program to two panels. After some discussion and voting, there was no agreement among the UG voting members and no specific recommendation was therefore issued.

- Other issues

Following a suggestion from M. Mas Hesse, the UG made another recommendation:

Recommendation 2006-05-19/37: About one month before the next UG meeting, an XMM-Newton news should announce the date of the meeting, agenda and contact points, to allow all the interested astronomers sending their comments and suggestions to the UG members. XMM-Newton news should also announce the publication of the minutes on the Web

The discussion ended at 12:30. M. Arnaud thanked everybody present for their contributions to the meeting.

The UG unanimously expressed its sincere acknowledgment to Fred Jansen for many years of successful dedication to the XMM-Newton project, wishing him the best for his future. The UG members expressed as well their will of a fruitful collaboration with the new mission manager, Arvind Parmar.

Date of next meeting May 24 and 25, 2007, starting at 10 a.m. in Villafranca