

ATUC Business Session
2nd December 2005

Chair: Steven Tingay
Secretary: Jim Lovell

Meeting open: 09:30

1. Apologies and attendance

Apologies: Stuart Ryder, Alyson Ford, Katherine Newton-McGee, Helmut Jerjen, Rachel Webster

Attendance: Melanie Johnston-Hollitt, Juergen Ott, Kate Brooks, Elaine Sadler, Mark Wardle, Chris Wright

2. ATUC Business

2a. Welcome to new members (raised by ATUC)

New members: Kate Brooks, Alyson Ford, Melanie Johnston-Hollitt, Katherine Newton McGee, Stuart Ryder and Rachel Webster

ATNF response optional

2b. Nomination of new ATUC members (raised by ATUC)

The following members retire following the June 2006 meeting:

Full members: Joss Bland-Hawthorn, Helmut Jerjen, Steven Tingay (Chair), Mark Wardle, Chris Wright

Student members: Alyson Ford, Katherine Newton-McGee

ATUC have nominated seven candidate full members and three candidate student members to replace the five retiring full members and two retiring student members, to commence at the December 2006 meeting. An overseas member will have to be nominated for the June 2006 meeting, but ATUC will need to see the observing schedules first, to determine a convenient nomination.

Nominations: Andrew Walsh (UNSW)
Erwin de Blok (RSAA)
Ramesh Bhat (Swinburne)
Steve Longmore (UNSW) **student**
Sarah Maddison (Swinburne)
Andrew Hopkins (Sydney)
Merve Lynch (Curtin)
Cliff Senkbeil (UTas) student
Annie Hughes (Swinburne) **student**

George Hobbs (ATNF)

ATNF response required

- 1. Could the ATNF please pass these nominations to the Steering Committee, for consideration at its next meeting.**

2c. New ATUC Secretary

ATUC remind ATNF that the current secretary's appointment finishes following the June 2006 meeting.

ATNF response required

- 1. Could the ATNF think about a replacement for the ATUC Secretary position, following the June 2006 meeting, please.**

2d. New ATUC Chair

Following the December 2005 meeting, the current ATUC Chair intends to stand down. The ATNF Steering Committee will need to appoint a new Chair for the June 2006 meeting. The current Chair will complete his duties with the regular ATUC report to the ATSC meeting in March – April 2006.

ATNF response required

- 1. Could the ATNF pass to the Steering Committee the need to appoint a new ATUC Chair at their next meeting, please.**

2e. Substitute members

ATUC would like to recommend that members be able to nominate a substitute, one month before an ATUC meeting, if that member cannot attend. The chair of ATUC should be notified and attendance by the substitute should be at the discretion of the ATUC Chair. This would bring ATUC practise in line with Time Assignment Committee practise. If this recommendation is approved, the ATUC Terms of Reference should be modified.

ATNF response required

- 1. Does the ATNF and the Steering Committee approve this recommendation?**

2f. Dates for the next meeting

ATUC identify the first week of June 2006 (before June 15 ATNF proposal deadline) as a time range for the next ATUC meeting? We ask that ATNF do their best not to schedule ATUC meetings to coincide with ATNF science meetings or proposal deadlines.

ATNF response required

- 1. Does this time range work for the ATNF?**

3. Report from last meeting

That the ATUC report from the June 2005 meeting be accepted

Moved: Kate Brooks

Seconded: Juergen Ott

ATNF response optional

4. Matters arising from Director's Response

4a. ATUC Vice-Chair

ATUC think it's a good idea to have a Vice-Chair to support the Chair, provide overlap with successive Chairs, assist in the organization of ATUC activities, and perhaps entail an element of succession if the Steering Committee agrees. The term of Vice Chair should be for 2 meetings. This could start at the June 2006 meeting if approved by the Steering Committee. If this recommendation is approved, the ATUC Terms of Reference need to be modified.

ATNF response required

- 1. Does the Steering Committee approve the role of Vice Chair of ATUC, in order to assist the Chair with various ATUC activities and provide overlap and continuity between successive Chairs?**
- 2. If the Steering Committee approve the above, what does the Steering Committee think about the succession of Vice-Chairs to the Chair?**

5. Celebrating Success

5a. Mopra upgrade

ATUC offer their congratulations for the successful upgrade of Mopra, and in particular those involved in the upgrade; Bob Sault, Warwick Wilson, Juergen Ott, Tony Wong, Dick Ferris and Graeme Carrad. We note that Mopra is now the only ATNF telescope that can observe the 12CO (J=1-0) transition in the local universe. Those who have already observed there have commented on the improvement in the receiver capabilities.

5b. First ATCA 3 mm season

ATUC acknowledge the success of the first 3 mm winter season, in less than ideal weather conditions. The Narrabri OiC and Observatory staff, along with Marsfield staff, have made a great effort to make the 2005 winter a success.

5c. Farewell to Bob Sault and Ravi Subramanyan

ATUC note the departure of Bob and Ravi from the Narrabri Observatory and extend their thanks to both for being actively involved the operation and improvement of the ATCA over many years. Both will be missed.

5d. OPAL

The new online proposal submission system for the ATNF appears to be a great start to having a fully online and featured system. Congratulations to the team involved in putting this software together.

5e. First fringes to New Zealand

Congratulations to the VLBI team and their colleagues for the first successful VLBI fringes obtained between Australia and New Zealand. Hopefully this bodes well for the future uv coverage and sensitivity of the LBA.

5f. VLBI disk-based recording system

The new disk-based VLBI recording system gives a substantial improvement in sensitivity over the S2 tape-based recording system. Congratulations to Chris Phillips, Tasso Tzioumis and outside collaborators for deploying this system.

5g. Detailed ToO criteria

ATUC appreciates that the criteria for Target of Opportunity observations have been fully detailed and are to be available via the web. Thanks to the ATNF.

5h. Astrophysics

Congratulations to the ATNF and its Users for the many great science results highlighted at the December meeting. The ATNF is to be congratulated for maintaining facilities that produce such results.

5i NTD

Progress on the redeployment of the Fleurs dishes looks impressive. They have certainly scrubbed up well and look the goods with refurbished drives and electronics. ATUC wishes the NTD/xNTD team the best in their upcoming testing of the focal plane array on the Fleurs dishes.

ATNF response optional

6. High Priority Items for ATUC Discussion

6a. 3 mm season follow-up report (raised by ATUC)

One of the ATUC members (Kate Brooks) has produced a report on the first full 3 mm season at the ATCA, from a user point of view. It is attached in full as an appendix to this report. From the report, ATUC have a number of points to bring up, and some of these points were raised independently in some of the ATNF reports to ATUC:

6a(i). Suggestion for “priority” 3 mm proposals

To evaluate the impact of bad weather on the standard of observing projects carried out by ATCA the top-quartile ranked 3-mm projects (six science projects in total) were considered. Of these six projects, two were carried out in good weather, one in moderate weather, and three were incomplete primarily due to bad weather. This information was based on the observer's comments and weather score in the Observer's Questionnaire. No swaps were available for any of these projects. In summary, 50% of ATCA's top ranked 3-mm projects were not successfully complete. This could be taken as evidence that a “priority” system should be introduced as discussed in the Narrabri Observatory report to ATUC.

ATUC discussed this issue and recommend that the highest ranked projects get priority access to Director's time and cm swap proposals during the mm season. ATUC does not support the idea that scheduled 3 mm programs with relatively low rank get replaced by other, highly ranked scheduled programs, if bad weather interferes with the time allocated for the highly ranked project.

ATNF response required

- 1. Will the ATNF adopt the use of Director's time and swap time in priority for highly ranked 3 mm projects?**
- 2. Will the ATNF adopt the recommendation that low ranked but scheduled 3 mm observations not be replaced by highly ranked 3 mm projects in the case of bad weather for the highly ranked projects?**

6a(ii). 3 mm documentation

As part of the survey, some users commented about the 3-mm documentation, stating how some parts were out of date and the information was not all in one place. Some useful documentation is not “official” ATNF documentation, such as the 3 mm pipeline processing scripts.

ATUC would like to see a rationalisation of the 3 mm documentation before the next winter season.

ATUC acknowledge the good work Tony Wong has done on the 3 mm pipeline scripts and would like to see these scripts adopted and supported by the ATNF, as

well as better documented. Novice users are using the pipeline blindly because they can't follow the official documentation.

ATNF response required

- 1. Will the ATNF review and rationalize the existing 3 mm documentation and incorporate Tony Wong's 3 mm pipeline reduction scripts into the documentation?**

6a(iii) Flux calibration

Flux calibration remains an issue, with a couple of observers reporting 20-30% flux variation at 3 mm from one day to the next (after calibration). Occasionally the reason for this has been that quasars have been used for primary calibration, rather than Uranus or Mars. In one particular case, when Uranus and Mars were in the same part of the sky, an observer did not obtain a primary calibration scan during their time and later observers would not give up time to have one done.

ATUC would like to see Uranus/Mars observed at 3 mm once every 24h as a matter of course for observatory operations, to cover observers who do not have the opportunity to observe a primary calibrator. This will only occur in special circumstances but perhaps the observatory should be aware of who is doing primary calibration scans and when, so that the quality of amplitude calibration can be maximized.

ATNF response required

- 1. Will the Narrabri Observatory attempt to ensure that primary calibration is done at 3 mm with suitable sources at suitable intervals.**

6a(iv) 3 mm remote observing

Currently remote 3-mm observing is not permitted. One observer requests that ATNF reconsider this policy.

A clear response to this question was given by Bob Sault during the ATUC Open Session. The OiC was not comfortable with 3 mm remote observing at this stage but it will be considered in the future, once more experience with the 3 mm system has been gained.

ATNF response optional

6a(v) Change to Observer's Questionnaire

It is difficult to gauge the success of each observing run from the fields of the ATCA Observer's Questionnaire and ATUC think it would be useful to add a field asking the observer what percentage of their TAC-ranked project was successfully completed.

ATNF response required

1. Will the ATNF add this question to the Observer's Questionnaire?

6a(vi) Bad weather reverting to Director's time

Given that time lost to bad weather was 20% last winter and that this was an unusually bad year weather-wise, time lost will typically be less than this in the future, the ATNF policy of reverting to Director's time is good. However, ATUC could not find a formal statement to this effect anywhere on the web.

ATNF response required

- 1. Can the ATNF point ATUC to the formal documentation that states that bad weather reverts to Director's time? If this policy is not documented on the web, could it be added somewhere appropriate, please?**

6b. ATCA 3mm upgrade

6b(i). ATCA 115 GHz upgrade

Following Tony Wong's presentation in the Open Session, ATUC strongly support keeping the 115 GHz upgrade on the books. Mopra has shown that receiver technology is not a problem and weather not as big a problem as previously thought at 115 GHz. ATUC see that the case for 115 GHz is now much stronger than before but realize that any upgrade to 115 GHz is dependant on resources and funding and encourage ATNF to look at options. The priorities ATUC listed from their December 2004 meeting have not changed.

ATUC were asked for advice on funding a 115 GHz upgrade at the ATCA. ATUC thought that it was an appropriate level of funding for an ARC LIEF grant or similar. ATUC recommend that the Australian mm community explore proposal options, in full consultation with the ATNF, in particular thinking not only about the funding requirements but the personnel constraints on the ATNF side and previous ATUC-stated priorities.

If there are areas where ATCA can do unique science not capable with ALMA then ATUC urge ATNF to exploit these areas. Further development of the ATCA 3mm system should be closely tied to ALMA progress.

ATNF response required

- 1. Will ATNF explore future possibilities for upgrading the ATCA to 115 GHz?**

6b(ii) 3 mm ATCA polarization upgrade separate from 115 GHz?

Ron Ekers spoke briefly during the Open Session, advocating upgrading the 3 mm receivers for polarisation calibration, separate from a full upgrade to 115 GHz, using noise injection.

In principal, ATUC support the suggestion of adding noise injection and polarisation systems to the 3mm system.

ATNF response required

- 1. Can ATNF provide clarification of the general improvement in calibration from such a system, i.e is this the normal Tsys calibration scheme that operates at cm wavelengths?**
- 2. Further, can ATNF provide some additional clarification of the level of resources that such an upgrade would require, compared to a full upgrade to 115 GHz?**

6c. Prioritisation of instruments at the observatories.

Based on the discussion of Dave McConnell's instrument summary, and the resulting discussion of the prioritisation of instrumentation in the 2008/09 timeframe and beyond in the Open Session, ATUC have the following comments.

Tidbinbilla instrumentation does not appear on the instrumentation summary, and should.

ATUC believe that there is not enough data to do reprioritisation of existing instrumentation, in the light of changing priorities to the xNTD and SKA phase 1.

ATUC recommend that a major review of ATNF-supported instrumentation beyond 2008/2009 be undertaken sometime in 2006. As a group representing a major stakeholder, ATUC would like to be involved in such a review. This review process should be driven by the ATNF Steering Committee.

Any such review may have implications for NCRIS discussions in the first half of 2006.

ATNF response required

- 1. Will the ATNF add Tidbinbilla instrumentation to the instrumentation summary?**
- 2. Will the ATNF undertake a major review of instrumentation, concentrating on the 2008/2009 timeframe and beyond, specifically to address the transition to new instruments such as the xNTD and SKA phase 1?**

6d. 21 cm Parkes multibeam refurbishment, phase II.

As proposed, the 21cm MB refurbishment, phase II, will take 5 months. Currently the refurbishment is due to start in mid to late 2006. As raised by a user, this will cause an interruption to the GASS project.

ATUC recommend that refurbishment II does not start until the start of the 06OCTS term, in order to minimize the disruption to the GASS program. If this is not possible, can ATNF explain why?

ATNF response required

- 1. Will the ATNF adopt the ATUC recommendation on timing of the multibeam refurbishment?**

6e. University/ATNF collaboration/appointments/resource sharing

During the Open Session there was a discussion about resource sharing between ATNF and universities, in particular the possibilities and benefits of joint appointments between the ATNF and the universities, at a range of levels: Bolton Fellows? Post-doc appointments? Tenured staff? ATUC was asked to make some recommendations on this idea?

ATUC note the increased level of joint appointments between the ATNF and Universities. ATUC support these types of positions and would like to see the continuation of joint positions at the post-doc level and the introduction of joint appointments at the permanent level. This would reduce teaching load at universities (relevant to paragraph 2, page 21 of the astronomy Decadal Plan). Offering the possibility of sending Bolton Fellows to universities is in principal a good thing and can benefit the ATNF, the universities and the Fellows.

ATUC recognize that joint appointments at post-doctoral or Bolton Fellow level would be easier to arrange than at a tenured level. ATUC ask the ATNF to explore ways in which Bolton Fellows in particular can be jointly appointed within the university system.

ATNF response required

- 1. Is ATNF willing to jointly appoint Bolton Fellows with universities, depending on a suitable funding profile?**
- 2. Could ATNF come up with a mechanism on the CSIRO side that would make this possible and approach the universities with their ideas?**

6f. MIRIAD review, support, maintenance, new features

It was hinted in the software talk that an overhaul of MIRIAD, to support upgraded ATCA and new computing environments, would take place. As this was the subject of quite a lot of discussion in the ATNF software review of 2005, there are existing user recommendations on this issue. The report of the software review is on the ATNF web site, but there is not yet any ATNF response to this review. ATUC would like to see the ATNF response to the software review.

ATUC note that MIRIAD support issues have changed significantly now that Bob Sault is leaving the ATNF. As noted in the software review, and raised during the

Open Session, MIRIAD is a mission critical component of ATNF's operations, in particular upgrades such as 3 mm, broad-band front ends at 13/20 cm, and the CABB development.

ATUC echo the recommendations of the software review and ask that MIRIAD support be properly resourced. This appears to be at the 0.5 – 1.0 FTE level on an on-going basis. This level of support does not cover the cost of a major overhaul of the package.

ATNF are encouraged to explore and strength links with the developers of the BIMA/CARMA version of MIRIAD, with a view to a reunification of the two versions of MIRIAD.

ATUC feel that users should be surveyed as to new functionality and features that they would like to see in an upgraded MIRIAD, as part of the production of software requirements documents. ATUC feel that this is critical.

Finally, following discussion in the Open Session, ATUC feel that more attention should be given to the distribution of new MIRIAD releases.

ATNF response required

- 1. What is the ATNF response to the software review (undertaken in May 2005) that ATUC participated in?**
- 2. Will the ATNF undertake a major overhaul of MIRIAD in the near future?**
- 3. Will on-going support of MIRIAD be maintained at a suitable level in the long term, 0.5 – 1.0 FTE?**
- 4. In the process of developing a requirements document for this upgrade, will users be surveyed for a list of essential upgrades and additions to be made to MIRIAD?**
- 5. Will the ATNF explore and strengthen the links to the BIMA/CARMA MIRIAD developments?**
- 6. Will the ATNF put more thought into the distribution of new MIRIAD releases, keeping users up to date with changes, patches etc via a mailing list, regularly updated web page etc.**

7. Director's Report

7a NCRIS

ATUC feel that the NCRIS program is an opportunity to continue support for university involvement in SKA development. ATUC suggest that an MNRFII model could work well for NCRIS, giving universities, in partnership with ATNF, the

chance to retain strong radioastronomy groups, maintaining technology development, science, information technology, and student training in these areas.

ATNF response required

- 1. Will universities have a chance to participate in NCRIS in the same way as occurred for the MNRF program?**

8. ATCA and Mopra Report

8a. future Array configs

ATUC have no comments on the proposed usage of arrays over the next 12 months. This looks fine to us.

8b. Advice on 3mm productivity

The ATNF now has well developed 3mm observing systems at the ATCA and Mopra. The ATNF (via the ATCA/Mopra report at ATUC) sought general advice from ATUC on areas where the ATNF can further optimise the observing systems and processes to improve their scientific productivity.

ATUC feel that the systems are going very well, with a sensible approach from the ATNF. We direct the ATNF's attention to the comments in section 6.

ATNF response optional

8c. Online software

ATUC was asked if it has any comments on the on-line software review at the ATCA, in particular, if ATUC would like to suggest any areas of priority development?

ATUC have a few comments:

The MONICA software is good. ATUC would like to see it exportable to external sites.

ATUC would like to see a more rigorous testing of new Linux software at the ATCA before release and/or general use, and incorporation of differences between the VMS and Linux versions documented (e.g. new Linux command for switching generators on).

- Still some problems with the Linux version of CAOBS (mostly submitted as fault reports in late November) and many issues resolved already.
- Can't run linux version remotely at present.
- There are problems with the initial automatic attenuator setup in the Linux version of the software.

Apart from the Linux online software, ATUC would like to see the development of new scan types for streamlined optimized scan times. For example, look into the possibility of a scan type that changes the focus (c.f. pointing scan).

In future versions of SCHED and OPAL, ATUC would like to see more integration of these two pieces of software.

The on-line imaging system that has operated for many years at the ATCA, and so many astronomers like to use, has become obsolete. An obvious successor to this system would be based on the archive imaging pipeline created by Tara Murphy. ATUC would like to see the ATNF take what Tara has done and replicate the functionality of the old online imaging system at the ATCA. It would be desirable to see this expanded for spectral-line reduction

ATNF response required

- 1. Will the ATNF look into the various suggestions for the improvement of the ATCA online software that have been given?**

8d. Thunderstorms at ATCA

ATUC noted a disagreement between the staff recommendation and manual guidelines on precautions during thunderstorms and lightning, eg. under what conditions has the telescope to be stowed and operation switched to generator power.

ATUC note that it is not just the weather conditions that determines when the generators need to go on at the ATCA, condition of the telescope and the condition of the generators can sometimes be a factor. ATUC recommend that the Duty Astronomer needs to be called whenever there is a perceived need for the generators to go on. The User Manual is not the definitive source of information – the observer should call the Duty Astronomer in the first instance, then observatory staff (on-call person) if the Duty Astronomer cannot be contacted. This should be made perfectly clear up-front in the user guide section that describes the procedure for storms. The observer should engage the generators by themselves only as a last resort.

ATNF response required

- 1. Will the procedure for dealing with storms be clearly defined in the Users Manual? It should be made clear in the manual that users should only deal with generators themselves as a last resort. The Duty Astronomer should always be called out first.**

8e DA system

Some concerns were raised on the Duty Astronomer system, regarding use of non-ATNF Duty Astronomers and responses to requests from non-ATNF people wanting to be Duty Astronomers.

These questions were resolved during the Open Session discussion period. Non-ATNF astronomers are allowed to apply to be Duty Astronomer.

ATNF response optional

8f. Financial implications to universities of complete remote operation at Mopra

Long term Mopra users from universities will find it difficult to afford remote observations based from Narrabri. Concern was raised over this issue.

Suggested solutions made during the ATUC discussion may be: still allow non-remote observations at Mopra, allow remote observations from UNSW, or making available an on-site cottage at the ATCA for rent to long term users.

It was pointed out that the aim was to provide ATCA-style remote observing for Mopra in the next 12 – 18 months, and that this would hopefully be a temporary situation.

ATNF response required

- 1. Could the ATNF make available an on-site cottage at the ATCA for rent to long term Mopra users over the 2006 winter season?**

8i. Phones at lodge

ATUC note a request for phones to be installed in all rooms in the Lodge at ATCA. Or possibly put phones in the rooms of international guests staying at the observatory for a lengthy period of time, so that they can call family members in private.

ATUC would like to discourage generation of noise in sleeping areas. ATUC think that there are plenty of private places to call from on site and don't consider this an issue.

ATNF response optional

8j. Mopra washing machine

ATUC note a comment from users that if there is going to be continued long observing runs up at Mopra, that there should be a washing machine installed at Mopra.

ATUC doesn't expect continued long observing runs in Mopra. Therefore this should not be a long term issue.

ATNF response optional

9. Parkes Report

9a. Meals

ATUC had one request for meals at Parkes to be more “flexible”, as in meals to be left in the fridge in a similar manner to the set up at ATCA so that observers on night shift have the option of night lunches.

ATNF response required

- 1. If this is possible and does not happen already, ATUC would really appreciate it if this could be introduced. Can it?**

10. Tidbinbilla Report

10a. ATUC may wish to consider making the following recommendation to ATNF:

DSS-34 may be an interesting instrument for ATNF users. ATUC recommend that DSS-34 time is made available at the next Announcement of Opportunity and that the ATNF support observations on a best-efforts basis with current resources. 70 m time should take the highest priority.

ATNF response required

- 1. Will the ATNF adopt the ATUC recommendation?**

11. LBA Report

12. National Facility Office Report

12a. Trade ATCA time for time on overseas facilities

During discussion during the Open Session, it was asked if the ATNF should consider trading time on the ATCA/Parkes/Mopra for time on other unique overseas facilities.

ATUC recognize that this is a very complex possibility and should be dealt with on a case by case basis. ATUC encourage the ATNF to think about this possibility in the future, when appropriate, perhaps seeking user’s input when possibilities arise.

ATNF response optional

12b. ToO Criteria.

ATUC note the explicitly stated ToO criteria presented by Dave McConnell. ATUC thanks the ATNF for this clarification of the criteria.

ATNF response required

- 1. Will the ATNF place the full criteria at an appropriate location on the ATNF web site?**

12c. email communication,

Some emails from the ATNF exploders have been sent to users assuming that they have an ATNF account. In some situations the emails have instead gone to a person in CSIRO who happens to have the same name. The result is that the intended recipient never gets the email. Maybe some new exploders are needed or ATNF staff should be more aware of any existing email exploders which have the non-ATNF accounts listed instead of the ATNF accounts.

ATUC suggest that this particular user contact the owner of the list and request the list be changed. We ask ATNF to be mindful of this in the future for users who don't use their CSIRO email accounts.

ATNF response optional

12d. 6 month terms

One user noted to ATUC that the 6-month semester scheme continues to impact on the feasibility of quick novel projects.

AT ATUC we've discussed this point and others extensively in relation to 6 month terms, as the ATNF will be aware. At the last meeting, ATUC determined that this issue has been resolved since as many users are against the issue as support it.

ATNF response optional

12e. Mopra/Parkes online archives

A user notes that to date, only ATCA data can be downloaded online from the ATOA database. Parkes data can be searched for online but needs to be requested by email, copied and sent on CD. Mopra data is archived but there's no database to search for observations. However, observers can request data if they know exactly which files they are after. It would be good to have a) an interface similar to the Parkes data request tool to search for Mopra files (searchable: date, coordinates, etc.) and b) to have both, Parkes and Mopra data on spinning disks and accessible online similar to the ATCA data.

As per the recommendation put forward in the software review, ATUC reiterate that data from all ATNF facilities be archived giving the same level of access to users as the ATCA on-line archive.

ATNF response required

- 1. Will the recommendations on data archiving from the ATNF software review in May be implemented?**

12f. ATNF Synthesis Workshop

Although this issue was brought up at the last ATUC meeting, a number of students have brought up the cancellation of the synthesis imaging workshop. The students feel that the main issue with the cancelled school is the length of time between the schools. By the time the next school occurs (scheduled for October 2006), 3.5 years

would have elapsed between schools. This is an entire length of time for a PhD and as most of the universities do not offer any courses in radio astronomy the synthesis school is the only place where students have a chance to learn the details of interferometry.

ATUC would be happy to perhaps discuss alternatives to a synthesis imaging workshop that would provide on-going graduate training in radio astronomy.

ATNF response required

- 1. Will the ATNF guarantee that the synthesis imaging school will go ahead next year?**
- 2. Would the ATNF like to discuss alternative models for graduate training in radio astronomy.**

12g. Instrumentation summary

ATUC was asked if the instrumentation summary considered useful, and do ATUC have suggestions for either additional information or presentation improvement?

ATUC say yes, the instrumentation summary is very useful.

ATUC would like to see Tidbinbilla instrumentation included in the summary.

Perhaps the entries could be reordered somewhat in receiver/backend order perhaps or by a more logical grouping of instruments per telescope

ATNF response optional

13. Software and Computing Report

13a. Laptops

One user thinks that there is still very restrictive internet/network access for visitors who are using their own laptop computers at the ATNF.

ATUC need more specific information from the user. Issues may have already been resolved as some changes have been made.

ATNF response optional

13b. ASAP email list

ATUC was asked if an ASAP users mailing list would be useful?

ATUC think that this is a good idea and would be a good forum for announcing releases.

ATNF response required

- 1. Was ASAP released widely? Will the ATNF review the distribution of ASAP, along the same lines as same question ATUC ask of MIRIAD distribution?**

13c. RPFITS

A user called to make RPFITS easier to install.

ATUC ask, could an RPFITS installation procedure be included in the MIRIAD installation script?

ATNF response required

- 1. Can an RPFITS installation procedure be included in the MIRIAD installation script?**

13d. MIRIAD email list

ATUC were asked, would a MIRIAD users majordomo list be useful?

ATUC say yes.

ATNF response optional

13e. Marsfield fault report system

ATUC were asked, would a fault reporting system for the Marsfield site, similar to that at the observatories, be useful?

If this is more efficient for users and means reduced workload for ATNF staff then ATUC would be happy to see this happen. ATUC note that it should still be possible to talk to a real person to log problems.

ATUC acknowledge that Macintosh laptops are becoming popular among ATNF users and support the plan to discontinue Solaris support in favour of OS X.

ATNF response optional

14. Astrophysics Report

ATUC note the many great science results from the last 6 months.

ATNF response required

- 1. Is there any particular reason why no ATCA 3mm results were highlighted in the last astrophysics report?**

15. mm White Paper

ATUC note the white paper, commend the initiative of the mm community, and encourage contributions from stakeholders. ATUC look forward to an update in June following the planned international mm meeting in Sydney.

ATNF response optional

16. Technology Development Report

17. Any Other Business

The ATCA positions archive seems quite out of date (last updated august 2004).

ATNF response required

- 1. Will the positions project database be made redundant by ATOA/OPAL?**
- 2. If not, can the positions archive be updated soon, please?**

Appendix (from section 6)

ATUC Report – first 3 mm season
Kate Brooks
26 November 2005

As noted in the last meeting it was my task to follow up the first full ATCA millimetre season for user feedback. Initially I planned to send a survey to ATCA 3mm/12mm observers asking them to measure the success of their observations, particularly with respect to bad weather and the availability of schedule swaps. However, during the last ATCA season observers were asked to fill out two other surveys - the standard ATCA Observer's Questionnaire and an additional survey sent by Tony Wong seeking observer's interest in extending ATCA to 115 GHz. Rather than pester the observers further I requested the help of Bob Sault and Robin Wark and collected as much information as I could from the results of the ATCA Observer's Questionnaire and the ATCA logs.

Overall, I think the millimetre community is impressed with ATCA and look forward to ATCA optimizing its 12-mm and 3-mm capabilities through enhanced operation and hardware.

Statistics from scores on the ATCA Observer's Questionnaire will be reported in future ATNF reports. Below are some issues that were raised in the "comments" section by various observers:

- There is some frustration over bad weather and the current swap system. In particular, the lack of available swaps. One observer would like to see reconsideration of how to best ensure quality ATCA 3 mm data.
- Comments were made about the 3-mm documentation stating how some parts were out of date and the information was not all in one place.
- Flux calibration remains an issue with a couple of observers reporting 20-30% flux variation from one day to the next. One observer requests noise diode calibration and looks forward to upgraded MMIC 115 GHz receivers.
- Currently remote 3-mm observing is not permitted. One observer requests that ATNF reconsider this policy.

The task of measuring how many mm projects were affected by bad weather was not so straightforward. Moreover, 2005 saw the wettest winter at ATCA over the past 10 years. It was difficult to deduce from the ATCA Observer's Questionnaire how many observers switched to their own backup program unless they explicitly reported it in the "comments" section of the questionnaire. I also found it hard to gauge the success of each observing run from the fields of the ATCA Observer's Questionnaire and think it would be useful to add a field asking the observer what percentage of their TAC-ranked project was successfully completed. (Unfortunately this does not guarantee an entirely accurate answer either.) For monitoring the amount of time

observers were forced to switch to a backup/alternate program because of bad weather, the current procedure is that observers should use a "CX" observing id when they switch from their original TAC-ranked projects. I am concerned how often this is actually done in practice (I certainly didn't do this). However, in addition, whenever an observer does switch from their original project, it is recorded in the ATCA logs as "weather override". This is done on a best effort basis by Robin Wark and appears to be a reliable measurement

Here are some statistics from the ATCA observing logs maintained by ATCA staff. They have been collected from data over the April and October terms. Keep in mind the issues I have raised in the previous paragraph.

Total time allocated to 3-mm observing:	1201.5 hr
Total mm-weather lost:	29.6 hr (2%)
Total weather override:	147.9 hr (12%)
Total swap:	76.1 hr (6%)

mm-weather lost = the telescope was idle or continued observing at 3-mm in unacceptable conditions (e.g. Tsys > 1000 K)

weather override = observer switched to their own backup program

swap = observer invoked a swap made available to them

To evaluate the impact of bad weather on the standard of observing projects carried out by ATCA I considered the top-quartile ranked 3-mm projects (6 science projects in total). Of these 6 projects, 2 were carried out in good weather, 1 in moderate weather, and 3 were incomplete primarily due to bad weather. This information was based on the observer's comments and weather score in the Observer's Questionnaire. No swaps were available for any of these projects. In summary, 50% of ATCA's top ranked 3-mm projects were not successfully complete.

An important issue that needs to be considered by ATUC is to what extent the quality of science carried out by ATCA is being compromised by weather under the current observing scheme. Is it acceptable to have ATCA observing projects that have not been ranked by the TAC (observer's backup programs) and if so, should this amount be capped at a certain level? There is the issue of simply not having enough cm projects available for swaps, particularly in the compact hybrid configurations. This issue is raised in the ATCA report by Bob Sault. In these instances should calibration monitoring programs be invoked instead of observer's backup programs? Of all the 3-mm projects that were greatly affected by weather during 2005, many of these included PIs from overseas. It will be interesting to note how many of these projects will be continued in 2006 or abandoned.

There is no doubt that under the current observing scheme ATCA operations are compromised by bad 3-mm weather. However is the loss sufficient to warrant service observing and the extra staffing costs associated with it? One suggestion has been to permit highly-ranked projects that were weathered out to bump off the lowest-ranked proposals scheduled later in the term. Another has been to implement the current

OVRO observing scheme whereby outside observers must go to the telescope but not necessarily to observe their project. What do ATUC think of these suggestions?

Some of the issues I have raised here will be posted to the Wiki discussion page for the millimetre white paper. Michael Burton will report further on this.