

ATUC Report to the Director - October 2010

This meeting of the AT Users Committee was held at the ATNF Headquarters from 14th – 15th October 2010.

Attendance: Sarah Maddison (Chair), Chris Phillips (Secretary), Tara Murphy, Simon Johnston, Hayley Bignall, Chris Springob, Tim Robishaw, James Urquhart, John Dickey, Justin Bray (student representative) and Jacinta Delhaize (student representative).

Date and Format of the next meeting:

The next ATUC meeting is planned for 19-20 May 2011.

Welcome:

The committee welcomes new members Chris Phillips, Simon Johnston, Tim Robishaw, Justin Bray and Jacinta Delhaize.

Commendations and Successes

- ATUC congratulates CASS staff for running a very successful Radio Astronomy School.
- ATUC is excited by the LS receiver upgrade and pleased to see it is largely on schedule.
- ATUC appreciates the hard work being carried out to ensure that the CABB functionality continues to improve.
- ATUC was very pleased to see the large increase in Tidbinbilla proposals for the last proposal round, along with the continued high national and international demand for the LBA.
- ATUC is pleased to see the release of the updated ATCA calibrator database.
- ATUC congratulate George Hobbs on his Julius Career Award success, and Kate Brooks and Ilana Feain on their Ruby Payne Scott Award successes.

Matters arising from the May 2010 ATUC report

1. Matters Arising #2: ATUC is please to see that the CABB website has been turned into a 'one stop shop' of all CABB-related links. We continue to recommend that ATNF move both the CABB forum and wiki onto a CSIRO site, given that CABB is a national facility.
2. Matters Arising #4: ATUC is delighted to hear that ATNF is installing an all-sky camera with pointing cross-hairs at Mopra for the winter 2011 season. We reiterate our recommendation that ATNF consider installing similar systems at all of the observatories to aid monitoring of remote observations - especially in the coming SOC era.
3. Matters Arising #6: ATUC is pleased that progress is being made to enable abstracts of successful proposals to be uploaded to ADS. We have provided ATNF with an appropriate ADS contact person, Alberto Accomazzi, who is more than willing to assist with this process. We strongly encourage ATNF to contact Alberto for assistance.

4. Matters Arising #7: Prior to this ATUC meeting, the winmail.dat issue arose again (whereby emails sent to some non-CSIRO users by CSIRO staff turns attachments into an unreadable file called winmail.dat). ATUC strongly recommends ATNF continue to investigate this problem, and we encourage all users to report the problem to Shaun Amy to help solve the problem.
5. Recommendation #1: ATUC notes that wireless stability issues still exist at Marsfield. We encourage users to report any loss of service so that ATNF can address the problem.
6. Recommendation #2: ATUC looks forward to the hanging microphones being operational in the Marsfield lecture theatre for the next meeting. We note the at_meetings page does not indicate that only csiro, aao and edu accounts can post to the site, and suggest that this be explicitly mentioned.
7. Recommendation #3: ATUC is pleased to see that fast mapping is now available on Mopra. We understand that the default cycle time will be changed from 2s to 2.048s to enable seamless fast mapping by users. We recommend that ATNF ensure that all Mopra users are aware of this, especially those using old scripts.
8. Recommendation #4: We note that the ATNF LBA webpages still do not explicitly contain correlator personnel contact information or clear information about how user's LBA data is processed. We recommend that this information be made more clear on the ATNF LBA webpages.
9. Recommendation #6: We understand that the issue of more than 500 mosaic pointings for ATCA is being investigated. We look forward to hearing a resolution to this issue at the next ATUC meeting.
10. Recommendation #7: We understand attempts have been made to determine the ATCA antenna drive problems but that the cause has not yet been found. We encourage ATNF to continue investigating this problem.
11. Recommendation #12: ATUC was encouraged to hear that CASS staff will have a vacation student investigating OTF mapping at Tidbinbilla this summer. We look forward to hearing about this project at the next ATUC meeting.
12. Recommendation #14: Given the continued increase in data volumes produced by CABB's zoom modes, ATUC urges ATNF to monitor state-of-the-art network based data transfer protocols and try to make these available where possible to all users.

ATUC Recommendations [ATNF response requested]

1. Science Operations Centre (SOC):
 - ATUC was very pleased to see the results of the MALT90 SOC trials that were conducted this winter, which appeared to be a success for the MALT90 team. We look forward to seeing a full report on user feedback - both internal and external to the MALT90 project. There were contrasting opinions about the point-to-point video link, which appeared to work very well for MALT90 observers handing over between Sydney and Narrabri, but was considered intrusive and noisy to some people not directly involved in the MALT90 trial.
 - It was a little unclear from the ATUC open sessions presentations and the ATNF newsletter article about the SOC trial whether such trials will continue with the current SOC setup in 2011. There were some concerns that the MALT90 trial was a little

limited in that (i) Mopra is already a remote telescope, so moving Mopra observations from Narrabri to Sydney was not a huge leap, (ii) there was a Narrabri DA plus a Sydney support astronomer (which is more support than observers currently receive at Narrabri), (iii) the trial did not occur over a full 24 hours period, and (iv) the Sydney support astronomers were generally members of the MALT90 team and so had detailed knowledge of the project.

- Clearly SOC trials with ATCA are also needed.
- From a big picture perspective, ATUC would like to see the ATNF operations plan for the SOC. It is unclear exactly what is being proposed and on what timescales.
- Substantial funding is obviously needed to ensure that the final SOC is both well equipped and well supported, and not done 'on the cheap'. Clearly more accommodation is needed at Marsfield, as are dedicated observing and workspace rooms - especially if the four telescopes are going to be run via the SOC.
- It is understood that students will still receive on-site training at the observatories, but it is unclear how much knowledge can be gained from a single visit. The opportunity to work with the telescopes is clearly one of the motivations for students when they consider radio astronomy as a career.
- In the longer term, there are more serious concerns that not visiting the telescopes may lead to an entire generation who do not understand the full details of radio astronomy engineering, which will likely impact on the future developments in Australian radio astronomy.
 - i. *Recommendation 1a*: ATUC recommends that SOC trials continue and ensure that a wider range of observing modes are covered.
 - ii. *Recommendation 1b*: ATUC recommends that ATNF release a proposed operations plans for the SOC.
 - iii. *Recommendation 1c*: ATUC recommends that ATNF carefully consider the student experience with the telescopes.

2. Software:

There are concerns that, with the current level of support, miriad is insufficient in the CABB era.

- There are concerns about the inability to reduce CABB polarisation data with miriad, which clearly need to be addressed if astronomers are to obtain the maximum science benefits that CABB offers. There is no existing documentation about CABB polarisation data.
- More broadly, there are concerns that there is no single package that can reduce ATCA data. ATUC strongly recommend that ATNF allocate appropriate resources to ensure that one of the existing data reduction packages can reduce all CABB data.
- There was quite a lot of discussion in both the open and closed sessions of this ATUC meeting about miriad versus CASA. If it transpires that miriad cannot cope with CABB data and a decision is made to move to CASA, it needs to be demonstrated that results from CASA data reduction are consistent with miriad data reduction. Clearly a data reduction process would need to be formulated and documented for CASA.
 - i. *Recommendation 2a*: ATUC strongly recommends that ATNF allocate appropriate resources to ensure that one of the existing data reduction packages can reduce all CABB data.

- ii. *Recommendation 2b*: ATUC strongly recommends that ATNF advise users how to reduce their CABB polarisation data.

3. Documentation:

- ATUC appreciates that keeping documentation up to date is a large job which requires dedicated time. It is encouraging to see that the AT Users Guide has recently been updated and that Miriad documentation is constantly being updated. However, users need to be informed of changes that impact on their data reduction.
- ATUC is concerned that the National Facility instruments at Parkes, such as the Digital Filter Banks (DFBs), are largely undocumented.
- Given that ASKAP is the biggest project that CSIRO has undertaken, the ASKAP webpages should be up to date with the current ASKAP status, timelines and progress to date. We appreciate that ASKAP newsletters are used to inform the astronomical community of updates, but note that the broader community is more likely to read the ASKAP webpages.
 - i. *Recommendation 3a*: ATUC recommends that ATNF find a way to report to users on changes to the AT Users Guide which might affect the way that ATCA observations should be done and any miriad changes that affect data reduction strategies.
 - ii. *Recommendation 3b*: ATUC recommends that ATNF address the lack of documentation of Parkes National Facility instruments.
 - iii. *Recommendation 3c*: ATUC recommends that ATNF keep the ASKAP webpages up to date.

4. Guest instrument policy:

- ATUC discussed the ATNF memo on guest instrument guidelines. The main concern was about data availability and how this would be managed. Putting all data in the AT Online Archive (ATOA) will clearly require resources which ATNF will need to allocate. We also note that there are no provisions in the guidelines about documentation of guest instruments.
- There were concerns about how the proposed guidelines might affect existing guest instruments at Parkes.
- Guest instruments are clearly a positive supplement for the telescopes and ATUC encourages the ATNF to ensure that any policy does not discourage the contribution of guest instrumentation.
 - i. *Recommendation 4a*: ATUC recommends that ATNF consult NRAO and other observatories about their guest instrument policies before finalising their own.
 - ii. *Recommendation 4b*: ATUC recommends that ATNF carefully consider the resource implications of requiring all guest instrument data be hosted in the ATOA, and allocate the appropriate resources necessary if it is decided that all data should indeed be stored in the ATOA.

5. Warwick Wilson's retirement:

- ATUC greatly appreciates the expertise and effort Warwick has made to digital

instrumentation for ATNF. ATUC is concerned about the impact of Warwick's imminent retirement, particularly on CABB development, and would like assurances that succession planning is in place.

6. ATNF students:

- For new ATNF students, it is unclear what processes they need to follow to access their funds (e.g. CSIRO top-up grants and ATNF student travel grant).
 - i. *Recommendation 6a*: ATUC recommends that clear guidelines be provided to students at the commencement of their postgraduate studies, and that a form be prepared for ATNF student funding requests, clearly stating what information is required.

7. Support for large projects:

- The ATNF has conducted several large surveys that are of great benefit to the worldwide astronomical community. Many more are planned for the ASKAP-era. To get maximum scientific benefit from these large projects, the data should be distributed efficiently using a web-based server and standard tools. Currently the ATNF web pages have data from various surveys in different formats, some easier to use than others. Standardisation and updating are needed.
- The data volume from ASKAP will dwarf all of the existing surveys, and so it is very important that people get experience now with online data archives and find out how to make the best use of them, in advance of the ASKAP surveys. So much astrophysics is now done by data mining (e.g. a huge number of papers come out of SDSS) and this will only increase in future. ATNF will get left behind if it does not put more resources into this area.
 - i. *Recommendation 7a*: ATUC strongly recommends that ATNF provide a database server, software and support to allow the results from large surveys to be accessed online by the community.

8. CABB scheduler access:

- Currently the CABB scheduler requires users to login with an ATNF account. We realise that the online scheduler is connected to telescope software and that password removal would be inappropriate. However, it would be very useful if new and prospective users without an ATNF account could access the scheduler to learn how to use it and plan their observations.
 - i. *Recommendation 8a*: ATUC recommends that ATNF consider an open access version of the CABB scheduler for potential users without ATNF accounts.

9. Car for observers:

- There have been requests from some observers for access to observatory cars while on-site, particularly for observers who are required to spend an extended period at the observatories.
 - i. *Recommendation 9a*: ATUC recommends that ATNF consider providing a visitor car for observers while on-site (to use offsite) and provide guidelines for use of

ATNF cars.

10. ATNF memo series:

- It was suggested at the ATUC open session that the ATNF memo series should be resurrected. This might help alleviate some of the communication and documentation problems with current CABB issues.
 - i. *Recommendation 10a*: ATUC recommends that the resurrection of the ATNF memo series be considered.