

ATNF ATUC MEMORANDUM

To: ATUC
From: Bob Sault
Date: 25 November 2004
Subject: Remote operation of Mopra

Scope

In the winter of 2005 it is planned that Mopra can be used remotely from the Narrabri Control Building. This memo gives an overview of the project and a status report

The project aims to allow remote operation of Mopra in all the Mopra observing bands and modes, particularly 3mm mapping/spectroscopy and VLBI. The main components of the project are:

- Improvement of the primary monitor system and general monitoring of the telescope environment (eg weather, mist);
- Better remote protection of the telescope infrastructure;
- Ability to recover from minor anomalous events (e.g. the need to reset some telescope systems, and to recover from windstow events);
- Retrieval of the RPFITS data and observer data for archiving

The observing system itself is excluded from the scope. Any changes to the user observing interface are to be considered a separate development.

For remote observing of 3mm spectroscopy, the new MMIC-based millimetre will need to be available at Mopra. To be fully functionally for VLBI, the “e-VLBI” network connections would need to be available. If the eVLBI project delivery is delayed (which appears probable), we will aim have a system where local Mopra people could be employed as casual tape changers during VLBI sessions.

The restriction of the observing to the Narrabri Control Building is to allow the Narrabri staff an opportunity to refine the Mopra system through interaction with the Mopra remote observers. Additionally the Mopra primary monitor system is replicated in the Narrabri Control Building: in the short term we would require Mopra remote observers to have access to this. It is possible that some new observers will be required to observe from Narrabri so that they can be adequately supported.

The remote observing from Narrabri is a part-way step to an automated observing system, and to observing from other locations. These are not envisaged during the 2005 millimetre season. More details of the project are available in the ATNF projects system.

Progress

The Mopra primary monitor system (“MAPS”) dominates the critical path of the project. This work is on track.

Mopra major projects

Remote operation (and eventual automatic operation) is in part motivated by the thesis that Mopra is best used for a limited number of large projects. The multi-line digital filterbank (MOPS) and the MMIC receiver will make Mopra an attractive 3mm surveying instrument. Given uncertainties in the delivery of these new systems, the advertising for the possibility of major projects has been intentionally low key. Following the 1 December proposal deadline, guidance on the sorts of projects proposed in 2005 will be available by the ATUC meeting.