

## Behrend, Dirk (GSFC-698.0)[NVI]

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**From:** Simon Ellingsen [Simon.Ellingsen@utas.edu.au]  
**Sent:** Thursday, February 21, 2008 10:51 PM  
**To:** Behrend, Dirk (GSFC-698.0)[NVI]; Arthur Niell; Oleg Titov; Bill Petrachenko  
**Subject:** AuScope operations questions

Dear Dirk, Oleg, Arthur & Bill

I was wondering if you may have some time during the upcoming IVS meeting in St Petersburg to discuss some issues relevant to AuScope operations? We want to maximise the geodetic science gain from the new AuScope antennas, however, there are a number of issues which will have a major impact on the operations which we would like some science/geodesy input on. Basically the number and frequency of experiments where AuScope antennas form the core of the array determines the required size of the disk pool. In particular :

- The three AuScope antennas will be available approximately 180 days per year for IVS observations. What percentage of those are likely to be existing programs such as R1, R4, CRF, OHIG etc? Currently Hobart participates in 60 days of observations each year, it wasn't clear to me how much further scope there is for southern antennas to participate in these existing experiments?
- The remainder of the time will presumably be experiments where the AuScope antennas form the core of the array, is it likely that other stations (e.g. Hart, Forteleza, etc) will be available to participate? These experiments are the ones where it would seem to make most sense to correlate them at Curtin, however, at the moment the budget has a correlator with 3 MkV playback units (possibly 4 if the NZ consortium fund one) and 10 LBAHDR playback units (I'm pretty sure that the LBAHDR units aren't being funded through AuScope, but will connect to the same correlator). It will be possible to add additional MkV playback units, so that experiments with more than 3 (or 4) IVS antennas can be correlated, however, additional funds would need to be found for this.
- It may be more efficient (and hence cheaper) to run the AuScope IVS operations in blocks (e.g. 3x24 hour experiments one after the other and then 4 days with no IVS, or week on - week off), as opposed to approximately 1 x 24 hour experiment every two days. Would this sort of blocked mode of operation have an adverse impact on the geodesy (e.g. Earth rotation parameters)?

Its not critical to have final answers on any of these questions, however, some guidance would be very useful and provide us with a starting point for the operations discussions.

Regards

Simon

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