

Array Configuration and Simulations Working Group

Report to the ISSC

July 12, 2001

Berkeley

Main Points

- Reopened the scope of the group:
~~Array configuration and SIMULATIONS~~
(includes calibratability and imaging!)
- Effort (antenna) >>> effort (simulations)
This is of course traditional!
- Concerned with the resources available
(< 1 FTE year in the last year)
- Need better defined science case

Resources

- A few groups put substantial effort into configuration design while planning other configurations (ALMA, LOFAR, ATA).
- Yet still only ~ 1 FTE last year (people directly interested in SKA)
- Difficulty(simulations) ~ diff.(reducing data) (90% overlap)
- But, Moore's law not on our side yet

The problem: an example

- Time-variable primary beams (Cornwell, Noordam, Willis talks).
- 10 FTEs required for additional software development in aips++
- Testers and computing resources needed as well.

Plan

- 1 year
 - Know what to do
 - Get started with preliminary simulations
- 4 years
 - Evaluate designs
 - Make hard choices

Year 1

- Interim simulations — important within six months to help SWG refine the science case
- Proponents develop straw-man designs (including configuration)
- Be in position to start implementing tools for major simulations — resources!
- Communicate through [www](http://www.nrao.edu) (NRAO)

Years 2– 4: Major simulations

- Annual feedback / staged deployment of simulation tools including artificial skies
- Provide tests for continued evaluation of the concepts
- SWG provides *scientific scenarios* (a generalization of the concept of “artificial skies”)

Who Pays?

- ISSC to decide, of course

