





How to spoil an excellent image

Joris, Pandey, Ronald





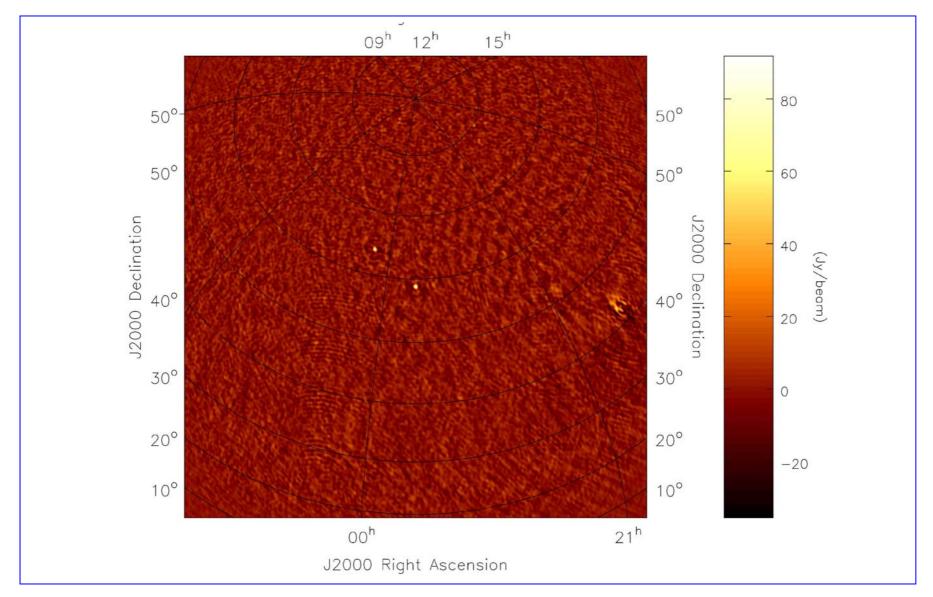
- Observation date: 30Mar07
- Duration: 16 hours
- Configuration: 16 dipoles
- 24 Subbands in total
 - we consider subband 20
 - 10 channels for selfcal: 31 to 40
 - 8 channels for imaging: 32 to 39
- 160 MHz clock
- Phase tracking on CasA



The result of Sarod's pipeline









The steps of Sarod's pipeline



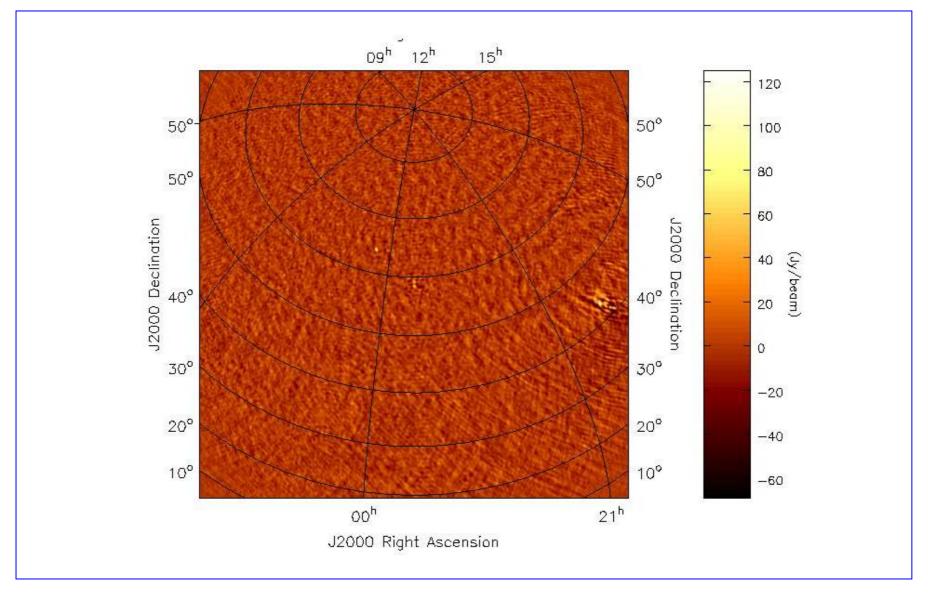


- Flagging on observed data
 - ABS(XX,XY,YX,YY) < 1e-6 or > 1e+5
 - All baselines < 70 meter
 - Median in time
- Selfcal using 2 point sources (CasA, CygA)
 - Both 20000 Jy
 - 3 solver iterations
- MMSE correction of selfcal solution
- Flagging on corrected residual data
 - -ABS > 1e+4
 - RMS > 5 sigma







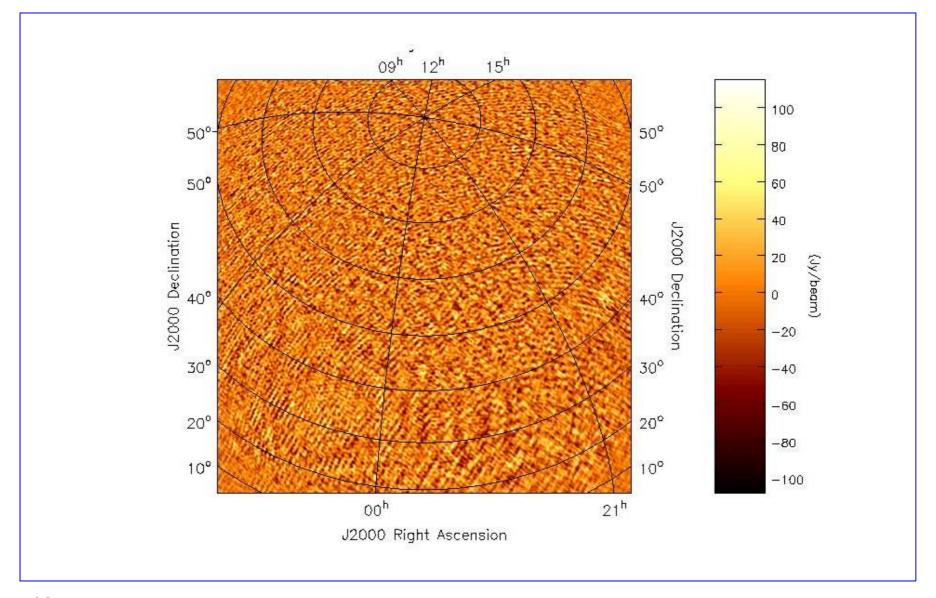




Omit the final flagging step





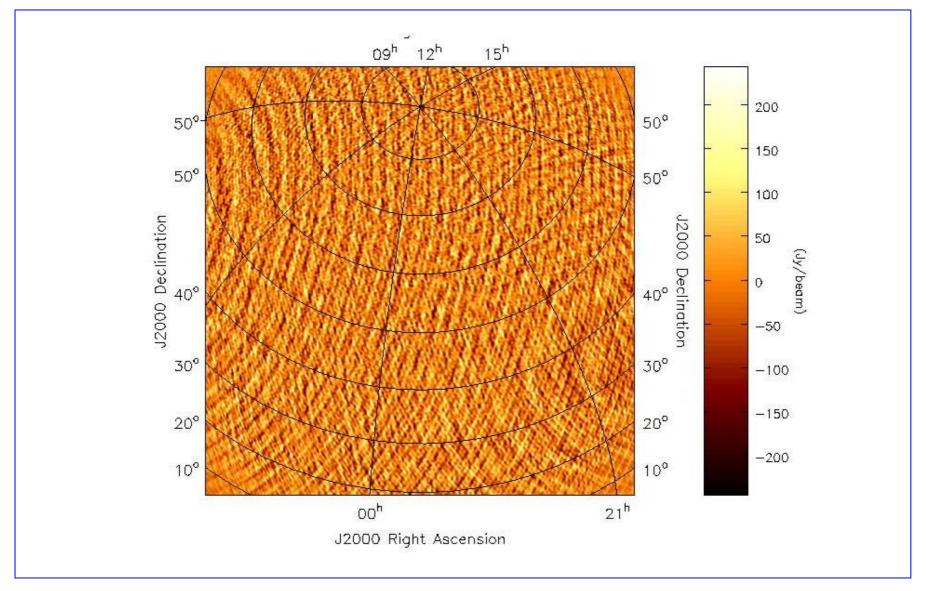




Omit the MMSE correction





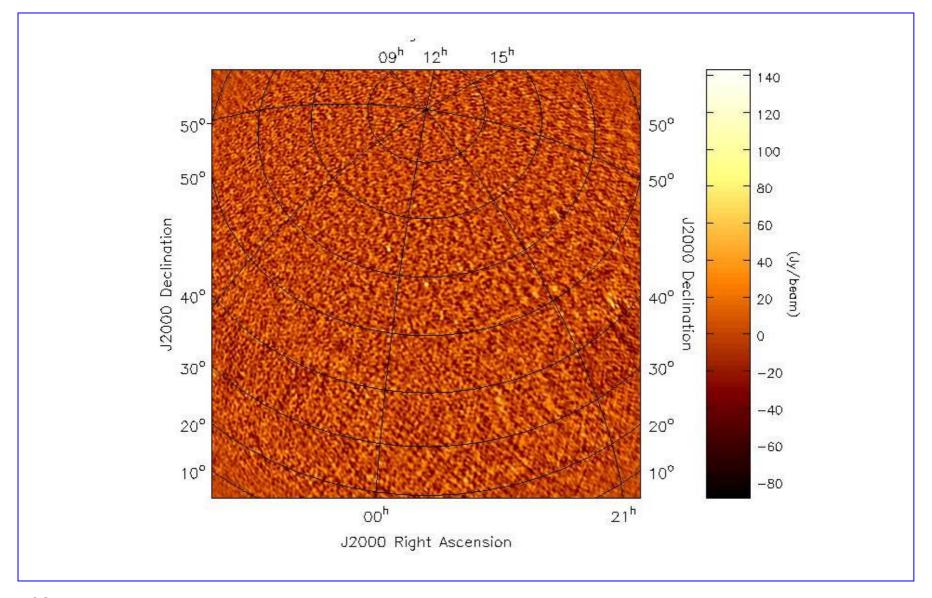




15 solver iterations





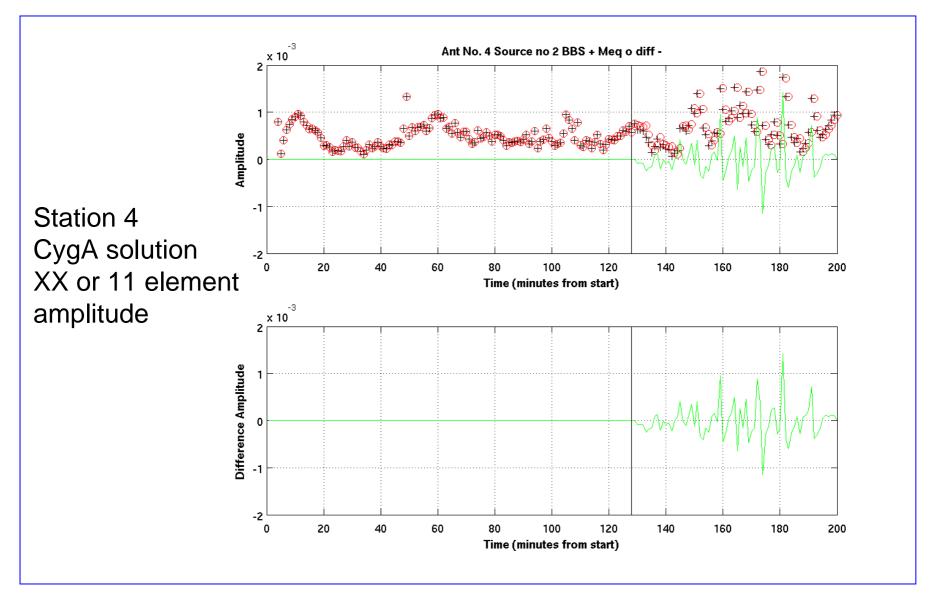




Comparing BBS and MeqTree solutions





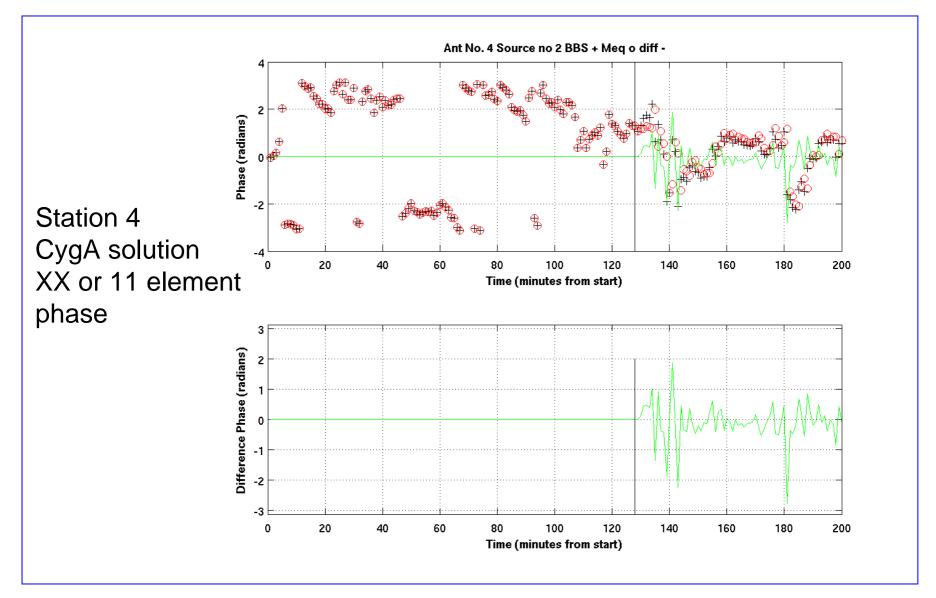




Comparing BBS and MeqTree solutions











- BBS Predict was tested and seems correct
 - Tested against AIPS++, MeqTrees, and a Glish script
 - 1 error found (point source n-factor)
- Solver was tested and seems correct (on noiseless data)
 - Beware of solver settings when comparing!
 - No interplay between CasA & CygA solutions
- Still deviations in BBS / MeqTrees Selfcal solutions
 - I/O problem?