

**GBT Systems Report on Project Coordination for April 1999**  
**M. McKinnon**

The project budget and a consolidated schedule to complete NRAO systems on the GBT were reviewed at a GBT coordination meeting on April 27. Much of the schedule is keyed to the shutdown of the 140-Foot Telescope on July 26. Toward the end of July, GBT receivers will be moved from the 140-Foot to the Jansky Laboratory for refurbishing and other equipment, such as the SAO maser, spectral processor, and VLBA data acquisition rack, will be moved to their permanent locations in the electronics room. The control of the spectral processor will then be integrated into the most recent version of the GBT monitor and control software. It was agreed that a temporary local control facility (besides the ComSat warehouse) was not needed; the telescope can be temporarily controlled from the alidade servo room. Efforts are underway to complete operator, engineer, and astronomer interfaces to the GBT by the end of July so that general tests of the mockup and GUI evaluations can be made. Those attending the meeting provided valuable input to make the schedule as realistic as possible.

The proposed list of priorities for 1999 RE funds was endorsed in a meeting on April 27. The final list of priorities is (1) complete the Q-band receiver, (2) complete prime focus receiver 2, (3) complete the interference monitoring station, (4) complete the prototype for an L-band focal plane array, (5) the GBT Ka-band receiver, (6) outfit the anechoic chamber with test equipment suitable for operation through 3mm, and (7) a machine to build/repair surface-mount PC boards.

Maddalena, Braatz, White, and Granados made engineering tests of the GBT holography system with the 140-Foot Telescope on April 20 and 21. The RMS noise in the phase measurements was much smaller than expected; therefore, Maddalena concluded that the instrumental contribution to the overall phase RMS will be insignificant. Problems with hardware nonlinearities, software, and satellite positions that were identified during the tests are being addressed. Astronomical tests of the holography system will be made later this summer.

A meeting on pointing/metrology integration was held on April 28. Parker and Creager reviewed the metrology group's recent point-to-point measurements of the ground laser rangefinders. Preparing for these automated tests revealed hardware and software problems that were quickly solved. Data recorded during the tests showed the strong effects of varying atmospheric refraction. Additional tests using more rangefinders need to be made so that a regression analysis can be performed with the rangefinder data. Brandt finalized the protocol for pointing synchronization messages in the GBT monitor and control software. It is possible that the VLA/VLBA can loan us inclinometers for measurements of the GBT structure. The effects of recent revisions to the project budget upon metrology and pointing were briefly reviewed.