

GBT Systems Report on Project Coordination for February 2000
M. McKinnon

RSI completed the fabrication, measurement, and painting of all GBT surface panels. As of February 27, all panels have been delivered to the GBT site, and 1753 of the 2004 panels have been installed on the telescope. If the weather continues to be good, panel installation should be complete by the first of April, at which time panel corner setting will resume.

The GBT was tipped to five degrees elevation for the first time on February 28. This implies that the elevation gear segments have been rough aligned.

Over 700 surface actuator cables have been tested since testing began on January 18. At the current rate of testing, this first round of cable testing should be complete by the end of April. This will delay the outfitting of the actuator control room by at least a month. Water or ice has been found in the connectors of over a third of the tested cables. These cables always fail the insulation resistance test that is made during the testing procedure. Cables with wet connectors are hung out to dry after they are tested instead of being permanently attached to an actuator. Personnel in the digital lab have developed a method to dry the connectors using alcohol and compressed air. The drying method cannot be used effectively until the ambient air temperature is consistently above freezing. The wet cables will need to be retested to ensure that their insulation resistance is acceptable.

A metrology integration meeting was held on February 23 to schedule the activities required to measure the GBT structure with the ground rangefinders. The schedule is keyed to the installation of the GBT azimuth and elevation encoders. Coupled with a structural model of the telescope, the encoder readings allow the rangefinders to automatically point to a target location. Target acquisition in the past has been done manually. Other subtasks that need to be addressed before the measurements can be made include a test of the telescope's commanded track that is generated by monitor and control, the final calibration and installation of all 12 ground rangefinders, and the testing of the structural model.

Tim Weadon completed the servo monitor. It should be installed soon when servo tests begin.

The machine shop and metrology group have essentially completed the test jig for the calibration of surface retroreflectors. Dave Parker designed the jig and developed the calibration procedure. Telescope operators will start calibrating the 2209 retroreflectors the week of March 6.

Progress on completing the Q-band receiver has been good. The two remaining feed horns are being built in the machine shop. The CDL delivered two low noise amplifiers on February 23. The two remaining amplifiers should be delivered any day.

The machine shop completed the installation of the fiberglass reinforcement on the feeds for the S-band and 800 MHz receivers. The fiberglass installation on the 1070 MHz feed (prime focus receiver 2) is complete except for painting.

Mike Fowler and Ed Childers installed connectors on one end of the 48 multimode fibers that are contained in the optical fiber cable between the GBT and Jansky lab. Connectors will be installed on the other end of the fibers when the telescope is outfitted. The 60 single mode fibers in the cable will be spliced as needed during outfitting.

The date for the dedication of the GBT was set for August 25, 2000.