

## LIGO M020395-00-M - The S2 Schedule

Our prior memorandum LIGO M010216-A-M of August 2001 laid out the strategy for transition from commissioning to scientific operations, and interleaving these operational modes. Our memo LIGO M020136-A-M of 12 March 2002 defined the progression of early scientific running in additional detail and created a basis for planning the important data analysis and interferometer commissioning and development work between the scientific running periods. These memos defined the schedules for the E7 and S1 runs and pointed towards the S2 and S3 runs.

We have just completed a very successful S1 run. Analysis of the data from this run and further interferometer commissioning and modification is underway. A plan for commissioning work prior to S2 has been developed and it is being implemented. The LSC has just held an important teleconference to display the status of the data analysis effort with the S1 data and to define the program leading to reports of the results near the end of the year.

The S1 run also involved coincidence running with the GEO 600 interferometer and the TAMA300 detector. This coincidence running also promises additional results and early experience in running a network of detectors across the globe. We have consulted with our partners in these efforts, as well, regarding accomplishments and plans for the future.

Our overarching mission is to accomplish the scientific reach planned for the LIGO interferometer system and to exploit the system, with the LSC, to accomplish the science. Our approach has been defined in the memos listed above. The next step is the S2 run. Following the S2 run we have a plan for additional commissioning including the important installation of the Livingston seismic preisolation system. An extended S3 run will follow that commissioning interval, marking the beginning of true search running.

Given that scientific analysis should be completed near the end of the year and that the planned commissioning should be accomplished in January, permitting an interferometer configuration freeze prior to S2, we set 8:00 am Pacific time February 14, 2003 to initiate S2. Given our goal for increased sensitivity, search volume and time in search for each progressive run, and the long preisolation commissioning period following S2, we plan S2 to last approximately 8 weeks with completion at 8 am Pacific time on April 14. With anticipated improvements in strain sensitivity and this duration, S2 will provide an opportunity to set very significant upper limits on sources.

With the planned preisolation commissioning after S2, we anticipate initiating S3 in autumn 2003.

Gary Sanders and Barry Barish