

Attachment OPS to the
Memorandum of Understanding (LIGO-M050243-00-M)
between the
Trinity University Group (TULG)
and the
Laser Interferometer Gravitational Wave Observatory (LIGO)
August 15, 2005

This Attachment OPS to the Memorandum of Understanding LIGO-M050243-00-M defines the role of the Trinity University Group (TULG) as a Member of the LIGO Scientific Collaboration (LSC) in the areas of detector commissioning, detector characterization, and operations in support of the initial LIGO interferometers. The period of performance for the activities in this Attachment is from August 15, 2005 to August 15, 2006.

1. Together, the LIGO Laboratory and the LIGO Scientific Collaboration (LSC) are responsible for implementing and exploiting the initial LIGO detector through its science data runs. LSC groups are encouraged to contribute to the commissioning, characterization, and operation of the LIGO detectors, as members of working groups established by the LIGO Laboratory and the LSC.
2. During the period August 15, 2005 to August 15, 2006, the members of the Trinity University LIGO Group will participate in the initial LIGO detector research program in the following areas:
 - a) *Commissioning* -- The group will continue work on incremental improvements to the interferometer, including
 - Understanding the source(s) of unwanted amplitude modulation in electro-optic modulators, and developing an automated correction servo to remove the effect
 - Commissioning a zoom telescope for decoupling axial optic motion in optical levers; such a telescope has already been prototyped at Trinity University
 - b) *Detector Characterization* -- The group will participate in detector characterization through the development of DMT monitors for environmental effects such as dust."
3. Resource Sharing: The LIGO Laboratory will contribute resources including allocation of appropriate scientific and engineering personnel, research facilities and funding in support of the effort in Item No. 2, as indicated below.
 - a) Research accommodations for TULG group members while on LIGO research assignment at any LIGO Laboratory site,
 - b) Access to LIGO data through established LSC channels in support of this work.

4. Coordination and Reporting – TULG Group will perform this research within the structures established by the LIGO Laboratory and the LSC where appropriate. In particular activities described in Item 2) will be carried out within the Detector Characterization Working Group. Coordination will include keeping the Group leaders informed of activities and plans, reporting to the group at meetings and telecons, and through technical documents submitted to the LIGO Document Control Center.

In addition, an annual report will be submitted with the update to this Attachment, giving a summary status on research by topic as indicated in Item No. 2, including progress against the milestones if any, significant accomplishments such as new insights/discoveries or publications, issues of concern if any, and an indication of invested time. This Attachment will be updated at least annually with a plan of activities for the succeeding on-year period. These documents will be due one month before the close of the period of performance under this Attachment.

5. All computer code delivered to the LSC under this Attachment must be developed in consultation with the LSC Data Analysis Software Working Group (DASWG) and archived, documented and reviewed as determined by that group.

Approved:



Jay Marx
LIGO Laboratory Director

Dennis Ugolini
TULG Principal Investigator



Peter Saulson
LSC Spokesperson

Keith Riles
LSC Detector Characterization Leader