



**Attachment OPS to the  
Memorandum of Understanding LIGO-M950059-00  
between the Experimental Relativity Group of the Louisiana State  
University (LSUERG)  
and the  
Laser Interferometer Gravitational Wave Observatory (LIGO)  
For The Period  
August 15, 2007 - August 14, 2008**

This Attachment OPS to the Memorandum of Understanding LIGO-M950059-00 defines the role of the Experimental Relativity Group of the Louisiana State University (LSUERG) as a Member of the LIGO Scientific Collaboration (LSC) in the areas of detector commissioning, detector characterization, and operations support in the initial LIGO interferometers. The period of performance for the activities in this Attachment is from August 15, 2007 - August 14, 2008.

## **1. Collaboration**

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. Participation**

During the period August 15, 2007 - August 14, 2008, the members of LSUERG will participate in the initial LIGO detector research program in the following areas:

### **a. Detector Commissioning**

*i*pre $\zeta$

Shyang Wen plans to finish a study of S5 data for the long term implications of various seismic remediations, including HEPI.

Rupal Amin will play a central role in the installation and commissioning of the output mode cleaner and the new DC readout system in Enhanced LIGO.

Jeff Kissel will help with the installation and commissioning of the new HAM internal seismic isolation system for enhanced LIGO.

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### **b. Detector Characterization**

Gabriela Gonzalez and Jeff Kissel will work on the post-S5 calibrations tasks, with the rest of the Calibration Team. Myungkee Sung will finish producing the time-dependent calibration factors for S5. Together with the calibration team, a final calibration version will be released for all of S5, and appropriate documentation will be prepared. Gabriela Gonzalez and Jeff Kissel will work on effort for calibrating enhanced LIGO commissioning data as needed, preparing for S6, and AstroWatch data (with the rest of the Calibration Team).

Jacob Slutsky and Jeff Kissel will work on producing data quality flags related to environmental disturbances, especially the ones affecting inspiral searches.

Jacob Slutsky will participate in an AstroWatch as a scientific monitor for H2, if the plan for an AstroWatch needs manpower.

Gabriela Gonzalez, Jeff Slutsky, Sarah Caudill and Jacob Slutsky will participate in the activities of the Glitch group, to find data corruption and artifacts in S5 data.

c. Detector Operations

*Not Applicable*

d. Other Contributions

*Not Applicable*

### 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 LSUERG group members while on LIGO research assignment at any LIGO Laboratory site.

*Not Applicable*

b. Access to LIGO data through established LSC channels in support of this work.

*Not Applicable*

### 4. Coordination and Reporting

LSUERG will perform research within the structures established by the LIGO Laboratory and the LSC where appropriate.

In particular, with reference to activities described above:

**2a** will be carried out in coordination with the LIGO Laboratory Commissioning Leader.

**2b** will be carried out within the Detector Characterization Working Group of the LSC.

**2c** will be carried out in coordination with the LHO or LLO Site Head.

This includes 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.

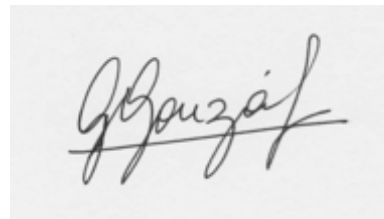
This Attachment will be updated at least annually with a plan of activities for the succeeding one-year period. These documents will be due one month before the close of the period of performance under this Attachment.

## 5. Computer Code

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.



Jay Marx  
**LIGO Laboratory Director**



Gabriela Gonzalez  
**Principal Investigator(s)  
LSUERG**



David Reitze  
**LSC Spokesperson**