

Attachment DAT to the
Memorandum of Understanding (LIGO-M050381-00-M)
between the
Loyola University New Orleans Gravitational Wave Group (LGWG)
and the
Laser Interferometer Gravitational Wave Observatory (LIGO)
August 15, 2005

This Attachment DAT to the Memorandum of Understanding LIGO-M050381-00-M defines the role of the Loyola University New Orleans Gravitational Wave Group (LGWG) as a Member of the LIGO Scientific Collaboration (LSC), in particular, its activities in data analysis 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 are responsible for implementing and exploiting the initial LIGO detector through its science data runs. The LSC has organized the data analysis effort into search groups which coordinate the analyses, perform detailed reviews, and prepare publications on behalf of the collaboration. LSC groups are encouraged to participate in one or more of these groups. MOU Attachments define the contributions of each participating group to the data analysis groups.
2. During the period August 15, 2005 to August 15, 2006, the members of LGWG Group [Loyola Gravitational Waves Group] will participate in the analysis of initial LIGO data in the following areas:
 - a) Stochastic -- Martin McHugh and John Whelan will continue to be active participants in the Stochastic Sources upper limits working group. The group will continue to lead in the ALLEGRO-LLO stochastic analysis. Building upon what we have learned from the S2 analysis, we will complete the analysis of S4 data. A paper will be written, and the review process for the analysis and paper will be pushed through to completion leading to a submitted publication within this time frame.
 - 1) John Whelan and Marc Cenac will continue maintenance, operation, and further development of the StochMon DMT monitor
 - 2) A large part of the ALLEGRO-LLO analysis has involved ALLEGRO detector characterization and the calibration of ALLEGRO data. Martin McHugh will work with the LSU group to write a technical paper on this work and submit it in this time frame.
 - 3) John Whelan will begin exploration of possible avenues for future collaboration between Virgo and the LSC in stochastic background searches. The first step will be completion of a draft technical document on the sensitivity of the

GEO-Virgo instrument pair at frequencies above 200 Hz.

4) John Whelan will assist in the development of analysis techniques to search for an anisotropic stochastic background.

5) Martin McHugh will assist in the effort to analyze H1-H2 correlations.

6) John Whelan will revise "Stochastic Gravitational Wave Measurements with Bar Detectors: Dependence of Response on Detector Orientation" in response to LSC comments and submit it to arXiv and a refereed journal.

b) Binary Inspirals -- John Whelan will continue to serve on the inspiral review committee, and will cultivate further interaction with the group as time and opportunity permit.

c) John Whelan will continue to serve on the LSC Detection Committee.

d) John Whelan will continue to participate in the Data Analysis Software Working Group.

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 LGWG group members while on LIGO research assignment at any LIGO Laboratory site,

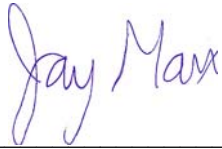
b) Access to LIGO data in support through established LSC channels in support of this work.

4. Coordination and Reporting – LGWG Group will perform this research within the structures established by the LIGO Laboratory and the LSC where appropriate. In particular activities described in Item 2a) will be carried out within the LSC Inspirational Search Group, Item 2b) will be carried out within the LSC Burst Search Group, and Item 2c) will be carried out within the LSC Stochastic Search 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

Martin McHugh
LGWG Principal Investigator



Peter Saulson
LSC Spokesperson

Peter Shawhan
LSC Burst Search Group Leader

Albert Lazzarini
LIGO Laboratory Data and Computing
Group Leader