# Attachment DAT to the

# Memorandum of Understanding (LIGO-M050267-00-M) between the

# Relativity and Astrophysics Group of Louisiana Tech University (RAGLT)

# and the

# Laser Interferometer Gravitational Wave Observatory (LIGO)

# August 15, 2005

This Attachment DAT to the Memorandum of Understanding LIGO-M050267-00-M defines the role of the Relativity and Astrophysics Group of Louisiana Tech (RAGLT) 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 RAGLT Group will participate in the analysis of initial LIGO data in the following areas:

   a) *Binary Inspirals* – The RAGLT Group will continue to develop veto analysis scripts to allow continuous comparisons, probably on a daily basis, with the inspiral searches that are conducted in near real time. Open questions about a cause and effect relationship between certain pairs of channels will also be investigated. Graduate students will learn to run the inspiral codes to assist in the current searches while developing plans for their own research projects.

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 RAGLT 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. 0

4. Coordination and Reporting – RAGLT 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 Inspiral 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:

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| Barry Barish<br>LIGO Laboratory Director | Natalia Zotov<br>RAGLT Principal Investigator |
| Peter Saulson<br>LSC Spokesperson | Peter Shawhan<br>LSC Burst Search Group Leader |
| Albert Lazzarini<br>LIGO Laboratory Data and Computing Group Leader | |