

Attachment Number A to the
Memorandum of Understanding (LIGO-M950059-00-M)
between the
LSU Experimental Relativity Group (LSUERG) of the Louisiana State
University
and the
Laser Interferometer Gravitational Wave Observatory (LIGO) Laboratory
August 15, 1997

This Attachment to the Memorandum of Understanding LIGO-M950059-00-M covers the role of the LSU Experimental Relativity Group (LSUERG) of the Louisiana State University as a Charter Member of the LIGO Scientific Collaboration (LSC) and a member of the LIGO I Development Group (LIDG). The period of performance for the activities in this Attachment is from August 15, 1997 to February 15, 1998. This period may be modified by agreement to a revision of this Attachment.

1. LIGO Scientific Collaboration - The LIGO Scientific Collaboration will be organized as a separate organization from the LIGO Laboratory. It will include scientists from the LIGO Laboratory, and those from collaborating institutions, and will have its own leadership and governance. The Collaboration will ensure equal scientific opportunity for individual participants and institutions. It will organize the research, publications, and all other scientific activities. The Collaboration will report to the Laboratory Directorate for final approval of its research program, technical work, observational physics publications, and talks announcing new observations and physics results. This will be done through regular reports to the Directorate and its PAC.
2. Charter Membership - An initial period for formation of the Charter group of institutions in the LIGO Scientific Collaboration will commence on March 1, 1997 and will end following the first full meeting of the Collaboration at which the Collaboration Council will assume its role. We expect that this transition will occur within six months. Membership in the Collaboration during this charter period will be initiated by proposal to the LIGO Laboratory Directorate.

Following the charter period proposals will be evaluated through the Collaboration Council. With Collaboration approval, an MOU with the LIGO Laboratory, including Attachments defining specific work, will be required for any participating institutions.

3. This document is an agreement between the LSU Experimental Relativity Group (LSUERG) of the Louisiana State University and the LIGO Laboratory concerning the activities noted below, under provision 8, of LSUERG as a Collaborating Institution in the LIGO Scientific

Collaboration (LSC) and in the LIGO I Development Group (LIDG).

4. LIGO I Development Group - The LIGO I Development Group will be the scientific collaboration for implementing and exploiting the initial LIGO detector and physics through the initial science data run. Only groups who establish a specific Attachment approved by the LIGO Laboratory, which defines a sufficient contribution and participation in LIGO I development, implementation or data analysis will be part of this initial LIGO data run and science. Participation in future data runs and science that follow LIGO I will be possible for other groups, with guidelines to be determined by the LIGO Scientific Collaboration. It is anticipated that LIGO I data will only be made available through formal collaboration within the LIGO I Development Group during the first two years following its collection.

The general guideline for institutional membership in the LIGO I Development Group is that the contribution per collaborator of any new group to the design, construction, and implementation of the initial LIGO detector and to the first data run be comparable to that of the LIGO Laboratory scientists.

5. Report of Progress - LSUERG will provide a summary report of progress, monthly, by e-mail to the Collaboration Council and to the LIGO Laboratory Director. LSUERG will submit a complete report on its activities every six months, supply an updated List of Collaborators, and a plan of activities for the next six months. This report should be submitted one month before the updated attachment will take effect.
6. Term of Membership - Membership will be renewed every six months upon evidence of satisfactory performance of agreed upon duties.
7. Intellectual Property Rights - The rights to intellectual property developed under this Attachment will be subject to the National Science Foundation Grant Policy as indicated in Section 730, Intellectual Property.
8. During the period August 15, 1997 - February 15, 1998, the members of the LSUERG who will work in the LIGO I Development Group are: Warren Johnson, Bill Hamilton, Giovanni Santostasi, and Martin McHugh. Their activities will be:

a.) Seismic Isolation and Suspension : Warren Johnson shall act as a physics advisor to the Seismic and Suspension task leader (currently Mike Fine) and review and measure and model prototype and 1st article components as they become available from contractors. Two graduate students under Johnson's direction (Andrew Morse and Giovanni Santostasi) will develop and improve the mathematical modeling of these mechanical components. Martin McHugh (postdoc) will assist with these measurements. Many of these measurements can be made in Johnson's lab at LSU. A large vacuum tank (5 foot dia by 6 foot tall) and most of the electronics needed are available. A LIGO staff technician can be integrated into this activity. Special attention will be given to tests for non-Gaussian noise, and to design of electrical wiring that traverses the isolation system. Full collaboration with LIGO staff that have been involved in this work will be necessary. Significant travel to/from Pasadena will be required.

b.) Recruitment: Johnson and Hamilton will work to obtain both a senior and a junior position on the LSU physics faculty for gravitation, and to fill them with suitable scientists who will make essential contributions to gravitational physics. If desired, they can also assist with recruitment of staff scientists and technicians for the Livingston site.

c.) Data Analysis : Johnson, Hamilton, and Morse will advise the Data Analysis Group on those analysis techniques that have proven to be particularly useful on the ALLEGRO antenna.

d.) 40 meter : Hamilton will continue to advise on operating the 40 meter as a science prototype, for learning what new problems need solution for LIGO I to be a successful observatory.

e.) Collaboration Meeting: The LSUERG will host the 1st collaboration meeting in August 1997.

Approved:

Barry Barish

Barry Barish
LIGO Laboratory Director

Aug 15, 1997

Date

Warren Johnson

Warren Johnson
LSUERG Principal Investigator

8/15/97

Date