Attachment Number D to the
Memorandum of Understanding (LIGO-M010217-00-M)
between the
Goddard Gravitational Wave Astrophysics Group (GGWAG)
and the
Laser Interferometer Gravitational Wave Observatory (LIGO) Laboratory
August 15, 2001

This Attachment to the Memorandum of Understanding LIGO-M010217-00-M covers the role of Goddard Gravitational Wave Astrophysics Group (GGWAG) as a Member of the LIGO Scientific Collaboration (LSC) and a member of the Advanced Detector Configurations Development Group (ADCDG). The period of performance for the activities in this Attachment is from August 15, 2001 to February 15, 2002. This period may be modified by agreement to a revision of this Attachment.

1. LIGO Scientific Collaboration - The LIGO Scientific Collaboration is organized as a separate organization from the LIGO Laboratory. It includes scientists from the LIGO Laboratory, and those from collaborating institutions, and has 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 commenced on March 1, 1997 and ended following the first full meeting of the Collaboration at which the Collaboration Council assumed its role.

   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 Goddard Gravitational Wave Astrophysics Group (GGWAG) and the LIGO Laboratory concerning the activities of GGWAG as a Collaborating Institution in the LIGO Scientific Collaboration (LSC) and in the Advanced Detector Configurations Development Group (ADCDG), and as indicated in Item No. 8 below.

4. Advanced Detector Configurations Development Group - The Advanced Detector Configura-

tions Development Group (ADCDG) is the scientific collaboration for defining and developing entirely new advanced interferometers. It is expected that this development group will pursue research in dual recycling, resonant sideband extraction, Sagnac interferometers, systems with non-transmitting optics and other advanced configurations. A specific Attachment will define the roles and responsibilities of groups in this development group. Members of this group will normally be authors on publications reporting the work of the group and will normally be eligible to participate in data runs and science beyond the LIGO I data run.

5. Report of Progress - GGWAG will provide a status report on its activities in support of LIGO every six months. The report will consist of: a) a summary status on research by topic as indicated Item No. 8 below 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, b) updated List of Collaborators, and c) a plan of activities for the succeeding six-monthly period. The report will be due one month before the close of the period of performance under the Attachment in question.

   The coordinates of GGWAG members are included in the Attachment Z to the Memorandum of Understanding LIGO-M010217-00-M.

6. Term of Membership - The 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, 2001 to February 15, 2002, Robin Stebbins will work with the Seismic Isolation Team to develop the seismic isolation systems for Advanced LIGO. Stebbins will continue his involvement, started while at the University of Colorado, with the pre-prototype which has recently been moved to Stanford's ETF, and with the development of the prototype system being specifically constructed for the ETF. Stebbins will participate in construction and implementation of the prototypes, tapping Goddard engineering expertise where appropriate

9. During the period August 15, 2001 to February 15, 2002, the LIGO Laboratory will share, as requested and appropriate, LIGO data of relevance to the planned research in Item No. 8 above.

10. The research effort pursuant to this Attachment D will be coordinated by Robin Stebbins and Gary Sanders on behalf of GGWAG and the LIGO Laboratory, respectively.

11. 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. 8, as indicated below. These resources will be in addition to the coordination effort and data to be made available per Item No. 9 above.

a) Provide accommodations for GGWAG investigators while on LIGO research assignment at Caltech, and/or at LIGO sites.

Barry Barish
LIGO Laboratory Director

8/29/01
Date

Nicholas White
Chief, Laboratory for High Energy Astrophysics
NASA/Goddard

9/10/01
Date

Joan Centrella
GGWAG Co-Principal Investigator

9/14/01
Date

Robin Stebbins
GGWAG Co-Principal Investigator

21 Sep. '01
Date