

**Memorandum of Understanding**  
**between the**  
**University of Florida Physics Department LIGO Group (UFLG)**  
**and the**  
**Laser Interferometer Gravitational Wave Observatory (LIGO) Project**  
**October 1, 1996**

The purpose of this Memorandum of Understanding is to establish and define a collaborative relationship between the University of Florida Physics Department LIGO Group (UFLG) and the Laser Interferometer Gravitational Wave Observatory (LIGO) Project. Both parties to this agreement share the goals of observing gravitational radiation and subsequently using gravitational radiation as an astrophysical probe. This agreement is intended to further these joint goals.

1. The University of Florida LIGO Group (UFLG) presently consists of eight members: Paul Avery, Robert Coldwell, Steven Detweiler, James Ipser, Guenakh Mitselmakher, David Reitze, David Tanner and Bernard Whiting. The UFLG has interest in lasers, interferometers, modeling, astrophysical sources, and extractions of signals from noise. The UFLG presently is focussed on issues associated with the input/output optics of the initial LIGO (detailed in Attachment 1).
2. The Laser Interferometer Gravitational-Wave Observatory (LIGO) Project is aimed at opening the field of gravitational-wave astrophysics through the direct detection of gravitational waves. LIGO detectors will use laser interferometry to measure the distortions of the space between free masses induced by passing gravitational waves. The design, construction, and operation of LIGO is being carried out by scientists, engineers, and staff at the California Institute of Technology (Caltech) and the Massachusetts Institute of Technology (MIT). Caltech has prime responsibility for the project under the terms of a Cooperative Agreement<sup>1</sup> with the National Science Foundation (NSF). LIGO will become a national facility for gravitational-wave research, providing opportunities for the broader scientific community to participate in detector development, observations and data analysis. LIGO welcomes the participation of outside scientists at any of these levels. LIGO is being constructed in a phased approach beginning with one three-interferometer detector system and evolving to a multiple interferometer configuration to enable simultaneous use by several gravitational-wave observation systems.
3. The UFLG will assume primary responsibility for the design and implementation of the input/output optics for the initial LIGO detectors. Upon the establishment of formal procedures for joining the LIGO Project, it is the intention of to UFLG to become full members of the LIGO

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1. Cooperative Agreement No. PHY-9210038 between the National Science Foundation, Washington, D.C. 20550 and the California Institute of Technology, Pasadena, CA 91125, dated May 1992.

collaboration (detailed in Attachment 2).

- 4. In entering into this Memorandum of Understanding, the LIGO Project will carry out its responsibilities following the requirements of the Cooperative Agreement<sup>1</sup>.
- 5. The LIGO Project is responsible for obtaining NSF approval of all collaborative Memoranda of Understanding with international partners, or involving NSF costs exceeding \$100,000. All Memoranda of Understanding will be provided to NSF for their information.
- 6. Each party to this agreement continues to be responsible for all support of its staff including travel costs associated with the activities under this agreement. Exceptional support of travel by the other institution may be allowed for travel requested by that institution.
- 7. This Memorandum of Understanding will remain in force until the parties mutually agree to terminate it. An annual Attachment will define specific activities to be carried out during the following year.

Approved:

Barry Barish

Barry Barish  
LIGO Principal Investigator

Oct 2, 1996

Date

G. Mitselmakher

Guenakh Mitselmakher  
UFLG Principal Investigator

Oct 4, 1996

Date

Neil S. Sullivan

Neil S. Sullivan  
Chair, Physics Department

Oct. 4, 1996

Date

W. W. Harrison

W. W. Harrison  
Dean, College of Liberal Arts and Sciences

Oct 9, 1996

Date

T. Wald FOR

Karen Holbrook  
Vice President for Research,

OCT 7, 1996

Date