Memorandum of Understanding

between the

Elementary Particles and Relativity Group

Department of Physics, California State University Dominguez Hills

and the

Laser Interferometer Gravitational-Wave Observatory (LIGO) Laboratory

April 15, 2000

The purpose of this Memorandum of Understanding is to establish and define a collaborative relationship between the Elementary Particles and Relativity Group, Department of Physics, California State University Dominguez Hills (EPRG-CSUDH) and the LIGO Laboratory. 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 Elementary Particles and Relativity Group, Department of Physics, California State University Dominguez Hills (EPRG-CSUDH) consists of Professors Kenneth Ganezer, George Jennings, William Keig and Sam Wiley. The EPRG-CSUDH has been working on modeling the configuration and performance for the 40m LIGO prototype, as well as LIGO I and LIGO II, using Sun Stations and MPI based parallel computation. The EPRG-CSUDH has also been working on the hardware for the 40m LIGO prototype (40m) upgrade which has a potential to develop into measurements at the 40m hardware tests, and analysis techniques that relate to both LIGO I and LIGO II. For a number of years the EPRG-CSUDH has been a collaborating institution on the Super-Kamiokande nucleon decay experiment and neutrino observatory. This association can directly contribute to the LIGO Laboratory through a mutual interest in supernovae and other sources of both gravitational waves and neutrinos.

2. The Laser Interferometer Gravitational-Wave Observatory (LIGO) Laboratory 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[1] 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.

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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.

3. In entering into this Memorandum of Understanding, the LIGO Laboratory will carry out its responsibilities following the requirements of the Cooperative Agreement[1].

4. The LIGO Laboratory 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.

5. 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.

6. This Memorandum of Understanding will remain in force until the parties mutually agree to terminate it. A semi-annual Attachment will define specific activities to be carried out during the following year.

Approved:

Barry Barish
Barry Barish
LIGO Laboratory Director

6/12/00
Date

Kenneth Ganezer
Kenneth Ganezer
EPRG-CSUDH Principal Investigator

6/14/00
Date