

Memorandum of Understanding

between the

Collaboration of the Russian Research Institutes (CRRI) presently including the Institute of Laser Physics of the Siberian Branch of the Russian Academy of Sciences at Novosibirsk, and the Institute of Applied Physics of the Russian Academy of Sciences at Nizhny Novgorod

and the

Laser Interferometer Gravitational Wave Observatory (LIGO) Project

March 1, 1997

The purpose of this Memorandum of Understanding is to establish and define a collaborative relationship between the Collaboration of the Russian Research Institutes (CRRI) presently including the Institute of Laser Physics(ILP) of the Siberian Branch of the Russian Academy of Sciences at Novosibirsk, Russia and the Institute of Applied Physics(IAP) of the Russian Academy of Sciences at Nizhny Novgorod, Russia 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 ILP and IAP, the present members of CRRI, are leading research centers of the Russian Academy of Sciences. They are engaged in the development of novel trends in laser physics, elaborating highly sensitive and precise methods of physical measurements, and performing numerous experiments at the forefront of laser and optical physics. Ultrastable laser systems, high precision interferometry, and optical material science are well developed areas of their expertise. This research is supported by scientific programs of the Russian State Committee for Science and Technologies. Both ILP and IAP are experienced in international collaborations, maintaining such collaborations with several US universities and national laboratories.
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 Agreement¹ with the National Science Foundation (NSF). LIGO will become a national facility for gravitational-wave research, providing opportunities for the broader scientific community to partic-

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.

ipate 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. In entering into this Memorandum of Understanding, the LIGO Project will carry out its responsibilities following the requirements of the Cooperative Agreement¹.
4. 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.
5. The Collaboration of Russian Research Institutes (CRRI) may evolve in the future to include other research groups. This collaboration will be represented by a spokesman to be appointed by the State Committee for Science and Technologies of the Russian Federation.
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 C. Barish
Barry Barish
LIGO Principal Investigator

14 Feb 97
Date

Sergei N. Bagayev
Sergei N. Bagayev
ILP Principal Investigator

2/14/97
Date

Alexander M. Sergeev
Alexander M. Sergeev
IAP Principal Investigator

Feb. 14, 1997
Date