

**Attachment Number 1 to the  
Memorandum of Understanding (LIGO-M970020-00-M)**

**Between the**

**Collaboration of the Russian Research Institutes (CRR I) presently including  
the Institute of Laser Physics of the Siberian Branch of the  
Russian Academy of Sciences at Novosibirsk**

**and the**

**Laser Interferometer Gravitational Wave Observatory (LIGO) Laboratory**

**March 14, 2000**

This Attachment to the Memorandum of Understanding LIGO-M970020-00-M describes the activities of the Collaboration CRR I presently including the Institute of Laser Physics (ILP) of the Siberian Branch of the Russian Academy of Sciences at Novosibirsk, Russia. The period of performance for the activities in this Attachment is from March 1, 1998 to February 15, 2001. This period may be modified by agreement to a revision of this Attachment.


CRR I activities will include:

1. Development of a new generation of ultrastable diode-pumped solid-state (DPSS) lasers with radiation line width and long-term frequency stability of the order of  $10^{-17}$  –  $10^{-18}$ .
2. Studies of different physical factors affecting amplitude and phase fluctuations of DPSS laser radiation.
3. Fundamental studies and development of new types of coherent light sources with noise at about the quantum limit or lower.
4. CRR I and LIGO will seek additional funding to enhance the research activities described above.

Approved:

  
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Barry Barish  
LIGO Laboratory Director

6/27/00  
Date

  
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Sergei N. Bagayev  
ILP Principal Investigator

14/04/2000  
Date