



**Attachment OPT to the
Memorandum of Understanding LIGO-M050347-00
between the Institute of Applied Physics Russian Academy of
Science (IAP)
and the
Laser Interferometer Gravitational Wave Observatory (LIGO)
For The Period
August 15, 2007 - August 14, 2008**

This Attachment OPT to the Memorandum of Understanding LIGO-M050347-00 defines the role of the Institute of Applied Physics Russian Academy of Science (IAP) as a Member of the LIGO Scientific Collaboration (LSC), and a member of the Optics Development Group (LDG). The period of performance for the activities in this Attachment is from August 15, 2007 - August 14, 2008.

1. Collaboration

The Optics Development Group (ODG) is the scientific collaboration for defining and developing instruments in optics for use in advanced subsystems for the initial LIGO interferometers, or in entirely new advanced interferometers.

MOU Attachment OPT defines the roles and responsibilities of groups in this development group.

2. Participation

During the period August 15, 2007 - August 14, 2008, the members of IAP will participate in ODG in the following areas:

a. Optics Characterization

The second vacuum-compatible, high aperture, high power Faraday isolator will be assembled and passed through vacuum test. New set of TGG crystals will be grown, polished AR-coated and delivered to UF. The full optical test of the Faraday isolator with dual (depolarization and aberration) compensation will be done and the isolator will be installed in HLO in collaboration with UF group. We will start investigation non steady-state behavior of Faraday isolator at the unlocked interferometer (transient regimes).

The white light interferometer will be modified to provide high transverse resolution (up to 10microns) keeping the remote measurements. It may be useful to study small-scale contaminations and/or strains in the Core Optics. A white light interferometer for in situ measurements of ETM optical thickness will be installed and tested on ETM in the LIGO Livingston detector (if invitation will be issued).

b. Other Contributions

Not Applicable

3. 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. 2, as indicated below.

- a. Research accommodations for IAP group members while on LIGO research assignment at any LIGO Laboratory site.

at LLO on October-November, 2007

- b. Access to LIGO data through established LSC channels in support of this work.

at LLO on October-November, 2007

4. Coordination and Reporting

IAP will perform research within the structures established by the LIGO Laboratory and the LSC where appropriate. In particular, activities described in Item 2 will be carried out within the Optics Development Working Group of the LSC.

This includes keeping the Group leaders informed of activities and plans, reporting to the group at meetings and telecons, and through technical documents submitted to the LIGO Document Control Center.

In addition, an annual report will be submitted with the update to this Attachment, giving a summary status on research by topic as indicated in Item No. 2, 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.

This Attachment will be updated at least annually with a plan of activities for the succeeding one-year period. These documents will be due one month before the close of the period of performance under this Attachment.

5. Computer Code

All computer code delivered to the LSC under this Attachment must be developed in consultation with the LSC Data Analysis Software Working Group (DASWG) and archived, documented and reviewed as determined by that group.



Jay Marx
LIGO Laboratory Director



Alexander Sergeev
Principal Investigator(s)
IAP



David Reitze
LSC Spokesperson