

**Attachment Number 1 to the
Memorandum of Understanding (LIGO-M000125-00-M)**

between the

Carleton College Relativity Group (CCRG)

and the

Laser Interferometer Gravitational Wave Observatory (LIGO) Laboratory

August 1, 2000

This Attachment to the Memorandum of Understanding LIGO-M000125-00-M covers research involving use of the Caltech 40-meter prototype Interferometer November 1994 test data set and the data-analysis package GRASP. Documentation on both the data and the GRASP package will be made available. The period of performance for the activities in this Attachment is from August 01, 2000 to July 31, 2001. This period may be modified by agreement to a revision of this Attachment.

1. This document is an agreement between Nelson Christensen and the LIGO Laboratory. The LIGO staff member Albert Lazzarini will serve as the internal LIGO collaborator and point of contact for the work described below.
2. Christensen plans to contribute to the LIGO data analysis effort by working on higher order statistical properties of the Caltech 40 meter Interferometer data. Bicoherence will be investigated as means of identifying and studying noise in the Interferometer data. Use of this method may be an effective way to monitor the Interferometer noise in real time.
3. The results of Christensen' work will be communicated to the LIGO Laboratory in a collegial and timely manner. Christensen is also expected to relay any new knowledge gleaned from the data stream that might affect or influence the ongoing analysis of this data and understanding of the instrument, as well as any errors, bugs or problems with the GRASP package and suggested corrections or changes to it.
4. Christensen agrees that the data and GRASP will not be used for any public purpose (talk, paper, preprint, etc.) without the express written consent of the LIGO Laboratory. This agreement is intended to a) ensure that those individuals who made significant contributions towards obtaining and analyzing this data receive proper credit, and b) that the LIGO Laboratory has the opportunity to review and vet any conclusions reached. Christensen acknowledges that receipt of this software and data does not imply any future commitment on the part of LIGO to supply additional software or data.
5. Christensen agrees to accept responsibility for controlling access to the November 1994 test data set, and to GRASP. Access will be restricted to those individuals listed below; other individuals or organizations not covered by this agreement will not have access to these materials

in any form. Christensen may request that individuals be added to (or removed from) this list in the future.

6. It is expected that Christensen and members of the CCRG team will contribute to the GRASP package useful code derived from their work. This should be contributed with sufficient documentation and examples (in the appropriate format) to permit independent use by others; LIGO will take responsibility to maintain the overall GRASP package.
7. Christensen will accept LIGO's eventual decisions regarding the distribution of and access to GRASP, and the materials that they contribute to it.

Approved:

Barry Barish

Barry Barish
LIGO Laboratory Director

July 28, 2000

Date

Nelson Christensen

Nelson Christensen
CCRG Principal Investigator

Aug 9, 2000

Date

Albert Lazzarini

Albert Lazzarini
LIGO Laboratory Data and Computing
Group Leader

25 July 2000

Date