

LSC ISSUES

Technical Development Groups

- White paper needs conversion to program
 - Research program goals
 - Criteria for branch points in the research program
 - Schedule for major developments
 - Division of effort
 - Program deliverables
 - Definition of test program

Deadline for the program September 15, 1998
Presentation to LIGO PAC, information to NSF

Data Analysis Groups

Astrophysical source identification and signatures

techniques to search for posited sources - templates, filter and algorithm for:

- compact binary inspiral
- impulsive sources
 - black hole formation
- periodic sources
- stochastic background
- search for unknown sources
- source statistics - logs/logN estimation
- on-line and off-line functions

B. Allen, T Prince

Detector Characterization

- development of statistical descriptions in time and frequency domains
- design of event catalogs
- correlation with environmental measurements
- correlation with internal detector parameters
- variance and covariance analysis
- correlation of noise between interferometers
- correlation of noise between sites
- on-line and off-line functions
- end to end models of the detector

W. Hamilton, D. Sigg

Detection Confidence and Statistical Analysis

assess detection confidence and uncertainties in astrophysical parameters

Monte- Carlo models, Bayesian analysis

multi-interferometer analysis

correlation with other gravitational wave and particle detectors

development of overall analysis system tests

simulated time series

software tests

determination of on-line and off-line functions

S. Finn, A.Lazzarini

Initial aims for the Data committees

Determine priorities for the LSC

Establish roles and a program for the Collaborators in the various areas

LSC Charter

LSC Publications and Presentations Policy

Forum on criteria for detection of gravitational waves

Meetings

GWDAW Pennsylvania State University

LSC Summer meeting : August 13-15, 1998, Boulder ,Colorado

LSC Winter meeting: March 11-13,1999, Gainesville, Florida

LIGO SCIENTIFIC COLLABORATION CHARTER

The purpose of the charter is to establish the functions and organizational structure of the LIGO Scientific Collaboration (LSC), to identify its responsibilities and to set guidelines for the role the Collaboration will play in the scientific research and operation of the LIGO project and the release of the scientific results.

FUNCTIONS OF THE COLLABORATION

1. Research and Technical Development

The LSC proposes and presents the case for the scientific research, organizes the development effort, and its members carry out the scientific program of LIGO. The process is coordinated with the LIGO Laboratory. The LSC performs the following functions:

- a) determines the scientific needs of the project,
- b) sets priorities for the research and development,
- c) makes presentations to the funding agency and the LIGO Laboratory on the level of effort required to support the various elements of the research program,
- d) makes the scientific case for the program at the LIGO Program Advisory Committee and at the funding agencies.

2. LIGO Scientific Operations

The LSC advises the LIGO Laboratory on the scientific tradeoffs in the operations:

- a) the optimization of the scientific returns in the operation of the LIGO Laboratory facilities,
- b) the relative distribution of observing and development time in the long baseline system,
- c) the priorities for improvements in the LIGO facilities,
- d) the timing and readiness of major instrumentation changes in the long baseline system.

3. Publications Policy and Data Analysis

The LSC establishes the publication and presentation policy for the LIGO Project by:

- a) writing a publications and presentation policy document,
- b) maintaining a clearing house for proposed publications and PhD thesis research involving LIGO data,
- c) appointing an editorial board to foster the development as well as to maintain the scientific integrity of publication of results derived from LIGO data.
- d) providing the forum for the discussion, debate and the resolution of the major scientific findings of the project leading to the publication of the LIGO scientific results.

ORGANIZATIONAL STRUCTURE OF THE COLLABORATION

1. Collaboration Council

1.2 The Collaboration will be governed by the Collaboration Council. The Council has the responsibility to vote on the Collaboration policies and directions.

1.3 The Collaboration Council membership will be determined by each member institution. The number of Council members per institution is calculated by summing the full time equivalent scientists, senior engineers and PhD candidates in the group at the collaborating institution, dividing by 5 and adding 1. The Council membership will be reconsidered every six months.

1.4 The MOU, the program for the collaboration and the institutional membership of each collaborating group will be reviewed by the Collaboration Council every year.

1.5 Proposals for membership in the collaboration will be made by institutions to the Collaboration Council and the Laboratory. The proposed collaborative program and roles will be presented to the Collaboration Council which needs to approve the new membership by a 2/3 majority vote. The MOU with the collaborating institution will be made with the LIGO Laboratory.

(The intent is the following. The financial arrangements for the collaboration participation will continue to be made directly between the individual institutions and the funding agencies. The formal arrangement of the collaborating institution with the project will continue to be made in MOU between the LIGO Laboratory and the institution. However, with the formation of the collaboration, the scope and nature of the collaborative work and the roles the members play in the collaboration requires the concurrence of the Collaboration Council.)

2. Spokesperson for the Collaboration

2.1 The Collaboration Council will elect a Spokesperson to serve for 2 years.

2.2 The Spokesperson will represent the Collaboration at the LIGO Program Advisory Committee and in formal Presentations to the funding agencies.

2.3 The Spokesperson will form an executive committee to facilitate Collaboration functions and nominate, for vote by the Collaboration Council, individuals to carry out specific responsibilities. It is anticipated that most Collaboration functions (i.e., development groups for the research program, data analysis strategies and validation, etc) will be discussed and developed in smaller subgroups with their own leadership and then conclusions brought to the Collaboration Council for final discussion and vote.

2.4 The Spokesperson will bring all major issues to the Collaboration Council for vote at regularly scheduled meetings of the Collaboration. The rate of meetings depends on the urgency but will at the minimum be two meetings per year.

3. Publications and Release of Scientific Results

(The Spokesperson will convene a subcommittee of the Collaboration Council to write a Publications and Presentations policy to be discussed at the second meeting of the Collaboration.)

3.1 The Collaboration Council will elect a 3 member editorial board to act as a clearing house for proposals to write papers and to carry out PhD research using LIGO data. The editorial board will appoint members of the collaboration to guide the development of LIGO publications.

4. Relation to the LIGO Laboratory Directorate

4.1 The Collaboration will report regularly to the LIGO Laboratory Directorate and the LIGO Program Advisory Committee.

4.2 The Collaboration research program and technical projects will be brought to the LIGO Laboratory Directorate for final approval.

4.3 Publication and presentation of major new physics results and astrophysical observations will be made in concurrence with the LIGO Laboratory Directorate.

Note 1, Linda Turner, 04/20/98 03:22:45 PM
LIGO-G980049-02-M