REPORT FROM THE VALIDATION AND ETECTION CONFIDENCE GROUP
LSC 3 MEETING
AUGUST 13-15, 1998
SAM FINN (CALTECH)

LIGO-G980113-14-M

Sam Finn

DCSA Inaugural Meeting

8:30 AM Room S105 DCSA
(11:00 AM Room S105 ASIS)

Agenda

Review of DCSA objectives & goals

Survey of interests and resources

System requirements, goals and constraints:
preliminary discussion

Detection Confidence & Statistical Analysis

Principle focus: statistical analysis leading to quantitative answers to questions like

"We did/didn't observe X with prob. Y"

"The chirp mass is between M_L and M_H with prob. Z"

Specify algorithms for detection confidence & parameter estimation

Single IFO, multi-IFO, other GW detectors, optical, γ-ray, neutrino

ASIS sets source priorities, provides waveforms, filters, templates, etc.

Detector characterization provides data quality, instrument diagnostics, environmental monitors, detector noise properties

Calibration α vs. β for realistic/real detector

Validation & Verification

Verification: incremental/piecewise requirements testing

Validation: overall/end-end requirements testing

ASIS, Detector Characterization & DCSA

Each group organizes collaborations expertise in area of focus

ASIS Charter
- Identification & characterization of known sources: templates, waveforms, filters, algorithms
- Identification of unknown sources
- Source statistics & source science

Detector Characterization Charter
- Development of statistical characterization of detector output
- Correlation with environmental monitors
- Correlation with internal detector parameters
- Correlation between interferometers
- End-to-end models

Detection Confidence & Statistical Analysis Charter
- Development of statistical analysis to assess confidence & uncertainties in detection, estimation
- Single & multi-detector analyses
- Development of analysis system tests

Detection Confidence & Statistical Analysis

I Introduction
ASIS, Detector Characterization & DCSA

II DCSA Role & Responsibilities

III Inaugural Mtg. Agenda

Note 1, Linda Turner, 08/20/98 12:47:40 PM
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