

LIGO Hanford

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# **Data analysis and data handling in GEO600**

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**LIGO-G980049-15-M**



## GEO600 Parameters and Constraints

- **Distributed collaboration with relatively slow inter-site data communications – Hannover and Potsdam in Germany, Glasgow and Cardiff in the UK.**
- **Very limited budgets:**
  - **Data storage costs must be contained.**
  - **Data analysis computational equipment must be economical.**
  - **Little activity on data analysis at the detector site: data brought over radio link to Hannover University before it is processed.**
- **Fortunately, relatively large and long-standing internal groups involved in theory/software/data handling.**

## GEO600 Data Analysis Priorities

- **CW searches from mid-2000, using interferometer configured in broadband mode initially and in narrowband mode later. *Parallel algorithms based on short-term FT.***
- **Correlations with astronomical observations for short-timescale events and for new possible CW sources.**
- **Participation in coincidence observations with LIGO from 2001 and VIRGO when it is ready.**

*\* gr-gc/9802020*



## **GEO Data Analysis Personnel**

**PI: Bernard Schutz (schutz@aei-potsdam.mpg.de)**

**PI for data acquisition and analysis – overall coordination  
of Cardiff and Potsdam groups**

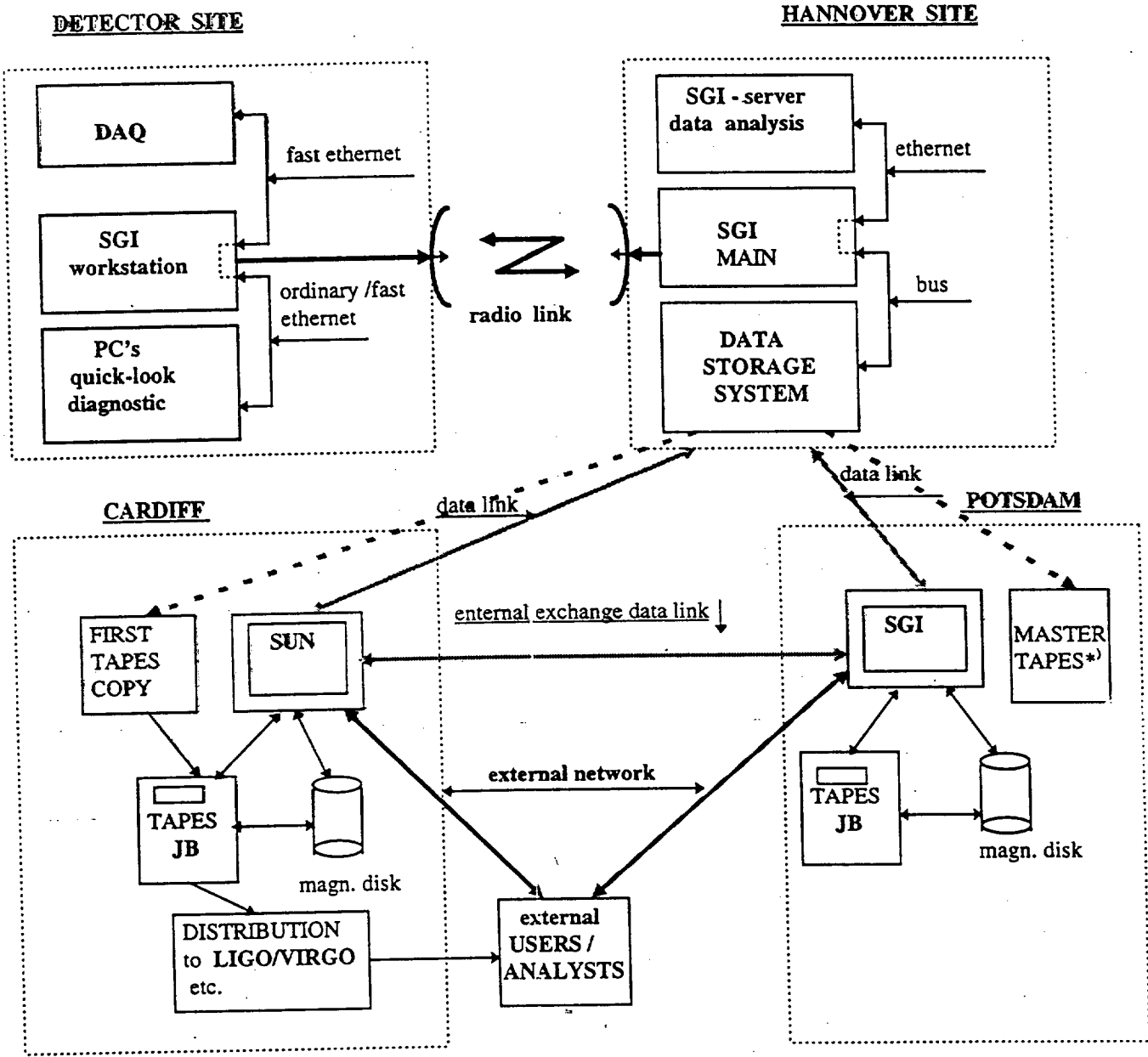
### **Cardiff – Data analysis center**

- **B Sathyaprakash (B.Sathyaprakash@astro.cf.ac.uk)**  
**Directing data acquisition, handling, and analysis  
development at Cardiff**
- **Ian Taylor (Ian.Taylor@astro.cf.ac.uk)**  
**Development of *Triana* data management framework**
- **Vlad Kondrashov (Vladislav.Kondrashov@astro.cf.ac.uk)**  
**Design and implementation of data archive, implementation  
of algorithms, software integration**

### **Potsdam – Algorithm development**

- **Curt Cutler (cutler@aei-potsdam.mpg.de)**  
**Directing algorithm development work at Potsdam**
- **Alberto Vecchio (vecchio@aei-potsdam.mpg.de)**  
**Filtering, parameter extraction; astrophysics input; liason  
with VIRGO**
- **Maria Alessandra Papa (papa@aei-potsdam.mpg.de)**  
**Development of hierarchical cw algorithms; liason with  
Rome gw group (ROG)**
- **Alicia Sintes (sintes@aei-potsdam.mpg.de)**  
**Removal of interference, noise characterization**
- **To start in Sept/Oct 1998:**
  - **Ben Owen, algorithm development**
  - **M Chassande-Mottin, time-frequency methods**
- **Visitors making significant contributions:**  
**Andrzej Krolak (Warsaw), H Pastora (Spain)**

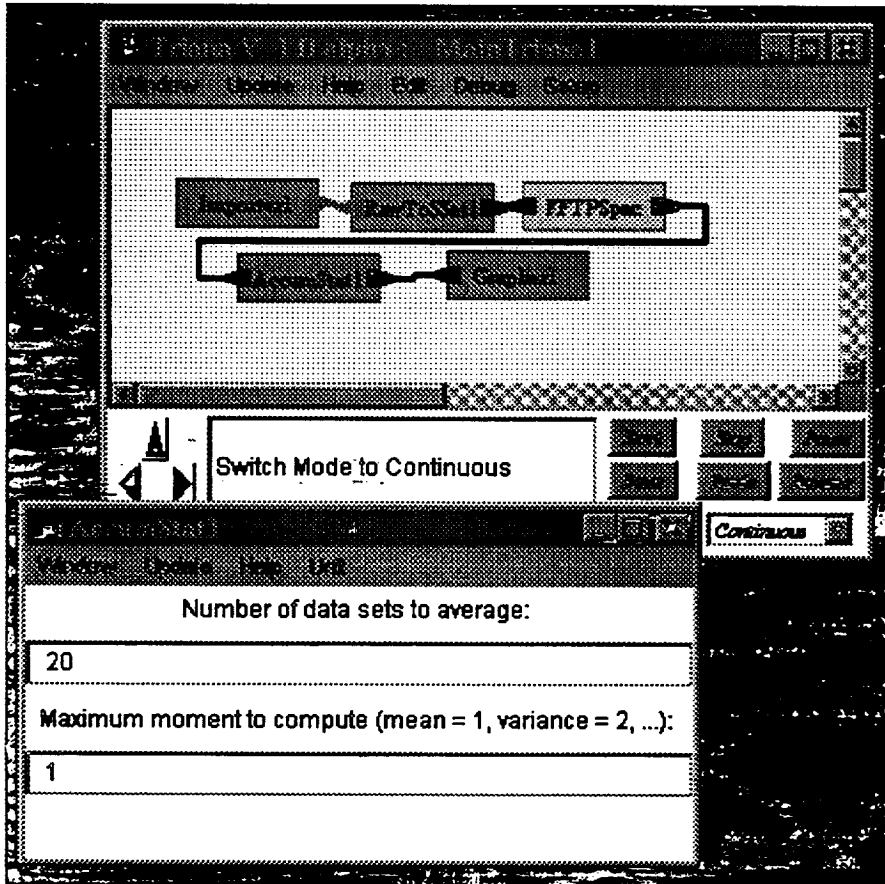
**SCHEME OF DATA MANAGEMENT AND STORAGE  
GEO 600**



\*)- Master Data Tape is not for public domain. Available by Senior Project Management Permission only.

# TRIANA

<http://www.astro.cf.ac.uk/.../Triana/>



Current version: connection of graphically represented java objects. Strong data types provide GEO's 'lightweight data format'

New: Inclusion of C programs (compiled) in a shared library - rapid graphical linking, no data duplication, 'Wizard' to build unit

Soon: Remote execution via scripting language, also implemented graphically. Compute serving w. small bandwidth

*Note 1, Linda Turner, 04/20/98 04:23:39 PM*  
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