
GR14 Sack Lunch

Gary Sanders' Impressions
August 21, 1995

General Impressions

- Conference was very large
 - » ~500 attendees
- Very theoretical
- Plenary talks included coverage of:
 - » Resonant Mass Detectors (Coccia)
 - » Detection in Space (Bertotti)
 - » NO COVERAGE OF INTERFEROMETRIC DETECTORS
- Parallel sessions included only one of 14 on Ground-Based Experiments
 - » ~40 talks of 12-15 min. duration in small room
- Next meeting in three years in India

Spherical Detectors

- Coccia organizing European collaboration for several antennas
 - » Italy, Holland, Spain, Brazil (not European)
- Advantages claimed:
 - » Omni-directional
 - » Strain sensitivity superior to Initial LIGO
 - » Sensitivity $>1\text{kHz}$ touted as complementary to Virgo/LIGO
 - Emphasis placed on sensitivity near the actual coalescence portion of waveform
 - » Mechanical unfolding of modes now understood by Johnson/Merkowitz research

Spherical Detectors (cont'd)

- Disadvantages (not discussed much):
 - » Narrow band antennas
 - not compared to narrow band interferometers
 - » Cryogenic (millikelvin) complexity with large masses
 - » Many narrow band antennas needed in an array
 - Interferometers need many for directional coverage
 - » Cost understated
- My reaction:
 - » Observing gravitational waves, and exploiting them scientifically needs powerful and diverse detectors.
 - » Spherical detectors will compete for resources beyond initial Virgo/LIGO
- LSU group proposing a spherical detector

Virgo Discussions

- Sanders, Zucker, Camp met with Brillet and Giazotto on several occasions
- MOU between Virgo and LIGO will require prior action by NSF, CNRS, INFN
- Exchange of design documents
 - » VIRGO Final Design circulated within LIGO
 - » VIRGO to get LIGO Parson's design package
- Virgo beam tube enclosure may become bullet proof
- Virgo considering baffle design decision again
- Brillet/Man review of LIGO YAG laser draft study

Virgo Discussions (cont'd)

- Visit by Sanders, Camp, Zucker with Brillet to INFN, PISA Virgo group
- Inspected isolation stack
 - » “Baby” stack under construction
 - » Digital servos essential to defining necessary control of complex system
- Civil construction design ready to bid
 - Pending clearance on land ownership
 - Note 7.5 Hz resonant corner building structure
 - Plan to install short arm (Virgo ‘97) in 1997 to serve as “prototype”
 - build beam tubes after 1997

Virgo Discussions (cont'd)

- Coating and YAG laser production to be done within France due partly to French government interest
- Jordan discussed lasers with Nary Man
- Need to set meeting of data acquisition/analysis groups, Albert charged to do this:
 - » Albert, Mike, Kent, Rolf are LIGO delegates
 - » Davier, Barone, Mours, Ricci from Virgo

LPPAC

- Saulson, Finn, Hamilton held pre-meeting, Sanders attended, Giazotto included later during GR14
- Meeting set here on September 8-9