

ACIGA and LIGOII

Presented by

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LIGO-G000064-00-D

- LIGO II should have the sensitivity to detect gravity waves
- GEO Project is playing a major role
 - responsibility for delivering the suspension system + contributions in other areas (Configurations, lasers)
 - seeking to inject capital funds (~US\$12M)

=> PARTNERS IN LIGO II

- ACIGA founding members of the LSC
 - ongoing commitments to all working groups as detailed in Attachments with LIGO Lab.

- We
 - recognise the importance of the success of LIGOII
 - recognise that construction of new LGWIs will depend on gravitational wave detection
 - want to be part of the excitement of the quest and the physics and astronomy that will follow

- ACIGA is putting a proposal to the LIGO Lab and the LSC which would see it becoming the second International **PARTNER** in LIGOII.

- This proposal includes:
 - continuation of our commitments under the LSC attachments including sapphire measurements, laser development; thermal noise; and configuration development
 - expansion of these activities by the construction of a high power suspended mass test facility
 - taking on the responsibility for a new ‘sub system’ which will **expand the scope** of LIGO II:
OUTPUT OPTICS (variable reflectivity mirror for SR; output modecleaner)
 - requesting **capital funds** from the Australian government, commensurate with our size in relation to UK and Germany, for LIGO II. These funds to spent mainly in Australia on preparing deliverables

- To support this proposal we have submitted the following applications to our research council:

Large Grant Submissions (2001-2003)

McClelland and Strain,

Output Optics for LIGOII;

Munch, Veitch, Hamilton, Whitcomb, Byer, *High Power Lasers and Optics for Gravitational Wave Interferometry;*

Ju, Blair, Giazotto, Barish, Walsh, *Test masses for high power interferometry*

Total request: ~A\$1.5M

Research Infrastructure

A high power, suspended mass, test interferometer

Total request: ~A\$500K

- In addition:
 - LIGO I program:
 - Scott, McClelland, Lazzarini, *The LIGO Data Analysis System*;
 - Charlton, *Gravitational Wave Data Analysis for the LIGO Laboratory* (Fellowship) Total: ~A\$215K
 - 'Voyager' research program (LIGOIII):
 - Gray, *Interferometric measurements at and below the Standard Quantum Limit*. (Fellowship + grant). Total: ~A\$495K