



Report on Gravitational Wave International Committee Meeting

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What is GWIC?

- Organization of gravitational wave detector project/facility directors
 - » Formed November 1997
 - » Analogous to ICFA
 - » Sub-committee to PaNAGIC (an IUPAP Committee)
- Goals:
 - » Encourage technical, analysis international cooperation
 - » Advocate internationally for grav wave detection science
 - » Promote development gw observations as a tool of astronomical discovery

ACIGA (McClelland)	ALLEGRO (Hamilton)	AURIGA (Cerdonio)	GEO (Danzman, Hough)
EXPLORER, NAUTILUS (Coccia)	LIGO (Barish, Sanders)	LISA (Prince, Schutz, Stebbins, Vitale)	TAMA (Fujimoto, Tsubono)
VIRGO (Brillet, Giazotto)	Mini-Grail (Frossati)	Theory Consultant (Will)	Executive Secretary (Finn)

Future Meetings

- Grav. Wave Phenomenology Workshop
 - » Penn State 6-8 Nov 2003
- NASA Grav. Wave Astronomy Center Inauguration
 - » Brownsville 12-13 Dec 2003
- GWDAAW
 - » UWM 17-20 Dec 2003
- “Aspen” Meeting
 - » Aspen CFP 16-21 Feb 2004
 - » Elba Spring 2005
- GravStat
 - » Penn State Spring 2004
- LISA Symposium
 - » ESTEC 12-16 Jul 2004
- GR 17
 - » Dublin 19-24 Jul 2004
 - » Principal “off-year” meeting of GW detection community
 - » GWIC, GR Society both view as important improving ties between GW detection community and broader GR community
 - » GR 17 organizing committee generously worked to accommodate GWIC program requests
- COSPAR
 - » Paris 19-24 Jul 2004
 - » Important for LISA; unfortunate overlap with GR 17
- Amaldi 2005: Japan
 - » Details (dates, venue) TBD



Publication & Presentation Guidelines

- Objective:
 - » Acknowledge and respond to special burden of new field to present results that are correct and convincing
- Guidelines
 - » Present data and results in a manner that facilitates comparison with and between other detectors in the global community
 - In addition to final physics results presentation
 - » Air data and results early in technical seminars to others in community
 - Before publication or presentation in major forum
 - » Circulate pre-prints to GWIC before journal submission
 - Allow reasonable opportunity for comments; consider comments carefully
 - » Refrain from press contacts until after manuscript accepted for publication
- LSC Publication and Presentation Policy?
 - » Consistent goal
 - » Practice would need to evolve to meet guidelines

Statistical Analyses for Gravitational Wave Data Analysis

- Comparing observations between experiments is *hard...*
 - » Qualitatively different data: e.g., narrow band vs. broadband
 - » Different analysis types/styles: e.g., Bayesian vs. Frequentist, unified CI/UL vs. flip/flop CI/UL
 - » Different “uses” of data: e.g., coincidence vs. coherent analyses
 - » Different statistical tests on same data: e.g., K-S vs. Mann-Whitney
- ...but necessary
 - » What did they see?
 - » Did we see what they saw?
 - » Are our results of better, worse, or the same sensitivity?



GWIC-appointed Statistical Analysis Committee

- Charge
 - » *Recommend to GWIC* a standard set of analyses and presentations that are universally understood and permit meaningful inter-comparison between experiments
 - *Not exclusive*: in addition to group/project specific choices
 - Recommendations must be meaningful and objective for both acoustic, interferometric detector data
 - » *Highlight to GWIC* promising new analysis techniques
 - » *Consult broadly* within field and with knowledgeable members of other fields
- Committee Members
 - » Finn (Chair), Fujimoto, Schutz, Vicere, Vitale



Summary

- GWIC is organization of project/facility directors
 - » Self-organized; connected to international science organization
- Focus is international cooperation, promotion and advocacy for gravitational wave detection science
 - » Community meetings, technical developments, joint analysis opportunities, development of “gravitational wave astronomy”
- Recent actions
 - » Off-year meeting: GR17 in Dublin
 - » Amaldi 2005 in Japan
 - » Presentation and Publication Guidelines
 - » Statistical Analysis Committee
 - » Revised, revamped web site soon at <<http://gwic.gravity.psu.edu>>