LIGO

LIGO Science & Public Outreach
October, 2005

Dale Ingram

LIGO Hanford Observatory

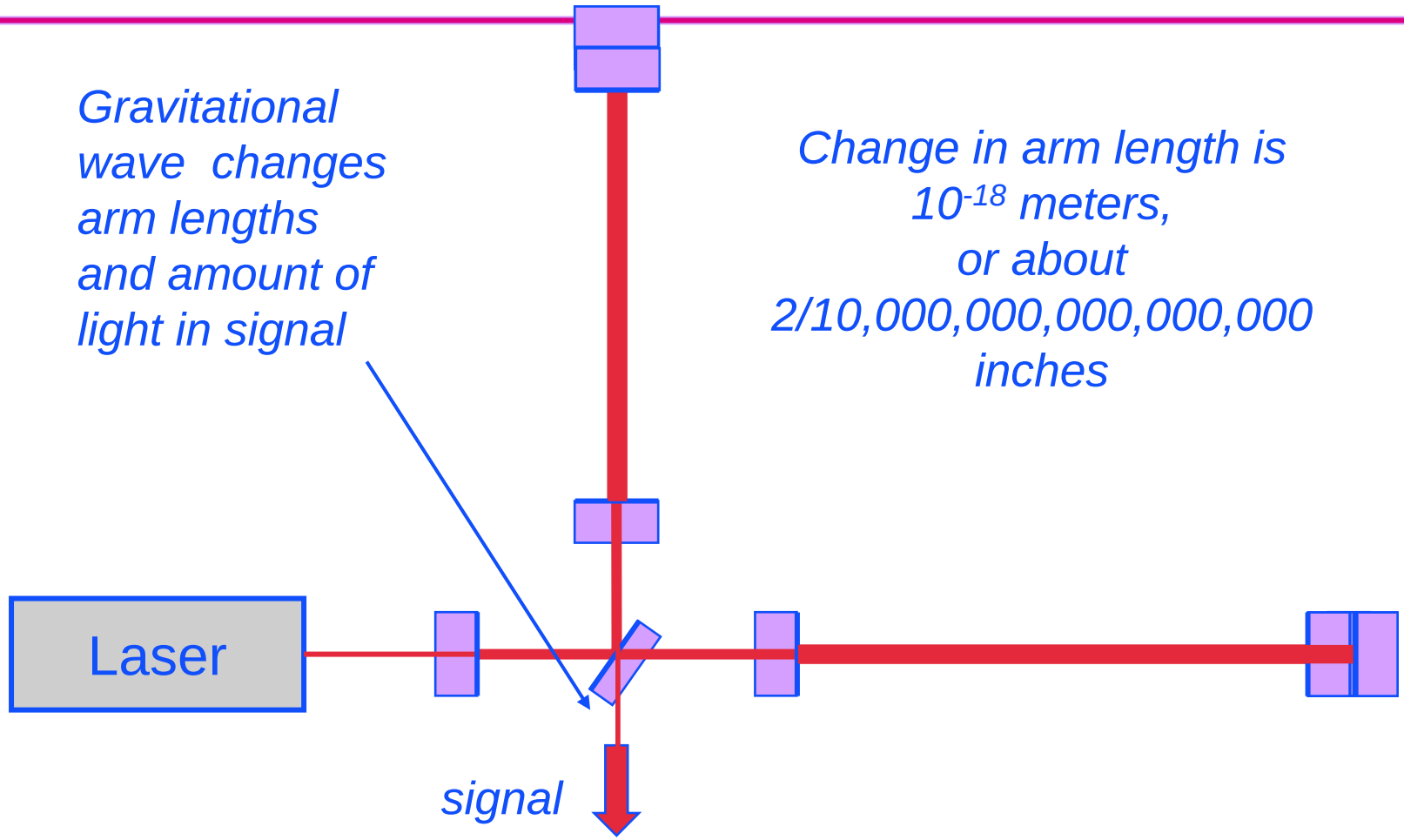
The Laser Interferometer Gravitational-Wave Observatory

LIGO (Washington)

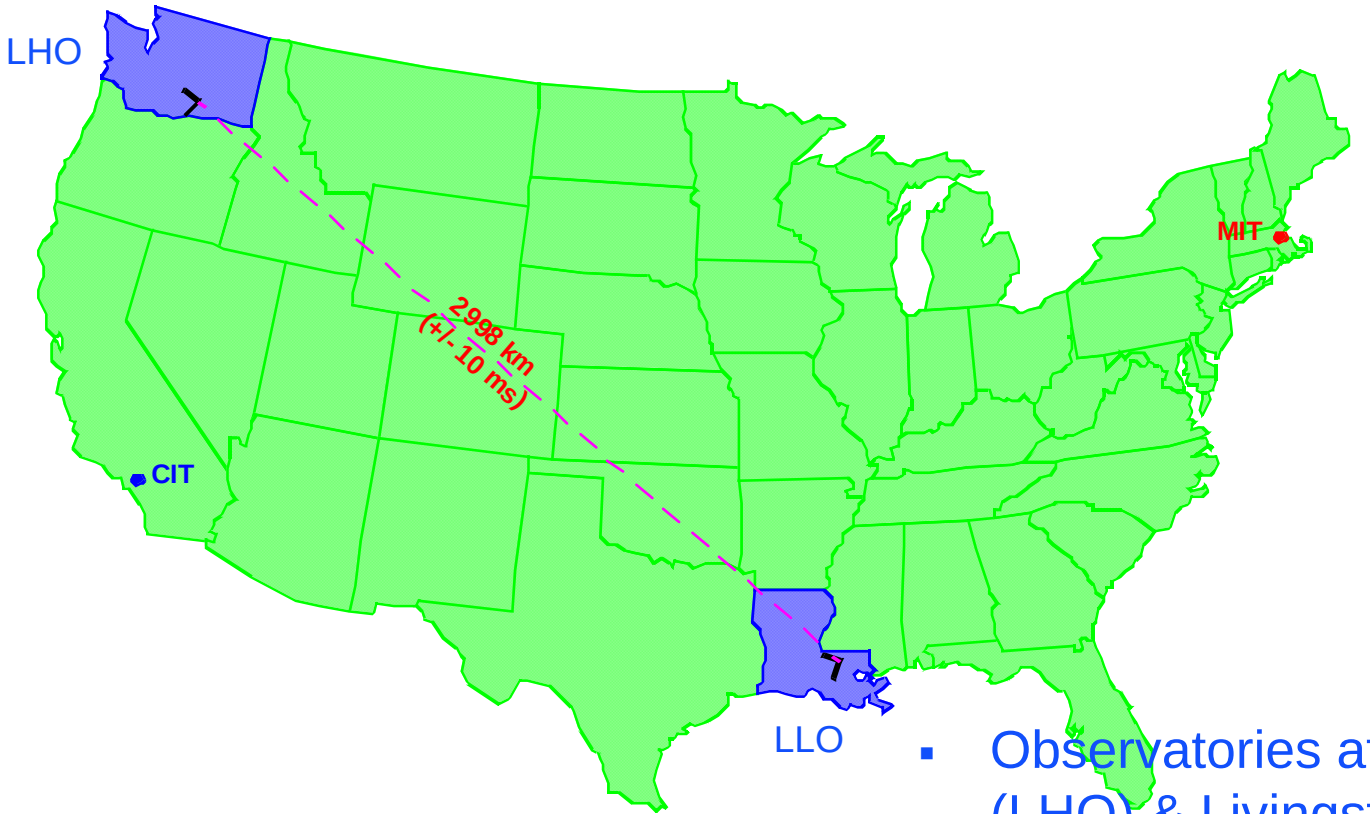
LIGO (Louisiana)

Brought to you by the National Science Foundation; operated by Caltech and MIT; the research focus for more than 500 LIGO Scientific Collaboration members worldwide.

LIGO: Long-baseline Power-recycled Interferometers with Fabry-Perot Cavities

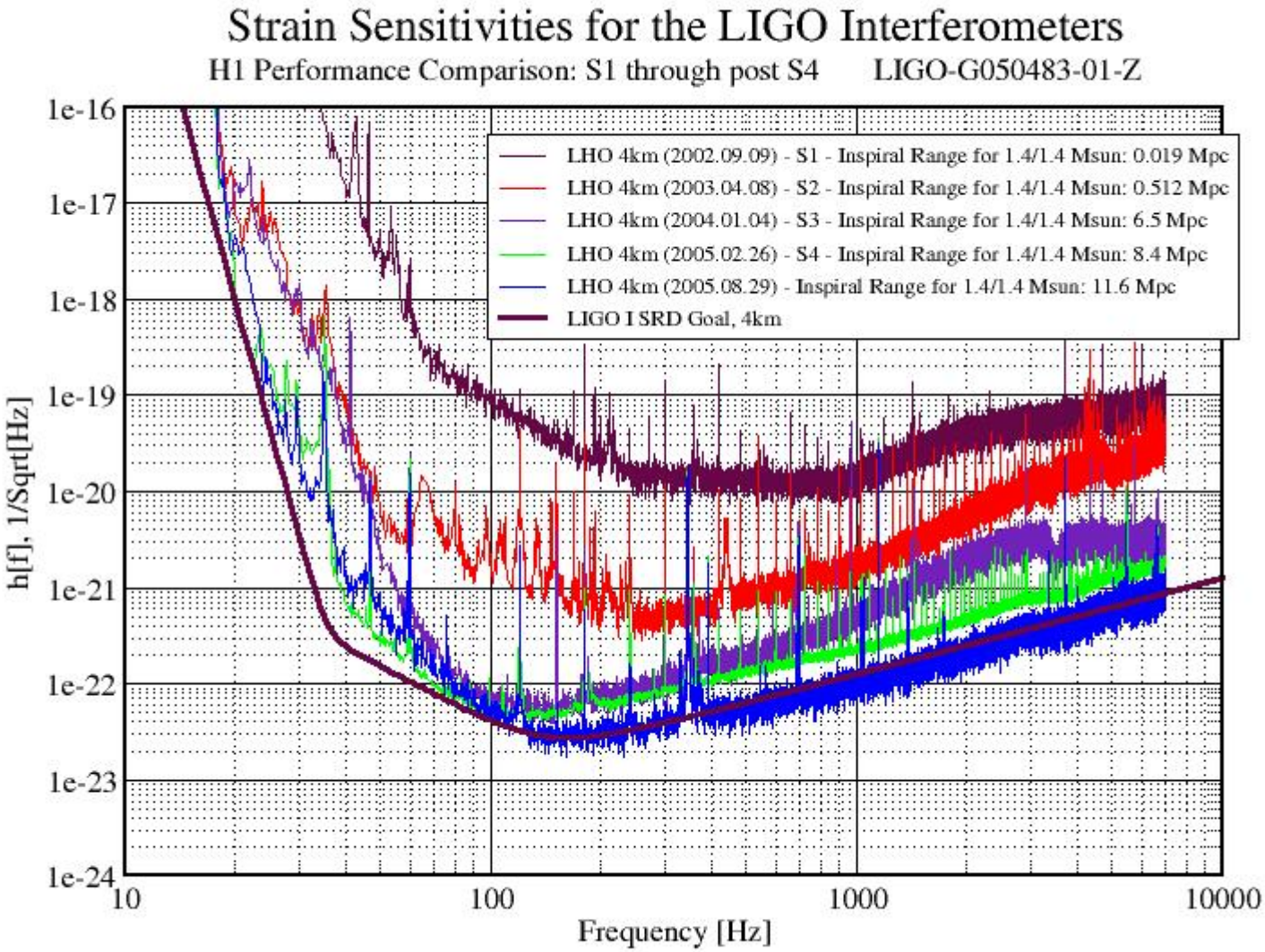


Three Instruments at Two Sites Comprise the LIGO Detector

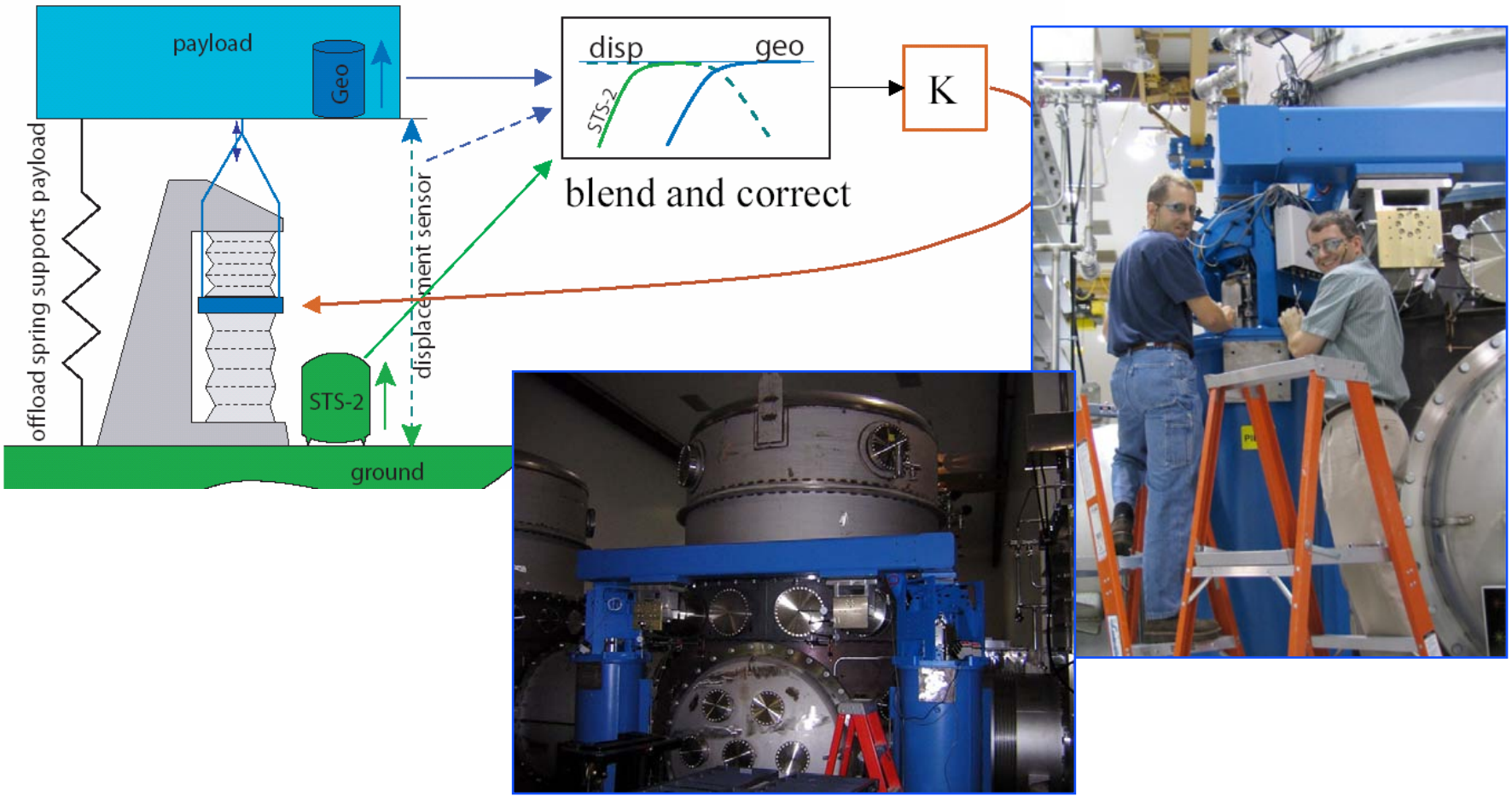


- Observatories at Hanford, WA (LHO) & Livingston, LA (LLO)
- Support Facilities @ Caltech & MIT campuses

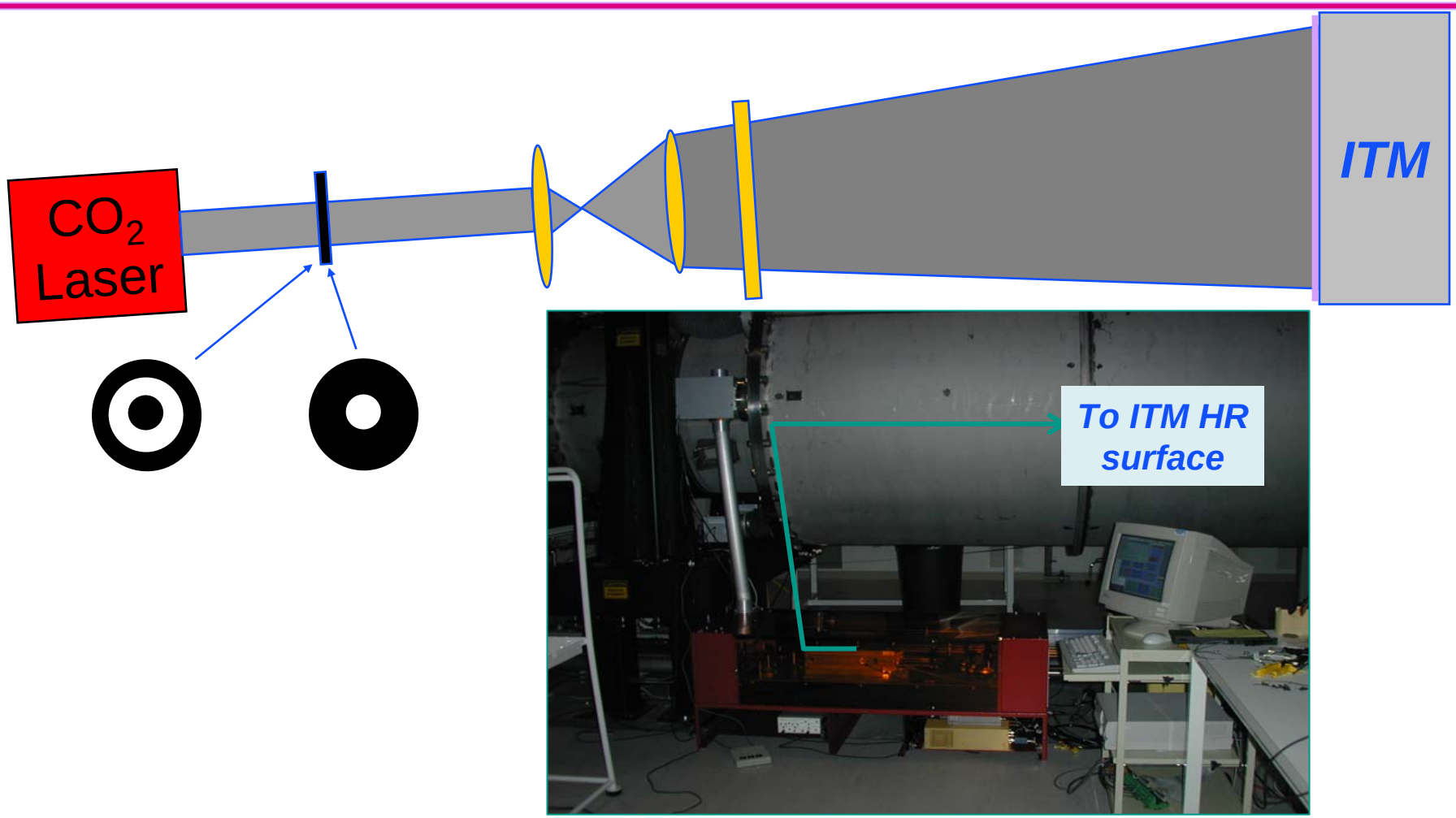
Continued progress has brought LIGO to the verge of its Design Sensitivity in preparation for the S5 Science Run



Installation of HEPI at Livingston has improved the stability of L1



TCS system improves recycling cavity stability, facilitates the use of higher laser power in the interferometers



S5 range for binary neutron star inspirals will reach to ~35M light years (H1 and L1)

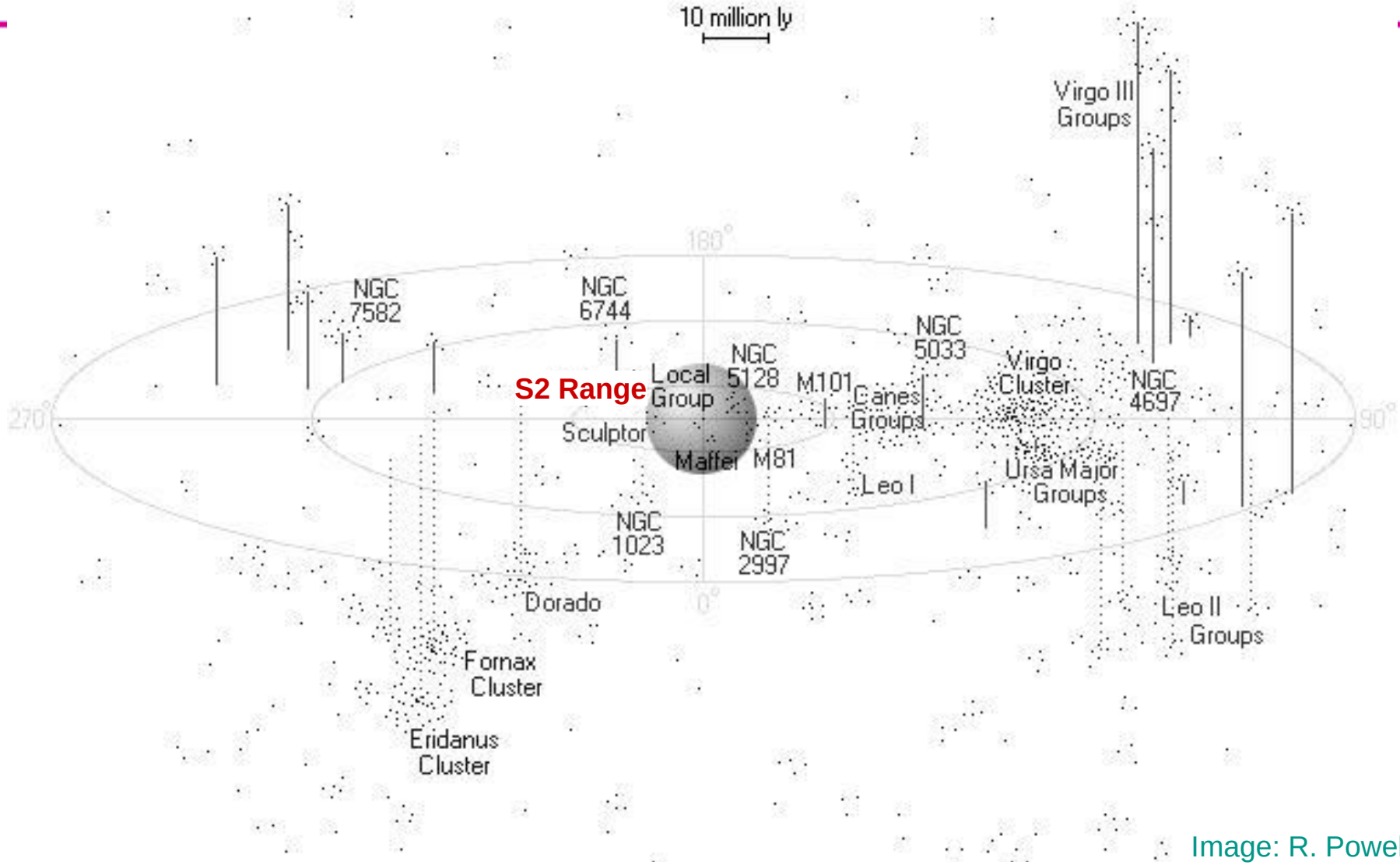
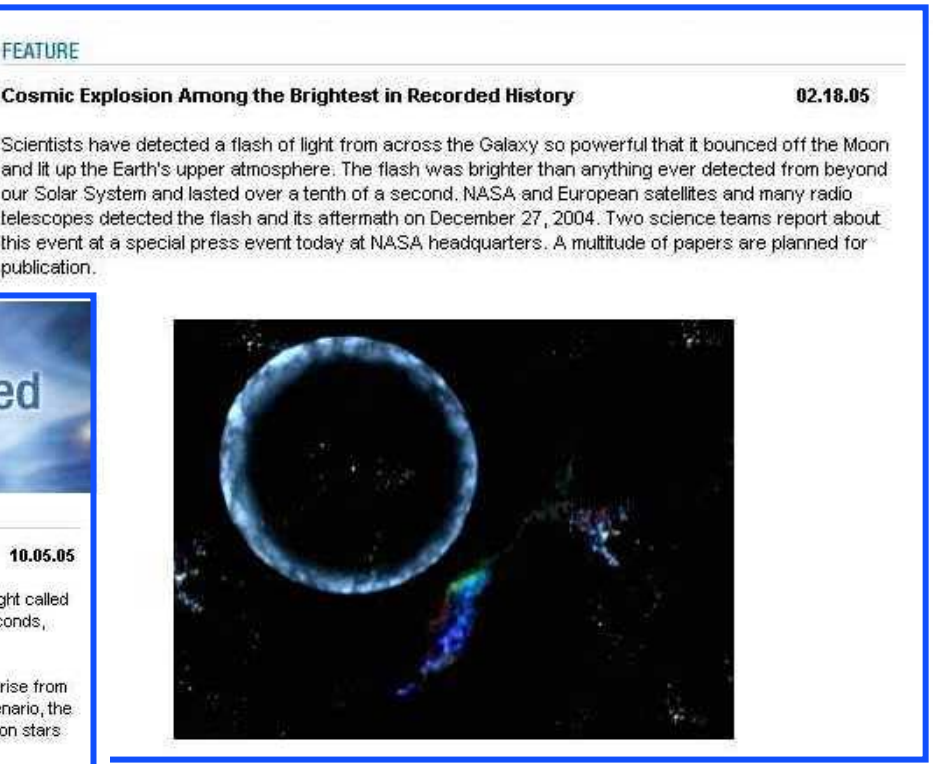


Image: R. Powell

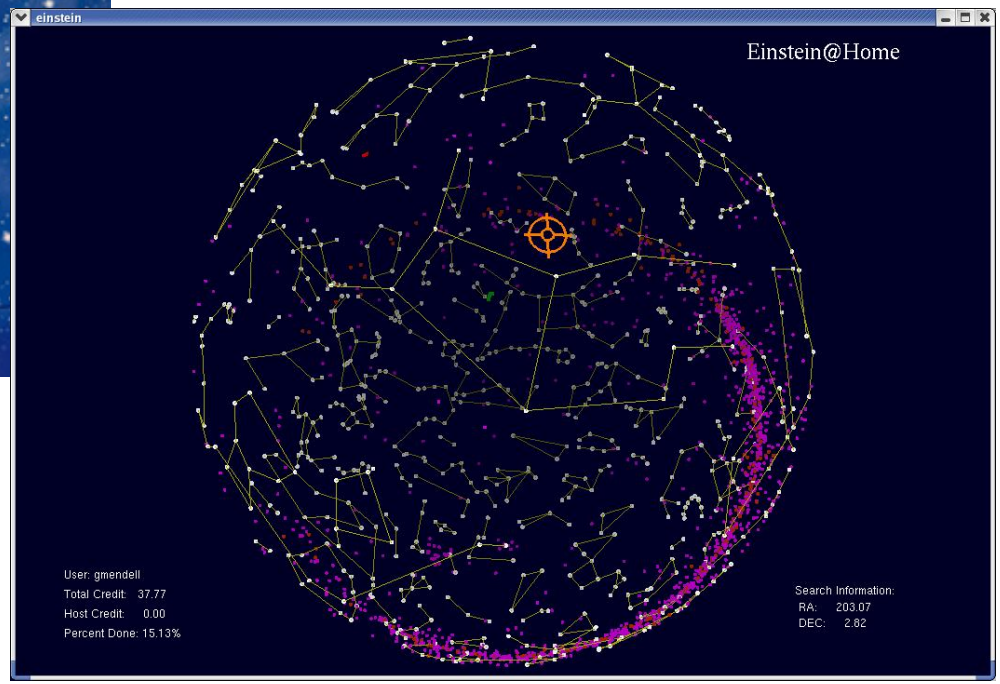
These are exciting times!



These NASA summaries describe recent types of events which are of interest to LIGO as potential sources

Sharing the Excitement with the Public . . .

http://einstein.phys.uwm.edu



A special series of monthly events . . .

LIGO

Celebrate the International Year of Physics

with the

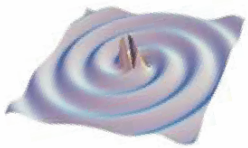
LIGO Hanford Observatory

World Year of PHYSICS 2005

Event	Date	Appetizer
Say Hello to Einstein@Home	Saturday, January 8	Enjoy an evening of Einstein and neutron stars. Learn how to search for gravitational waves on your own computer
Einstein@The Movies	Saturday, February 5	A showing and discussion of the film "Runaway Universe" in LIGO's auditorium
Einstein@The Movies	Saturday, March 5	"Death Star." View and discuss this fascinating glimpse into gamma ray bursts, perhaps the most violent events in the universe
National Astronomy Day	Saturday, April 16	Explore the wonders of the night sky. All ages and levels of experience are welcome
El Cielo en Mayo	Saturday, May 21	Un acontecimiento de la astronomía de la lengua Española para las familias
Shadows, Sticks, the Earth & You	Saturday, June 18	Welcome the Summer Solstice by measuring the size of the earth. We'll provide the sticks!
Einstein@The Movies	Saturday, July 16	"Time Travel." Join us for a viewing and discussion of this mind-bending aspect of Einstein's legacy
Watch the Space Rocks Roll	Friday, August 12	Take in the Perseid Meteor Shower from the darkness of the LIGO night sky
LIGO Public Lecture	Sunday, August 14	Learn how Einstein's ideas continue to influence the big questions in astrophysics
Einstein@The Movies	Saturday, Sept. 17	"The Elegant Universe, Part One." Einstein's work set in motion the quest for a theory of everything
Einstein@The Movies	Saturday, October 15	"The Elegant Universe, Part Two." What are strings, and are they part of everything?
Einstein@The Movies	Saturday, Nov. 19	"The Elegant Universe, Part Three." 3 dimensions, or 4, or 10? How many are there, and where are they hiding?
Here Comes the Sun	Saturday, Dec. 17	Winter Solstice means more daylight is on the way. Get ready - come and build a take-home Sundial!

Free Observatory Tours on the 2nd Saturday of every month

For times, driving directions and more information about World Year of Physics events, find LIGO Hanford on the Web at http://www.ligo-wa.caltech.edu or call 509-372-8300 ext 248



Free admission for all events

LIGO

Interactive Exhibits at the Site

LIGO

College/University Opportunities

Visits are routinely scheduled

Summer Research

WSU-TC T&L 523 for Teachers

Please contact us if we can be of service

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