

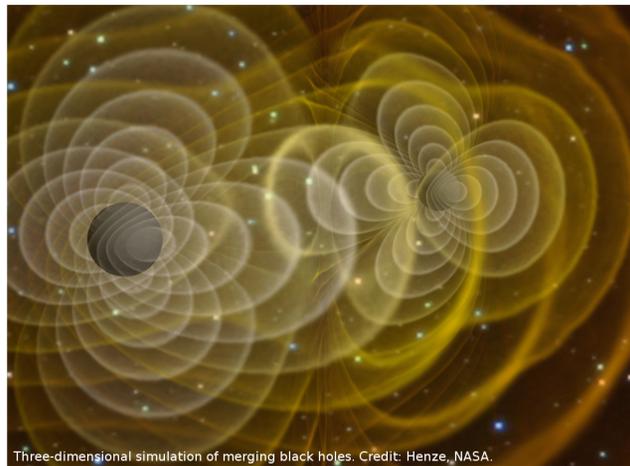
What is LIGO?

The Laser Interferometer Gravitational-wave Observatory (LIGO) is a facility dedicated to the detection of cosmic gravitational waves and the measurement of these waves for scientific research. It consists of two widely separated installations within the U.S., operated in unison as a single observatory. This observatory is available for use by the world scientific community, and is a vital member in a developing global network of gravitational wave observatories.

Albert Einstein first predicted gravitational waves in his 1916 general theory of relativity, but for years their effects were regarded as too small to measure. LIGO, supported by the National Science Foundation, now participates in an international quest to detect gravitational waves.



Aerial view of the LIGO Observatory in Hanford, WA. Credit: LIGO



Three-dimensional simulation of merging black holes. Credit: Henze, NASA.

Student opportunities

Undergraduate students are encouraged to participate in the development of gravitational wave astronomy through the LIGO Project. An intensive summer program takes place each year at Caltech, funded in part through the Research Experiences for Undergraduates (REU) Program of the NSF. Students from all institutions (both U.S. and foreign) are invited to apply to the LIGO Summer Undergraduate Research Program. Research awards include a summer stipend and some funding for travel to Caltech as needed.



Photo Credit: University of Mississippi

LIGO Summer Undergraduate Research

The LIGO Summer Program runs yearly from June through August. All continuing undergraduate students (i.e., who will be students the following year) may apply. Women and minorities are strongly encouraged to apply.

Range of projects

Research projects may cover many areas of science and engineering related to gravitational wave detection: laboratory projects in mechanical, laser, optical, and electronic systems, software development, analysis of LIGO data, and modeling of astrophysical sources.

Mentors

Students pursue research under the mentorship of LIGO Laboratory scientists and/or engineers actively pursuing gravitational wave research. You can count on your mentor being a world expert in their field, passionate about their work, and enthusiastic about developing your research skills.

For more information:

http://www.ligo.caltech.edu/LIGO_web/students/SURF/