



FORT WORTH MUSEUM
SCIENCE AND HISTORY

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NASA Detects First Light from a Gravitational Wave Event

Confirms key theories of merging neutron stars

Fort Worth, TX – NASA just revealed the first visual observation of a cosmic collision some 130 million light-years away - and scientists say it will be a turning point in research.

"This discovery basically ushers in the next stage of gravitational wave astronomy," said Fort Worth Museum of Science and History's Chief Technology Officer, Dr. Doug Roberts. "For the first time, astronomers observed an object using both gravitational waves and forms of light using traditional telescopes."

On August 17, NASA's Fermi Gamma-ray Space Telescope detected light tied to a gravitational wave event caused by two merging neutron stars about 130 million light-years away from Earth in the constellation Hydra. Scientists immediately recognized the high-energy light produced by the explosion as short gamma-ray bursts.

The collision of these neutrons was observed by the National Science Foundation's Laser Interferometer Gravitational-wave Observatory (LIGO) and its European counterpart, Virgo. Gravitational waves are ripples in spacetime, the four-dimensional "fabric" of the Universe. Gravitational wave observations work in the broadest sense by using a laser to measure the expansion of space itself as the wave passes through us.

"Detecting an object in both gravitational waves and light allows us to understand some of the most energetic events in the universe," said Roberts. "This result will be the first of many to report the coordination of various telescopes to understand distant, dynamic phenomena."

The observation of light from a gravitational wave event confirms several theories, which will allow for deeper understanding and study of our universe.

For more information about this recent discovery or to schedule an interview with Dr. Roberts, please contact the Fort Worth Museum of Science and History.

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About the Fort Worth Museum of Science and History

The Museum was established in 1941 and is accredited by the American Alliance of Museums. Anchored by its rich collections, the Museum is dedicated to lifelong learning. It engages guests through creative, vibrant programs and exhibits interpreting science and the history of Texas and the Southwest. The Museum is open daily, except Thanksgiving, Christmas Eve and Christmas Day. Visit www.fortworthmuseum.org for more.