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Einstein proved right, yet again!

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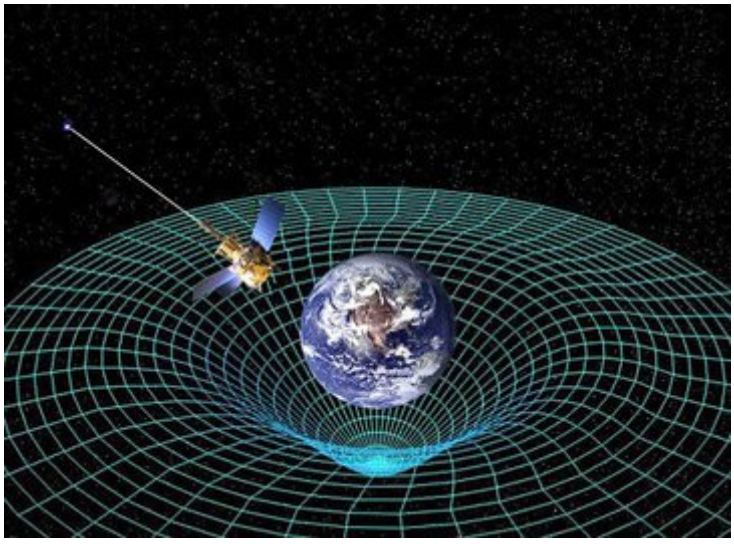

In a breakthrough discovery, researchers have announced the detection of gravitational waves, as predicted by Albert Einstein a century ago.

Physicists have concluded that the detected gravitational waves were produced during the final fraction of a second of the merger of two black holes to produce a single, more massive spinning black hole. This collision of two black holes had been predicted but never observed.

The gravitational waves were detected on September 14, 2015 at 5:51 a.m. Eastern Daylight Time (09:51 UTC) by both of the twin Laser Interferometer Gravitational-wave Observatory (LIGO) detectors, located in Livingston, Louisiana, and Hanford, Washington, USA.

LIGO research is carried out by the LIGO Scientific Collaboration (LSC), a group of more than 1000 scientists from universities around the United States and in 14 other countries, including India.

"Our observation of gravitational waves accomplishes an ambitious goal set out over 5 decades ago to directly detect this elusive phenomenon and better understand the universe, and, fittingly, fulfills Einstein's legacy on the 100th anniversary of his general theory of relativity," says Caltech's Dr David H. Reitze, executive director of the LIGO Laboratory.

The LIGO Laboratory is working closely with scientists in India at the Inter-University Centre for Astronomy and Astrophysics, the Raja Ramanna Centre for Advanced Technology, and the Institute for Plasma to establish a third Advanced LIGO detector on the Indian subcontinent.Â

Awaiting approval by the government of India, it could be operational early in the next decade. The additional detector will greatly improve the ability of the global detector network to localize gravitational-wave sources.

The discovery is accepted for publication in the journal Physical Review Letters.