

LIGO detector on Indian soil under consideration: IIT-Gandhinagar

PTI

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The proposal to set up an advanced Laser Interferometer Gravitational-Wave Observatory (LIGO) detector for detection of gravitational waves is under active consideration of Indian funding agencies like DST and DAE.

If approved, the mega science project — as part of an Indo-US joint programme — will help expand the worldwide network of detecting gravitational waves — holding key to mysteries behind the black holes.

“It (proposal) is under active consideration of Indian funding agencies like Department of Science and Technology (DST), Department of Atomic Energy (DAE). And this mega science project is likely to be included in the fifth five year plan,” IIT-Gandhinagar Prof Anand Senupta said.

Gravitational waves can help unfold the mystery behind black holes and how they merge, offering fresh perspective to the science fraternity globally on relativity theory of Einstein, experts in astrophysics said.

LIGO is a large scale physics experiment aiming to directly detect gravitational waves. The LIGO laboratory was set up with permission from US National Science Foundation (NSF) in America and is only the organisation which manages these detectors.

The LIGO laboratory in US has offered to provide all of the designs and hardware for one of the two planned Hanford advanced LIGO detectors to be installed, commissioned, and operated by an Indian team of scientists (IndIGO) in a facility to be built in and by India, they said.

In August last year, the US board approved the LIGO Laboratory’s request to modify the scope of advanced LIGO by not installing the US based Hanford “H2” interferometer, and to prepare it instead for storage in anticipation of sending it to LIGO — India, experts said.

“LIGO operates two detectors one in Hanford and other in state of Louisiana. These two detectors are separated as far as possible with each other because the science demands that they have longest baseline possible,” Sengupta said.

“And one of the two proposed advance detectors at Hanford is now proposed to be set up on Indian soil,” he said.

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