

Seminar

Institute for Plasma Research

Title: LIGO India project status update

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Institute for Plasma Research, Gandhinagar

Date: 15th June 2026 (Monday)

Time: 03:00 PM

Venue: Seminar Hall, IPR

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Abstract

LIGO-India is a first mega science project which is being realized on Indian soil. The LIGO India facility is being setup near Hingoli, in the state of Maharashtra. The four premier Indian institutes named as Directorate of construction, security and Estate Management (DCSEM), Institute for Plasma Research (IPR), Inter-University Center for Astronomy and Astrophysics (IUCAA), Raja Ramanna Center for Advanced Technology (RRCAT) are collaborating with the LIGO Laboratory, USA (primarily funded and managed by the National Science Foundation (NSF), USA).

The LIGO-India is officially moved into the project execution phase with the award of work order for EPC contract to the successful bidder of the tender for the construction of the Civil and Vacuum Infrastructure at project site. The scope of work is comprehensive, encompassing the Engineering Procurement and Construction (EPC) of Civil Infrastructure which includes the site development, detailed design, and construction of various buildings with required utilities. The scope of specialized Vacuum Infrastructure includes detailed design, installation, commissioning and testing of constituent vacuum equipment forming entire vacuum system layout spanning along two perpendicular arms of 4 km length. The constituent vacuum equipment's include Precision-machined, various welded vacuum chamber(s), beam tubes, spools, adapters, bellows, 80K Cryo-pumps and various bought out vacuum equipment from OEM. The entire vacuum system layout is called vacuum envelope which will maintain Ultra High Vacuum (UHV) less than 1×10^{-9} mbar.

Through this talk the LIGO Division plan to present the status update of the project to IPR colleagues. The talk will also include the contribution of LIGO division towards the LIGO India project since its inception. The talk will provide the scope of work, project schedule and major challenges envisaged in accomplishment of this project.
