

IUCAA gets 'observer' status in TMT project

EXPRESS NEWS SERVICE
JUNE 28

CITY-BASED Inter-University Centre for Astronomy and Astrophysics (IUCAA) has become one of the three institutions from the country to join the Thirty Metre Telescope (TMT) project as an 'observer'.

The TMT is scheduled to begin scientific operations in 2018 on Mauna Kea, Hawaii. The telescope will enable astronomers to detect and study light from the earliest stars and galaxies, analyse the formation of planets around nearby stars and test many fundamental laws of physics.

The 'observer' status is the first step towards becoming a full partner in the TMT project and participating in the engineering development and scientific use of what will be the world's most advanced and capable astronomical observatory, said a press release from the project team.

Prof Ajit Kembhavi, director, IUCAA, said Indian scientists would have access to the existing telescopes operated by Caltech, the nodal institution for TMT. The project is a collaboration between Caltech, the University of California and the Association of Canadian Universities for Research in Astronomy.

The core technology of

TMT will be a 30-metre segmented primary mirror. This will give TMT nine times the collecting area of today's largest optical telescopes and three times sharper images, the release said. The telescope will integrate the latest innovations in precision control, segmented mirror design and adaptive optics to correct the blurring effect of the Earth's atmosphere. The TMT has begun full-scale polishing of 1.4-metre mirror blanks that will make up the primary mirror.

Many of the essential prototype components for the telescope, including key adaptive optics technologies and the support and control elements for the 492 mirror segments, have been developed. Like existing ground-based observatories, the TMT will be capable of observations with a spatial resolution limited by the natural turbulence of the Earth's atmosphere.

Incidentally, there were three international telescope projects to choose from for Indian participation: the 42-m European Extremely Large Telescope (E-ELT) of the European Southern Observatory (ESO), the 24.5 m Grand Magellan Telescope (GMT) and the TMT of the United States. The E-ELT, in fact, has offered observation time on the existing ESO telescopes before it comes into operation, the release added.

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