

Indian astronomers plan new telescope

By Sunderarajan Padmanabhan

Jaipur (India Science Wire): Indian astronomy is steadily expanding its horizon. The Bangalore-based Indian Institute of Astrophysics proposes to set up a 10-metre class telescope of its own, marking a quantum jump in space observation capability available in the country.



Disclosing this here on Tuesday, G. C. Anupama, Dean, Faculty of Science at the Institute said the new telescope is mostly likely to come up at the Indian Astronomical Observatory at Hanle in Ladakh as the site offered uninterrupted observation round the year. It will pitchfork India onto a select band of countries with telescopes in the 8-10 metre class.

“There are half a dozen telescopes in the 8 to 10 metre class in other parts of the world. We can certainly use them for our studies. But we would be able to get access to them only for short durations. If we have our own then it would be available round the year for our research. We could also offer access to other countries in case spare time is available,” she explained.

Currently, telescopes working in the country have resolution up to two metre only. Only recently, work has begun to build a 3.6-metre telescope at Devasthali near Nainital. The 10-metre one would outclass it by a wide margin.

Apart from offering higher resolution, the telescope will also signify a marked improvement in the capacity of India in building telescopes since it will use segmented mirrors, a first for the country. “We have taken up technically challenging task of polishing 88 mirror segments out of the 492 segments required for global Thirty Meter Telescope project. The experience gained from this project would come handy for constructing the 10-metre telescope”.

Speaking to India Science Wire on the sidelines of the 35th annual session of the Astronomical Society of India, Dr. Anupama said IIA is also working on setting up a 70 cm telescope at the Hanle observatory as part of the global GROWTH project, which aims at studying supernovae, gamma ray bursts and other transient events in the cosmos. The instruments for the telescope are being procured and it should be operational by the end of this year.

The Global Relay of Observatories Watching Transients Happen (GROWTH) project is led by California Institute of Technology and is partnered with 11 research institutions and universities – five in US and the balance six spread across the world in Sweden, Taiwan, Japan, Israel and Germany besides IIA in India. It seeks to continuously gather data of cosmic transient events in the first 24 hours after their detection to build a more complete picture and better understand the physical processes of their evolution. Light curves of transient events coupled with data about their spectrum can give an indication as to how heavy elements are formed, and what events generate gravitational waves, among other things.

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