

IIT-Indore to build satellite

• ATUL GAUTAM
Indore

The Indian Institute of Technology India has planned to make a satellite that would be positioned 1.5 kilometers away from the Earth.

The satellite would help in looking at, characterising and probing the history, structure and evolution of the universe.

"The work on constructing the instruments for the satellite has already begun," a professor involved with the project said on the condition of not to be quoted.

He stated that the institute would take the help of Indian Space Organisation Research (ISRO) in build-

ing the satellite for study of astrophysics.

IIT-Indore Director Pradeep Mathur's report released on the institute's first convocation ceremony attended by Dr Pranab Mukherjee confirmed the information.

At present, the institute is building a radio telescope, which is part of the satellite project.

"The first radio telescope of the IIT Indore will see the light in August this year. The use of embedded systems at 5, 10 and 14 GHz is a novel feature... In five years, the institute will have an array of 30 dishes which will be a proof-of-concept for a full astrophysics satellite mission to a point in the space, which

is 1.5 million km away from the earth," the director's report said.

Mergers between clusters of galaxies have attracted attention of the institute so it decided to explore about it and thus came the idea of astrophysics satellite.

The mergers are most energetic events in the universe, and lead to diffuse emission at low frequencies (< 5 GHz) due to the presence of micro-causal magnetic fields in intra-cluster medium. Recent observations of the Bullet cluster and other mergers indicate that the diffuse emission associated with cluster mergers (Radio Halos and Relics) may not have as steep a spectrum as was previously thought.

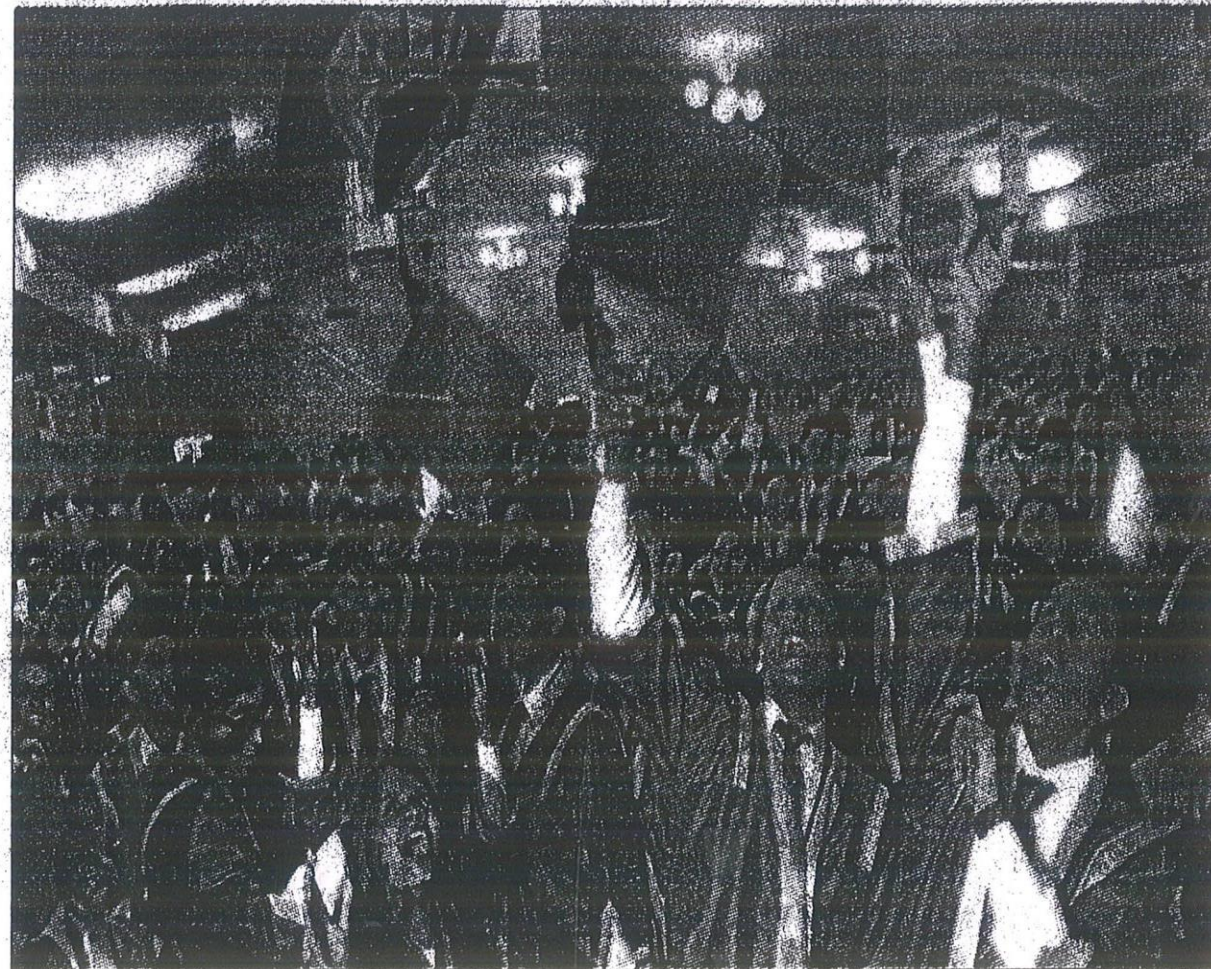
The institute is also interested in mapping the Sunyaev-Zel'dovich effect (SZE) at high angular resolution, to characterize the dynamics of cluster mergers.

The IIT Indore's radio telescope will be a research and teaching instrument, and will be used primarily for detecting diffuse emission from the largest structures in the universe.

The elite technical institute of Indore is the third IIT that would be involved in satellite making work. IIT Kanpur students were the first to build a satellite (nano-satellite). After them, IIT Bombay students took an initiative to build a satellite and now IIT Indore has joined the league.

PROUD TECHIES

FP PHOTO



ALL IS WELL: Delighted IIT students throwing mortarboards expressing their happiness after the convocation.