

# Sky mapping: Radio astronomers discover 5000 new objects

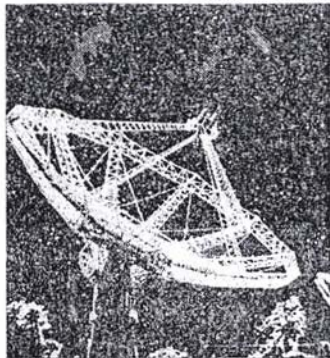
EXPRESS NEWS SERVICE

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AFTER a year of observations with the Giant Metrewave Radio Telescope (GMRT), radio astronomers at the National Centre for Radio Astrophysics (NCRA), Pune, have discovered over 5,000 new objects including giant radio galaxies, relic galaxies, reborn radio galaxies and colliding clusters of galaxies. This is the first ever effort from India at imaging the entire sky and the first ever at 2 metres (150 megahertz) frequency.

This TIFR-GMRT Sky Survey (TGSS), headed by S K Sirothia, is expected to make a lakh more discoveries in the coming days. "So far we have mapped only about five per cent of the sky. It has immense potential to lead to a different understanding of the sky. So far various attempts have been made worldwide with telescopes of higher frequencies. But at lower

DR. ANAND HOTA



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frequencies, a lot more is captured than the ones at higher frequencies," said Sirothia.

Govind Swaroop, father of radio-astronomy in India and who helped build the GMRT said, "We from India are at an advantageous location for the southern sky. The observations we can make here

are not possible from many other locations. More than 100 computers with storage capacity of about 200 terabytes is involved in the project."

The process of observations are on simultaneously with the interpretation of the data that is collected. After the interpretation, images are to formed with the help of these readings. At present the GMRT facilities are used by scientists from over 30 countries and 500 authors of scientific papers out of which about 150 are Indians.

Swarna Kanti Ghosh, centre director, NCRA-TIFR, said the TGSS survey has generated world wide excitement among astronomers. Finding new galaxies where blackhole activity is on the decline or ceased altogether, and clusters of galaxies in the process of formation in the early Universe, are going to be the prime subjects of research from this GMRT survey.