

After 15 years, Pune-designed instrument on space mission

Srinivas Laxman | TNN

Mumbai: Call it a history of sorts in the field of space exploration. Fifteen years after it was mothballed in Russia, a Pune-designed space instrument flew without any hitch so far on board a powerful Russian astronomy satellite, designated as Spektr-R. The primary role of this satellite is to peer inside black holes, obtain views of collapsed stars and improve the measurement of the influence of dark energy on the cosmos.

Zenit RF, the rocket carrying the 8,000 pound satellite, lifted off from the Baikonour cosmodrome in Kazakhstan around 8 am (IST) on Monday. It will operate at an altitude of 210,000 miles from earth. The other nations which have contributed to this mission are the US, China, Australia, Japan, Germany, Spain, Italy, Finland, Hungary, The Netherlands and the European Space Agency.

The Indian contribution to the programme is a receiver system designed by a team of engineers of TIFR's Pune-based National Centre For Radio Astrophysics (NCRA). The person who played a key role in designing the instrument was A Praveen Kumar.

Yeshwant Gupta, dean of the Giant Metre Radio Telescope, a part of the NCRA, told TOI on Tuesday that the receiver system designed by the NCRA team was built and space qualified by Isro's

The receiver system, sent to Russia 15 years ago, was lying mothballed at Russia's Astro Space Centre

Space Applications Centre in Ahmedabad 15 years ago.

Gupta said, after all the tests were completed the instrument was sent to Russia 15 years ago. For various reasons, however, the mission got postponed and the instrument lay mothballed and started gathering dust at Russia's Astro Space Centre, a part of the Russian Academy of Sciences. Many of the Indian team members almost forgot and gave up the mission.

But, sometime ago, Russia decided to revive the project, and when the Indian instrument was retested at the Astro Space Centre, it functioned flawlessly. "The fact that it functioned even after a gap of 15 years reflects Indian ingenuity," said Gupta. The main role of the instrument will be to pick up radio waves from different objects.

The Spektr-R satellite is part of an international network of observatories in a project called RadioAstron. When linked with ground-based telescopes across the globe, Spektr-R will facilitate powerful views into black holes that form the centre of galaxies.