

INDIAN TELESCOPE SPOTS DISTANT RADIO GALAXY

Relevant for: Science & Technology | Topic: Space Technology & related matters

A dish of the Giant Metrewave Radio Telescope in Pune.

Astronomers have used an Indian telescope to discover the most distant radio galaxy ever known, located at a distance of 12 billion light-years.

The galaxy, from a time when the universe was only 7% of its current age was found using the Giant Metrewave Radio Telescope (GMRT) in Pune.

GMRT is an array of thirty fully steerable parabolic radio telescopes of 45-metre diameter. It is operated by the National Centre for Radio Astrophysics.

The distance to this galaxy was determined using the Gemini North telescope in Hawaii and the Large Binocular Telescope in Arizona.

The galaxy is perceived as it looked when the universe was only a billion years old, according to the study appearing in the journal *Monthly Notices of the Royal Astronomical Society*.

This also means that the light from this galaxy is almost 12 billion years old.

“It is very surprising how these galaxies have built up their mass in such a short period of time,” said Aayush Saxena from Leiden Observatory in the Netherlands.

“Bright radio galaxies harbour supermassive black holes. It is amazing to find such objects as early in the history of the universe; the time for these supermassive black holes to form and grow must have been very short,” said Huub Rottgering, also from Leiden Observatory.

Black hole at the centre

Radio galaxies are very rare objects in the universe. They are colossal galaxies with a supermassive black hole in their centre that actively accretes gas and dust from its surroundings.

This activity initiates the launch of high-energy jet streams, which are capable of accelerating charged particles around the supermassive black hole to almost the speed of light.

The discovery of such galaxies at extremely large distances is important for our understanding of the formation and evolution of galaxies, researchers said.

Sign up to receive our newsletter in your inbox every day!

Please enter a valid email address.

Here are some of the most interesting research to have appeared in top science journals last week

Our existing notification subscribers need to choose this option to keep getting the alerts.

END

Downloaded from **crackIAS.com**

© **Zuccess App** by crackIAS.com

CrackIAS.com