

PRATUSH Radio Telescope

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Researchers from Bengaluru's **Raman Research Institute (RRI)** are collaborating with **ISRO** to develop the PRATUSH (Probing Reionization of the Universe using Signal from Hydrogen) Radio Telescope.

[Ref: DST]

About PRATUSH Radio Telescope:

- The PRATUSH Radio Telescope is an advanced **space radio telescope** designed to orbit the moon.
- Its primary mission is to unlock the secrets of the **Cosmic Dawn**, the period when the first stars and galaxies formed in our Universe.
- This project, supported by ISRO through funding for **pre-project studies**, aims to delve into the mysteries of the universe's evolution following the Big Bang.

Objectives and Features

- The primary goal of the PRATUSH project is to trace the universe's history, pinpointing the moment when the first stars came into existence.
- To achieve this, the telescope is equipped with state-of-the-art technology, including a **wideband antenna**, a **self-calibrating analog receiver**, and a **digital correlator**.

Advantages of Space-Based Observation

- One significant benefit of the PRATUSH Radio Telescope being located in space, particularly in lunar orbit, is its ability to avoid the common problems faced by ground-based experiments, such as **radio interference**.
- This strategic positioning allows for clearer, more accurate observations of the universe's earliest days.