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Communications Satellite Radiation Interferes with Astronomical Observations

A study published in Monthly Notices of the Royal Astronomical Society reported that low-earth orbit communications satellites emit radio signals interfering with astronomy.

An examination of how unintended stray radiation and licensed transmissions from low-earth orbit communications satellites disrupt radio astronomy observations.

KEY EXAM POINTS

- The study findings were reported under a satellite radiation monitoring programme called **SNIFFLES**.
- Communications satellites in **low-earth orbit** emit radio signals that interfere with astronomy across a range of frequencies.
- The research findings were published in the Monthly Notices of the Royal Astronomical Society on **October 18, 2026**.
- Protecting the interests of astronomers requires operators to regulate licensed transmissions and **stray radiation** from onboard electronics.
- The study was authored by **Vasudevan Mukunth** and highlights challenges faced by radio telescopes globally.

DID YOU KNOW..!?

ISRO operates specialized tracking facilities and national space infrastructure to monitor satellite activities and orbital debris.

Low-earth orbit (LEO) typically ranges up to an altitude of **2,000 km** above the Earth's surface.

Radio astronomy studies celestial objects by detecting radio frequencies emitted by natural astronomical sources.

The Indian Space Research Organisation was established in the year **1969** with its headquarters located in **Bengaluru**.

URSC (U.R. Rao Satellite Centre) in Bengaluru is the lead centre for building satellites in India.

The **Department of Space** (DOS) directly oversees ISRO and manages India's national space programme.

REVISION FLASHCARD

SNIFFLES is a satellite radiation monitoring programme studying radio frequency interference caused by low-earth orbit communications satellites.

Syllabus Relevance: Important for Unit 1 and Unit 2 regarding space missions, satellite technologies, and scientific developments.

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