# ONLINE SHORT COURSE

## On

# "Introduction to Space Science Data Analysis from Space-Borne Experiments"

## August 18-29, 2025


***Last date for receipt of application: July 15, 2025***

***Science Programme Office***
***ISRO Headquarters***

**Organized By**

CSSTEAP

**Conducted By**

ISRO

## Background

Space-borne experiments provide a unique and often essential perspective on the celestial bodies and the processes, complementing ground-based observations, by observing different regions of the electromagnetic spectrum, and directly sampling planetary environments, thus revealing phenomena otherwise inaccessible. However, the analysis of space-borne instrument data presents challenges, including complex calibrations, noise reduction, and the need to understand instrument characteristics and the space environment. Effective analysis also requires efficient data management and workflows. This course is designed to equip learners with the necessary foundational knowledge in physics, mathematics, and basics of space exploration to navigate these complexities. It is expected that after completing this course, the participants will develop the basic understanding to extract meaningful scientific insights and contribute to scientific data analysis from the space science missions.

## About CSSTEAP

CSSTEAP was established in India in November 1995 with its headquarters at Dehradun. The centre has emerged as a Centre of Excellence in capacity building in the field of space science and technology applications. For more information, visit www.cssteapun.org

## Objective of the course

Attract the youngsters to the fields of space science and technology, by creating an overall awareness of the different facets of space science. This would also make them aware of the cross-disciplinary nature of space science and technology activities, which will help them appreciate the importance of system level thinking.

## Faculty & Medium of Instruction

The core faculty is drawn from Science Programme Office, ISRO and premier agencies from India. The faculty has rich experience in the field of Space Science and Technology. The medium of instruction shall be in English.

## Course Content

The course would cover foundations of concepts behind space-based observations, highlighting their advantages over ground-based methods, before delving into Remote Sensing and In-Situ Techniques for space exploration, examining the principles and applications of each type.

The course would also cover the aspects of Data Levels and SPICE, providing the framework for locating and processing space science data. The lectures will cover the aspects of the Payload Data Processing Chain, from raw data to calibrated science products, identifying potential sources for errors at each stage and discussing mitigation strategies.

The course will also provide an Introduction to Science Data Archival: Standard Practice, emphasizing the importance of data preservation, accessibility, and the role of major space agency archives. Finally, the course will engage in Practices and Data Analysis methods in a few selected techniques of observation.

## Eligibility

Applicants should have a P.G. Degree in Science / Engineering or 4 year U.G. Degree in Science / Engineering or Equivalent

## How to Apply

- Eligible candidates can apply online through the CSSTEAP website. https://admissions.cssteapun.org
- Applicants are requested to send the application forwarded by the Head of their respective institute/Organisation.
- Incomplete applications will not be considered for selection

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In case of any difficulties while submitting the online application form, please contact **websupport@iirs.gov.in** through e-mail.

Link for lectures will be shared with selected applicants in due course. Applicants are advised to check the website **www.cssteapun.org** regularly for further updates and information.

### Contact Detail

For any course related query, the applicants may contact :
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