



Module PMRF-ISSS072/2023

Fundamentals of Astrophysics

Name of the PMRF student

SOURAV BHADRA (IISc)

Required background of the students taught

Requirements:

Basic undergraduate physics knowledge.

Suitable for:

Bachelor's Degree students,
Master's degree student,
Young Ph.D candidates.

Details of the content of the module

1. Introductions: Telescopes & detectors.
2. Stars: Radiations & Basic knowledge.
3. Stellar Physics: Stellar structure, Nuclear reactions inside stars, Equation of states, Energy transport.
4. Stellar evolutions: Star formation, Main sequence evolution, White dwarf, Neutron stars & Supernovae, Pulsars, Black Holes.
5. The milky way & other galaxies: Different types of galaxies, Structure of Milky Way, Clusters of galaxies, Active Galactic Nuclei.
6. Interstellar Medium (ISM): HII region, Cloud collapse, Components of ISM.
7. Basic Cosmology: Hubble's Law, Big bang Nucleosynthesis, Cosmic Microwave Background, Cosmological Redshifts.



Schedule of the module

Start date: December 09, 2023

End date: February 27, 2023

Total number of classes: 22-25

Date & time: Tuesday, 6.30 pm -8.00 pm & Saturday
10.30 am - 12.00 pm

Meeting link : Will be shared later

[Link](#)

Contact email ID: issf.forum@gmail.com

[Registration link:](#)

<https://forms.gle/QMLZ5yJvEgJaAY2D7>