



Module PMRF-ISSS039/2022 Electrical Characterization Techniques

Name of the PMRF student

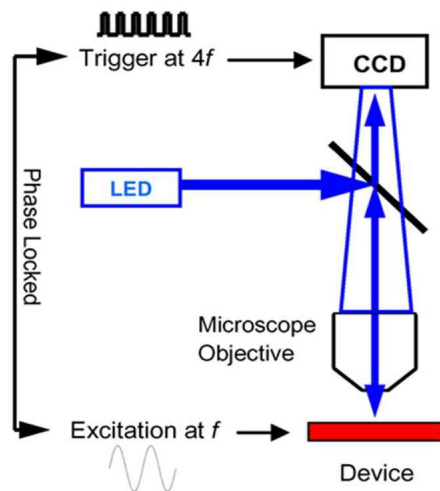
Harsh Raj

Required background of the students taught

Final Year UG and PG students in Electrical and Electronics Engineering, Nanoscience and Nanotechnology, Physics, and other disciplines

Online session coordinator

Will be chosen from the list of registrants



$$\frac{\Delta R}{R} = \left(\frac{1}{R} \frac{\partial R}{\partial T} \right) \Delta T = C_{th} \Delta T$$

Ref.: https://www.microsanj.com/s/AN-001_Comparing_Thermoreflectance_and_IR_Imaging.pdf

Schedule of the module

Start Date – 12th Nov. 2022

Lecture Schedule – Recorded lectures will be uploaded every Saturday; 13 – 15 lectures

End Date – Tentatively by mid of Feb '23; may extend by one or two weeks

Details of the content of the module

This will be an introductory course to the various commonly used techniques for electrical characterisation of electronic devices. Tentative list of topics to be covered in the course is given below

1. Basics of current flow in Semiconductors; two and four wire measurements; four-point probe measurement
2. Hall-effect measurements
3. Capacitance-Voltage characterisation
4. Deep Level Transient Spectroscopy (DLTS)
5. Thermoreflectance
6. Electroluminescence (EL) and Photoluminescence (PL)
7. Transmission Line Pulse (TLP) measurements

Meeting link : Will be shared later

[Link](#)

Contact email ID: issf.forum@gmail.com

Registration link:

<https://forms.gle/EDwPCjDaTXFNDBz89>