

PHY5011 Materials Characterization Techniques

Course Code	PHY5011	Semester	
Course Title	<i>Materials Characterization Techniques</i>		
Credits	3	Type	Elective

Course Outcome

Again it is a skill oriented course in which hands on as well as virtual demonstration based training is provided in various high end characterisation tools.

Course Structure

Contents: The course is a survey of various materials characterization techniques used in solid state physics and nuclear physics. The lectures will be supplemented with hands-on training with available instruments. The topics shall include the following: (1) X-Ray Diffraction. (2) Atomic Force Microscopy. (3) Scanning Electron Microscopy & EDAX. (4) Transmission electron microscopy. (5) Raman spectroscopy. (6) Fourier Transform IR spectroscopy. (7) Vibrating sample magnetometer. (8) Nuclear techniques.

Suggested Books

1. Y. Leng, Materials Characterization, Wiley (2013)
2. R.P. Prasankumar (Ed.), Optical techniques for Solid State Materials Characterization, CRC Press (2013)