APPLIED SCIENCE DEPARTMENT

Sample Analysis using AFM , PLS &Potentiostat/Galvanostat

Following equipments of Nanotechnology laboratory are available for Sample Characterization and Analysis at approved charges:

1. **Atomic Force Microscope (AFM):** Atomic Size/ Topographic Measurements
   Instrument: Advance-Tech (USA) AFM Workshop (TT)
   Modes: Vibrating, Non-vibrating
   Scanner: 50 Micron XYZ scanner;
   XY Resolution: <3nm closed loop, <0.3nm open loop
   Z sensor noise: <5nm
   Probes: Industry standard (Si - Cantilever)
   Sensor: Light lever AFM force sensor
   Sample: Solid, Pellet or thin film on substrate (1×1 inch) in size
   Software: AFM image recording; Gwyddion for Image Analysis

   Charges: Academic Institutes: Rs. 1500/- per sample
   Industry/Others: Rs. 3000/- per sample

2. **Photo Luminescence Spectrometer (PLS):** Optical Properties of Materials
   Instrument: Shimadzu _ Spectrofluorophotometer (RF 5301PC)
   Light Source: Xenon lamp, Monochromator
   Wavelength Scan range: 200-900 nm
   Wavelength Measurement range: 220-750 nm
   Detector: PMT,
   S/N ratio: 150 or more at Raman peak of distilled water
   Temperature Range: 5^{o}C to 80^{o}C
   Sample: Liquid, Powder, Solid: Pellet or Thin film (1×1 inch)
   Software: Data acquisition, File operation, Data manipulation

   Charges: Academic Institutes: Rs. 150/- per sample
   Industry/Others: Rs. 300/- per sample

   Photo Luminescence Spectrometer (PLS) temperature dependent from 5°C to 80°C:

   Charges: Academic Institutes: Rs. 1500/- per sample
   Industry/Others: Rs. 3000/- per sample

3. **Potentiostat/ Galvanostat (#): (Biologic SP150)**

Potentiostat is fully computer controlled with complete digital acquition, works in potentiostat,Galvanostat & EIS mode.

Hardware specifications-Electrochemical system:

- Compliance Voltage: 0 to 20V or more.
- voltage Accuracy :0.1% &resolution @ 75µV
- Current compliance: 100nA or less to 800mA and more, -Accuracy @ 0.1% of the range.
- Current resolution @ 1nA
- EIS Freq Range: few uHZ to 1MHz , AC sine wave range: few mv to 2V

Software specifications:

- Voltammetry technique- CV
- Energy: charge/discharge Constant potential.
- EIS: frequency sweep – Log / linear, Sweep DC bias with frequency

Charges: Academic Institutes ; Rs.5000/-(*) per Sample
Industry/Others: 10,000/-(*) per Sample

(#) User need to provide the sample eletrodes for characterization otherwise Rs.5000/+GST will be charged extra for one electrode and upto five electrodes of the same sample Rs.10,000/- + GST, for academics only
(*) For one sample up to 12hrs only.

Note: Researchers/User has to come personally with prior appointment for sample analysis. GST @ 18% will be charged extra. Charges may be paid in cash or DD in favor of Director, NITTTR Chandigarh.

For appointment: Contact

Applied Science Department,
NITTTR Chandigarh, Sector 26, 160019
Phone: 0172-2759633, 0172-2759626
Email: asd@nitttrchd.ac.in

Note: Please bring CDROM for soft copy of data, Images and Spectrums.