

Micro and Nano Characterization Facility

Centre for Nano Science and Engineering,
Indian Institute of Science, Bangalore

Electrical Characterization

- ✓ DC Probe Stations
DC Measurements up to 100 MHz
C-V, I-V, pulse I-V Measurements
Agilent B1500 Device Analyzer
Temperature range up to 200°C
- ✓ RF Probe Station
Measurement up to 67 GHz
Agilent Network Analyzer
94 dB dynamic range, <0.006 dB trace noise
- ✓ Low Temperature Probe Station
Room Temperature to 77K operating range
- ✓ Electromagnet
1.7 Tesla Horizontal field

Mechanical Characterization

- ✓ Atomic Force Microscope
Contact, Tapping Mode
Piezo force microscopy, Magnetic force microscopy, Kelvin Probe Microscopy
Temperature range -20°C to +250 °C
- ✓ Optical Profilometer
- ✓ Universal Testing Machine
10N-10,000 N Load Cells available
Specialized grips for small specimens
- ✓ Scanning Acoustic Microscopy
Non-destructive test method
- ✓ Laser Doppler Vibrometry
Static & Dynamic MEMS testing
In-plane and out-of plane mapping

Materials Characterization

- ✓ Scanning Electron Microscopy
Field Emission SEMs
Energy Dispersive Spectroscopy (EDS)
Cathodoluminescence
- ✓ Focused Ion Beam
Deposition – Pt, W, Carbon
Etching
TEM sample prep
- ✓ X-ray Photoelectron Spectroscopy
X-ray and UV photoelectron Spectroscopy
Angle resolved XPS
Depth Profiling
- ✓ Dynamic Light Scattering
Particle size measurement
Zeta Potential Measurement

Optical Characterization

- ✓ Micro Raman & PL
266, 325, 532, 785, 830 nm lasers
200 – 1700 nm detector range
Raman Mapping
- ✓ X-ray Diffraction
Powder / thin films
4-circle XRD
Grazing Incidence XRD
Residual Stress, Pole Figure, Reciprocal space map, X-ray Reflectance
- ✓ FT-IR Spectrometer
- ✓ Solar Simulator & Quantum Efficiency
1.5 AM Light source, Beam size 2 x 2 “
- ✓ Near-field Scanning Optical Microscopy
- ✓ UV-Visible Spectroscopy

To know more and access this facility, contact :
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To know more about our
facility, scan the QR code
using your mobile phone

