SEMETROL CHARACTERIZATION SYSTEMS

CONTACT: (NICK ZHANG)

PROVIDES ADVANCED SEMICONDUCTOR SPECTROSCOPY EQUIPMENT FOR INFORMATION ON DEFECTS AND ELECTRICAL CONDUCTION PROPERTIES.

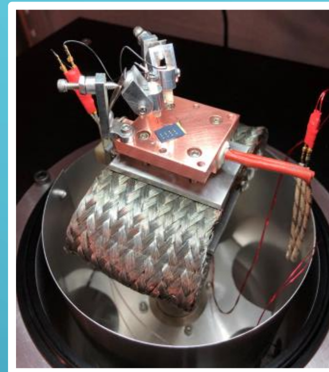
- QUICK TESTS TO PROVIDE FEEDBACK ON SEMICONDUCTOR FABRICATION CHANGES, OR
- DETAILED MEASUREMENTS TO SUPPORT PUBLICATIONS AND TECHNICAL REPORTS.

System Components:

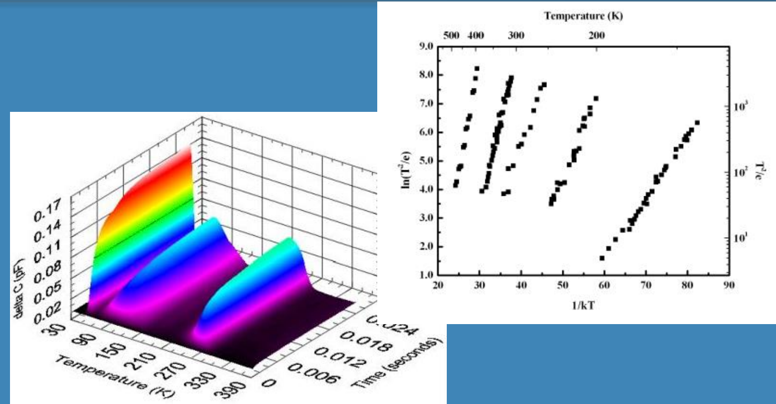
DLTS

Measures full capacitance transients over a range of temperature to characterize the spectrum of defects in a semiconductor. Advanced analysis and simulation to check the results.

- Capacitance DLTS
- DDLTS – Field: determine the charge state of the traps
- DDLTS – Profile: measure the spatial profile of the traps
- Capture Kinetics: reveals if trap is simple point defect, capture barrier, or dislocation.

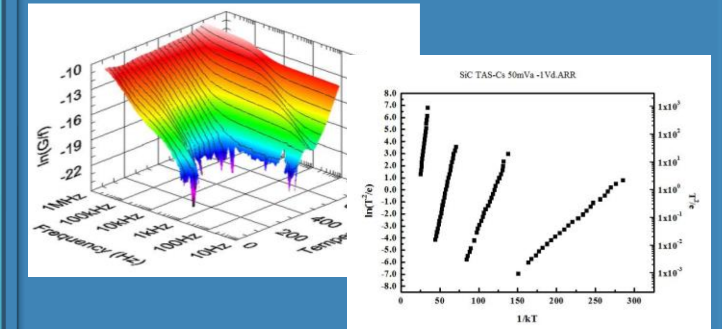


System is complete. Includes everything needed.
Large chamber is easy to use.
Microscope can be rotated into position for easy probe-pad alignment.



TAS

Thermal admittance spectroscopy is useful for samples with high resistivity. Provides spectrum of defects from impedance measurements over a range of frequencies and temperatures. Analysis can use any of the impedance components (Cs, Cp, Rs, Gp).



IVT/I-DLTS/PICTS

Current-voltage-temperature (IVT) reveals the dominant defect limiting device efficiency.
Current DLTS for small, resistive devices.
Photoinduced current transient spectroscopy applies to high resistivity material.