

PPMS® VersaLab™ Optix

The **VersaLab Optix** is a compact cryogen free platform known for its modularity and flexibility in setting up “turn-key” measurements and custom built experiments. This is the ideal platform for combining photonics, quantum electronics, optics with electro-transport and magneto-optic materials characterization measurements at cryogenic temperatures and in magnetic fields of ± 3 T. The optical breadboard allows a wide range of configurable experimental space seamlessly integrated onto the VersaLab Optix. Various light sources, opto-mechanical and imaging components can be easily mounted and coupled to the cryogenic and magnetic field environment of the sample space. An integrated electronics bay houses all of the modules normally required for the turn-key measurement options. Optional laser light sources or Xenon Arc lamp are available for providing the necessary source for excitation beams for optical and spectroscopy experiments. An integrated compact imaging spectrograph and CCD camera (5X magnification) controlled directly from the Multi-Vu software is also available to automatically collect spectra and sample images as a function of temperature and magnetic field.

Optical Breadboard

- Black anodized aluminum 0.5” thick
- 1 inch grid of 1/4”– 20 mounting holes
- 2 feet x 3 feet



Figure 1: VersaLab Optix with breadboard



Figure 2: VersaLab Optix displaying its capability to set up external optical experiments in order to direct a laser beam down a VersaLab Optical Multi-Function Probe (OMFP).

Features

- 50 to 300 K; ± 3 T
- Multiple Measurement Capability
- Variable Speed Control
- Energy Smart
- Long Service Life
- Reduced Vibration
- Remote Control
- Real Time Diagnostics
- “On-Demand” Cooling Power

Application

- Spectroscopy
- Electrical, Thermal and Magnetometry Measurements
- High Pressure Measurements
- Fiber optics measurements
- Free optics studies

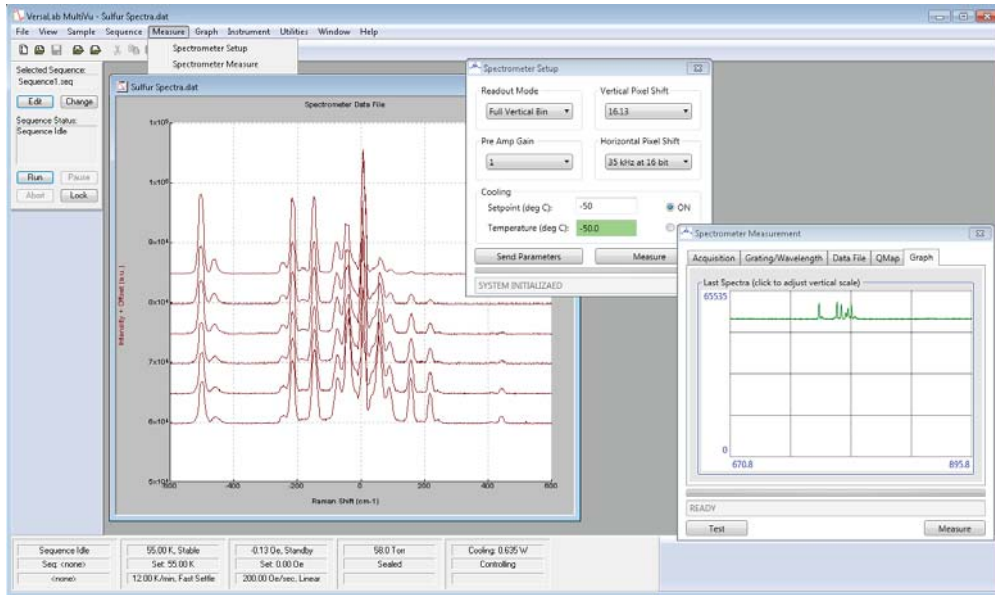


Figure 3: MultiVu software integrates acquisition of ANDOR 193i spectrograph with sequence control and detailed data display. Sulfur data from 300 to 50 K using automatic data offset.



Figure 4: Optical and non-optical measurement option sample stages available for Versalab Optix.

Available Measurement Options

- Optical Multi-Function Probe
- Imaging Spectrograph
- Raman Spectroscopy
- Magneto-Optic
- FMR Spectroscopy
- VSM (standard, large bore and oven up to 1000 K available)
- Electrical Transport Option
- Heat Capacity
- EOP/MFP
- DC Resistivity
- Horizontal Sample Rotator
- Torque Magnetometry
- Thermal Transport Option
- ACMS II (AC Susceptibility)
- High Pressure

Figure 5: Optical Multi-Function Probe resting in the Wired Access Port on the Versalab Optix system. The Optical Wired Access Port has options for electrical or SMA Fiber optics connections to run wire or fiber optics to the sample.



Quantum Design, Inc.
 10307 Pacific Center Court, San Diego, CA 92121
 Tel: 858.481.4400 Fax: 858.481.7410
www.qdusa.com • info@qdusa.com

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