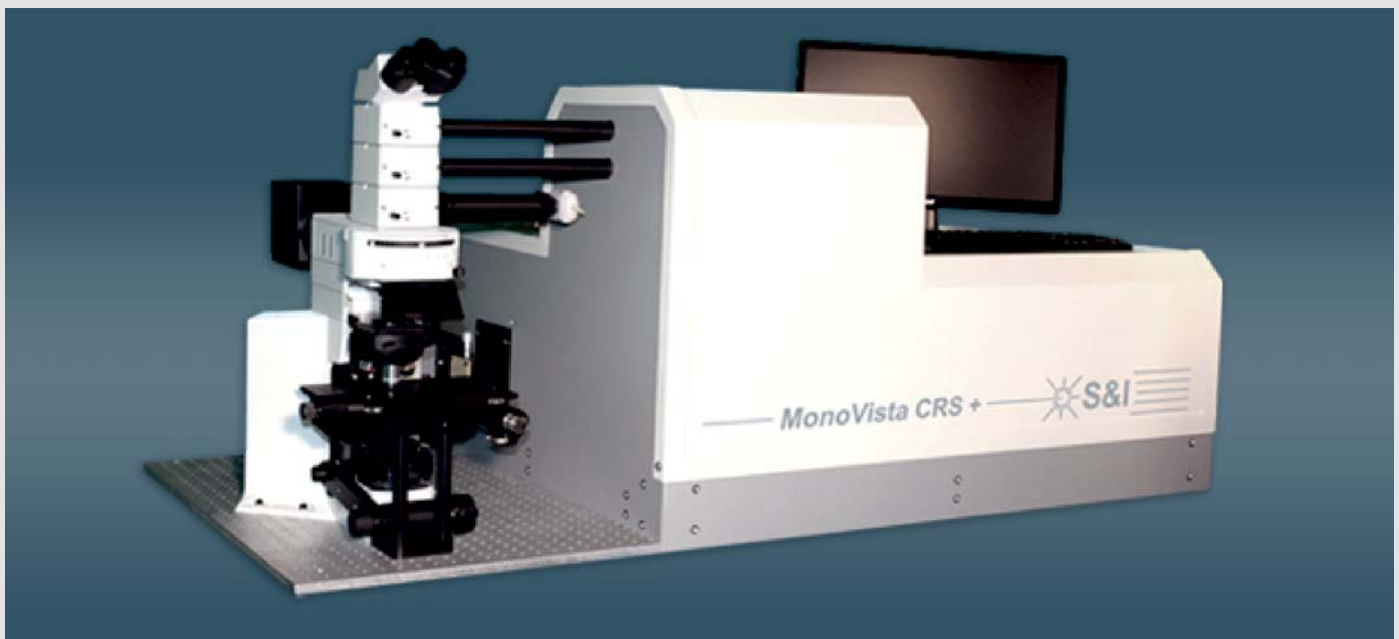


MonoVista CRS+

Raman Microscopes



MonoVista CRS+ Benefits

- Deep UV to NIR wavelength range
- Up to 4 integrated multi-line lasers plus port for large external lasers
- Dual beam path for UV and VIS/NIR
- Motorized Laser selection
- Auto Alignment and calibration
- High spectral resolution, i.e. $\text{FWHM} < 0.2 \text{ cm}^{-1}$ @ 633 nm
- Low frequency range down to $\pm 10 \text{ cm}^{-1}$ with Ultra Narrow band notch filters
- High frequency range up to 9.000 cm^{-1} (@ 532nm), useful for photo luminescence
- Peltier and liquid nitrogen cooled detectors
- Upright, inverted and dual microscopes
- Stepper motor and piezo driven XYZ stages
- Fast Raman Mapping
- Heating/ cooling stages and Helium temperature Cryostats
- Combined Raman and AFM
- Motorized polarization optics

MonoVista CRS+

Raman Microscopes

The Raman Microscope Systems from Spectroscopy & Imaging GmbH offer new unmatched flexibility combined with easy handling.

We offer solutions with medium and highest spectral resolution instruments performing best stray light rejection, needed for low-frequency Raman spectroscopy.

The perfect instrument to be used as "working horse" and powerful research tool as well.

MonoVista CRS+ Raman Microscope systems from S&I are based on the Olympus microscopes BX43, BX53, BX51WI and IX73 for upright and inverted setups.

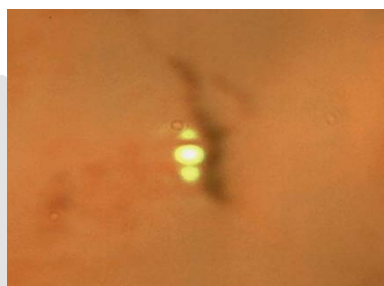
The confocal Raman microscope offers a spatial resolution in the micron scale.

A software driven XYZ stage enables automated 3D mapping.

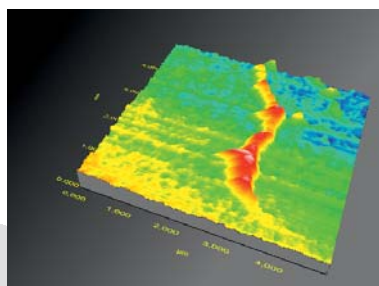


Microscope Benefits

- Upright Olympus Microscopes BX43, BX53 and BX51WI
- Inverted Olympus Microscope IX73
- Dual Microscope, consist of Upright and Inverted Microscope
- Wide range of UV, VIS and NIR objectives
- Objectives with long working distance
- Motorized XYZ stages with resolution of less than 50 nm
- Piezo XYZ stages with resolution of less than < 1nm
- Heating stages for up to 1500 °C
- Heating and cooling stages for - 196°C to 600°C
- Helium temperature Cryostats
- Combined Raman and AFM with Nanonics and JPK Instruments AFM systems
- Laser safety class I option

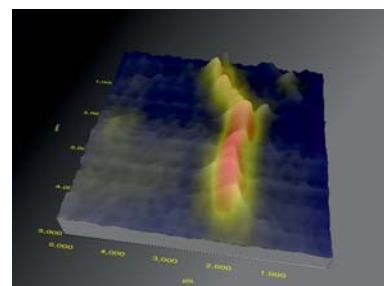


Microscope Image



Carbon Nanotube Sample

AFM Image



AFM plus Raman Image

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Germany

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phone +49-(0)2925-9768666
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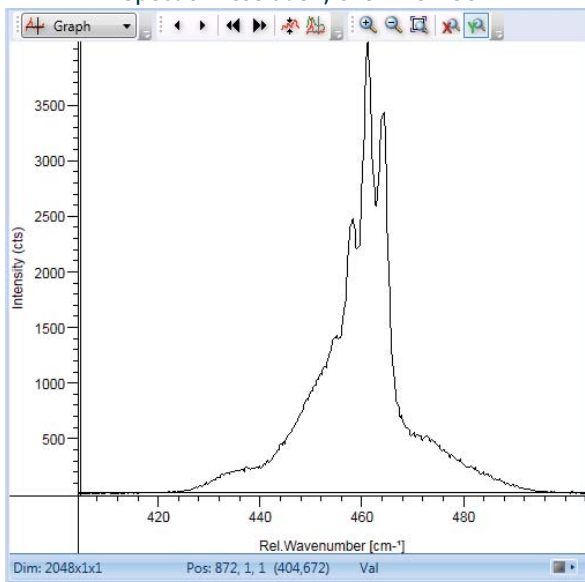
MonoVista CRS+

Raman Microscopes

Wide Range of Spectroscopy Detectors

- Peltier and liquid nitrogen cooled detectors
- CCD Detectors with different formats and pixel sizes
- InGaAs Array detectors
- EMCCDs for fastest Raman mapping
- Back Illuminated eXcelon CCD detectors with lowest etaloning
- Photon Counting PMT systems

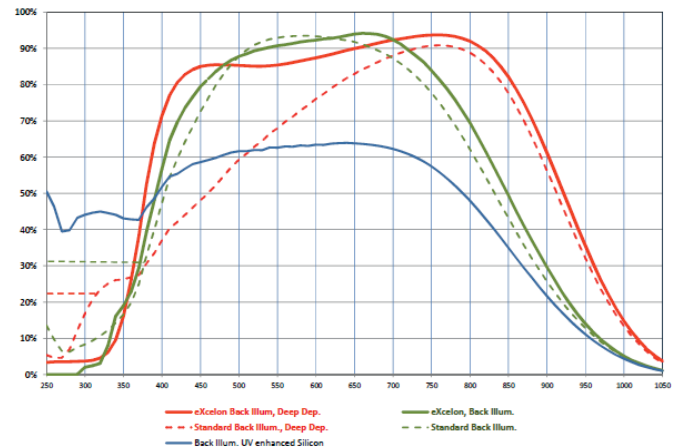
Spectral Resolution, shown on CCL4



Laser and Filters

- Deep UV to NIR wavelength range
- Up to 4 integrated multi-line lasers and port for large external lasers
- Dual beam path for UV and VIS/NIR
- Motorized Laser selection
- Auto Alignment and calibration
- Edge filter from UV to NIR
- Ultra Narrow band notch filters for 488, 514, 532, 633, 785 and 1064 nm

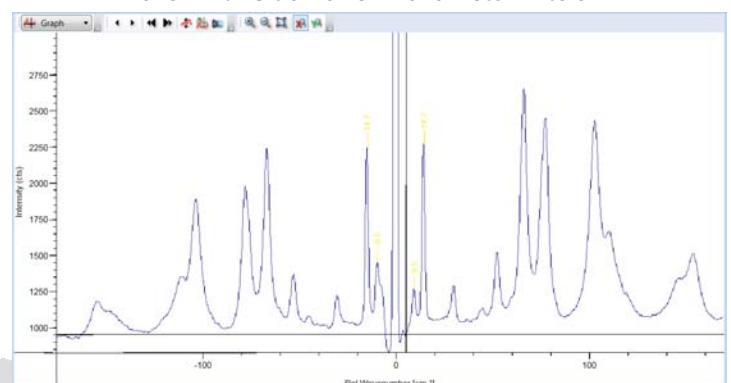
Quantum Efficiency curves of different CCD devices



Imaging corrected Spectrographs

- Spectrographs with 500 and 750 mm focal length
- Image corrected optics provide superior imaging quality for multi-track applications
- Dual entrance and dual exit ports
- Interchangeable Grating Turrets with 3 gratings per turret
- Motorized Slits with 0 to 3 mm width
- Optional Silver or gold coated mirrors
- Choice of more than 100 gratings available for the best spectral range, throughput and dispersion
- Stepping motor scanning system with microprocessor control provides superior precision and repeatability of wavelength positioning

Stokes/Anti-Stokes spectrum from L-Cystine,
Taken with Ultra Narrow Band Notch Filters



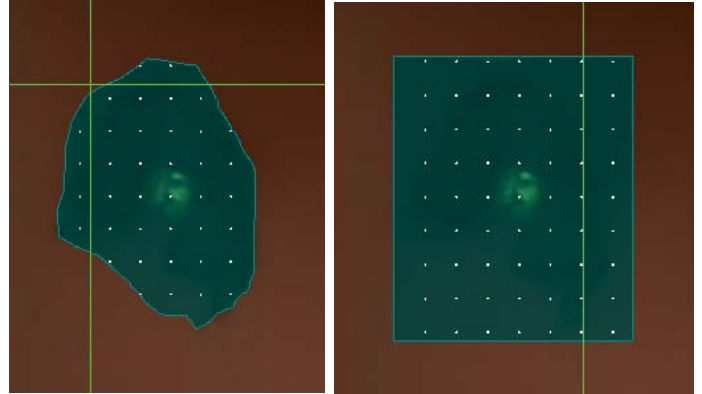
MonoVista CRS+

Raman Microscopes

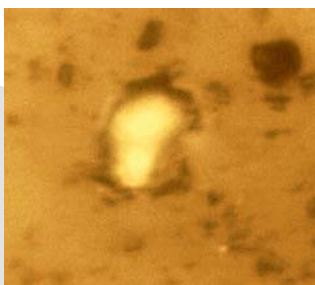
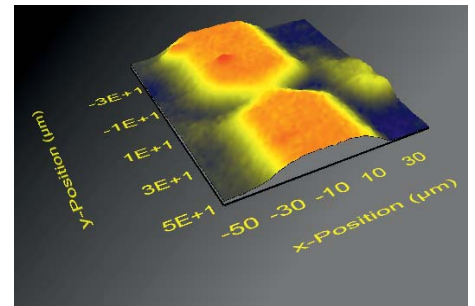
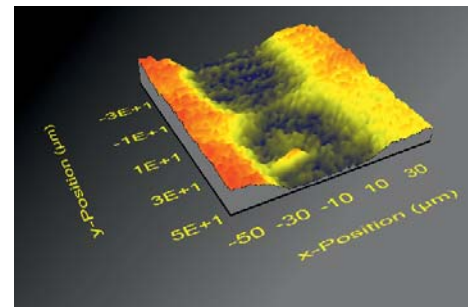
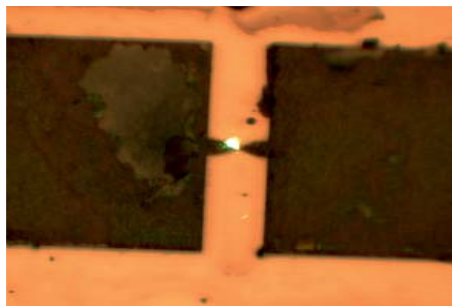
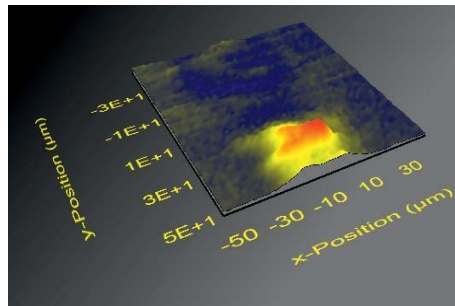
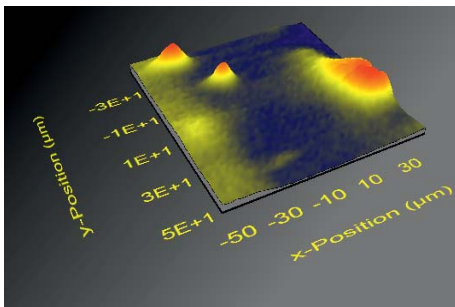
Mapping features like:

- Line mapping in X, Y and Z
- XY mapping with autofocus
- XYZ mapping
- Point by point mapping
- Fast mapping
- Fast mapping with line focus
- Rectangular and free hand mapping area selections
- Enhanced mapping analysis and display routines

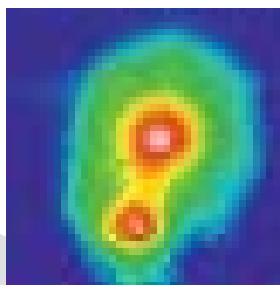
Mapping Area Selection



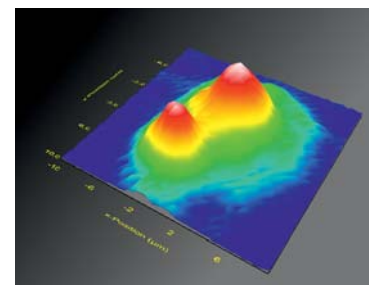
3D Raman Images from different Components on one Sample



Microscope Image



Images from an Enclosure
2D Raman Image



3D Raman Image

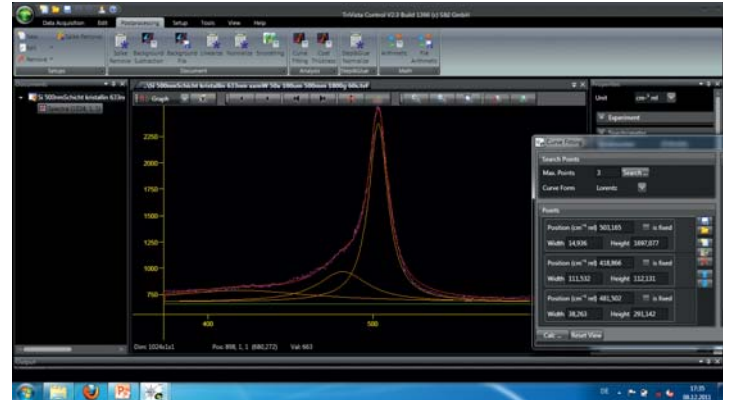
MonoVista CRS+

Raman Microscopes

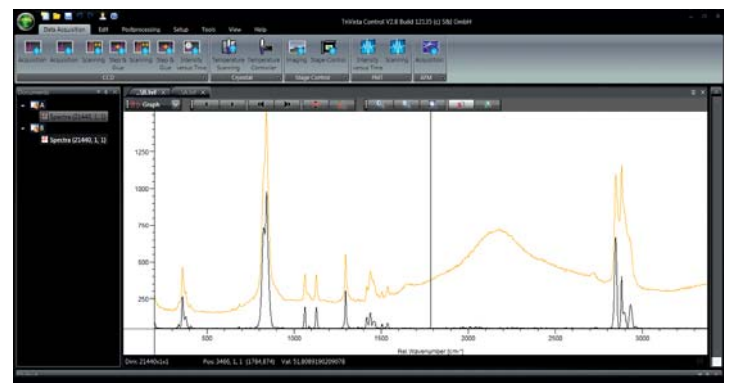
Software Features

- Auto alignment for laser input and Raman signal
- Wavelength and intensity calibration
- Temperature control for heating-, cooling stages and cryostats
- Raman mapping with auto focus
- Step by step and fast Raman mapping
- Various Postprocessing routines
- Fluorescence and background suppression
- Spectra library module
- Various data import and export formats
- AFM control

Curve Fit and Deconvolution



Fluorescence and Background rejection



Hardware Setups and Laser Selection

