

NOST Co.,Ltd

PRISM Confocal Raman Microscopy

Best Performance at Best Price

General System Features

Lasers	Multiple excitation lasers	Supported wavelengths 325nm, 488nm, 514.5nm, 532nm, 633nm, 785nm
Computer Interface		Through single USB connector, Some accessories may require additional USB and RS232 ports.
Fiber Port		Optional for adding external laser

General Specifications

	General specifications / Standard features	Benefit features
Prism-Basic	<p>* General specification *</p> <ul style="list-style-type: none">- Spectral resolution 1.5cm⁻¹ per CCD pixel @1800gr/mm2.3cm⁻¹ per CCD pixel @1200gr/mm Prism-Basic- Spatial resolution: below 1 micron (x,y,z)	<p>Selectable 1 laser (488nm, 514.5nm, 532nm, 633nm, 785nm)</p> <p>Aberration corrected spectrograph with fixed grating Spectral range: 500cm⁻¹ to 2930cm⁻¹ @ 1200gr/mm</p> <p>Note!! This range is estimated value</p>
Prism-VIS	<p>- Sensitivity resolved Si 2nd order @ exposure time < 100us</p> <p>* Standard features *</p> <ul style="list-style-type: none">- 532nm laser single longitudinal laser (50mW)- TE cooled CCD detector 1024X128 pixels- XYZ manual sample stage	<p>Selectable up to 2 lasers (488nm, 514.5nm, 532nm, 633nm, 785nm)</p> <p>Aberration corrected spectrograph with automated grating Spectral range: 0 to 1050nm</p> <p>Transition bandwidth: <100cm⁻¹ @edge filter <50cm⁻¹ optional</p>
Prism-UV	<ul style="list-style-type: none">- 2-objective lens 20X Mplan(NA=0.4, WD=1.2mm)100X Mplan(NA=0.9, WD=0.15mm)- Motorized adjustable Confocal pinhole- White light Koehler illuminator- Dedicated software : EzScan	<p>Selectable up to 2 lasers (325nm, 488nm, 514.5nm, 532nm, 633nm, 785nm)</p> <p>Aberration corrected spectrograph with automated grating Spectral range: 0 to 1050nm</p> <p>Transition bandwidth: <100cm⁻¹ @edge filter <50cm⁻¹ optional</p>

NOTE

1. The highest speed automated mapping function is available with optional expansion. XYZ motorized mapping stage(75X50mm) with <1um spatial resolution
2. Various parts options are also available.
3. To provide every customizable optical solution.
4. All optional expansions are required to contact us.

Physical Dimensions

	Width	360mm
Spatial Dimensions	Depth	690mm
	Height	400mm
Power Requirements		100-250VAC, 48-63Hz, 3A max

Tel. +82 31 548 2990 Fax. +82 31 548 2991 Email. nost@nostoptiks.com
119, Dongbaekjungang-ro, Giheung-gu, Yongin-si, Gyeonggi-do, Korea



Best Performance at Best Price Solution for Nanoscience and Material Analysis Applications

Confocal Raman spectroscopy solution



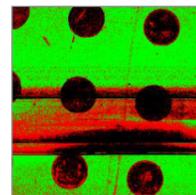
PRISM



PRISM Confocal Raman Microscopy

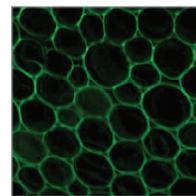
Optimized design for User

- » Up to two excitation wavelength available
- » <1um x,y spatial resolution and <2um depth resolution with true Confocal design
- » Compact size frame, very few moving parts.
- » Easy to transport from lab to lab
- » Fully motorized system.



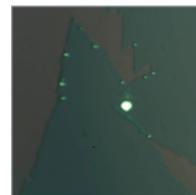
Polymers / Semiconductors

Raman imaging of Polymer pattern
500X500 pixels, 250,000 spectra
Raman and photoluminescence (PL) studies of materials enables researchers to collect variety information about the composition and components



Bio science

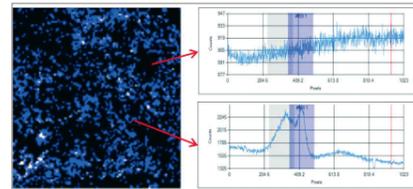
Raman imaging of Convallaria root cell
500X500 pixels, 250,000 spectra
Biology, microbiology and many more:
The PRISM offers chemical characterization methods for bio science.



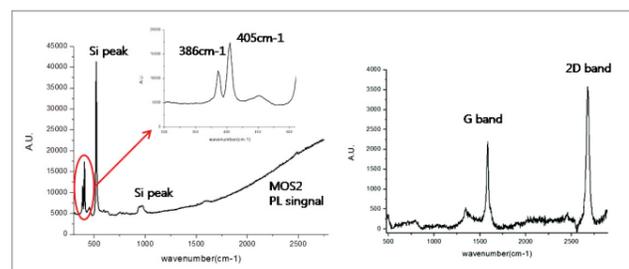
Materials

Raman imaging of CVD MOS2
100X100 pixels, 10,000 spectra
Graphene, carbon nanotubes, metal oxides and MOS2, band gap analysis:

The PRISM contributes to a good knowledge of material and is a reliable tool for chemical and physical analysis



Raman imaging of GO
200X200 pixels, 40,000 spectra, 1.5mW
Clearly resolved Raman spectra using low laser power



MOS2 Raman spectra (Left)
Graphene Raman spectra (Right)

Aberration corrected spectrograph

Adopt aberration corrected spectrograph for High-throughput and efficiency. Astigmatism, coma and spherical aberration at the centered and marginal wavelengths at the CCD was completely suppressed and minimized.

TE cooled CCD

TE cooled CCD was adopted for the lowest noise to provide a high sensitive and dynamic range. USB plug and play — no controller box.
A variety of CCD options is available by user request.

Variable Confocal pinhole

Optimized 1 airy unit with continuous variable Confocal pinhole. This leads to a xy spatial resolution improvement as well as along the optical axis(z-direction).

On-axis grating turret

With on-axis grating turret design, aberration was corrected. Different kinds of gratings can be integrated by user request.

Laser filter selector

Motorized 2-positioning laser filter selector. Adopted ultrasteep long-pass filters allow you to investigate the weakest signals closer to the laser line. Moreover PRISM filters configuration are designed to minimize Rayleigh line and maximize SNR with high OD (optical density).

Power controller

Includes 11 steps motorized ND filter controller for laser power control. This will enable to minimize sample damage with integrated automated optical shutter.

Built in laser

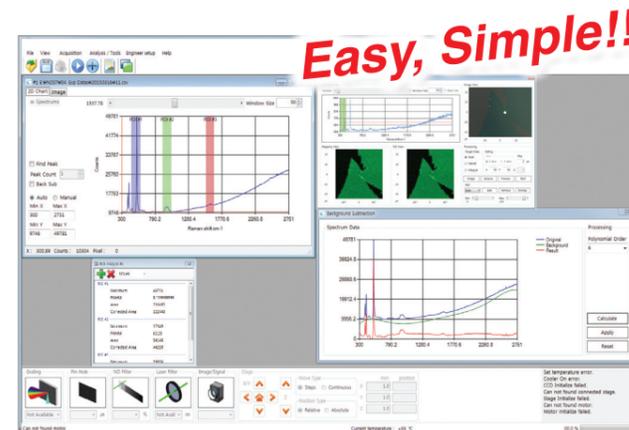
Up to 2 integrated lasers. Different kinds of lasers can be integrated by user request.

Optimized illuminator design

Optimized illuminator optical design for high resolution imaging. Vision image used to be reference one for spectroscopy but PRISM provides you high contrast image gets abreast of microscope image.

Motorized microscope xyz stage

Adopt high resolution motorized sample stage with integrated measuring system. Integrated measuring system allow you very exact positioning of samples and accurate positioning values.
Enable to control the motorized stage using xyz joystick or SW.



EzScan is a simple and powerful tool for Raman and PL experiment, through to sophisticated measurement for spectrum, imaging and mapping processing, from instrument setup and data acquisition.



Fast and high resolution Raman imaging option

Raman imaging of USAF resolution target (left)
500X500 pixels, 250,000 spectra
Raman imaging of semiconductor pattern (right)
50X50 pixels, 2,500 spectra
Just measured in 48s!!