Quadriband Raman Imaging Raman Spectrometer

ATR8800UV

Features

- Deep ultraviolet Raman spectroscopy mapping.
- Fully automatic Raman imaging experiment, automatic focus and automatic scanning.
- Ultra-large imaging (50X50mm), automatic image splicing.
- Support up to four excitation wavelengths Raman.
- Long focal length high-resolution design.
- Ultra-field imaging function (optional).
- Ultra-high sensitivity, signal-to-noise ratio > 6000:1.
- The maximum time of points can reach 1.3 hours.
- True focus ensures more accurate Raman images.
- Ultra-high spatial resolution.
- Unique software control switching optical path.
- Locate quickly and quickly find the focus position.
- High-quality objective lens, spot micron class.
- 5 million cameras with clear and accurate images

Application：

- Nanoparticles and new materials.
- Research institute research.
- Biological sciences.
- Forensic expertise.
- Materials science.
- Medical immunoassay.
- Agricultural and food

Description:

ATR8800UV series microscopic Raman spectrometer integrates four lasers and combines the advantages of the microscope and the Raman spectrometer. It can visually accurately locates the Raman detection platform, so that the observer can detect the Raman signals of different surface states on the sample and display the microzoning shape of the detected position on the computer, which greatly facilitates the Raman micro-area detection.

It can be fully automatic focus, automatic scanning, key operation, batch experimentation, uniformity scanning, etc., without waiting, and can be obtained. Highly reliable scanning imaging Raman data.

It is equipped with spectrometers with different focal lengths to meet the requirements of different resolutions. It is also equipped with objective lenses specially designed for Raman systems, which brings laser spots to the limit of diffraction, and then displays focus information accurately and intuitively on the computer through 5 million cameras. The problem of collecting Raman signals in ordinary Raman systems is slightly higher or slightly lower than the actual optimal focal surface, thus improving Raman spectral quality.

The ATR8800UV perfectly solves the loss of the camera imaging time path, and realizes the separation of camera imaging from Raman signal collection, so as to obtain the best signal strength. At the same time, it uses high-performance Raman, whether it is sensitive, signal-to-noise ratio, stable, etc., which is a leading level in the industry, providing a strong guarantee for Raman's research.

1. Performance parameters:

Table 1 ATR8800UV product selection table

Model	Focus length	Excitation wavelength /nm	Laser power /mW	Maximum wave number range	Miniature resolution/cm⁻¹
ATR8800UV-FL350	350mm	266	50	100~5500	4.5
		325	35	100~4500	3.2
		532	100	200~5500	1.4
		638	80	200~5000	1.5
		785	350	200~5500	1.8
		1064	500	200~5500	5.2
ATR8800UV-FL510	510mm	266	50	100~5500	2.9
		325	30	150~4000	1.9
		532	100	200~3700	0.9
		638	80	200~3500	0.9
		785	350	200~3500	1.4
		1064	500	200~2500	3.6
ATR8800UV-FL760	760mm	266	50	100~5500	2.2
		325	30	150~4000	1.2
		532	100	200~3700	0.5
		638	80	200~3500	0.5
		785	350	200~3500	1.0
		1064	500	200~2500	2.7

Note: The above excitation wavelengths can be selected from the list of up to 4 excitation wavelengths for collocation.

Order guide:

Naming example:

ATR8800UV-LT-FL350-532+633: auto focus, long integration time, focal length of 350mm, dual excitation wavelength: 532nm and 633nm respectively

ATR8800UV-SCM-FL760-532+638+1064: scanning imaging, sCMOS detector, focal length is 760mm, excitation wavelength is three wavelengths: 532nm, 633nm and 1064nm respectively

Table 2 ATR8800UV performance parameters

ATR8800UV performance parameters	
Excitation wavelength	266,325,532,638,785,1064nm Optional
Laser power	266nm：50mW 325nm：30mW 532nm：100mW 633nm：80mW 638nm：80mW 785nm：350mW 1064nm：500mW
Optical path	C-T optical path
Spectrometer focal length	350mm、510mm、760mm Optional
Object lens	High UV transmittance objective lens,Standard configuration：4X、10X、20X；Optional configuration：50X、100X
Microscopic lighting	High brightness long life white light LED
Lighting method	Epi-fire type
Microscope camera system	5 million pixel industrial camera
Focusing method	Conjugate Focus
Laser spot diameter	>1μm
Laser stability	σ/μ <±0.2%
Communication mode	USB2.0
X, Y axis two-dimensional platform	
Move method	Manual, Electric optional
Moving range	50 X 50 mm
Mobile resolution	0.1 μm
Positioning accuracy	1 μm
Scan speed	20 mm/s
Z axis (auto focus)	
Focus accuracy	≤ ±0.2 μm
Maximum stroke	20 mm
Focus speed	No more than 10 s

Physical parameter	
Dimensions	ATR8800UV-FL210：823(L)×500(W)×643(H)
	ATR8800UV-FL350：905(L)×500(W)×643(H)
	ATR8800UV-FL510：1009(L)×500(W)×643(H)
	ATR8800UV-FL760：1320(L)×500(W)×643(H)
Weight	ATR8800UV-FL210：76 Kg
	ATR8800UV-FL350：87Kg
	ATR8800UV-FL510：98Kg
	ATR8800UV-FL760：113Kg
Electrical parameter	
Voltage	100~240V
Peak power	100W
Other motivations	No need
Emission	NO

4

2.   Software Operation Interface
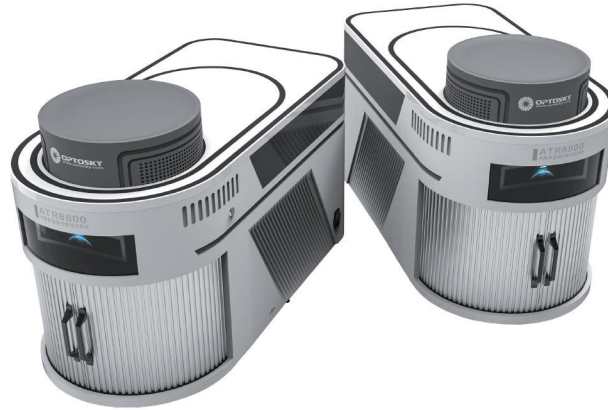
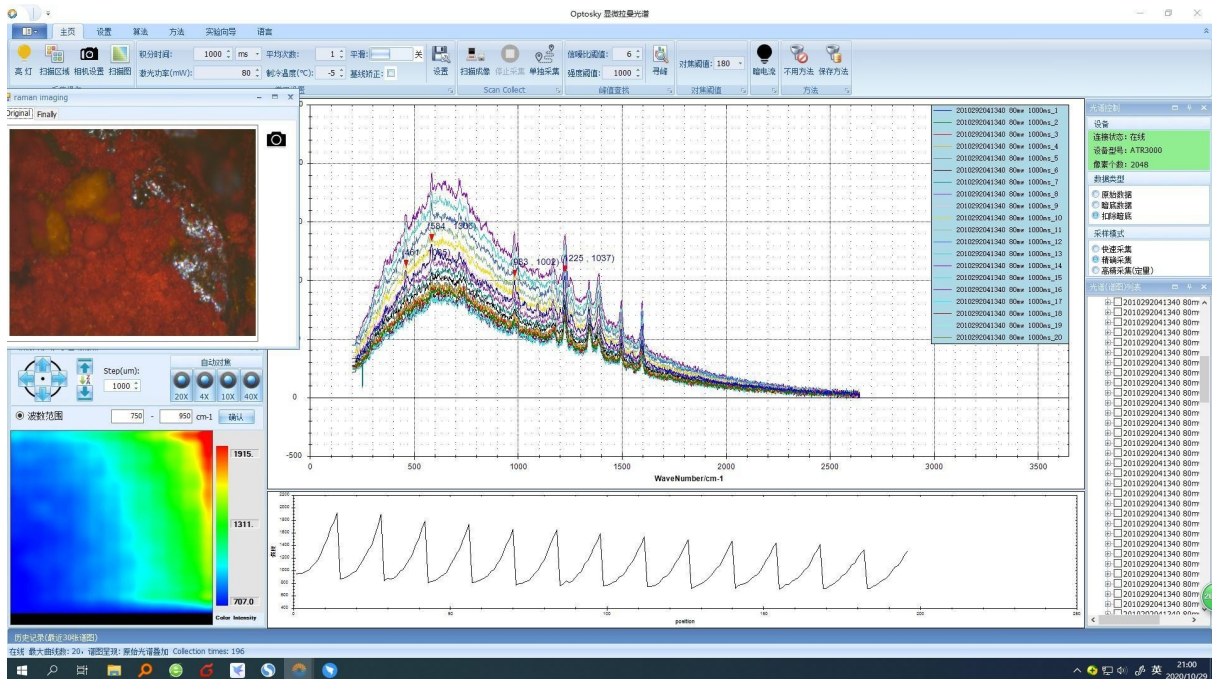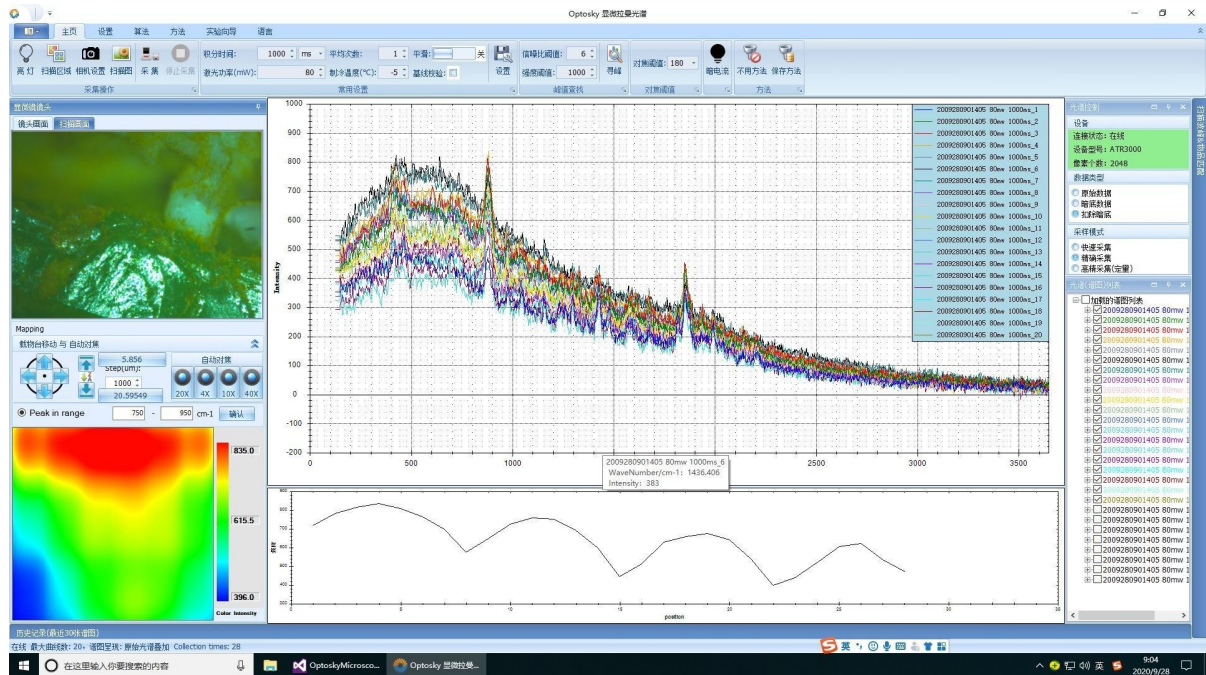Figure 1 ATR8800UV Raman microscope functional structure indicator diagram

Figure 2   ATR8800UV software interface 1

Figure 3   ATR8800UV software interface 2

6