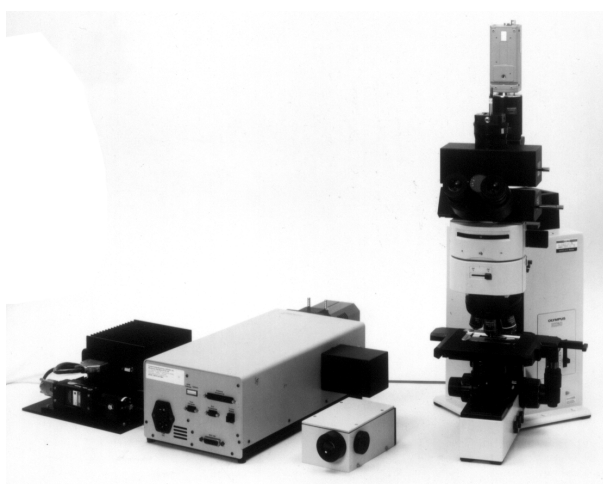
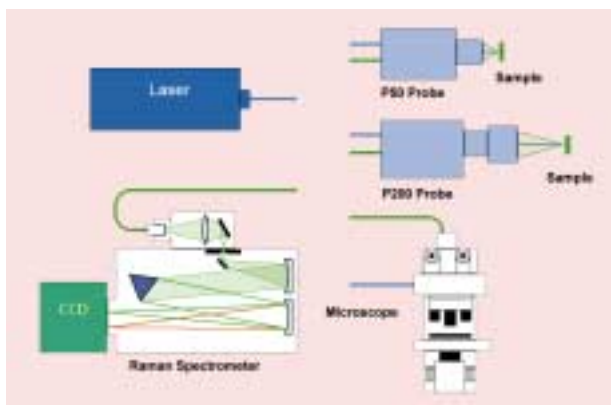


STR250 Laser Raman Spectrometer



STR250 Laser Raman system



Schematic of Raman system

The STR250 Laser Raman Spectrometer is a highly compact, and flexible system with a high sensitivity to measure a weak Raman scattering from different materials. The system consists of an imaging spectrometer and TE cooled CCD camera. We offer a remote probe head for remote sampling, a optical microscope for small sample with spatial resolution $<1\mu\text{m}$, and dual excitation lasers for visible and Near IR region. Near IR laser will resolve the fluorescence problem from the organic compound. The system includes user friendly Windows based control and data processing software.

Features

- Compact, flexible system configuration
- Single MM or SM fiber
- High resolution: $< 1 \text{ cm}^{-1}$
- Confocal optics for microscope, and remote probe
- Fully automated data collection
- Grams/32 software for advanced data processing



Seki Technotron Corp.

5-6-30 Kiba, Koto-ku, Tokyo, Japan 135-0042

Tel: 81-3-3820-1712 Fax: 81-3-3820-1728

Web: www.sekitech.co.jp e-mail: opto@sekitech.co.jp

STR250 Laser Raman Spectrometer



Laser

DL532	532nm	Diode Laser : 50,75,100150,200mW
AR300	514/488nm	Air cooled Ar Laser : 100mW
DL785	785nm	Diode Laser : 300, 600mW

Cooled CCD camera

DV401UV	1024x128 pixels, 26 μ m UV response, TE cooled < -55 $^{\circ}$ C (-80 $^{\circ}$ C)
DV420OE	1024x256 pixels, 26 μ m Open Electrode type, TE cooled < -55 $^{\circ}$ C (-80 $^{\circ}$ C)

Imaging Spectrometer

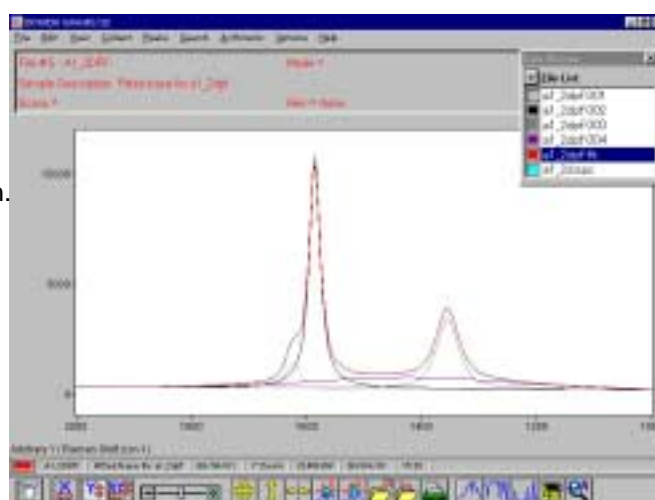
Optics	250mm fl, f/4 Czerny-Turner with Stigmatic flat field imaging
Grating	Up to 3 motorized gratings
Range	50 ~ 4000 cm^{-1} (3500 cm^{-1})
resolution	< 1 cm^{-1}
System	Pentium based computer Control & processing software
Size	420(L)x225(W)x150(H) mm, 14kg

Raman Sampling optics

ST-BX60	<1 μ m spatial resolution at x100 Objective X10,x20LWD,x50,x100 Objective lens, CCD color camera and image capture board 470(L) x 320(W) x 600(H) mm, 25kg
P50	<100 μ m spatial resolution Optics: 50mm WD, f/2 210(L) x 100(W) x 80(H) mm, 1kg
P200	<400 μ m spatial resolution Optics: 200mm WD, f/4 260(L) x 166(W) x 80(H) mm, 1kg

Near IR excitation specification is ().

Application example



Raman spectroscopy is the most extensively used technique for characterizing carbon related materials, especially CVD diamond, because it clearly distinguishes between different forms of carbon, viz. cubic diamond, lonsdaleite, graphite, diamond like carbon and glassy carbon. The main reason for its extensive use in assessing the quality of diamond films might be that the Raman scattering coefficient are significantly higher for the graphitic carbon than the diamond phase. Thus it is an important tool in estimating the purity of the films. The right spectrum illustrates how nicely curve fitting can be performed using Grams/32, advanced data processing software.



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