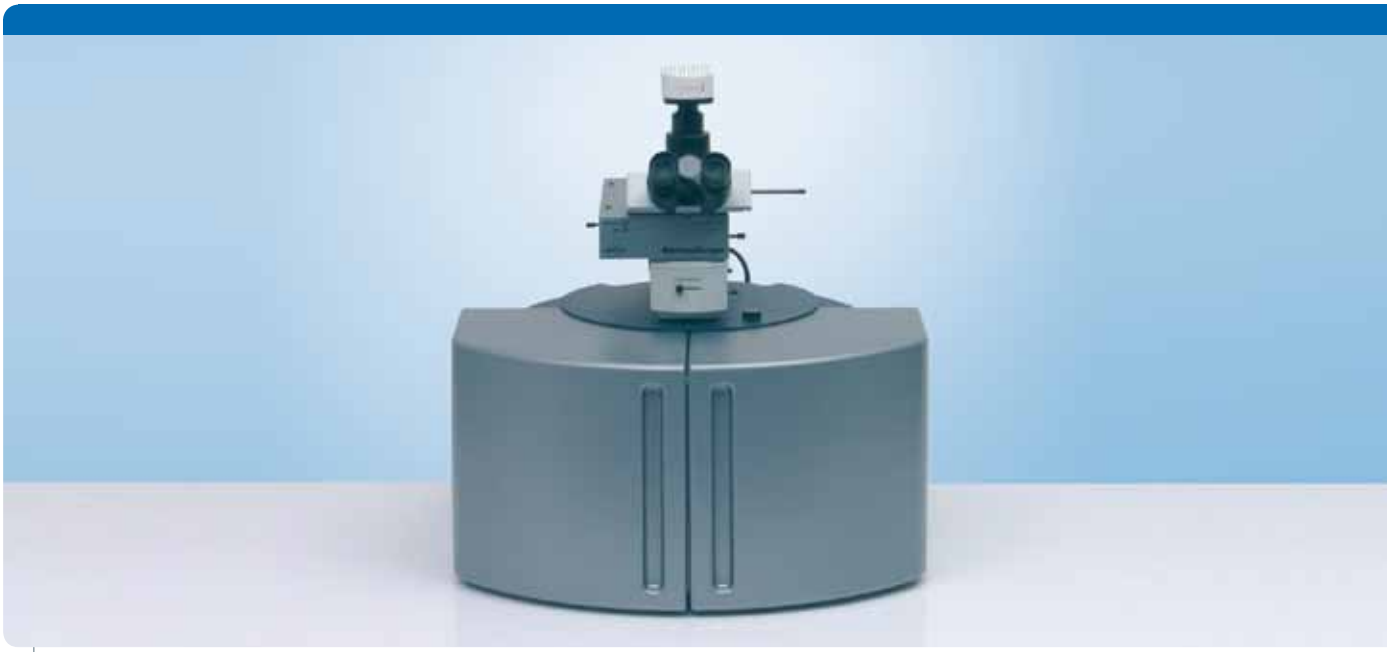


RamanScope III FT-Raman Microscope

The RamanScope III microscope utilizes the long wavelength benefits of 1064 nm excitation for fluorescence-free, non-destructive analysis of microscopic samples.

- Unparalleled flexibility, sensitivity and ease-of use
- Spatial resolution: down to 8 µm
- Full optical microscopy capabilities
- 'Hybrid' technology: Fourier transform (1064 nm) and dispersive (e. g. 532, 633 and 785 nm) Raman on the same microscope

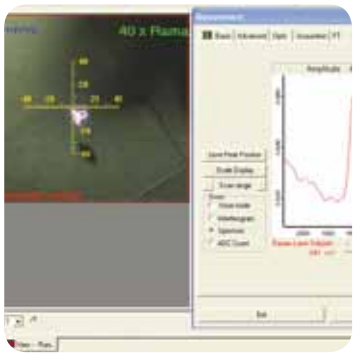
Raman spectroscopy has become one of the most versatile and powerful analytical techniques that can be applied to microanalysis. Areas of applications include materials science, forensics, mineralogy, failure analysis, content uniformity, sample homogeneity and quality control.

The RamanScope III has been developed taking advantages of the recent improvements in optical microscopy and Bruker's over 25 years of experience in FT-Raman microscopy. It is a powerful, compact, benchtop FT-Raman microscope for the non-destructive analysis of microscopic samples. As it is based on the Olympus BX series optical microscope, all the necessary tools for sample visualization and contrast enhancements such as the Koehler brightfield and darkfield illuminuation, polarized light, Nomarski differential interference contrast (DIC) and fluorescence are available.

The RamanScope III microscope can be coupled to Bruker's FT-Raman spectrometers, such as the stand-alone FT-Raman spectrometer MultiRAM or fully digital RAM II module, to utilize the long wavelength benefits of 1064 nm excitation for fluorescence-free analysis of microscopic samples. Standard and long working distance objectives provide excellent spatial resolution of down to 20 µm.

The RamanScope III microscope is coupled to Bruker Optics' FT-Raman spectrometers, such as the MultiRAM.

The "hybrid" platform enables the use of both Fourier transform and dispersive based Raman systems on a single microscope.



OPUS software displays simultaneously live laser, sample and the spectrum viewing to help identify and target the area of interest.

Minimize Fluorescence Interference

When sample fluorescence is a problem, FT-Raman microanalysis with near infrared excitation (1064 nm) is frequently the only solution. As sample fluorescence can be orders of magnitude more intense than Raman scattering, the presence of fluorescence often precludes observation of Raman scattering. Excitation at 1064 nm is low enough in excitation energy such that fluorescence is rarely generated.

Sensitivity and Stability

High throughput optics and Bruker's unique liquid nitrogen cooled Germanium detector offers ultra-low signal detection with minimal noise assuring excellent sensitivity. The long hold time of the refrigerant provides hassle free operation for an entire week.

The inherent precision of the Bruker FT-Raman instruments provides reliable long term stability, which is especially important for sample analyses requiring long acqusition times.

Software

The intuitive, easy-to-use OPUS software controls all data collection and manipulation functions. OPUS shows the sample and the excitation laser simultaneously for user confidence in targeting the desired area for analysis.

Raman Chemical Mapping utilizing Point, Line and Area Mapping

Discrete point analysis, as well as the line and the area mapping can be readily performed over the full spectral range. The mapping results are then displayed as 3D images or 2D contour maps overlaying the corresponding video image.

Combined Fourier Transform and Dispersive Raman Spectroscopy

Combined Fourier Transform and Dispersive Raman Spectroscopy For ultimate flexibility, the RamanScope III can be coupled with the innovative SENTERRA grating based dispersive Raman microscope. This unique combination offers novel analysis capabilities for full spectroscopic characterization utilizing excitation wavelengths from 1064 nm to 488 nm on a single spot. The combined system of the RamanScope III and SENTERRA can be configured with up to 4 different excitation wavelengths (e. g. 1064 nm, 785 nm, 633 nm and 532 nm).

The RamanScope III provides the best possible circumvention of unwanted fluorescence. The SENTERRA takes advantage of the ν^4 scattering efficeny, where shorter wavelength excitation yields a much stronger Raman effect. The high scattering efficiency in combination with the CCD based detection system provides superior sensitivity and fast spectra acquisition. Short wavelength excitation also provides significant improvement of the spatial resolution down to 1µm and less.

Therefore, the combined platform of dispersive and FT-Raman microscopy is a perfect tool for superior data collection from even the most challenging microscopic samples.

Bruker Optics is ISO 9001 certified.

Class 1 with safety enclosure, exceeds class 1 without safety enclosure.

Technologies used are protected by one or more of the following patents: US 5923422; DE 19704598; US 6141095; US 7102746

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