

## ● N8 NEOS SENTERRA

A Single System for AFM and Raman Spectroscopy

Modern research or materials testing require a comprehensive picture of a single sample. This in turn demands a multi-technique approach in the design of analytical instrumentation. Synergy in the broad range of research and analysis products offered by the Bruker group guarantees that this comprehensive picture is attainable.

To facilitate the investigation of the morphology and the chemical analysis of the same sample area, Bruker has combined the N8 NEOS AFM with the SENTERRA Raman microscope.

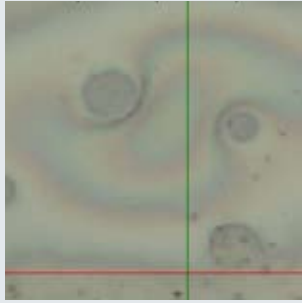
### Concept

The calibrated sample positioning allows simple and precise serial measurements, and the Raman spectra can be easily located within the AFM image. In short, the N8 NEOS SENTERRA combines the flexibility of the Raman spectrometer with intuitive AFM control.

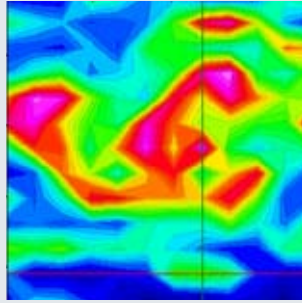
### SENTERRA Raman Spectrometer

The compact SENTERRA Raman system has software-selectable lasers and gratings (to enable specific excitation wavelengths and specific spectral resolutions for each sample).

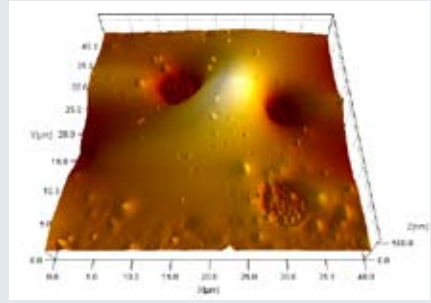
## Investigation of a polymer sample



Optical microscope image, bright field contrast, size 40 x 40  $\mu\text{m}^2$



Raman map of the same area, size 40 x 40  $\mu\text{m}^2$



3D view of the AFM measurement of the same area, size 40 x 40  $\mu\text{m}^2$ , Z-range 550 nm

Sample courtesy of Prof. Wulff Possart  
Chair of Adhesion and Interphases in Polymers  
Saarland University, Germany

Thanks to the patented Sure\_Cal\* technology, the SENTERRA is permanently aligned for the wavelength scale with a wavelength stability specified with 0.1  $\text{cm}^{-1}$  RMS. Switching between high throughput and confocal mode is also motorized and software-controlled (patented, FlexFocus).

### N8 NEOS AFM

The alignment-free AFM optics and user-friendly design (e.g. non-contact amplitudes are denoted in nm and not V) make the N8 NEOS SENTERRA ideal for research applications and for multi-user centers. Throughput and results are guaranteed.

Optimum stability is achieved by mounting the SENTERRA on the N8 NEOS base, whilst Raman point mapping is realized using the included confocal optical microscope. Topography and chemical composition of any sample can be analyzed on the same position without sample translation.

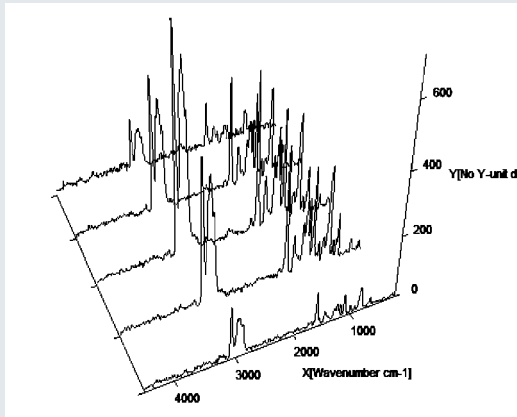
### N8 NEOS SENTERRA Highlights

- Alignment-free AFM optics
- Sure\_Cal® technology for wavelength stability (< 0.1  $\text{cm}^{-1}$  RMS)
- Calibrated positioning for AFM & Raman
- Compact and user-friendly design
- Ideal for research and multi-user centers

**Bruker Optics**  
is ISO 9001 certified

\* Class 1 with safety enclosure, exceeds class 1 without safety enclosure. Depending on accessories adapted the classification of the Raman microscope may equal the classification of the exciting laser and exceed class 1

### Raman spectra



Raman spectra measured on a polymer sample

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

Contact us for more details: ● **Bruker Nano**

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