



Discover the Raman Advantage!

Inspector Raman™



Easy to use...

"We are very happy with the Inspector Raman and NuScope combination for our Raman imaging studies. We have found it easy to use and implement into our research and teaching labs. In particular, it has been used to interrogate the surfaces of our diamond films with much success. I am very pleased with the Inspector Raman and NuScope and I look forward to using it for other research and teaching applications."

- Mark Prelas
University of Missouri

From Research...

Our portable dispersive spectrometer has an integrated design that eliminates moving parts and allows it to be used in any position. Our academic customers use the Inspector Raman™ for research in:

- nanoparticle technology
- reaction monitoring and final product validation
- botanical research
- geology
- forensic science
- life sciences



The Inspector Raman and NuScope with the XYZ stage attachment

to Teaching...

Use the Inspector Raman to demonstrate topics in analytical, physical, inorganic and organic chemistry; geology and forensic science. Choose from pre-tested experiments in:

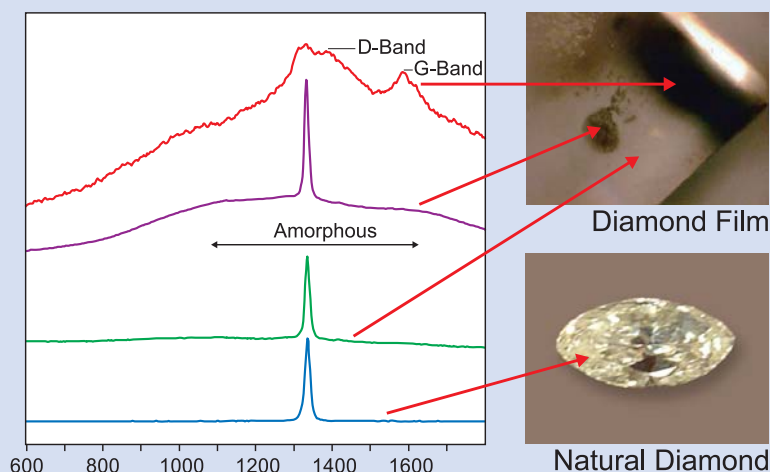
- group theory and vibration spectroscopy
- periodic trends using Raman spectroscopy
- adsorption isotherms using SERS
- instrumental analysis: ethanol and water
- forensic science: investigate a mock crime scene



A diamond in the rough...

Natural diamond exhibits one main Raman active vibration (sp^3) which manifests itself as a sharp first order peak in the Raman spectrum at $\sim 1332\text{ cm}^{-1}$. In diamond films grown by CVD, carbon is also incorporated into the film in non-diamond forms. These non-diamond carbons may be graphitic or amorphous carbon regions in the film. Three changes are observed. Pure graphite exhibits a peak at 1580 cm^{-1} , which is known as the G-band (sp^2). A disordered (or D-band) peak appears in the spectrum at $\sim 1350\text{ cm}^{-1}$ and amorphous carbon produces a broad asymmetric hump in the region $1000\text{--}1600\text{ cm}^{-1}$. The Inspector Raman and NuScope with the XYZ stage attachment are an excellent way to navigate across the diamond film to identify regions of chemical heterogeneity.

Applications Series: #18 – Affordable Raman Microscopy for Materials Science



www.deltanu.com

For information call **866 301 6328** toll-free or visit us on the Web at www.deltanu.com for complete technical specs. See us at the spring 2006 ACS Convention, Booth # 429

