

# AFM-RAMAN SPECTROSCOPY

## NT-MDT, NTEGRA SPECTRA

We offer contract use of a scanning probe microscope, NTEGRA Spectra which integrates common SPM and micro Raman scattering spectroscopy. AFM-Raman system delivers nondestructive analysis of the sample surface.

## ACQUIRED INFORMATION

- > AFM, phase imaging, MFM, CM, STM, EFM
- > Roughness and surface homogeneity
- > Raman spectra combined with the AFM results of spots, 2D, and/or 3D mapping (depth profile)

## SAMPLE TYPES

- > Nanomaterials, microscopic materials
- > Biological samples such as tissue, cells, viruses, bacteria and other biological objects

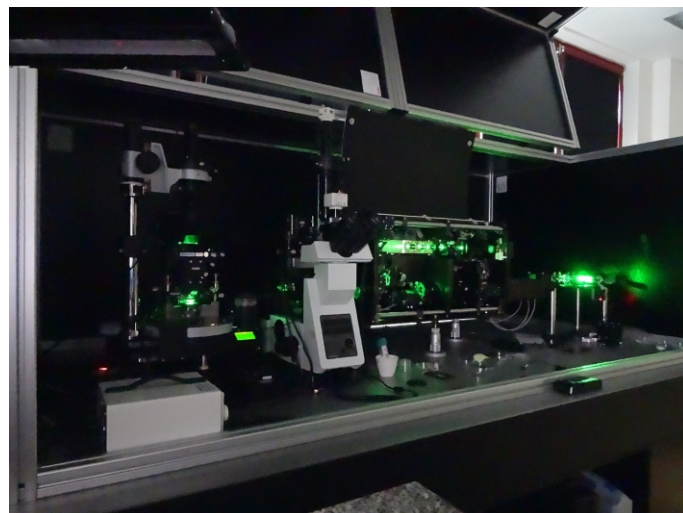
## MODES, CONDITIONS AND PRECISION

### AFM

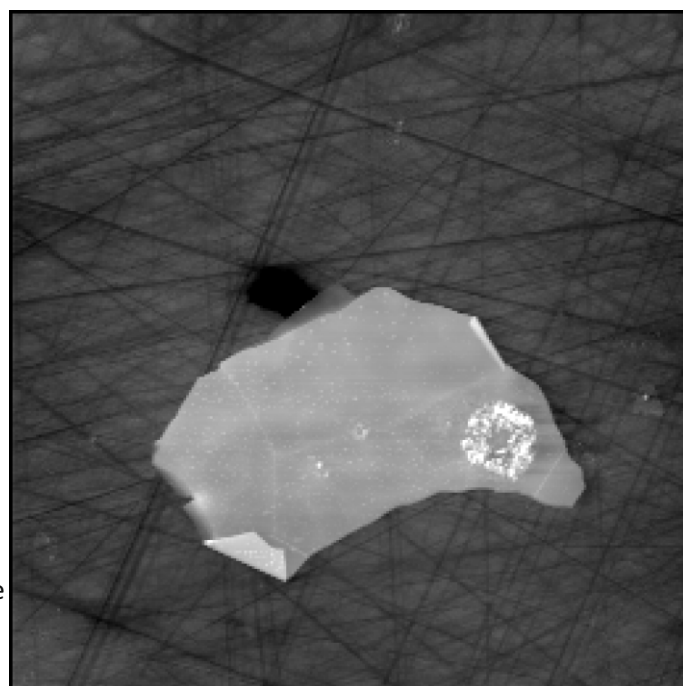
- > Measurements available at both conditions: ambient and liquid
- > Maximal scan size of the system: 100  $\mu\text{m}$  x 100  $\mu\text{m}$  x 10  $\mu\text{m}$
- > Measurement modes: SemiContact, Contact and Noncontact
- > System is capable to perform: Surface topography, Magnetic Force Measurement, Phase Imaging, Force Spectroscopy, Current Spectroscopy

### Raman

- > UP, Right and Bottom illumination of the sample by Raman beam
- > Excitation lasers at 532nm (green) and 785nm (near IR)
- > Spectral resolution of the system is lower than 1  $\text{cm}^{-1}$
- > 2D and 3D mapping with spatial resolution below 500 nm
- > Possibility to develop an analytical procedure based on Surface Enhanced Raman Spectroscopy for an ultra-trace determination of selected molecular targets; availability and sensitivity of this option depends on a complexity of the sample(s) and nature of the requested target(s)



System AFM-Raman, (NT-MDT, Russia) with Upright and Inverted optical AFM configurations



AFM Image of Graphene, measured in liquid phase on sapphire substrate

DETAILED INFORMATION ON REQUEST



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