Technospex

uSight-FXM

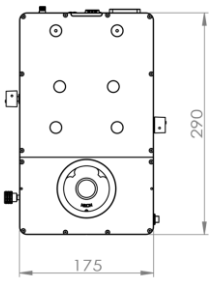
Micro-spectroscopy System

Optical micro-spectroscopy solutions with research grade performance and reliability

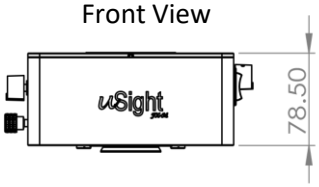
uSight-FXM with external laser and detector mounted on Nikon Ci-L Microscope

uSight-FXM module dimension

Top View



Front View



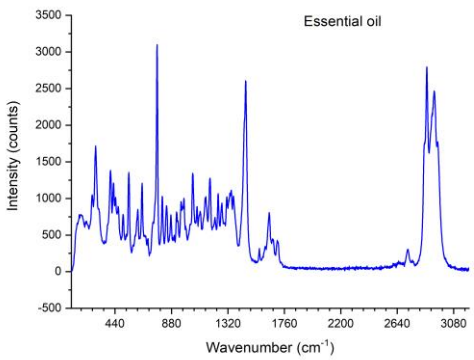
The uSight-FXM is a laser-based micro-spectroscopy system with a uSight-FXM module attached to a Nikon microscope where laser and spectrometers are externally connected to the module. This provides great flexibility to perform different measurement types such as Raman, photoluminescence and laser-induced fluorescence spectroscopy. It does so while preserving microscope original functionalities such as bright-field, dark-field, phase contrast, etc. The system is suitable for research laboratories, education, and commercial use.

The flexibility to connect different choices of laser and spectrometer to uSight-FXM offers users to adapt to any existing spectrometers in their lab or to high-end spectrometers. When the microscope has a motorized stage, user can also perform high spatial resolution Raman chemical mapping.

APPLICATIONS

- 2D materials
- Forensic Science
- Gemology and minerals
- Biology
- Agriculture
- Education
- Pharmaceutical

RESULTS



Raman spectrum of essential oil taken with uSight-FXM with 532nm laser

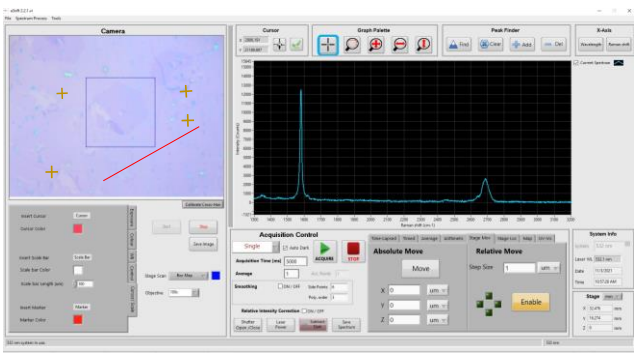
TECHNICAL SPECIFICATIONS

Laser Wavelength available	405nm, 532nm, 785nm, 830nm, 1064nm
Spectra range and resolution	Depends on the spectrometer used (High-end scientific system with multiple gratings and rotatable turret or compact system with fixed gratings). Please speak with us for more details.
Microscope	• Nikon Ci series upright microscope. Note Ci-S – microscope comes with halogen Eco-illumination Ci-L – microscope comes with LED Eco-illumination • Wide range of microscope objectives (4X, 10X, 20X, 40X, 60X, 100X and 150X) • Manual stages (default) and motorized (optional)
Communication	USB 2.0 or USB 3.0 depending on spectrometer model
Power supply	12 VDC or 240 VAC

SOFTWARE

uSoft is the control software which control not only uSight-FXM but company's other spectroscopy solutions when combined. uSoft is designed to be user-friendly. It incorporates laser self-calibration function which will do the auto x-axis calibration upon launching the software. Additional functions offer such as peak identification, auto-fluorescence background subtraction, etc. In mapping, user can select an area of interest within the camera screen and the software and motorized stage will do the rest. There are multiple mapping approaches, such as area, line and multi-points which user will find them useful. The system also offers Mapview software for viewing the chemical map.

GUI of uSoft



Various mapping approach:
Blue: Area mapping
Red: Line mapping
Orange: Multi-Point mapping

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