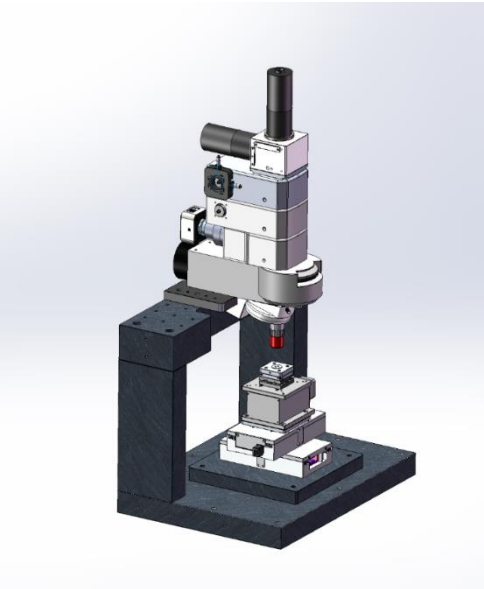
MIC - PL

Fluorescence Spectroscopy System/ Photoluminescence System



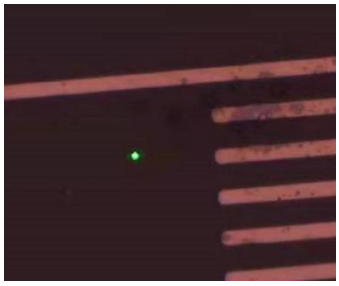
The MIC-PL(XXX) series is the nominal model of the micro-area laser excitation fluorescence spectroscopy measurement system, where XXX represents the wavelength. The imaging quality is comparable to a standard microscope.

This product adopts a confocal optical path design. The microscopic imaging focal plane and the spectrometer collection focal plane are perfectly at the same level. The minimum laser focus spot can be below 1um. The system is equipped with a high-precision motorized stage, the repetition accuracy of the stage is $\leqslant$ 1um, and it can perform precise spectral scanning. This system can be customized for Raman or Photoluminescence measurement.

Feature

- **Multi-functional**
  - Photoluminescence measurement
  - Fluorescence spectroscopy,
  - Raman spectroscopy.

- **Optical System**
  - Olympus BX53 bright and dark field reflective illuminator,
  - Beam combining / Splitting system (slot available for filter, polarizer)
  - Objective lens option (10x, 50x, 100x etc. based on customer requirement)
  - Confocal setup, laser focus point and imaging focal point at same level



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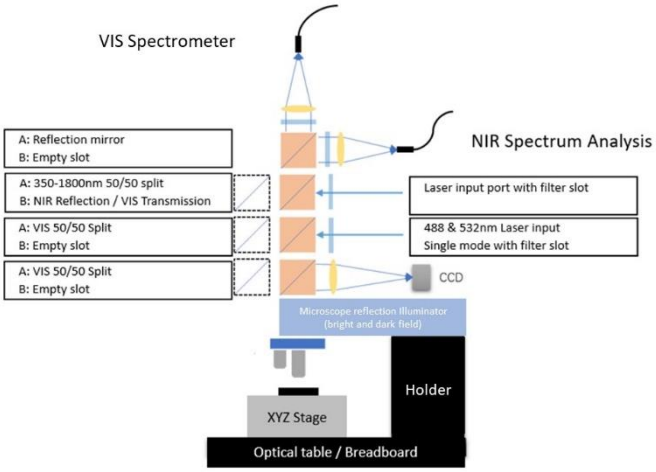
- **Detection unit (custom)**
  - Hamamatsu cooled array back–illuminated detector, TEC cooling can reach -15°C, which is more sensitive to low light detection
  - Matix CCD pixels with greatly improves the sensitivity and signal-to-noise ratio (>1000:1)
  - VIS to NIR Spectrometer (slot available for filter, polarizer), different type of spectrometer choice refer to Spectrometer selection guide

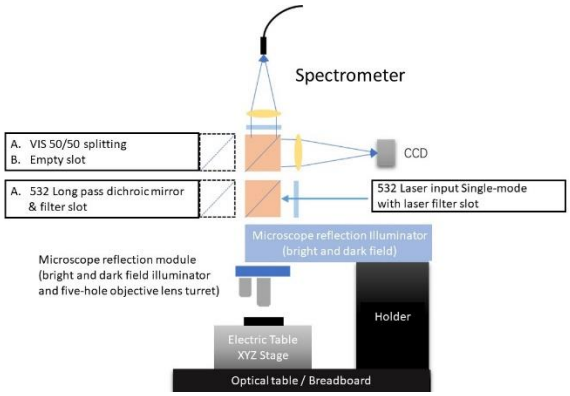
- **Customized Features**
  - Light source coupling provides free space light or fiber coupling (Light source selection guide)
  - Support optical access with more than three lasers (Recommended Laser choice)
  - Compatible with ultraviolet to near-infrared band
  - Bright and dark field / fluorescence / polarized illumination optional
  - User-defined filter mounting port reserved
  - 2D or 3D scanning

Specification	
Function	Photoluminescence / fluorescence / Micro Raman, etc
Laser wavelength	Optional (355 nm, 523 nm, 633 nm, 785 nm, 1064 nm, etc.)
Detector	Hamamatsu area array back-illuminated CCD, cooling temperature -15 °C 6M Camera ,3072x2048, pixel size 2.4um
Spot size	Up to the diffraction limit (1um @ 50x objective lens @ 532nm)
Scanning method	3D dynamic scanning or 2D dynamic scanning optional
Light shaping insert slot reserved	Yes
Software	Provide standard spectral data acquisition software, and provide customized services according to customer requirements
Customized service	Customizable
Others	Magnetism, electricity, high and low temperature, etc.

Different Setup Example



4 Channels setup with VIS to NIR Spectrometer, High resolution camera, and Multi wavelength excitation laser



Single Channel model with 532nm exciting laser for Raman microscopy application

System physical picture reference

A Spectral Collection Module
B Imaging/Spectral Spectroscopy Module
C Laser Incidence Module
D Microscopic Reflection Illuminator and Objective Switch
E Motorized Stage and Sample Holder
F Laser Energy Controller
G Spectrometer
H Marble Platform
I Camera
J LED Lighting Source
K Stage Control

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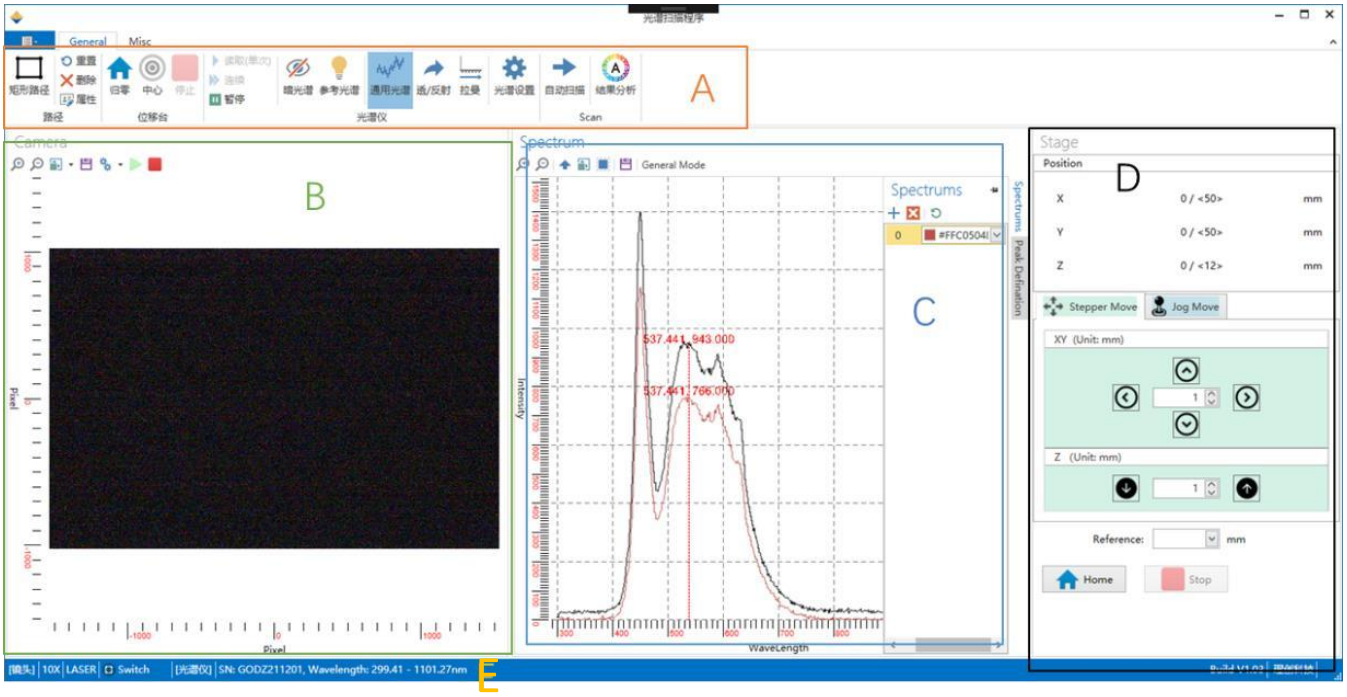
Software Interface



A Main function interface - realize various hardware quick control.
B Camera interface – used for camera exposure, colour adjustment and image acquisition etc.
C Spectral acquisition and observation interface – for spectral observation and analysis.
D Motion Control Interface – Controls the motion of the stage
E Spectrum and Lens Selection Screen – Spectrometer Selection

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