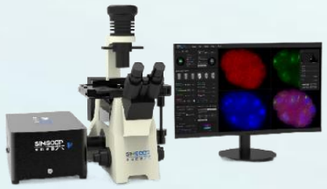
Microscope and Spectroscopy Product Line Card



Point Scanning /Line Scanning Confocal Microscope

- Frame rate: 8-30 fps@512x512
- Resolution: ~230 nm

Spinning Disk Confocal Microscope

- Frame rate: 40-100 FPS@1024x1024
- Resolution: ~200 nm
- Turntable speed: 15,000 RPM

STED Microscope

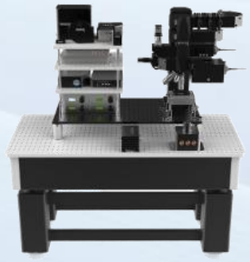
- Multi-channel compatibility
- Near-infrared band super-resolution
- Extremely weak signal detection

High Sensitivity Photomultiplier Tube

- Spectral range: 165~900 nm
- High quantum efficiency: 45%

Widefield/confocal upright Raman, PL, Fluorescence Multifunctional Microscope

- Modular design
- Multi-channel compatibility



Multimodal Microscope

- Compatible with multiple beam channels
- Modular design with intelligent software integration
- Flexible switching of multi-path illumination
- Synchronous acquisition of multi-dimensional optical information

Handheld Confocal Raman Skin Analyzer

- Axial Resolution:10um~20um
- Detection Range: FP: 450 – 1750cm-1
  HW: 2800-3750cm-1

Multi-mode/Single-mode laser

- Wavelength range: 375-808 nm
- Output power: >500mW

2026 V1

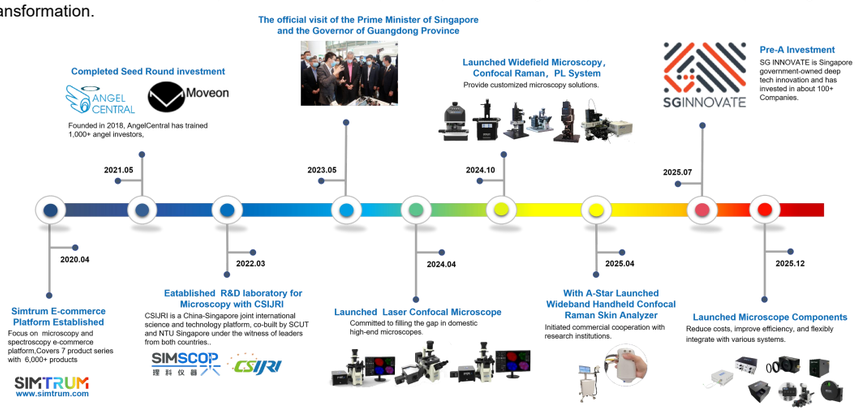
For customized projects please Contact us: **info@simtrum.com**

Company Profile

Established in Singapore in 2019, SIMTRUM Group specializes in innovation and applications within microscopy and spectroscopy. Its core team brings decades of optical technology expertise. In 2022, the company partnered with the CSIJRI in Guangzhou to establish a joint R&D laboratory for microscopy with independent research capabilities. The team now includes multiple Ph.D. graduates from the National University of Singapore (NUS), and has grown to dozens of members.

SIMTRUM has collaborated with leading institutions such as Nanyang Technological University (NTU), NUS, A-Star, and Xiamen University to develop high-end microscopy systems. In March 2023, the company's Guangzhou R&D center was visited by former Singapore Prime Minister Lee Hsien Loong and the Governor of Guangdong Province. Later that year, SIMTRUM won first prize in the startup category of the Guangzhou Technology Innovation and Entrepreneurship Competition and secured multiple technology patents.

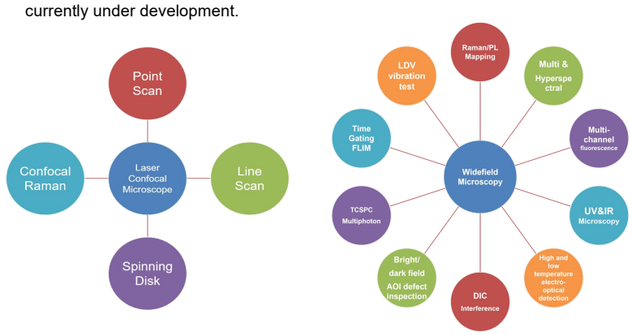
Vision: To be a leading photonics technology company that truly understands and adds value to our customers.
Mission： Driven by innovation, we deliver exceptional services and precise products to global photonics users, empowering customer success and advancing industry transformation.

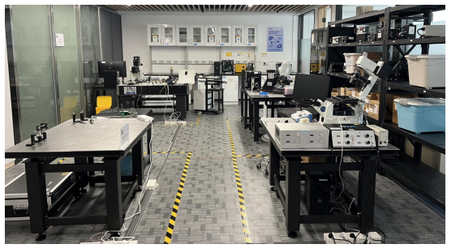


Optical R&D Laboratory

We have established a fully-owned optical laboratory in Guangzhou operating as a subsidiary of Simscop Instruments. This facility specializes in the R&D and manufacturing of high-end microscope systems and critical equipment components.

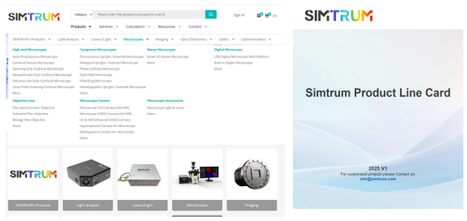
Our proprietary microscope systems include confocal laser microscopes and wide-field microscopes, along with core components such as detection modules, photomultiplier tubes (PMTs), silicon photomultipliers (SiPMs), multi-channel lasers, and motorized filter wheels. Additional products are currently under development.





Real scene of optical R&D laboratory

Focus on microscopy and spectroscopy e-commerce platform



E-commerce platform website:www.simtrum.com

Simtrum is a specialized e-commerce platform dedicated to microscopy and spectroscopy, serving scientific research, industrial, and healthcare fields with high-quality products and aiming to be a trusted partner in the sector.

The platform features seven major product categories: Microscopes, Light Analysis, Lasers/Light sources, Imaging, Opto-Electronics, Optomechanics, and Optic, offering over 4,000 products in total. Each category is equipped with a product line card to facilitate efficient selection.

As a supply chain-integrated systems provider, Simtrum employs a rigorous testing system where every product undergoes professional inspection and performance verification before launch. This ensures reliability and delivers a ready-to-use, worry-free experience for customers.

UV / EUV Applications

EUV Spectrometer
- Spectral Range: 5–200 nm
- Resolution: < 0.028 nm @ 40 nm

VUV/UV Spectrograph
- Spectral Range: 115–1100 nm
- Resolution: 0.04 mm on average

VUV Light Sources
- Wavelength range: 115-400 nm
- Plasma chamber: average 30×9

High Sensitivity PMT
- Spectral range: 165~900 nm
- High quantum efficiency: 45%

High Sensitivity UV Enhanced Spectrometers
- Wavelength range: 200-1100nm
- Resolution: <1nm Customizabl

UV camera
- Spectral Range: 240–280 nm
- Resolution: 1280 × 1024

Maskless lithography UV laser writer
- Minimum line width: 0.5 μm
- Maximum Writing Area: 8"

XUV/VUV CCD Camera
- Spectral Range: 1–350 nm
- Pixels: 1024 × 255

IR / NIR Applications

MIR QCL (3–13 μm)
- Wavelength range: 3–13 μm
- Output power: up to 40 W

Near Infrared Spectrometer
- Wavelength range: 900–2500nm
- Resolution: <1nm Customizable

Infrared Camera
- Spectral Range: 0.4 ~ 14 μm
- Resolution: 0.08MP, 0.3MP

Infrared Thermal Imager
- Spectral Range: 0.8 ~ 14 μm
- Resolution: 640 × 512 pixels

FTIR Spectrometer
- Wavelength Range: 900–16000 nm
- Resolution: 0.5/2/4/8 cm^{-1} (optional)

NIR Single-Photon Detector
- Wavelength Range: 900–1700 nm
- Gating Width: 1 ns typ.

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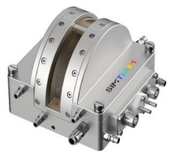
SIMTRUM

Microscope Accessories

Optical Heating & Cryo Stage

- Temperature:-190~600°C /RT~1800°C
- Chamber Type: Airtight or vacuum



X-ray/XRD Heating & Cryo Stage

- Temperature:-190~600°C /RT~1500ºC
- Chamber Type: Airtight or vacuum

Electrical Probe Temperature Stage

- Temperature:-190~600°C /RT~1500ºC
- Chamber type: Airtight or vacuum

Adjustable Electrical Probe Station

- Temperature:-190~600°C /RT~1200ºC
- Temperature Stability: ±0.1ºC

Supercontinuum Light Source

- Spectral Range: 450–2400 nm
- Average Power: 3 W @ 80 MHz

Narrow linewidth laser

- Wavelength range: 532–1064 nm
- Linewidth: MHz to kHz level

Si-APD Single-Photon Detector

- Spectral Range: 400–900 nm
- High Detection Efficiency: 70% @ 700 nm

High-sensitivity SIPM Detector

- Spectral Range: 300–950 nm
- Peak Sensitivity: PDE: 50%

High-sensitivity SIPM Detector

- Spectral Range: 300–950 nm
- Peak Sensitivity: PDE: 50%

Spatial Light Modulator

- Spectral range: 160-14000 nm
- Resolution: 2560x1600

Time-Correlated Single Photon Counting

- Channel count: 4/6/10/20
- Resolution: 1/4/8ps

AOM/AOTF/AOD/EOM

- Wavelength: 266 nm~10.6 μm
- Central frequency: 40-1500 MHz

Vacuum CCD Camera

- Wavelength range: 5 eV – 20 keV
- Pixels: 4096 × 4096

High-sensitivity sCMOS camera

- High sensitivity: 95% @ 560 nm
- Low readout noise: 0.9 e⁻

Multi-channel Fluorescence Imaging Module

- Compatible Microscopes,Upright / inverted microscopes,,Point / line scanning microscopes,Raman microscopes
- Number of Channels: 2 / 3 / 4

Laser Speckle Reducer

- Small motor with eccentric cam design.
- Rapid deployment without commissioning.

XYZ Microscope Stages

- Minimum Step Size: 50 nm
- Travel Range: 130×100 / 250×100

Microscopy Imaging LED Sources

- Wavelength range: 185–5500 nm

Motorized filter wheel

- Speed: 300°/s
- Positioning accuracy: 1°

Spectrometers 200nm to 2.5μm

Standard Spectrometer 200-1100nm

- Wavelength range: 200-1100nm
- Resolution: <1nm Customizable

High Sensitivity UV Enhanced Spectrometers

- Wavelength range: 200-1100nm
- Resolution: <1nm Customizable

BSI Cooled High Sensitivity Spectrometers

- Wavelength range: 200-1100nm
- Resolution: <1nm Customizable

Near Infrared Spectrometer

- Wavelength range: 900–2500nm
- Resolution: <1nm Customizable

Large NA High Sensitivity Raman Spectrometer

- Wavelength range: 400-1100nm
- Resolution: <1nm Customizable

Multi Channel Spectrometer

- Wavelength range: 200-1100nm
- Resolution: 0.15nm

VUV/UV Spectrograph

- Spectral range: 115-1100 nm
- Resolution: average 0.04 mm

Raman spectrometer 532/780/1064nm

Portable Raman Systems - Industrial Edition RMT GY

- Wavelength: 785nm
- Output power: 0-500mW

Portable Raman Systems - Research /Food and Drug Edition RMT KY

- Wavelength selection: 532/785/1064nm
- Output power: 0-500mW

Handheld Raman Spectrometer

- Wavelength selection: 785nm/1064nm
- Output power: 0-500mW Adjustable

OEM Handheld Raman Spectrometer

- Wavelength selection: 785nm/1064nm
- Output power: 0-500mW Adjustable

Other Systems

Maskless lithography UV laser writer

- Minimum line width: 0.5 μm
- Maximum Writing Area: 8"

Laser Doppler Vibrometer

- Measurement point: 1,2,4,8
- M easurement distance: 0.2m-5m

OCT Imaging System

- Wavelength: 850 nm
- Axial resolution: 2.5 μm

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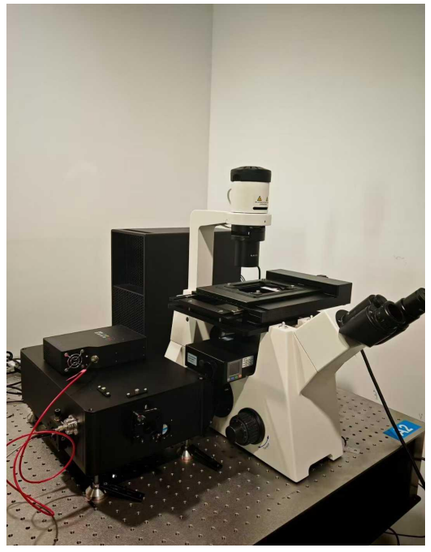
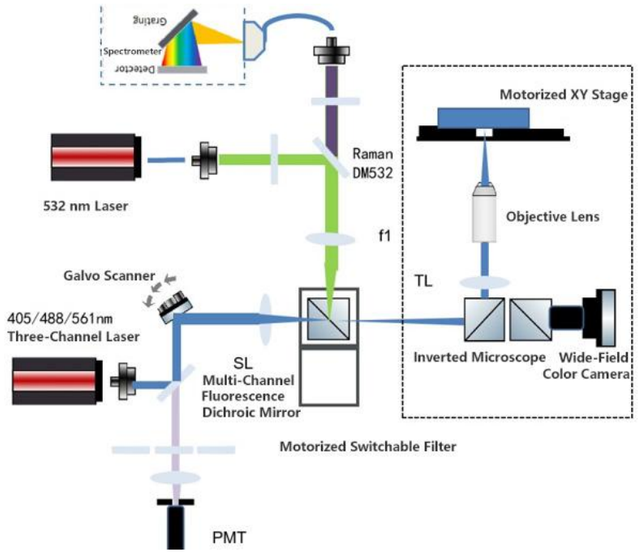
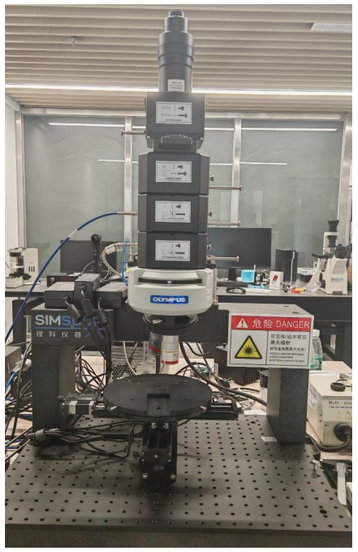
Raman/PL (Confocal) Microscope

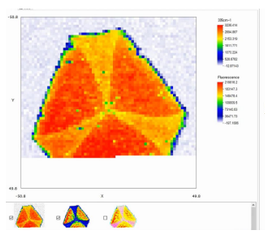
Solutions-1 3-Channel Fluorescence Confocal System + 532 Raman Microscope

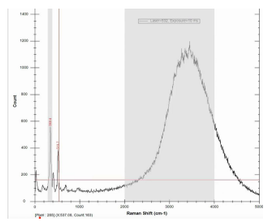


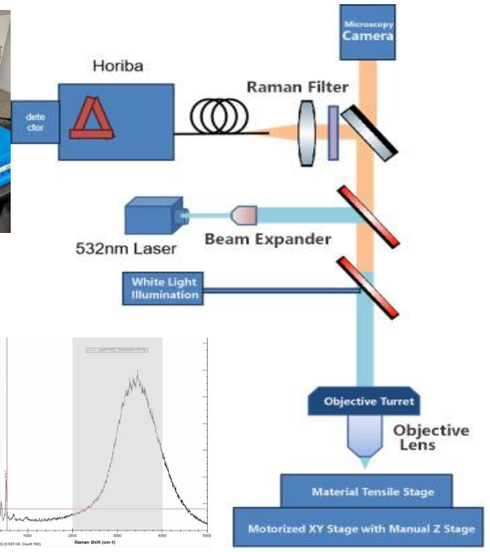


Solutions-2 Wide-field Raman microscopy system +(upgraded with Horiba spectrometer)

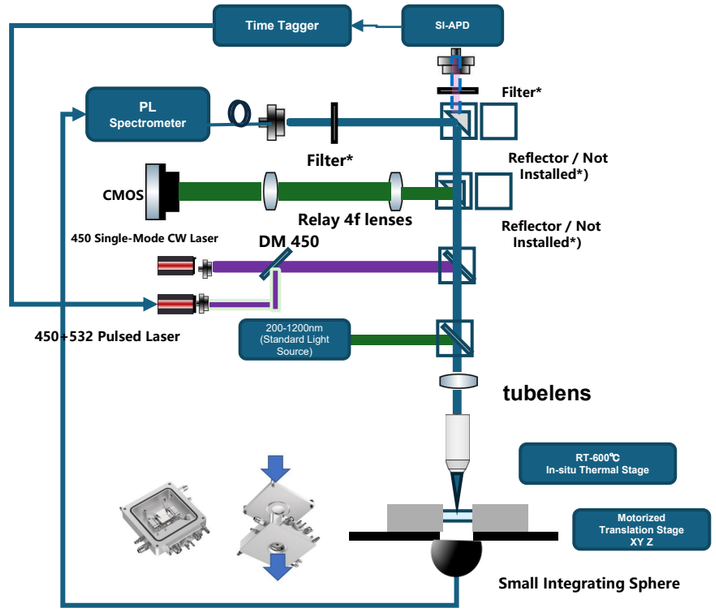




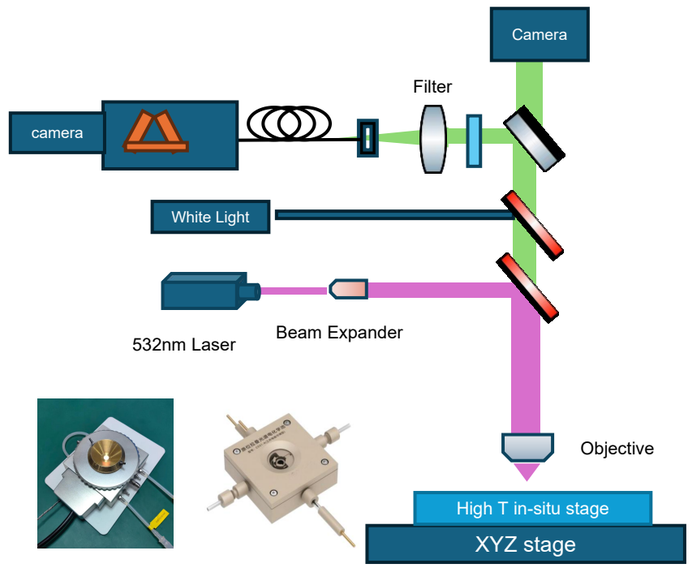




Solutions-3 In-situ High & Low Temperature TRPL + Transmittance Detection of Perovskite

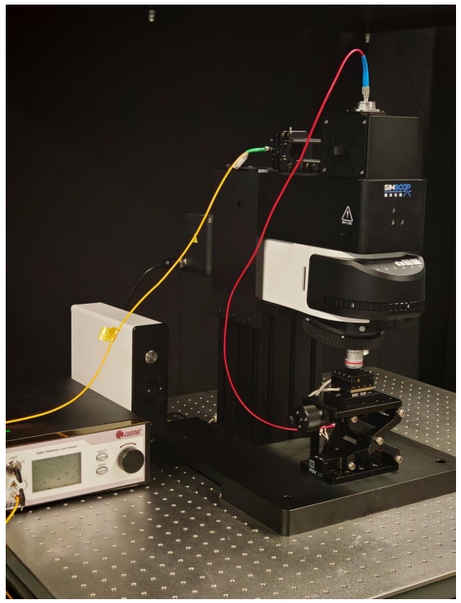


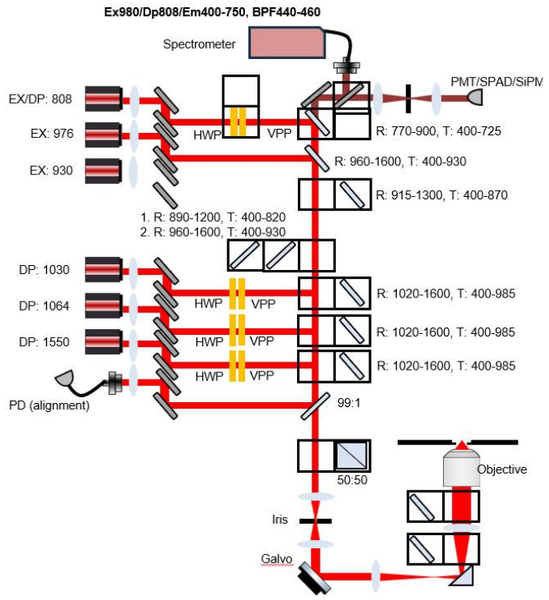
Solutions-4 532 Raman High-Temperature Microscopy System for Lithium-ion Battery/Electrolyte Detection and Analysis



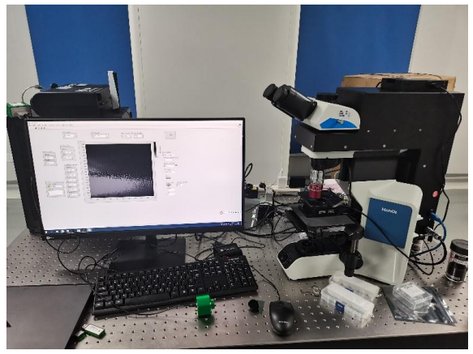
*For more application cases, please refer to the website www.simtrum.com

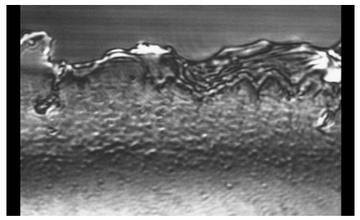
Solutions-5 NIR Stimulated Emission Depletion (STED) Microscope

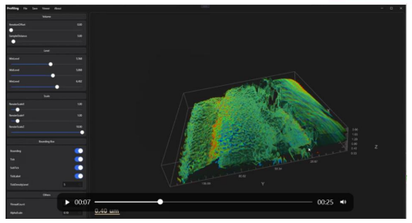


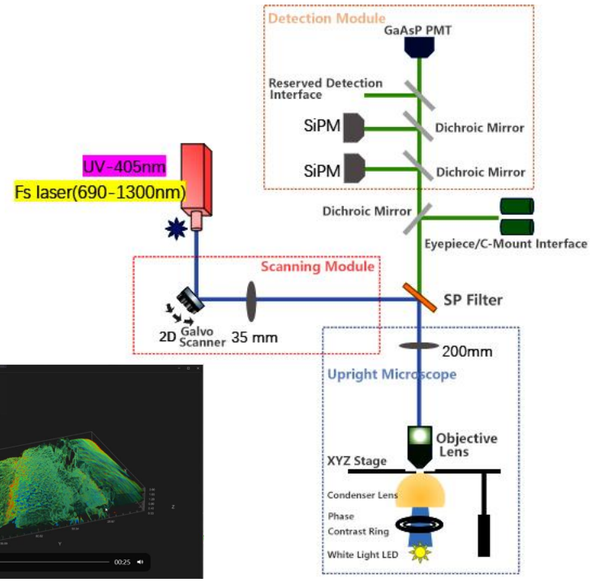


Solutions-6 NIR Point Scan Confocal Microscope

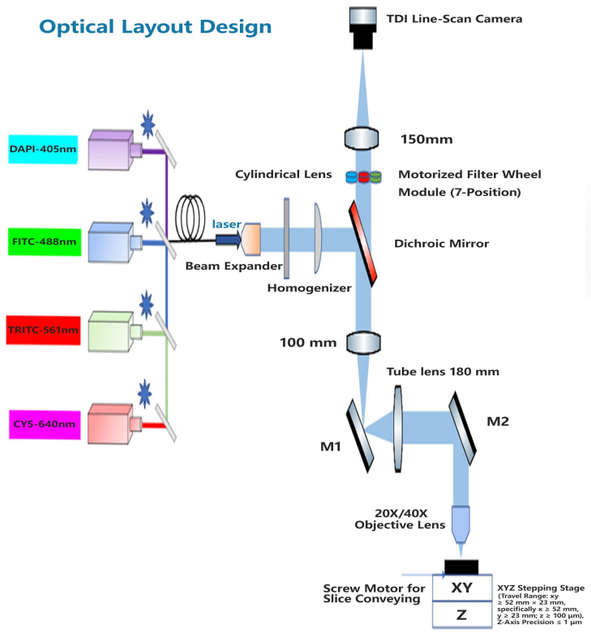


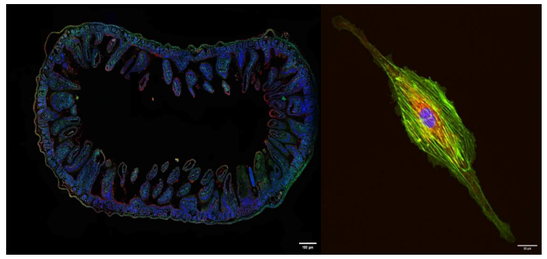




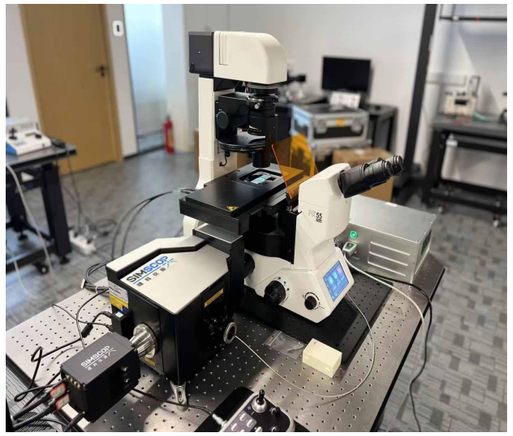


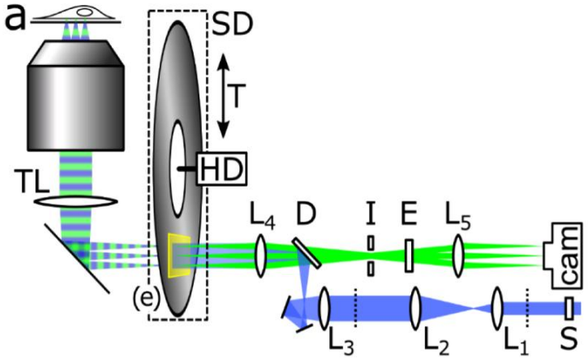
Solutions-7 Whole Slide Fluorescent Pathology Linear Scanner





Solutions-8 Spin Disk Confocal Microscope





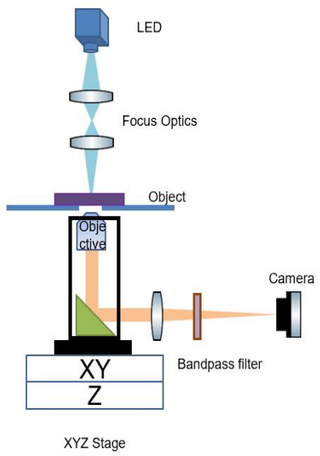
Simscop's single disk design

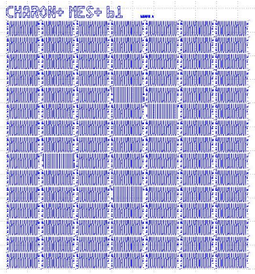
*For more application cases, please refer to the website www.simtrum.com

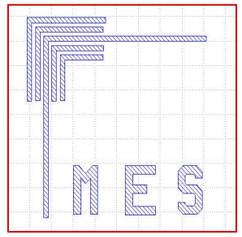
Wide-field/Florescence Microscope

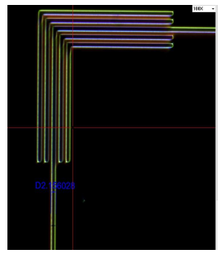
Solutions-1

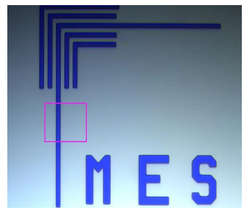
Semiconductor patterned wafer CD measurement





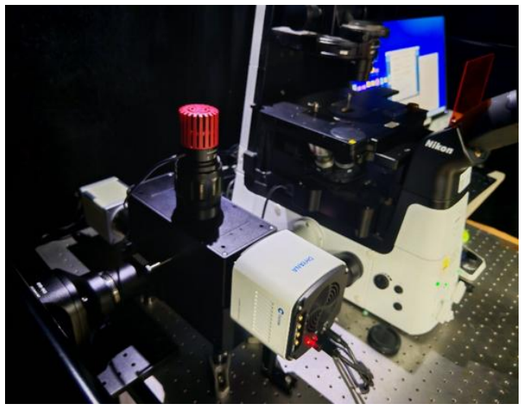


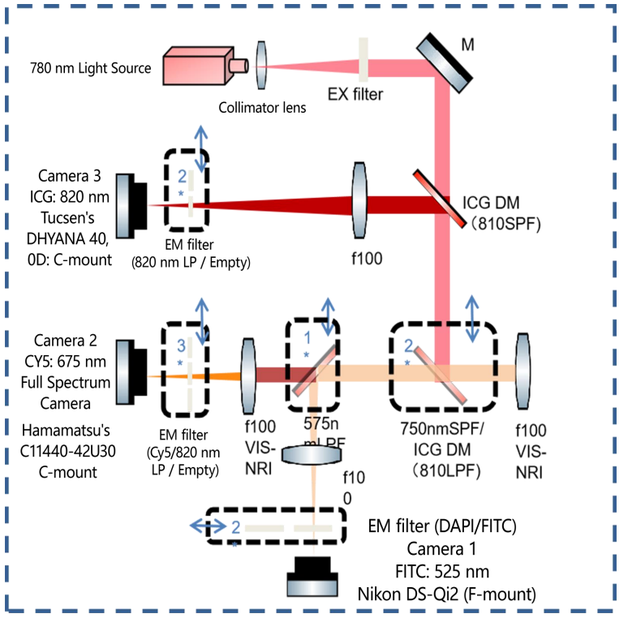




Solutions-2

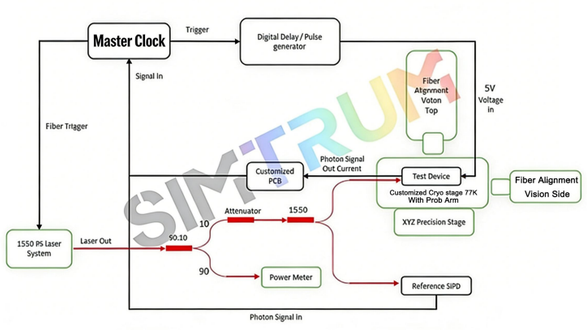
Three-Channel High-Speed Fluorescence Microscope





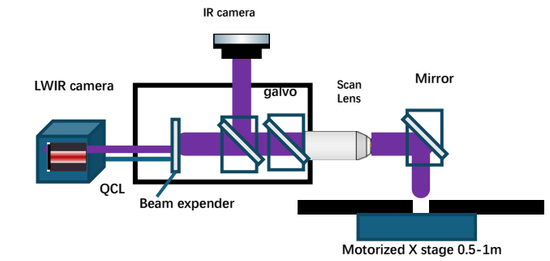
Solutions-3

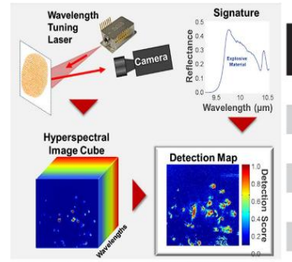
Wide-field TCSPC (Time-Correlated Single Photon Counting System) Microscope



Solutions-4

Mid- to far-infrared hyperspectral microscope (for hazardous chemical testing)



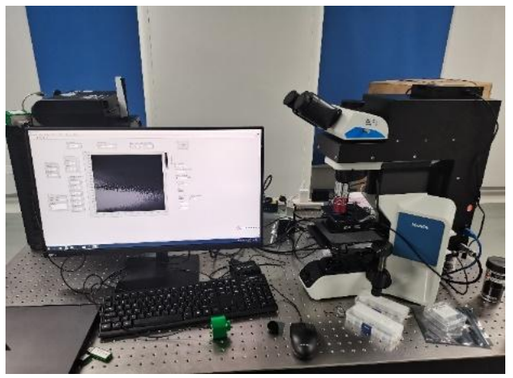


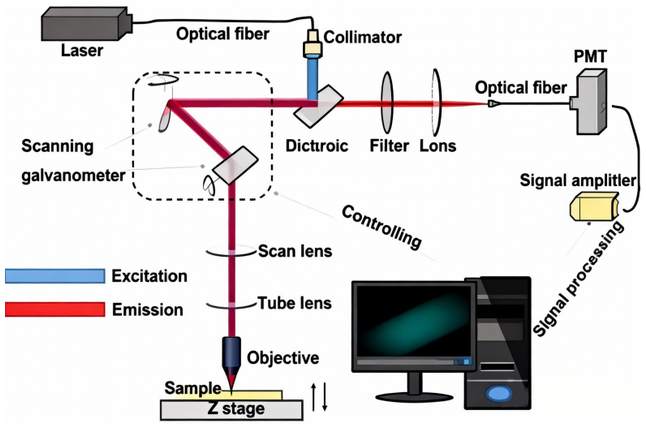
Laser Chip Name	Minimum Tuning Range	Minimum Tuning Range
BG-3.2-3.6	2820-3070 cm^{-1}	1160-1395 cm^{-1}
BG-4.4-5.2	1970-2230 cm^{-1}	1060-1320 cm^{-1}
BG-5.1-6.1	1660-1930 cm^{-1}	1010-1345 cm^{-1}
BG-5.5-6.2	1635-1780 cm^{-1}	830-1015 cm^{-1}
BG-6.1-7.4	1375-1615 cm^{-1}	795-1000 cm^{-1}
BG-6.2-7.4	1380-1595 cm^{-1}	760-900 cm^{-1}

Fig. 1. Overview of a hyperspectral imaging (HSI) measurement.

Solutions-5

Near-Infrared Confocal Spectral Microscope (NIR I/II Confocal Co-aligned)





*For more application cases, please refer to the website www.simtrum.com