

PRODUCT CATALOG

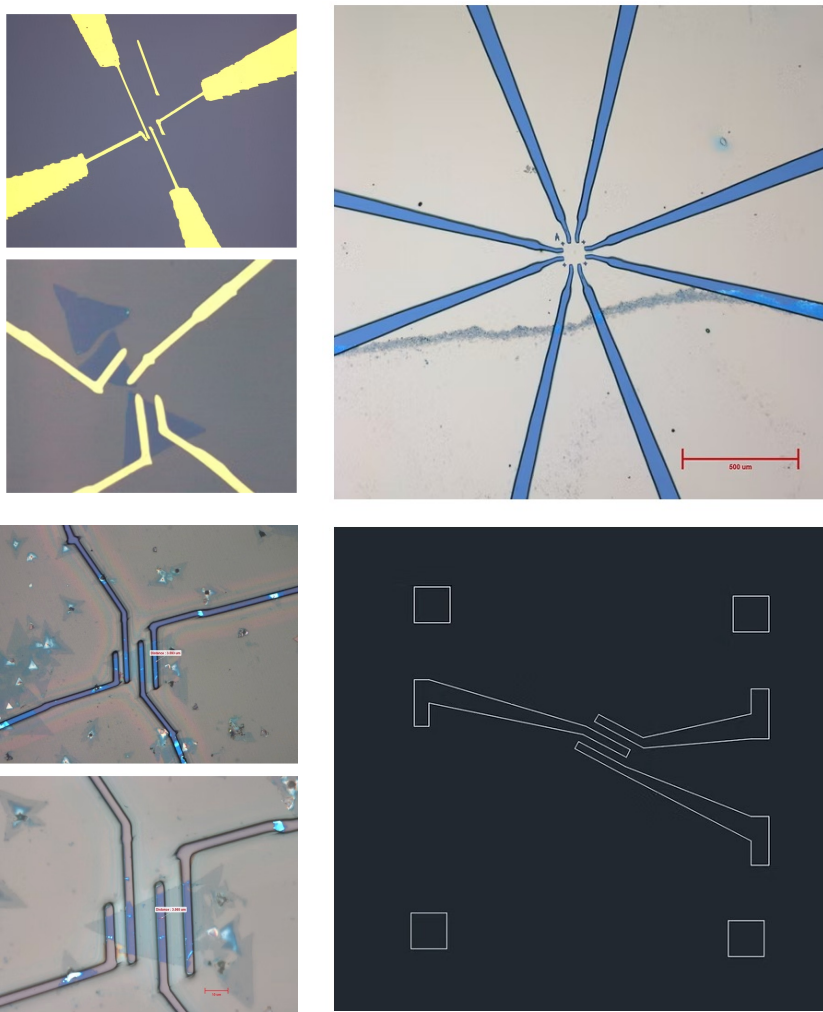
2026



CONTENT



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Laser Direct Writer UVW04

Product Information

Photolithography for Various Devices

- Research Device Fabrication
- Semiconductor Devices, Solar Cells
- Microfluidic Channels, Lab-on-a-Chip

Optical Microscope + 405 nm Laser Focus
Magnification: 5x, 10x, 20x, 50x, 100x
Automatic Objective Lens Switching
Laser Focus / Sample Focus Switching Available
Built-in Autofocus Function Included

Features

- Affordable Price for Small-Scale Research
- Open Architecture Design Allowing Modifications for Specialized Research
- Compact Design (Height: 47 cm), USB Connection → Compatible with Glove Box Installation

Performances

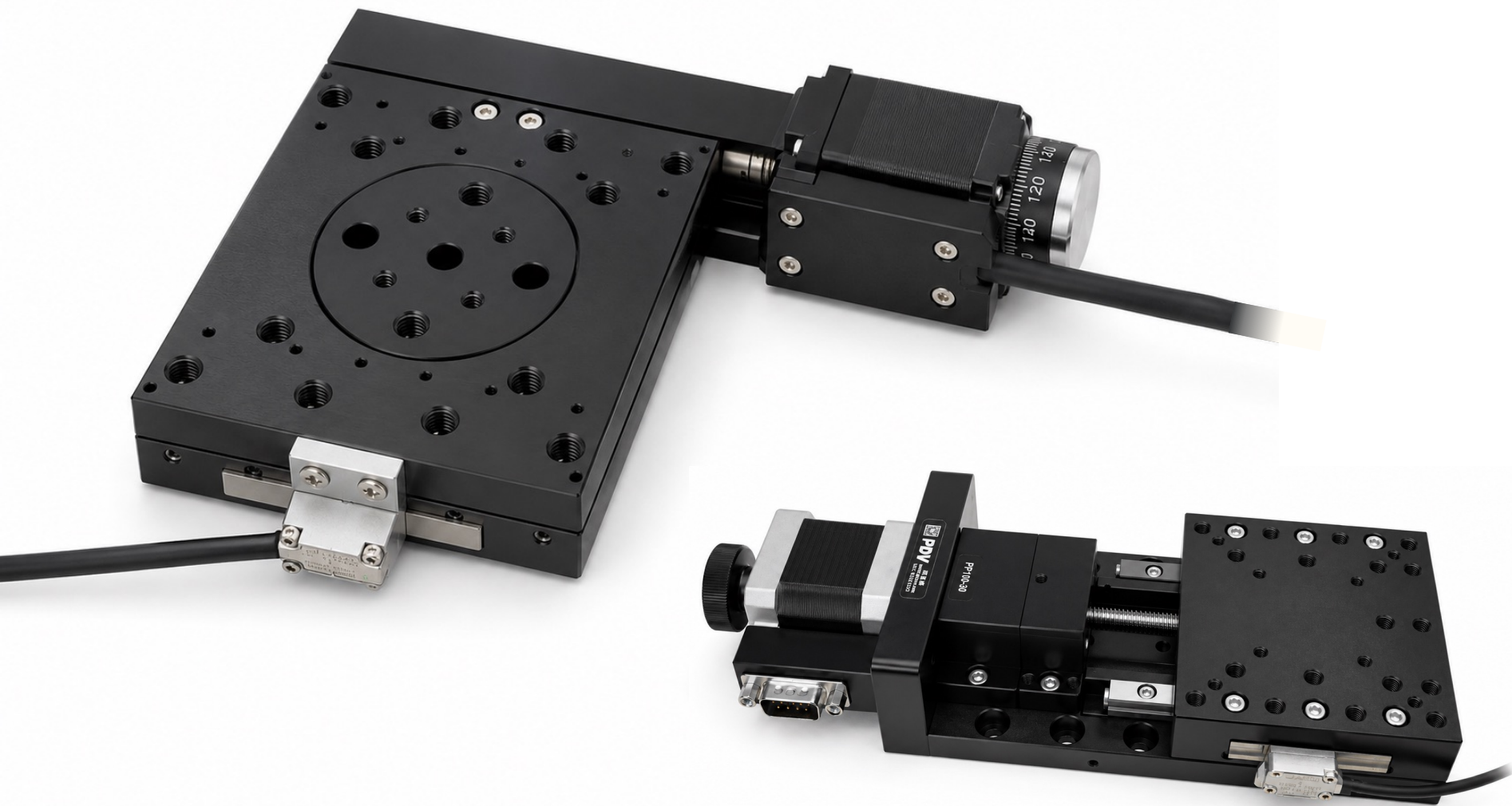
- Minimum Line Width: Approx. 1 µm
- Sample Stage Resolution: 0.125 µm
- Maximum Scan Area: 25 mm × 25 mm

Applications

- Various Semiconductor Devices
- Solar Energy Device Fabrication
- Microfluidics, Lab-on-a-Chip

Convenient Features

- Load CAD (4 layers) or Image Files
- Direct Line Drawing Using Mouse
- Automatic Focus Adjustment
- Fine Patterns and Contact Pads Processed Simultaneously
- Keyboard Control → Position Adjustment
- Mouse Control → Move to a Specific Sample Position



Nano Motorized Stage with Long-Travel Range

ST01, PDV01

Product Information

Motorized stage based on Step motor and encoder feedback control for 10 nm resolution
Motorized Stage + Nanometer Controller
Simple interface based on USB connection
Step motor based long range stage controlled by encoder-based driver
Affordable price: ~\$3,400 (ST1), ~\$2,600 (PDV1)
Reliable performance

Features

USB interface with pc
Windows application as a Control panel
User interface through UART standard
Coding: support all languages (C, C++ C#, python, etc.)
Serial Commands: Text-based ASCII Commands provided for full control by user application
No acoustic noise: high performance step motor driver

Specification

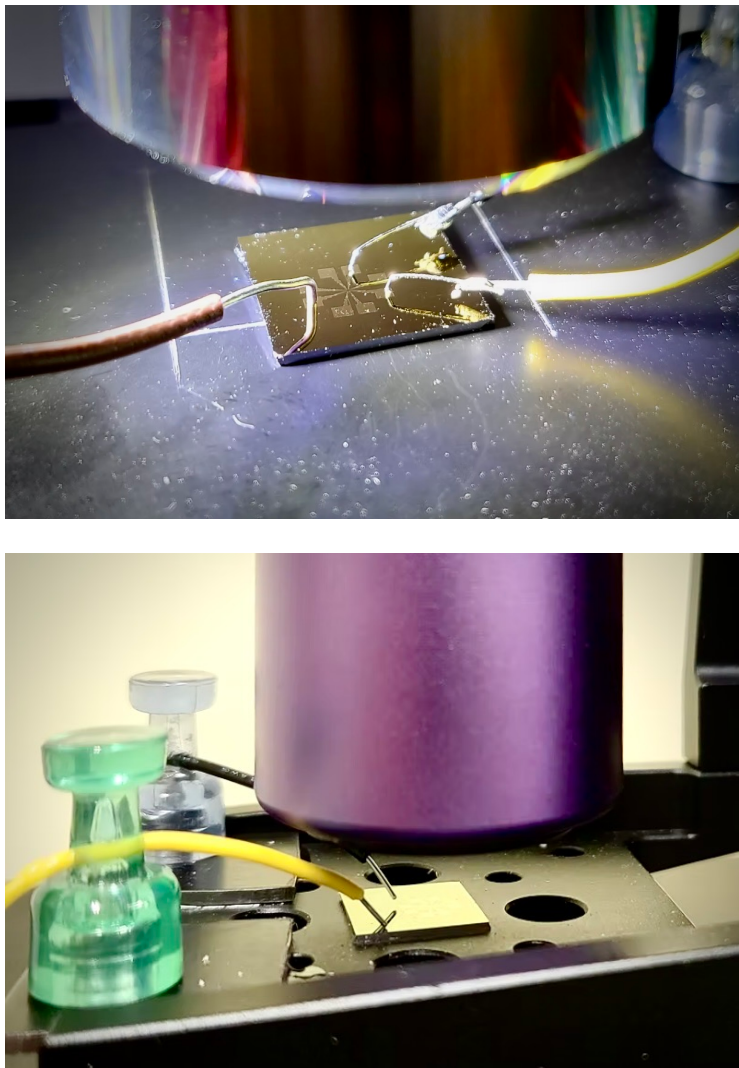
Two models: ST1, PDV1 (drawings)
Supports all combinations: X, XY, and XYZ
XY model: synchronized for vector scanning
Minimum Resolution: 10 nm
Stability: 20 nm (ST1), 60 nm (PDV1)
Repeatability: 20 nm (ST1), 60 nm (PDV1)
Travel range: 25 mm (ST1), 30 mm (PDV1)
Step motor & lead screw type
Feedback control
No Backlash - compensated y feedback
No Creep - eliminated by feedback control
Feedback control: Microcontroller
Setting time: <100 ms

Performances

Encoder 1MHz, 10 nm (by Renishaw)
Max speed: 600 um/s
Step motor full step: 0.125 μm
256 micro-step
Scan range: 25 mm x 25 mm x 25 mm

Applications

Optical experiments
Lab-made lithography
Microscopic Mapping experiments
Alignment for wafer, mask, optics, etc.
Profilometer
3D nano-scanner
3D nano-printer



Scanning Photo-Current Microscope

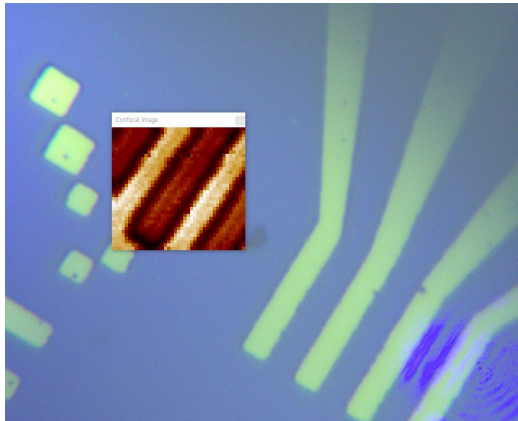
SPCM02

Product Information

Photocurrent mapping for pn junction device, optoelectronic device
Optical microscope functionality (objective lens 50x)
Simultaneous measurement of confocal image and photocurrent map
I-V curve measurement based on laser irradiation
Measurement of photocurrent change over time
Characteristics of nano devices and solar cells

Features

Affordable price for small-scale research
Open design specialized research through modification
Compact design (height: 47cm),
USB connection → Glove box insertable



Performances

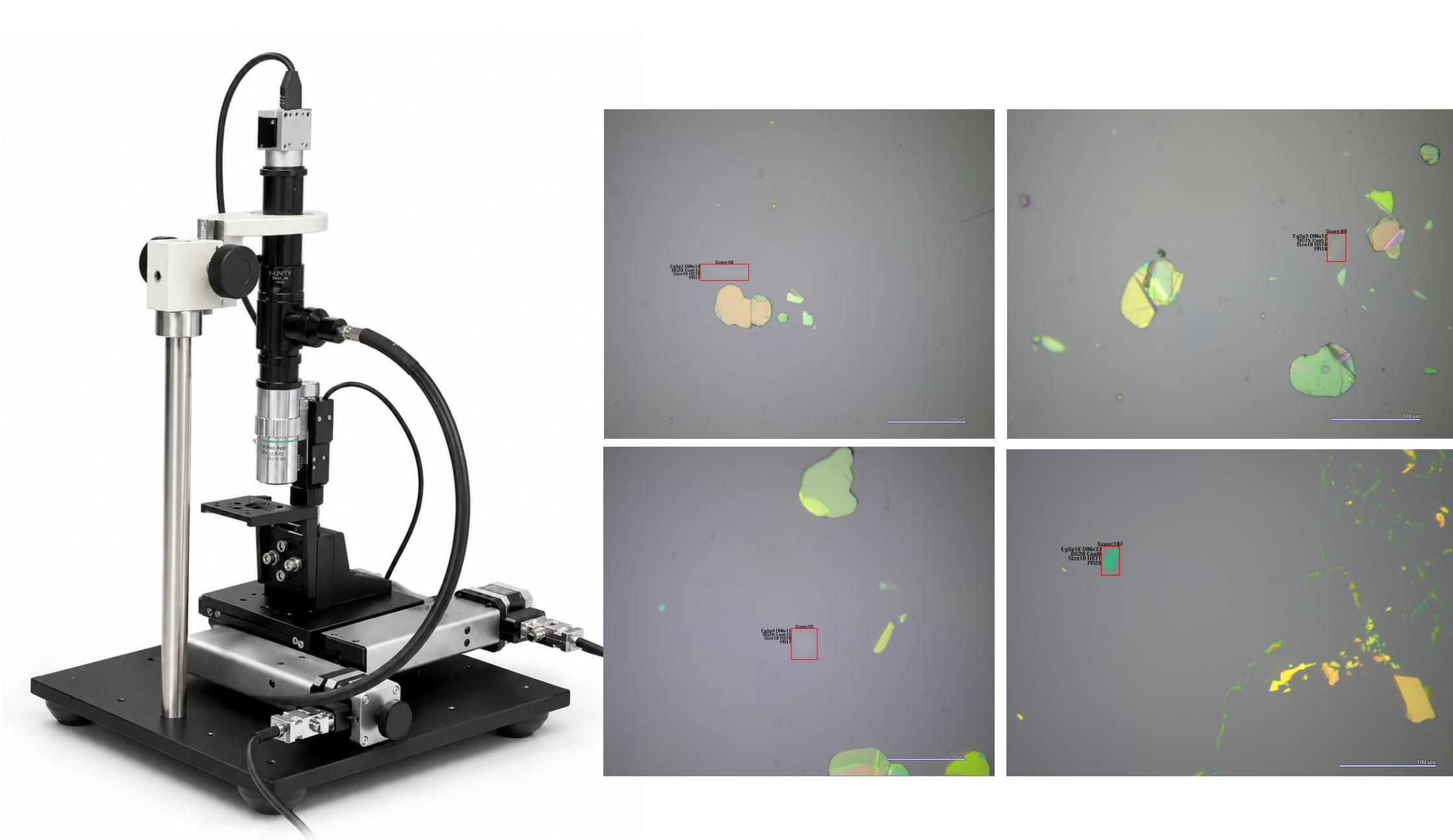
Minimum resolution: ~ 700 nm
Sample stage resolution: 0.125 μ m
Scannable range: up to 25 mm x 25 mm

Usage

Performance evaluation of semiconductor pn junction devices
Solar cell design
LED device performance evaluation

Convenient Features

Auto-focusing
Large area scanning stage
Magnet holder for electric lead contact
Device protection using jumper wire on bread board
Keyboard operation position adjustment
Mouse operation move to a specific location on the sample



2D Material Detector SLG2

Product Information

scan range: 5cm x 5cm maximum
materials: graphene, hBN, TMDC, Mxene, etc. including all 2d materials
substrate: SiO₂/Si, glass,
scan speed: 200 um/sec.
accuracy: single layer (for graphene, hBN)
Saved image format: jpg file
coordinate: recorded in file name

Features

Upgrade: AI based 2d inference
Auto focusing while scanning
High accuracy to single layer detection
Affordable price for small-scale research
Compact design → Glove box insertable

Performances

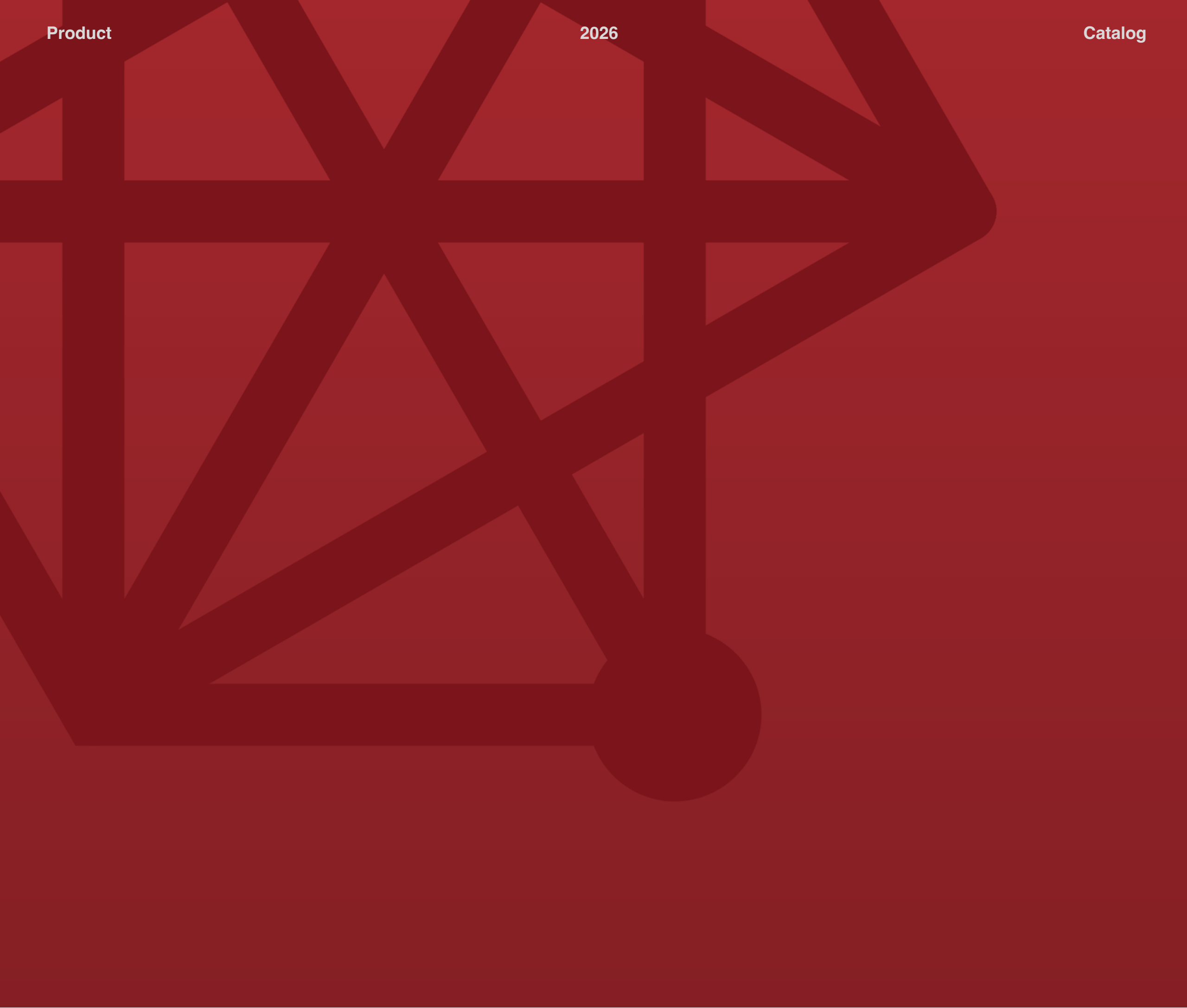
Searches using an optical microscope and saves the location and image.
Scan time: 15 minutes to scan 25 cm²
measuring changes in the preset RGB values due to interference effects.
Can be used for research on discovering unknown two-dimensional materials.

Applications

Finding Exfoliated 2d materials
Grown crystal detection
Searching large flakes after synthesis

Convenient Features

Long time stable scanning (> 10 hr)
Auto-focusing and tilt correction
Keyboard operation → position adjustment
Mouse control → move to a specific location on the sample
Marking on the microscopic image



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