

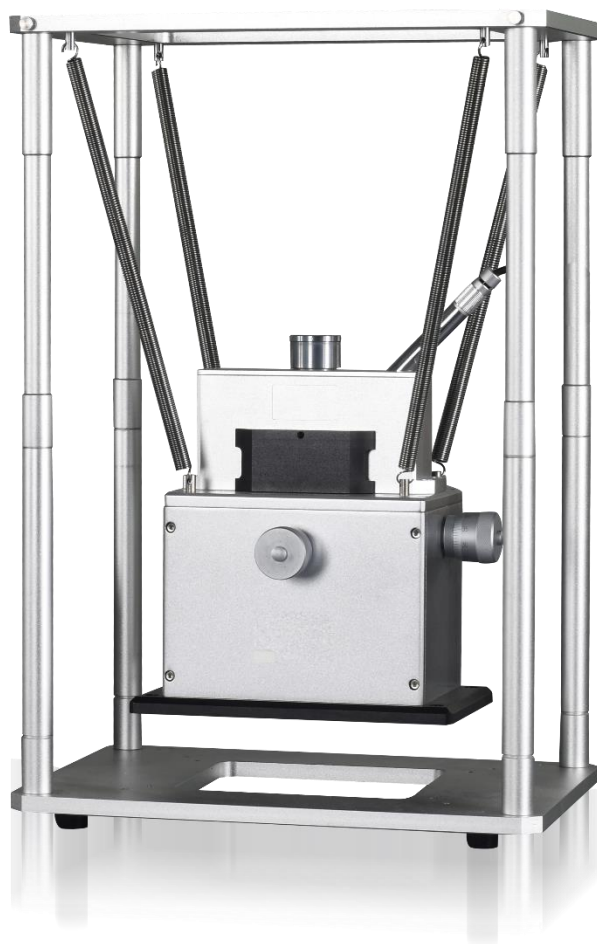
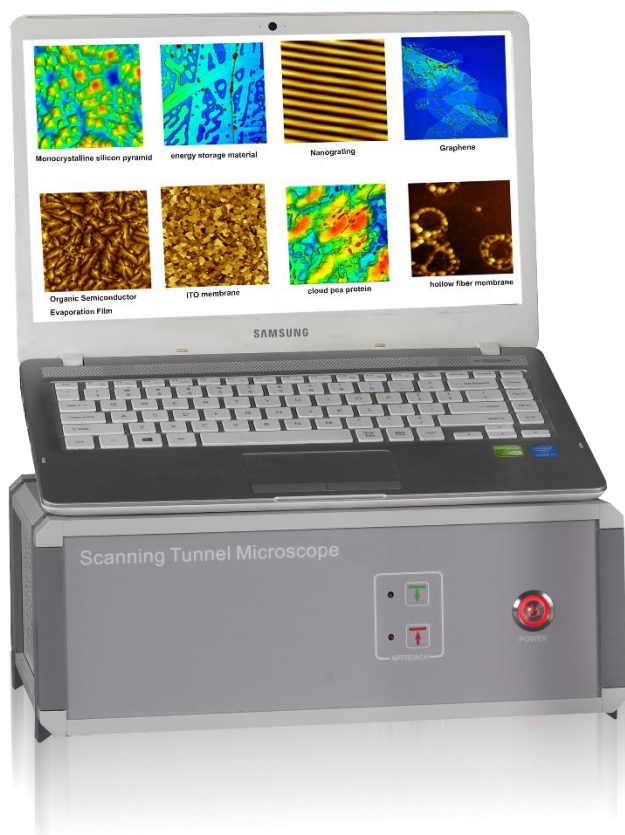


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A61.4510

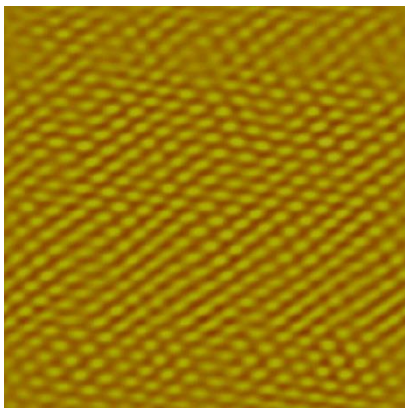
Scanning Tunneling Microscope (STM)



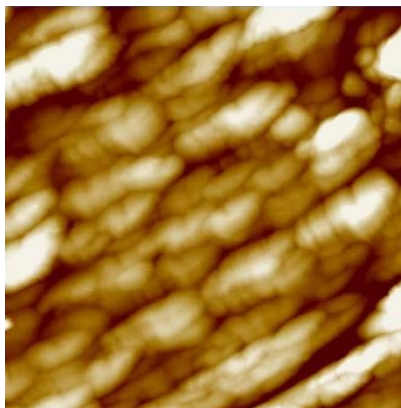
Product Details

- ◆ Miniaturized and detachable design, very easy to carry and classroom teaching
- ◆ The detection head and the sample scanning stage are integrated, the structure is very stable, and the anti-interference is strong
- ◆ The single-axis drive sample automatically approaches the probe vertically, so that the needle tip is perpendicular to the sample scan
- ◆ The intelligent needle feeding method of motor-controlled pressurized piezoelectric ceramic automatic detection protects the probe and the sample
- ◆ Side CCD observation system, real-time observation of the probe needle insertion state and positioning of the probe sample scanning area
- ◆ Spring suspension shockproof method, simple and practical, good shockproof effect
- ◆ Integrated scanner nonlinear correction user editor, nanometer characterization and measurement accuracy better than 98%

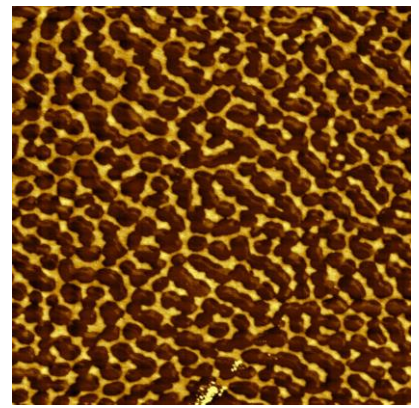
Application Case



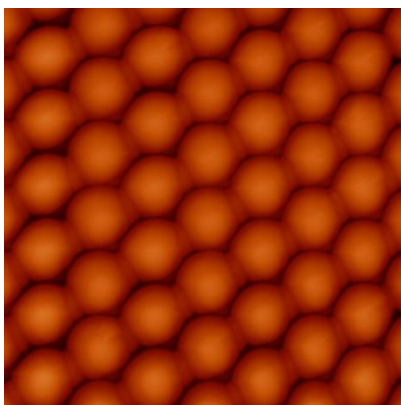
High-order graphite/scanning range $5\text{nm} \times 5\text{nm}$



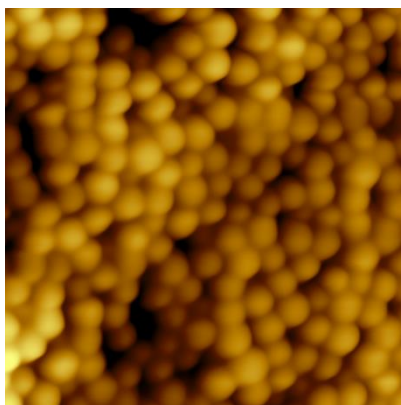
Gold clusters/scanning range $0.5\mu\text{m} \times 0.5\mu\text{m}$



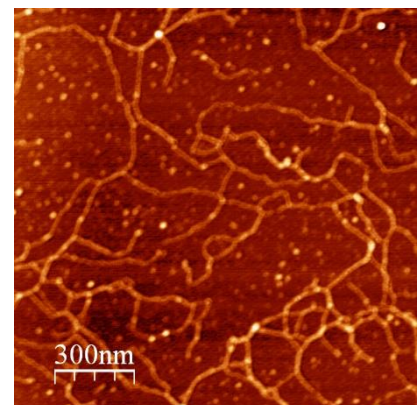
Polysaccharide $10\mu\text{m} \times 10\mu\text{m}$



Polystyrene ball $10\mu\text{m} \times 10\mu\text{m}$



Polystyrene ball $5\mu\text{m} \times 5\mu\text{m}$

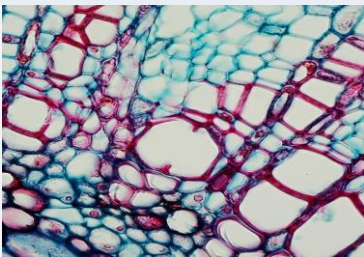
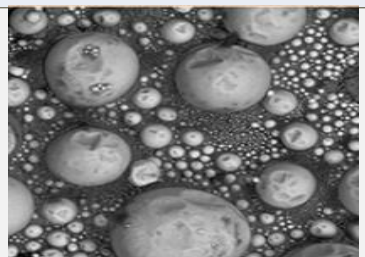
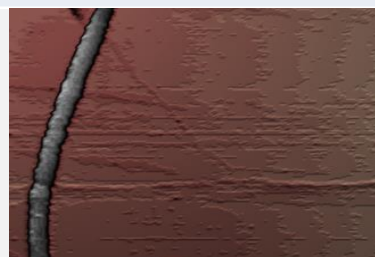


Polysaccharide $1.5\mu\text{m} \times 1.5\mu\text{m}$

Specification

A61.4510	
Work Mode	Constant Height Mode Constant Current Mode
Current Spectrum Curve	I-V Curve Current-Distance Curve
XY Scan Range	5×5μm
XY Scan Resolution	0.05nm
Z Scan Range	1μm
Y Scan Resolution	0.01nm
Scan Speed	0.1Hz~62Hz
Scan Angle	0~360°
Sample Size	Φ≤68mm H≤20mm
XY Stage Moving	15×15mm
Shock-Absorbing Design	Spring Suspension
Optical System	1~500x Continuous Zoom
Output	USB2.0/3.0
Software	Win XP/7/8/10

Scanning Probe Microscope (SPM) Compared to Other Microscopies

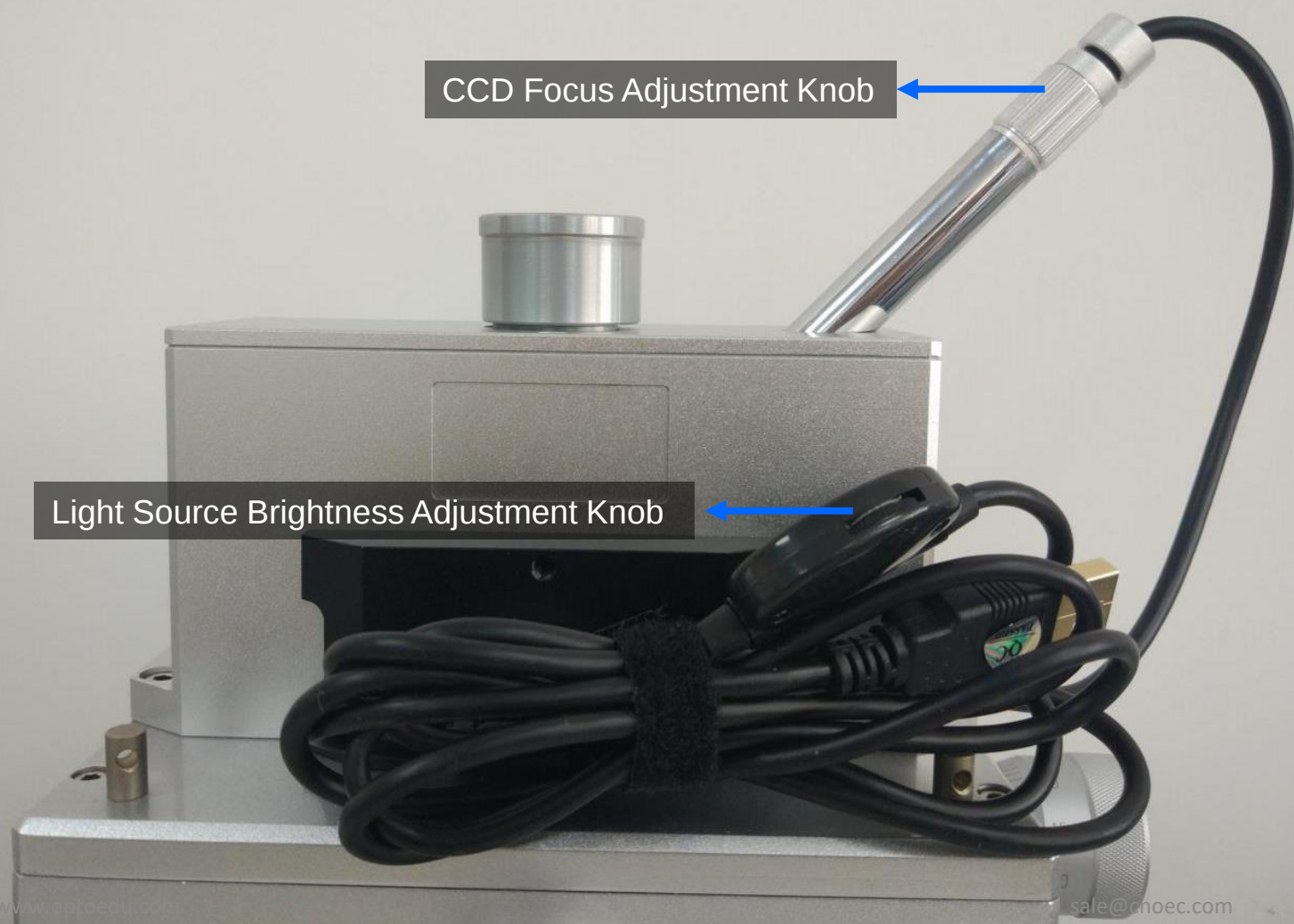
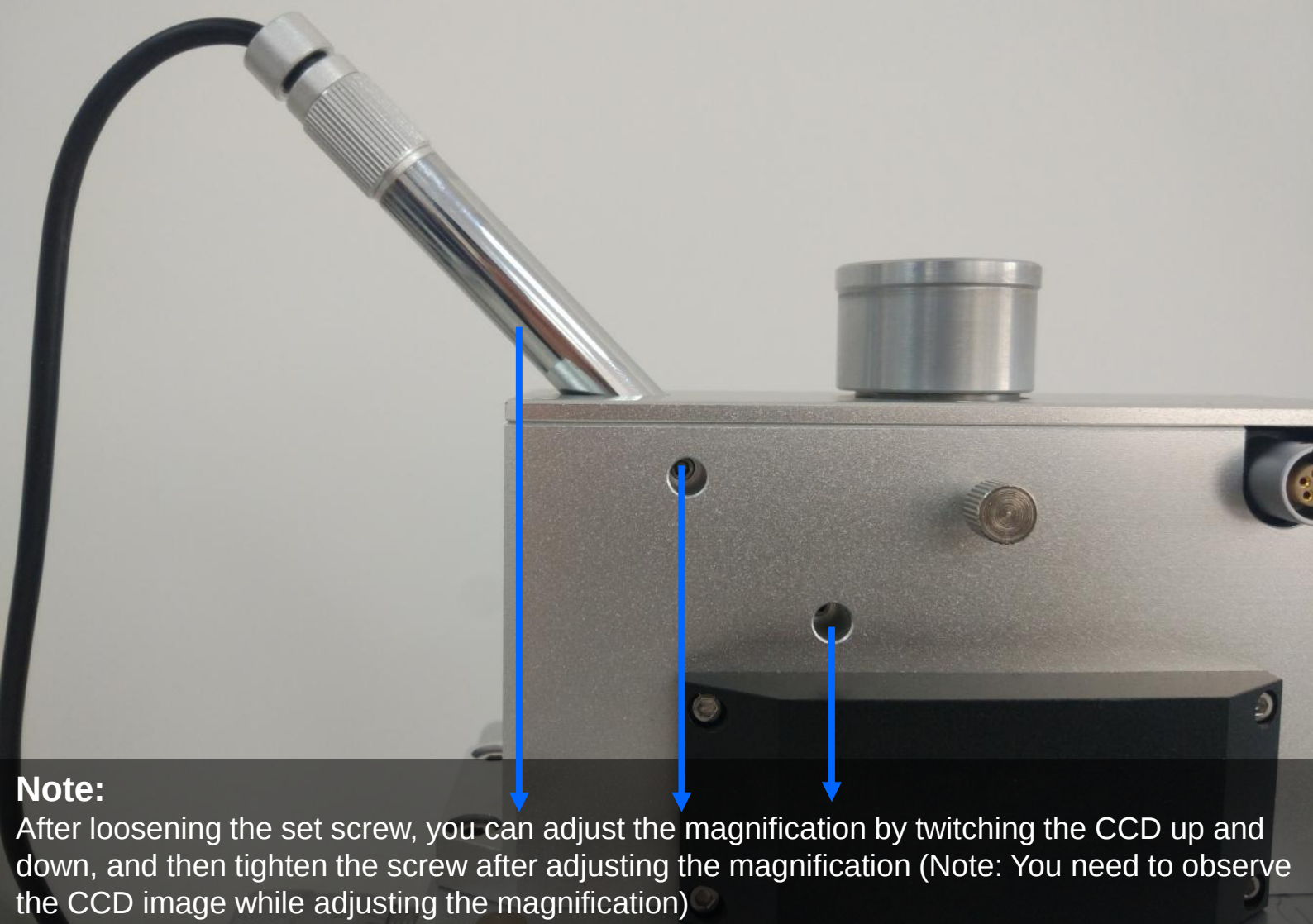
	Optical Microscope	Electron Microscope	Scanning Probe Microscope
Max Resolution	0.18μm	0.00011μm	0.00008μm
Remark	Oil immersion 1500x	Imaging diamond carbon atoms	Imaging high-order graphitic carbon atoms
			

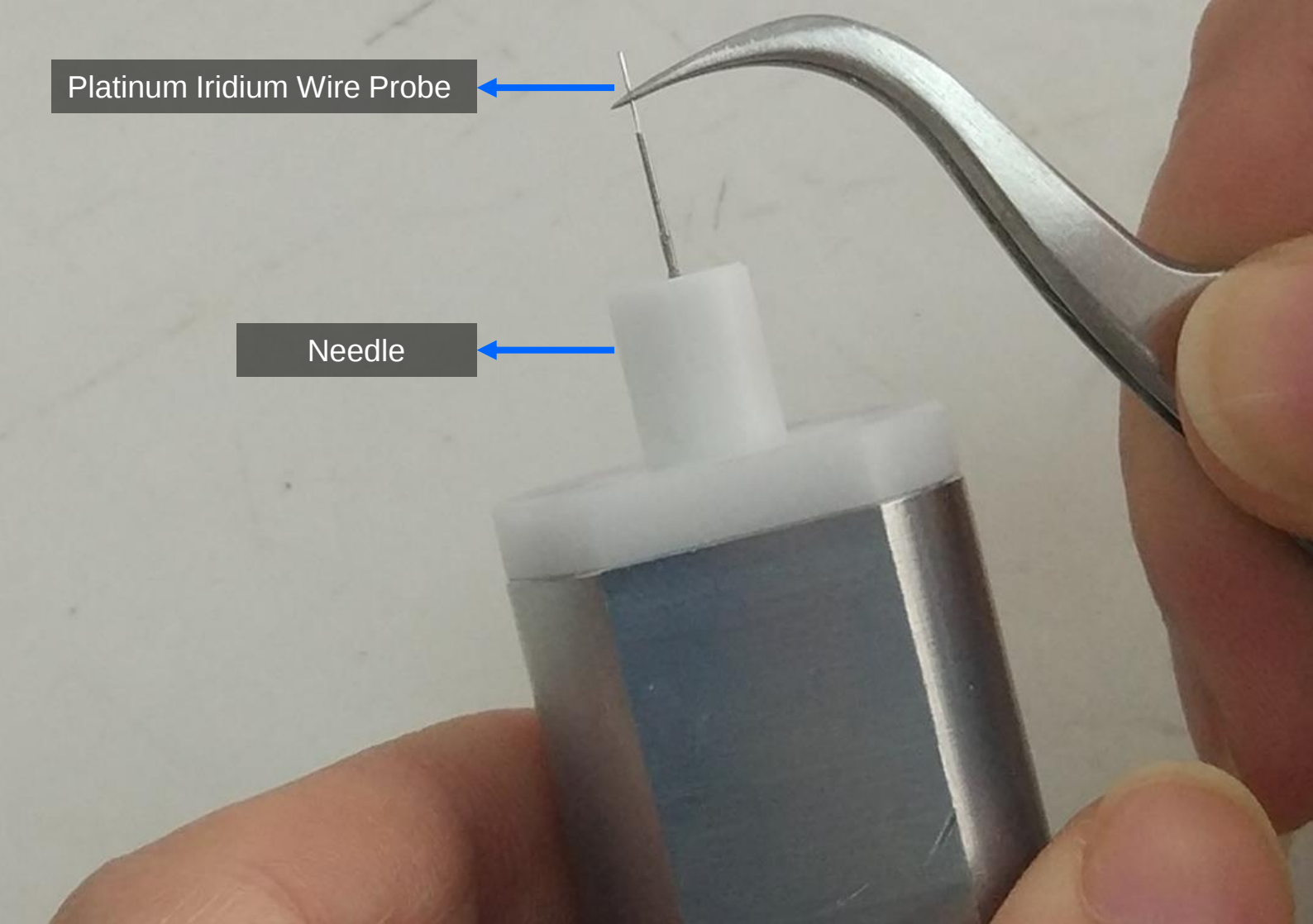
Depth of Field, Sample Preparation of Different Microscopes

	Resolution	Working Condition	Working Temperature	Damge to Sample	Inspection Depth
SPM	Atom Level 0.1nm	Normal, Liquid, Vacuum	Room or Low Temperature	None	1~2 Atom Level
TEM	Point 0.3~0.5nm Lattice 0.1~0.2nm	High Vacuum	Room Temperature	Small	Usually <100nm
SEM	6-10nm	High Vacuum	Room Temperature	Small	10mm @10x 1μm @10000x
FIM	Atom Level 0.1nm	Super High Vacuum	30~80K	Damge	Atom Thickness

Force & Working Mode of Atomic Force Microscope (AFM)

Probe-Sample Interaction	Measure Signal	Information
Force	Electrostatic Force	Shape
Tunnel Current	Current	Shape, Conductivity
Magnetic Force	Phase	Magnetic Structure
Electrostatic Force	Phase	charge distribution





Platinum Iridium Wire Probe

Needle



Note:

When cutting the needle, the angle between the diagonal pliers and the platinum-iridium wire needle is about 45° . (Clean the blade of the pliers carefully)

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