Atomic Force Microscope

Band: Park

Model: NX10

Custodian: Associate Professor Dr. Pongsakorn Kanjanaboos

Location: SC1-202 Room, SC1 Building, Salaya Campus

Description and Specification:

Park NX10 Specification

Scanner	Z scanner		XY scanner
	AFM Head Guided high-force flexure scanner Scan range: 15 μm Resolution: 0.015 nm Position detector noise: 0.03 nm (bandwidth: 1 kHz) Resonant frequency: > 9 kHz (typically 10.5 kHz)	**SICM Head** Flexure-guided structure driven by multiply-stacked piezoelectric stacks Z scan range: 25 μm Position detector noise: 0.03 nm (bandwidth: 1 kHz)	**Single module flexure XY-scanner with closed-loop control** Scan range: 100 μm × 100 μm Resolution: 0.05 nm Position detector noise: < 0.25 nm (bandwidth: 1 kHz) Out-of-plane motion: < 2 nm (over 40 μm scan)
Stage			**Vision**
	Sample size: Open space up to 100 mm x 100 mm, thickness up to 20 mm Sample weight: up to 500 g XY stage travel range: 20 mm x 20 mm Z stage travel range: 25 mm Focus stage travel range: 15 mm		Direct on-axis vision of sample surface and cantilever Field-of-view: 480 μm × 360 μm (with 10× objective lens) CCD: 1.2 Mpixel (pixel resolution: 0.4 μm)
Electronics	**Signal processing**	**Integrated functions**	
	ADC: 18 channels 24-bit ADCs for X, Y, and Z scanner position sensor	3 channels of flexible digital lock-in amplifier Spring constant calibration (Thermal method) Digital Q control	

Options/Modes	Standard Imaging	Dielectric/Piezoelectric Properties	Magnetic Properties
	True Non-Contact Mode Basic Contact Mode Lateral Force Microscopy (LFM) Phase Imaging Mode Tapping Mode PinPoint™ Mode: PinPoint imaging	Electric Force Microscopy (EFM) Dynamic Contact EFM (EFM-DC) Piezoelectric Force Microscopy (PFM)	Magnetic Force Microscopy (MFM) Tunable Magnetic Field MFM
	Electrical Properties	**Mechanical Properties**	**Mechanical Properties**
	Conductive AFM (CP-AFM) I/V Spectroscopy Scanning Kelvin Probe Microscopy (SKPM) QuickStep Scanning Capacitance Microscopy (SCM) Photo Current Mapping (PCM)	Force Modulation Microscopy (FMM)	Nanoindentation
	Force Measurement		
	Force Distance (F-D) Spectroscopy		
Software	**Park SmartScanTM**		**Accessories**
	AFM system control and data acquisition software Auto mode for quick setup and easy imaging Manual mode for advanced use and finer scan control		Liquid Cells Universal Liquid Cell Open or closed liquid cell with liquid/gas perfusion Temperature control range : 0 °C to +110 °C (in air), 4 °C to +70 °C (with liquid)

More Information

https://parksystems.com/products/small-sample-afm/park-nx10/overview