Solver P47H-PRO

Description

SPM Solver P47H-PRO features its versatility. The number of available measurement and influence methods and modes is huge. Scanning-by-probe scheme allows characterization of samples with sizes up to 100x100x20mm and weight ~300 g. The letter H in the model name means head-associated scanning. The model can be adopted for measurements in a controlled gas environment, in liquids, with sample heating up to 130°C.

The AFM head can be easily removed for Stand Alone operation allowing samples with unlimited sizes to be measured.

Applications

- Materials Science
- Semiconductors
- Optical and magnetic storage development
- Thin films
- Medicine & biology
- Polymers

Operation modes

Microscopies:
in air: STM/ Atomic Force Microscopy (AFM) (contact + semicontact + noncontact)/ Lateral Force Microscopy (LFM)/ Phase Imaging mode/ Force Modulation mode/ Adhesion Force Imaging/DC&AC Magnetic Force Microscopy (MFM) / DC&AC Electrostatic Force Microscopy (EFM)/ Scanning Capacitance Microscopy (SCM)/ Kelvin Probe Microscopy (KPM)/ Spreading Resistance Imaging (SRI)/AFAM
in liquid: Atomic Force Microscopy (AFM) (contact + semicontact + non-contact)/ Lateral Force Microscopy (LFM)/ Phase Imaging mode/ Force Modulation mode/ Adhesion Force Imaging.

Spectroscopies:
AFM (force-volume imaging, amplitude-distance, phase-distance curves), STM (I(z), I(V), Local Barrier Height (LBH), Local Density of States (LDOS).

Lithographies:
in air: AFM (Force (scratching + dynamic plowing) and Current (DC&AC))/ STM;
in liquid: AFM (scratching + dynamic plowing).

Nano-manipulations:
Contact Force.

Specifications

Sample size	100x100x20 mm
Scanners	50x50x2.5 µm (±10%); 100x100x3.5 µm (±10%)
Min. Scanning Step	0.006 nm; 0.012 nm; 0.012 nm
Scan Type	By Probe
SPM Heads	AFM; STM: 30 pA – 50 nA, RMS noise 4 pA; Shear Force
Optical viewing system	Resolution 3 µm Numerical aperture 0.1 Magnification 48x to 578x Horizontal field of view 2 to 0.49 mm
Vibration Isolation	Passive isolation is integrated Active anti-vibration system is available by request

Components

Measuring heads & scanners	SFC050, SFC050SEMI, SFC100, SFC100SEMI, SNC100, SNLG100, SFC050L, SFC100L, CH01L, AD001, SF002, ST005, ST006, SC103, SC110, SC150
Adjustment units	AU006, AU007, AU028
Legs	LG001, LG006
Liquid cells	MP3LC
Approach systems	SCB02A
Vibration and acoustic isolation systems	AC004, DBM01
Special devices	AFAM03, XYZ01
Optical systems	CCD03o, CCBC1, CCBM1, TR003
Electronics	BL022MT, BL0XYZ
Interface cards	IN004, IN005
Software	SWD01, SWD02, SWD05
Cables	CE002, IC001
Toolkits	SU003, SU001, SU007, SU008, SU015