NaioSTM

Scanning tunneling microscope for nanoeducation

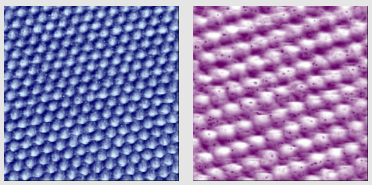
Controller and scan head integrated in a single device

Extremely simple handling and reliable operation

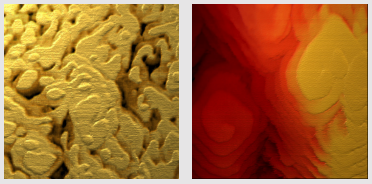
Atomic resolution in minutes

nanosurf

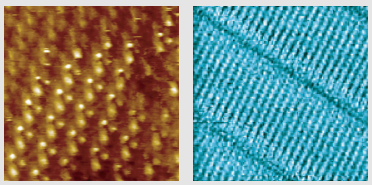
NaioSTM



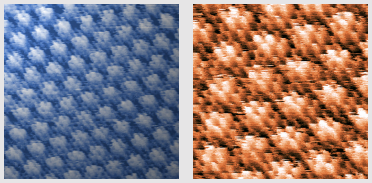
Atomic lattices. Left: Graphite (HOPG), scan size 2 nm. Right: MoS2, scan size 3 nm.



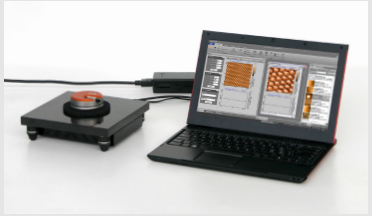
Step heights. Left: Gold, scan size 500 nm. Right: YBCO, scan size 180 nm.



Self-assembled monolayers. Left: Octane-1-thiol, scan size: 6 nm. Right: Dotriacontane, scan size 13 nm.



Quantum-mechanical effects. Charge density waves (large periodicity) can be seen superimposed on a TaS2 crystal lattice (small periodicity). Left: scan size 11 nm. Right: scan size 5 nm.



Setup. A NaioSTM, USB cable, and a PC are all you need!

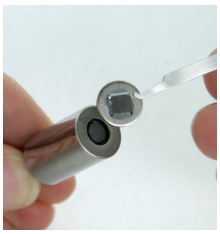
Your easy entry into the world of atoms

The first scanning tunneling microscope (STM) was developed in 1981 by Binnig and Rohrer at the IBM Research Laboratory in Rüschlikon, Switzerland, for the first time making atoms directly visible to a small group of specialists. In 1997, Nanosurf went one step further and brought atoms to the classroom!

Today, well over a thousand Nanosurf STMs play a crucial role in nanotechnology education around the globe:

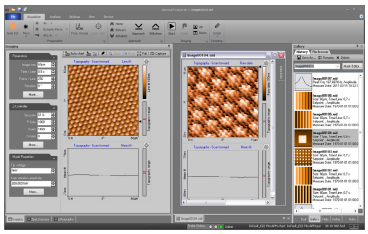
- Teachers appreciate the ease of use of Nanosurf STMs, allowing them to offer quick and hassle-free classroom demonstrations to their students.
- Students are motivated by the rapid successes achieved when using the STMs themselves during hands-on training.
- Anyone can safely handle a Nanosurf STM, since STM tips are simply cut from Pt/Ir wire without requiring etching in hazardous substances.

The NaioSTM is the successor to the well-known Easyscan 2 STM and brings together scan head and controller in a single instrument for even greater ease of installation, usability, and transportability. The whole setup is very resistant to vibrations and can be used to achieve atomic resolution on HOPG in standard classroom situations.



Place your sample...

Place the sample holder...



Measure!

NaioSTM specifications	
Scan range (XYZ) [1]	500 nm × 500 nm × 200 nm
Scan resolution (XYZ) [2]	7.6 pm × 7.6 pm × 3.1 pm
Current amplifier	0.1–100 nA in 25 pA steps
Imaging modes	Const. current (topography), Const. height (current)
Spectroscopy modes	Current–Voltage, Current–Distance
Lithography modes	Patterning, Modification
Sample approach	Stick-slip motor
Sample size	Max. 10 mm diameter, Max. 3 mm thickness
Data points	Imaging: up to 2048×2048, Spectroscopy: up to 65535
Imaging speed	Up to 10 Hz
Computer requirements	USB 2.0, Windows 7 or higher (32- or 64-bit)
Power supply	90–240 V AC, 50/60 Hz, 30 W
Size (WDH), Weight	204 × 204 × 104 mm, 3.45 kg

(1) Typical values.
(2) Calculated by dividing the maximum range by 16 bits.

Compatible options and accessories

Advanced Spectroscopy & Lithography Option (incl. Scripting Interface), Isostage, STM Basic Sample Kit.

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