

Low Temperature SPM Newsletter

DPG Booth 23 & 24

March 2017

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PULSE - Dynamic XPS



Fast analysis typically >5x faster than older solutions.

Survey spectrum in 2sec.

Monitoring of multiple peaks in real time.

Snapshot mode with 128 multi-channel detector.

Bi-polar, 3.5KeV analyser for UPS, XPS, AES and ISS modes.

Welcome

The development team at SIGMA is excited to present our two new Low Temperature SPMs. Building on the success of the flow-cryostat STREAM SPM, the new SPMs incorporate the advanced TRIBUS SPM head technology into closed-cycle and bath cryostat environments, for high-resolution STM, qPlus®-AFM, and spectroscopy experiments.

See our New Low Temperature SPMs
 at DPG Spring Meeting, Germany. 19 - 24 March, 2017

INFINITY - Closed Cycle SPM

The new INFINITY closed cycle SPM incorporates a pulse tube cooler to cool the head in a new, unique design. This renewable cryostat, which has no moving parts in the cold head and very long service intervals, belongs to the next generation of cryostats that are independent of cryogenic liquids.

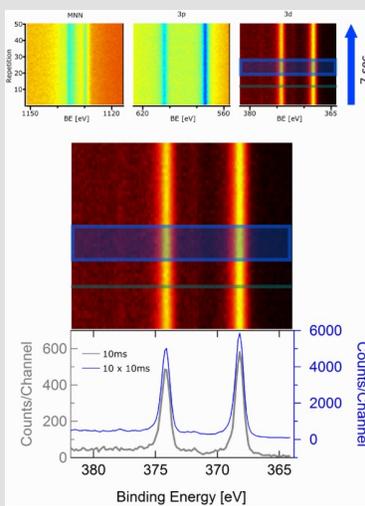
The unique two-chamber design with incorporated mechanical decoupling units, sophisticated thermal connections, and dedicated acoustic noise cancellation is the key to pm-stability in a temperature range from 10K to 300K.



Benefits and Properties

- High-resolution STM, qPlus®-AFM, and spectroscopy modes.
- Independent from liquid helium and liquid nitrogen, only power and water are required to cool the instrument.
- High operating safety: no need for handling of cryogenic liquids.
- User-friendly: no filling/refilling of cryostats and no blockages - just press a button to cool the instrument to 10K.
- Quiet working environment.
- Long ("infinite") measurement time.

POLAR - Bath Cryostat UHV SPM



3D data representation of the Ag 3d peak energy versus intensity and time. The spectra can be examined individually (10ms acquisition time) or accumulated over multiple repetitions (10x 10ms shown).

ESCA Movie Links Watch Now

[ASPECT and NEO Showcase - II](#)
[NEO Software - Fast](#)
[NEO Software - Powerful](#)
[NEO Software - Sophisticated](#)

Quick Links

[SIGMA Website](#)
[MANTIS Website](#)

[ESCA \(XPS, UPS, AES, ISS\)](#)

[Low Temperature SPM](#)

[Thin Film \(PVD, MBE, PLD\)](#)



Find us on

Next Edition: qPlus® NC-AFM

The new **POLAR** UHV SPM is a new generation of compact low-temperature instrument operating from <5K to 300K and in high magnetic fields of up to 5T.

The hold time is optimised through a series of thermal decoupling stages and thermal radiation shields, designed to deliver an extremely low liquid helium (LHe) consumption. With LHe consumption of less than 1 litre per 24 hours, the instrument achieves a hold time of >200 hours at <5K.

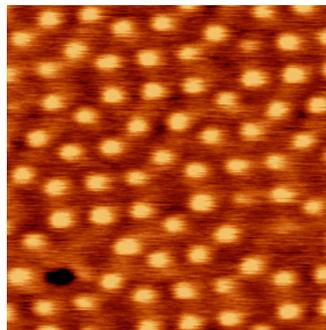


Benefits and Properties

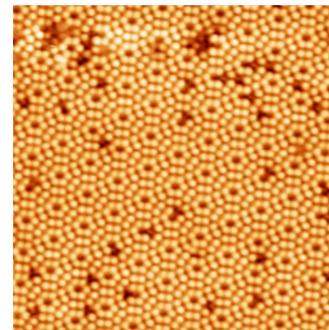
- Optimised for STM, qPlus®-AFM, and Spin Polarized Tunneling as well as related spectroscopy (STS, I/V, dI/dV, df(V), force spectroscopy, IETS, ...).
- Low helium consumption for lowest operating costs and the longest of hold times.
- Vertical field of +/- 5T.
- 10 electrical contacts on the sample acceptor stage (optional).
- System height 1.8m, to fit into regular height laboratories.
- Compatible with [TRIBUS](#) and [TRIBUS ULTRA](#) heads.

SXM SPM Controller: Results Gallery

POLAR with SXM controller

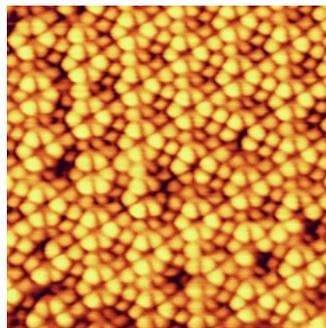


qPlus-AFM: Si(111) 7x7 @ 4.6K

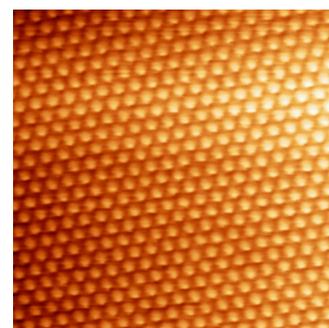


STM: Si(111) 7x7 @ 4.8K

INFINITY with SXM controller



qPlus-AFM: Si(111) 7x7 @ 20K



STM: Au(111) @ 29K



**Showcasing STREAM, INFINITY and POLAR
at DPG Spring Meeting, Dresden, Germany. 19 - 24 March
booth 23 & 24**



**If you are unable to attend this event
and would like further information on our latest developments
please contact us
sales@mantis-sigma.com**

Events

If you would like to know at which conference events we will be exhibiting and presenting at, please view our calendar page. [Click here](#)