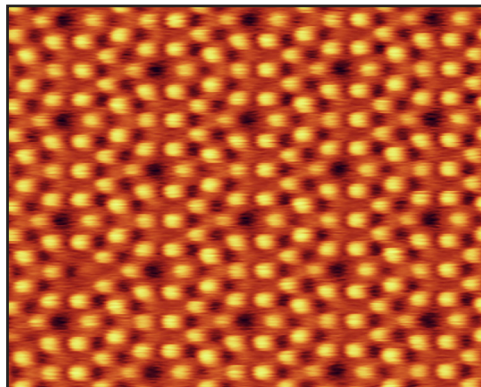
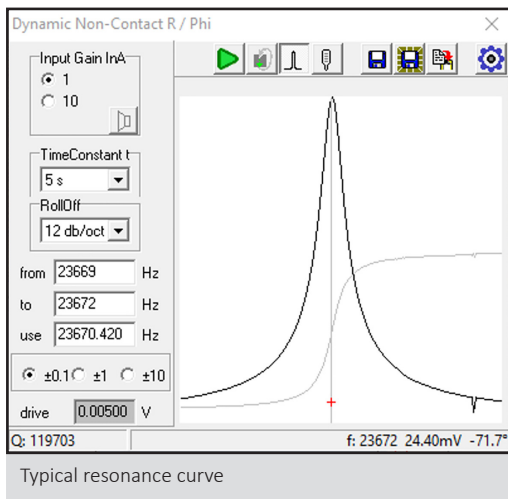


QPLUS® UPGRADE FOR INFINITY SPM

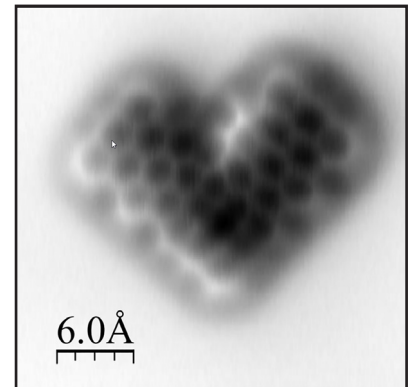
AFM Performance at Unlimited Measurement Time

QPlus® Upgrade for INFINITY SPM at a Glance:

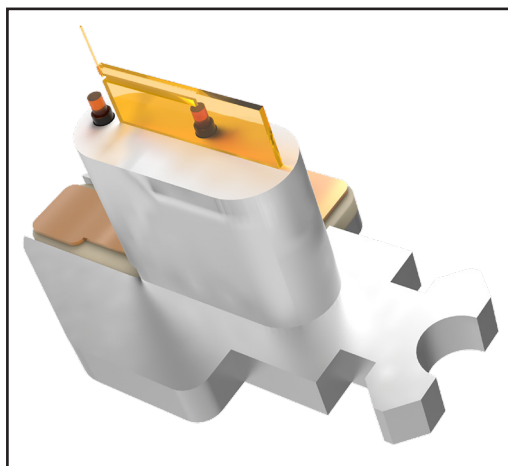
- Lowest noise and maximal flexibility by signal amplification/detection at atmospheric side
- Atomic resolution on isolating surfaces as well as on conducting materials competitive to STM imaging
- Ultimate performance using new generation QPlus® sensors (included in this upgrade package) and high-quality factors
- Proven HR imaging with functionalized tips at virtually unlimited measurement time
- AFM measurements in genuine Δf feedback or constant height mode
- On-site upgrade: minimized down-time without shipping risk



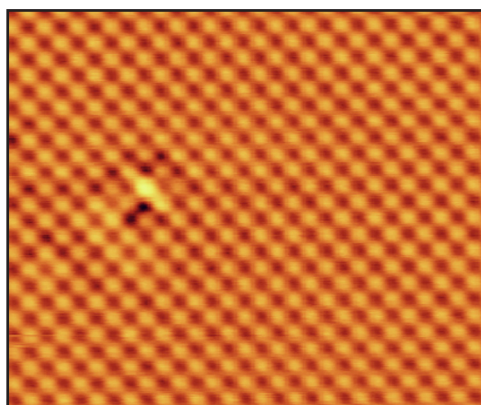
QPlus® atomic resolution on Si(111) measured with the INFINITY SPM and SXM at T=9 K in constant Δf feedback.



Sylvain Clair, Christian Loppacher & Laurent Nony^[1] have performed tip functionalization with a single CO molecule to achieve intramolecular resolution with the Closed Cycle Infinity SPM from Scientia Omicron operating at 9 K. The measurements have been carried out in constant height mode and the corresponding frequency shift images clearly resolve the internal carbon skeleton of the porphyrinoid molecule on Au(111). This measurement is the very first qPlus® result with a CO terminated tip and sub-molecular resolution with a closed cycle SPM!



QPlus® sensor new design



QPlus® atomic resolution on NaCl(100) single crystal measured with the INFINITY SPM and SXM at T=9.7 K (constant Δf feedback).

^[1] Aix-Marseille Univ, CNRS, IM2NP, Marseille, France (<https://www.im2np.fr/fr/equipe-nanostructurati-on-nano>)

Summary

Upgrade Components:

- High bandwidth low noise charge amplifier incl. power supply and holder
- BNC feedthrough with low noise connecting cable
- Internal wiring with dedicated coaxial cabling for lowest noise and a crosstalk-free QPlus® signal
- Set of QPlus® sensors and holders
- Functional test

Requirements:

- INFINITY SPM
- SPM controller with NC-AFM QPlus® functionality compatible with the INFINITY SPM (e.g. SXM or MATRIX)

Options:

- Combined package with SXM AFM upgrade or MATRIX AFM upgrade
- Add an introductory QPlus® training with an application specialist to get started quickly

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