

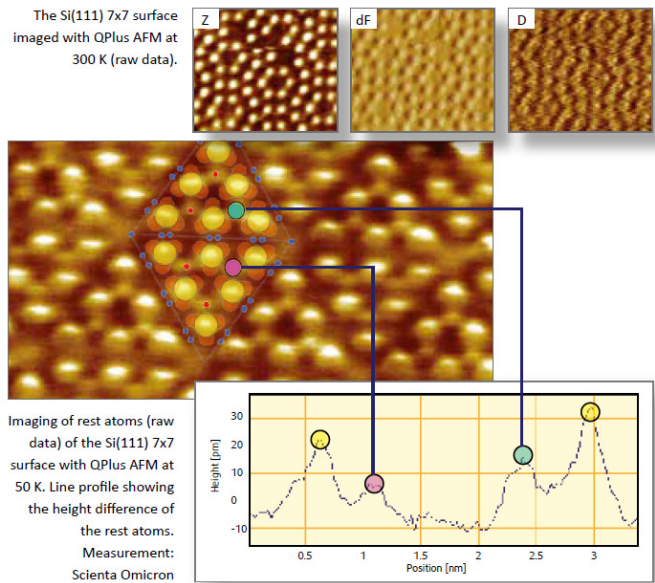
VT STM QPlus upgrade

Full QPlus AFM Performance



- Suited to combine high stability STM with QPlus AFM
- Simultaneous current detection possible, ideal to combine AFM & STM with the same sensor
- Suited for non contact AFM with small oscillation amplitudes

- Operation with smaller oscillation amplitudes compared to conventional cantilevers due to the stiffness of the QPlus sensor (spring constant ~ 1800 N/m)
- The tip of the QPlus sensor is easily mounted by gluing it onto the end of the tuning fork, possible materials are tungsten or any other suitable tip material
- Subsequent STM imaging and spectroscopy
- Due to the stiffness and the use of solid metal tips, there are no negative impacts on the STM performance. The QPlus sensor is therefore ideal for inclusion in STM's



- **Unique signal detection concept**
- **Ultimate QPlus performance**
- **low oscillation amplitudes**
- **QPlus sensor ideally suited for high resolution AFM**

Summary

Parts needed:

- VT SPM QPlus Scanner
- SPM PRE 4 U-Q
- PIC 15 DSub
- Spare parts (contact plate, Coax wire)

Requirements:

- SPM controller with AFM QPlus functionality

Limitations:

- Only available for VT instrument with Dsub feedthrough / SPM PRE 4 variant
- Works best with XA sample stage (limited coarse range with DH-sample plates in DRH25 instruments)

Options:

- Package with MATRIX AFM upgrade