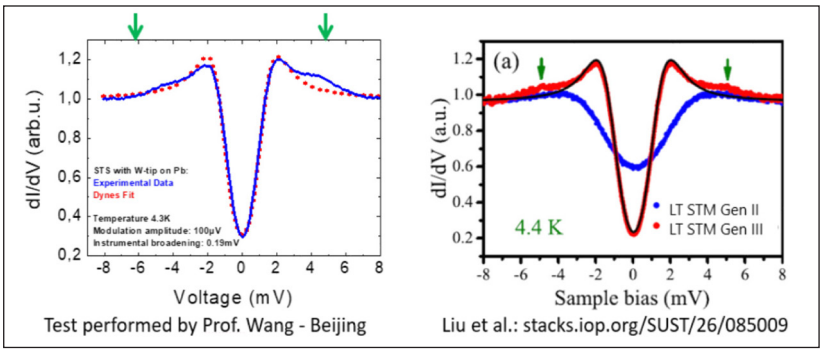
RF-Filter for STM

dI/dV Spectroscopy with Outstanding Energy Resolution

Advantages:

- STM dI/dV spectroscopy energy resolution not limited by instrument
- Easy to adapt on each LT-STM with BNC feedthrough (LT STM upgrade to coax S/S0 + 2xBNC feedthrough available for older instruments)
- Including Preamp adapter cable (D-Sub 25 to BNC) with adjusted compensation for capacitive crosstalk
- Compatible to LT-STM and LT-SPM QPlus® instruments

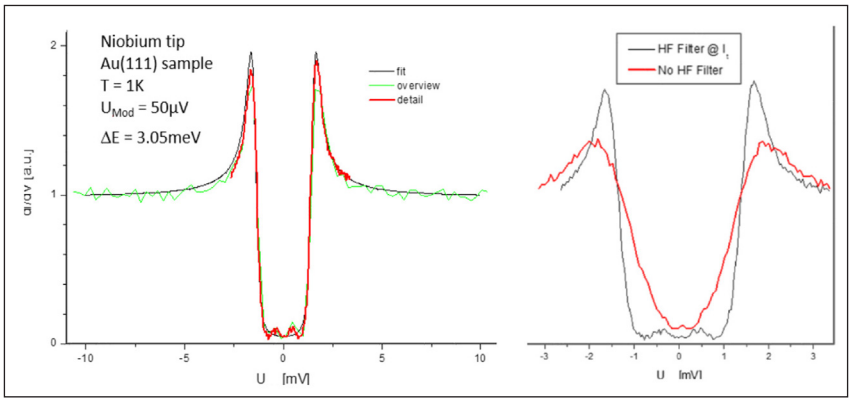


LT-STM:
Improved energy resolution

- HF filters demonstrated on Pb sample with W-tip
- Clearly resolved transverse phonon modes (green arrows)
- Instrumental broadening < 110 µV

TESLA JT SPM

- Gap width 3.05 meV according to BCS
- Confirmation of microscope temperature T = 1 K
- Neglible instrumental energy broadening (HF filters used)
- Life time broadening of Dynes fit: 70 µV



Summary

Parts needed	RF Filter Set (IT + Sample, PIC, TCC) Preamp adapter cable
Requirements	BNC Feedthrough (IT + Sample) for SPM Preamp
Limitations	In some cases capacitive compensation needs adjustment onsite Available for LT-STM, TESLA JT SPM

Get in touch with at **scientaomicron.com/ContactUs**

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