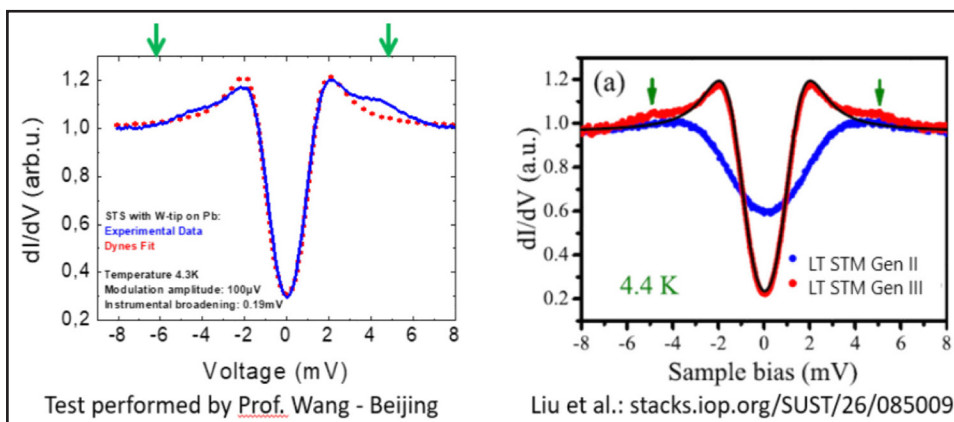


RF-FILTER FOR STM

dI/dV Spectroscopy with Outstanding Energy Resolution

- 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

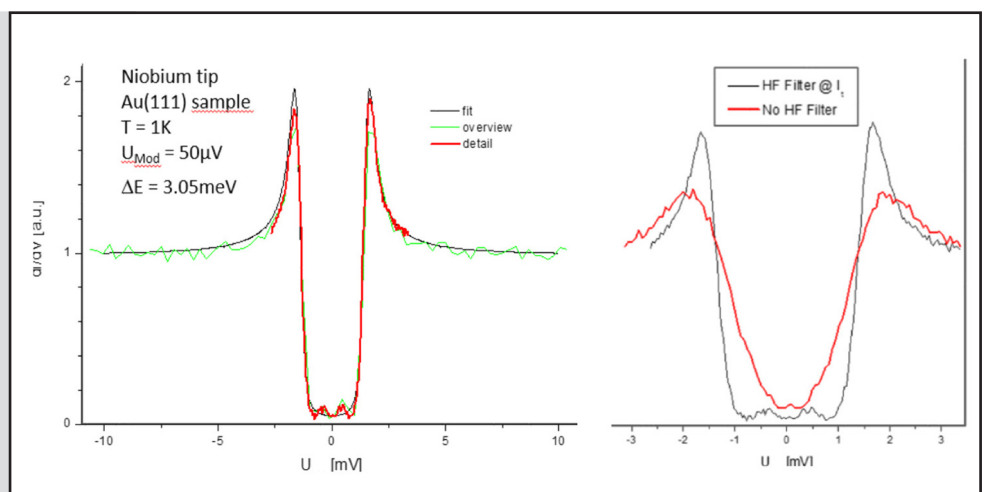


LT-STM: Improved energy resolution

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

TESLA JT SPM

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



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

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