ULTRA-HIGH VACUUM LOW TEMPERATURE Scanning Probe Microscopy (UHV LT-SPM)

CREATEC CT 105-340

Ultra-High Vacuum Low Temperature Scanning Probe Microscope is extremely precise tool for analysis of surfaces and thin films at atomic scale. By combining different methods is capable of investigating geometric, electronic and chemical properties of molecules.

ACQUIRED INFORMATION

- Deep analysis of the molecule-substrate and molecule-molecule interactions
- Characterization of the molecule electronic, structural and chemical properties
- > Assessment of the functional group action
- Investigation of quantum-mechanical nature of the single atom/molecular adsorbates
- Evaluation of the electrostatic potential from the distortions in images taken by functionalized tips
- Probing the energetic potential landscape in three dimensions above the adsorbed species

SAMPLE TYPES

- > Pure molecules in powder or bulk form
- > Sample have to be stable under UHV conditions and stable during evaporation

MODES, CONDITIONS AND PRECISION

- > Scanning Tunneling Microscopy and Spectroscopy
- > Atomic Force Microscopy and Spectroscopy
- > Kelvin Probe Spectroscopy
- Simultaneous measurement of force and tunneling current at 5K with a Q+ sensor
- Cleaning of crystal substrates in situ by an ion gun and/or annealing by e-beam heater up to 1500°C
- Controlled evaporation of molecules from a molecular beam epitaxy cell



UHV LT-SPM



Simultaneous images of single molecule

DETAILED INFORMATION ON REQUEST



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