

QuadraProbe

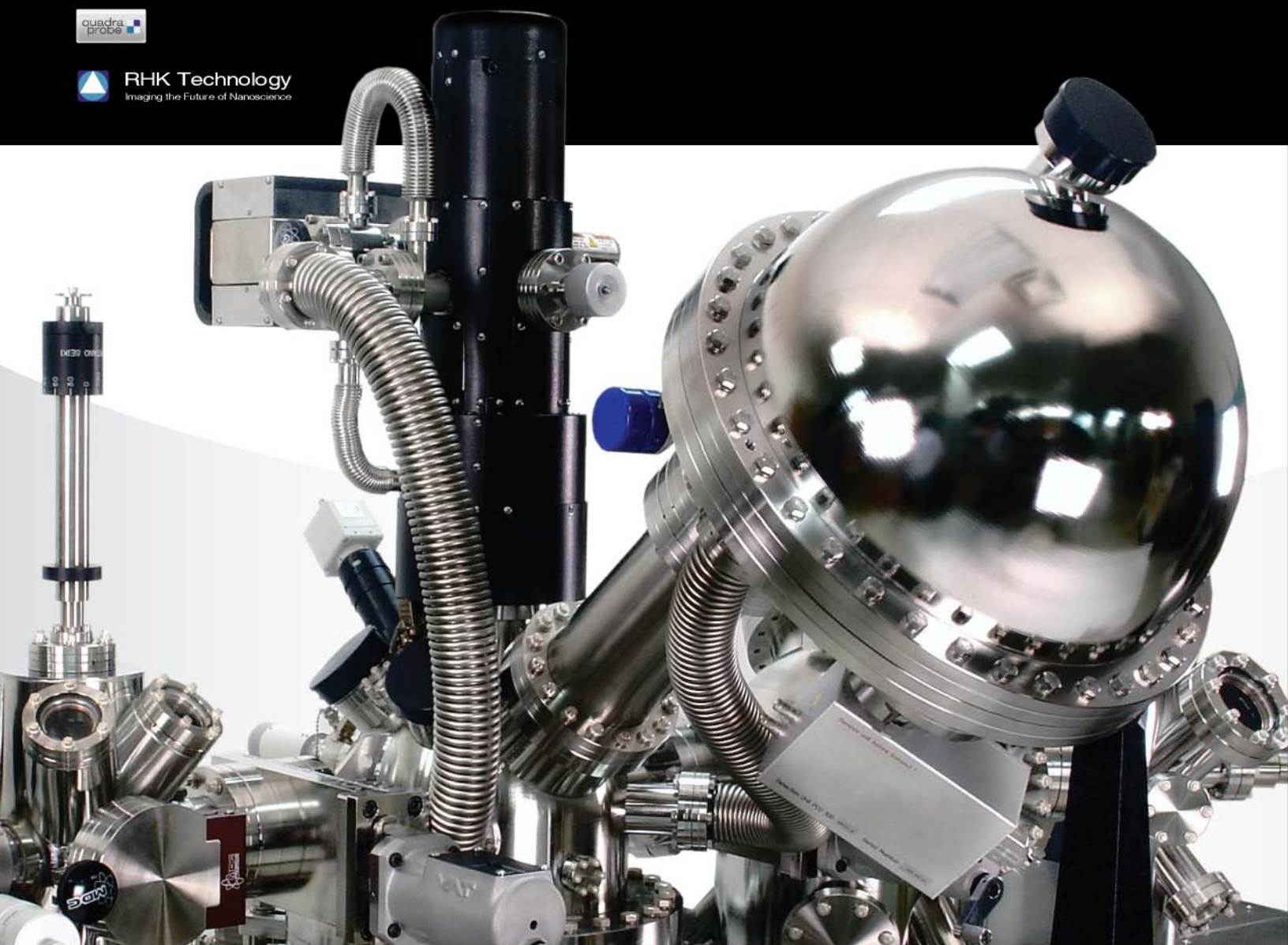
Microscope: RHK QuadraProbe Four-Probe Multisystem
Controls: QuadraProbe Control System

Four independent, cryogenic, atomic-resolution probes, true low-temperature (10K), high resolution SEM, UHV system with unified control interface.

Fully functional SEM and SAM from 10K to 500K sample temperature.

Specifications

Sample & Probe Temp: 10K for liquid helium, 80K for liquid nitrogen
 Scan Range: 1.5 μ m at 300K, 500nm at 10K
 XYZ Probe Coarse Positioning: 7, 4, and 3mm
 XY Sample Coarse Positioning: 10 and 5mm
 Sample Positioning: \pm 1.5mm
 STM Resolution: Atomic resolution on all four probes
 SEM Resolution: <10nm
 Probe Material: W, or W coated with Pt, Au, or other metals



Multi-Probe Modularity

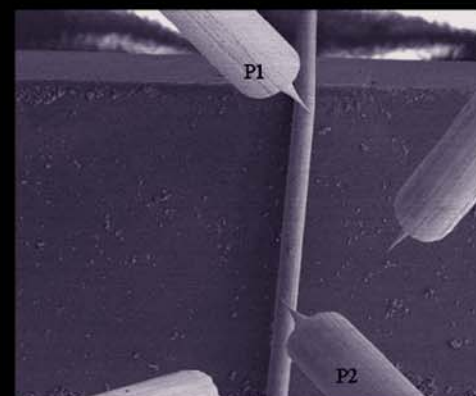


Forethought in Engineering

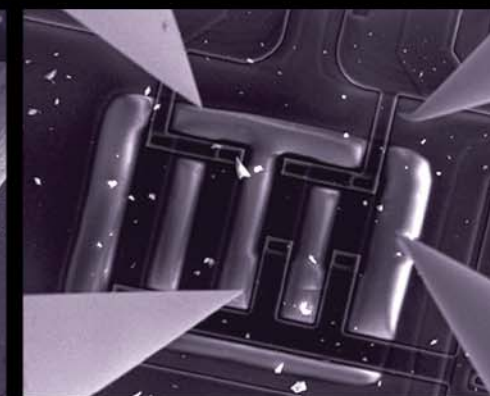
Our building block approach delivers key advantages for you while protecting your research investment. Easily integrate new, powerful capabilities without obsoleting current equipment. Step up to a new dimension of results.

Upgradable and Expandable

- Multi-Probe Expandability: start with one probe, expand to four
- Economical LHe use with bath cryostat
- Single, unified control for one to four probes
- User-programmable control environment
- STM with AFM non-contact upgrade
- Choose optical microscope or high power SEM for viewing and mapping
- Open sample surface for evaporation, dosing, and optical access
- Add chambers for surface preparation and analysis



probes over nanowire



probes over circuit



manipulation of nanotube

Optional Configurations

In addition to probe modularity our systems are designed to integrate other surface treatment and analytical instruments such as:

- XPS
- LEED
- SAM
- Evaporation and Dose Insitu
- Preparation Chamber

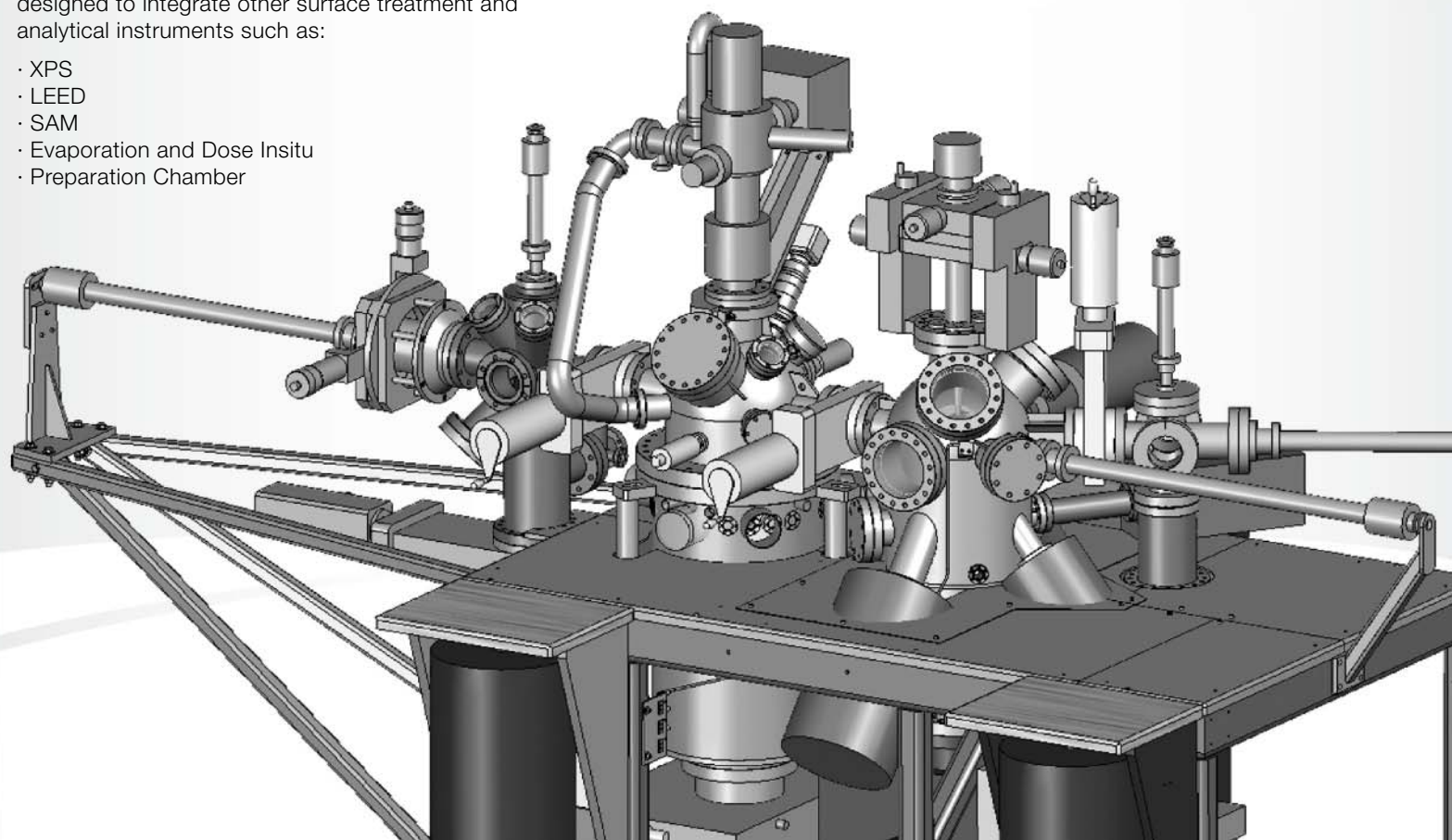


Image of the Month: June '06

Microscope:
RHK QuadraProbe

Description:
The surface is Si(111) with a 7x7 reconstruction

Zhouhang Wang,
RHK Technology

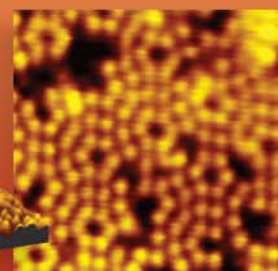
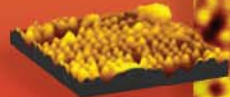


Image of the Month: March '07

Microscope:
RHK QuadraProbe

Description:
STM image of yttrium nanowires grown on Si(100). Image was taken at 10 K Sample bias: 2.0 V Tunneling current: 0.18 nA Scan size: 140 nm x 140 nm

Tae-Hwan Kim, An-Ping Li and John Wendelken
Center for Nanophase Materials Sciences, Oak Ridge National Laboratory

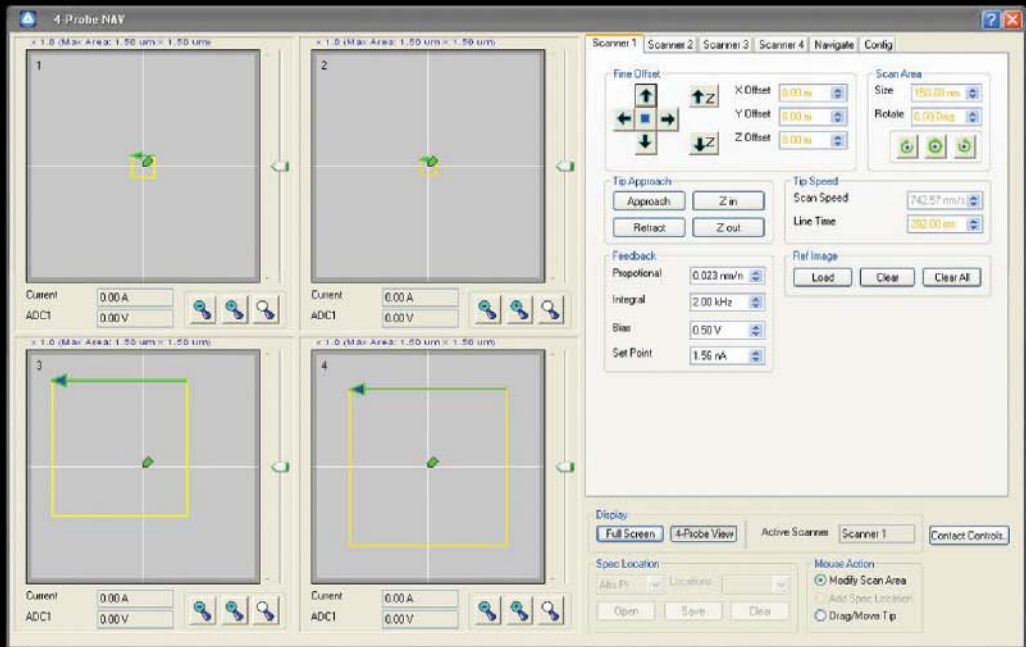


QuadraProbe Control System

Unified Controls: A single intuitive user interface controls coarse positioning and scanning for each of the four probes.

The QuadraProbe system includes 4 independently controllable SPM units, each equipped with a software programmable control system provides full control of all four probes. Any one of the four probes can be scanned while data are collected from all four probes simultaneously. Alternatively, the sample can be scanned while topographic and spectroscopic data is simultaneously collected on all four probes.

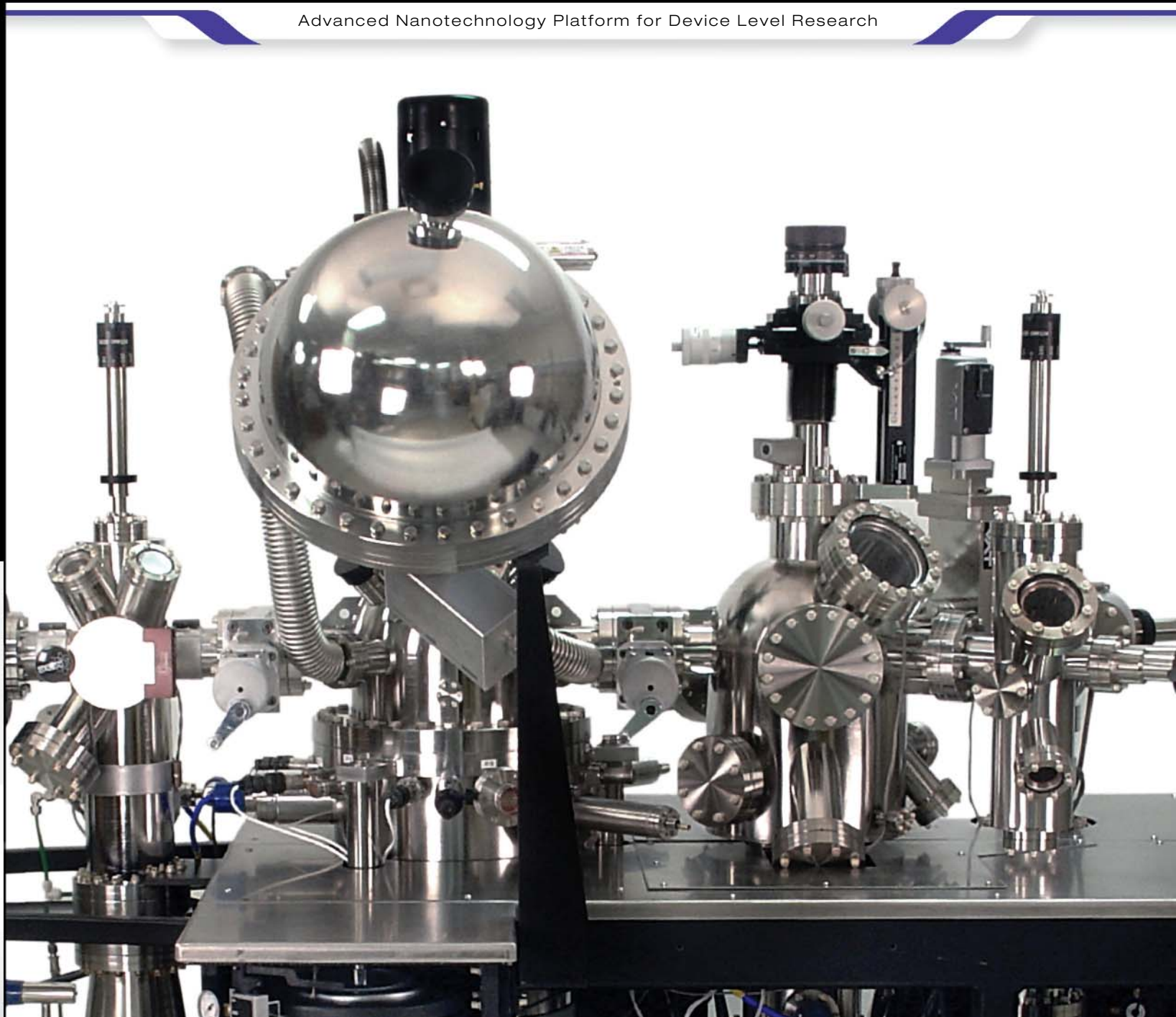
The controller enables electrical transport studies along with the broadest range of spectroscopy measurements.



RHK Technology
Imaging the Future of Nanoscience

QuadraProbe UHV 4-Probe/SEM

Advanced Nanotechnology Platform for Device Level Research



RHK Technology, Inc

1050 East Maple Road
Troy, MI 48083 USA
T 248-577-5426
F 248-577-5433
www.rhk-tech.com

integrated surface science solutions