

# STM 150 Aarhus "everyday" results

## Application Note

### Introduction

The STM 150 Aarhus is an outstandingly stable and time saving instrument for surface analysis. Even in noisy environments it shows ultimate stability.

The data shown in this application note are routine results as part of the standard specification procedure for all STM 150 Aarhus systems leaving SPECS.

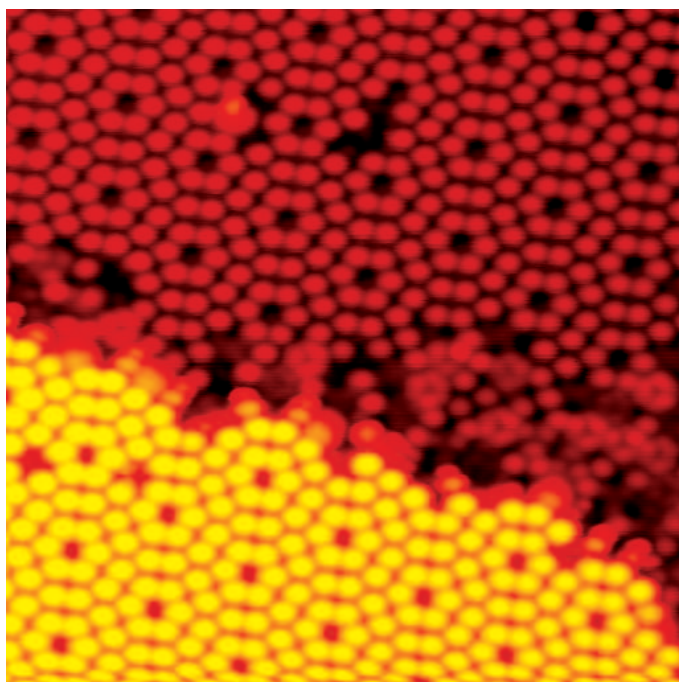


Figure 1: Si(111)-7x7, 15 nm x 15 nm

### Ultimate stability

All displayed data have been recorded with no external dampers for the UHV system.

- 5th floor of SPECS building (severe low frequency noise)
- Mechanical pumps running within lab space
- Heavy duty labour inside and surrounding the lab space

***Please note the atomic resolution at the step edge!  
- no tip artefact -***

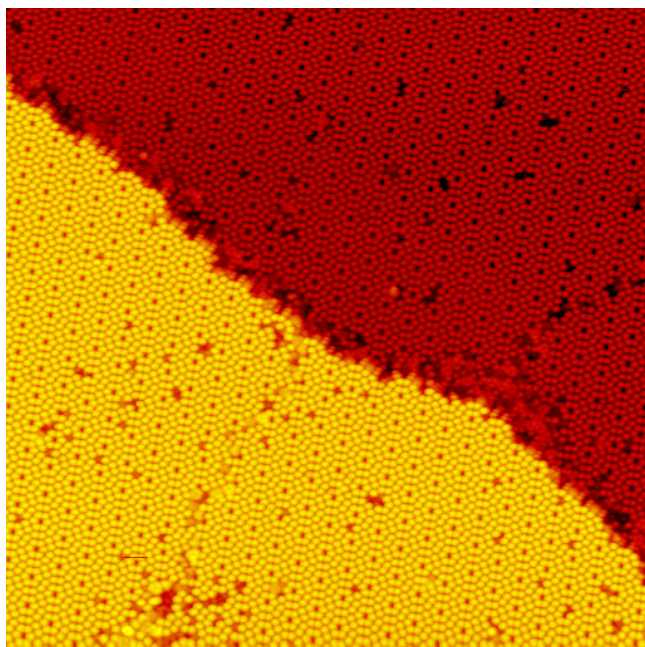


Figure 2: Si(111)-7x7 , 50 nm x 50 nm

## Ultra-fast handling

All data have been recorded only minutes after direct current heating, including sample transfer and tip approach.

## All images shown are RAW DATA. No filtering, no smoothing, etc. applied

The images shown were recorded with 270pA tunneling current and +0.59 V tunneling voltage. At SPECS laboratories also images with atomic resolution were recorded with tunneling currents down to 1pA.

## Conclusions

- Ultimate stability even in noisy environments makes the STM 150 Aarhus the most suitable instrument for large combined UHV systems, i.e. MBE, synchrotron and other surface science applications.
- Fast and easy handling of the STM 150 Aarhus saves time while having ultimate performance.

*Don't bother thinking too much about the machine to measure with, but use your time to think about **what** you want to measure.*

SPECS GmbH  
Surface Analysis  
and Computer Technology  
Voltastrasse 5  
13355 Berlin  
Germany

Phone: +49 30 467824-0  
Fax: +49 30 4642083  
E-mail: [support@specs.de](mailto:support@specs.de)  
<http://www.specs.de>