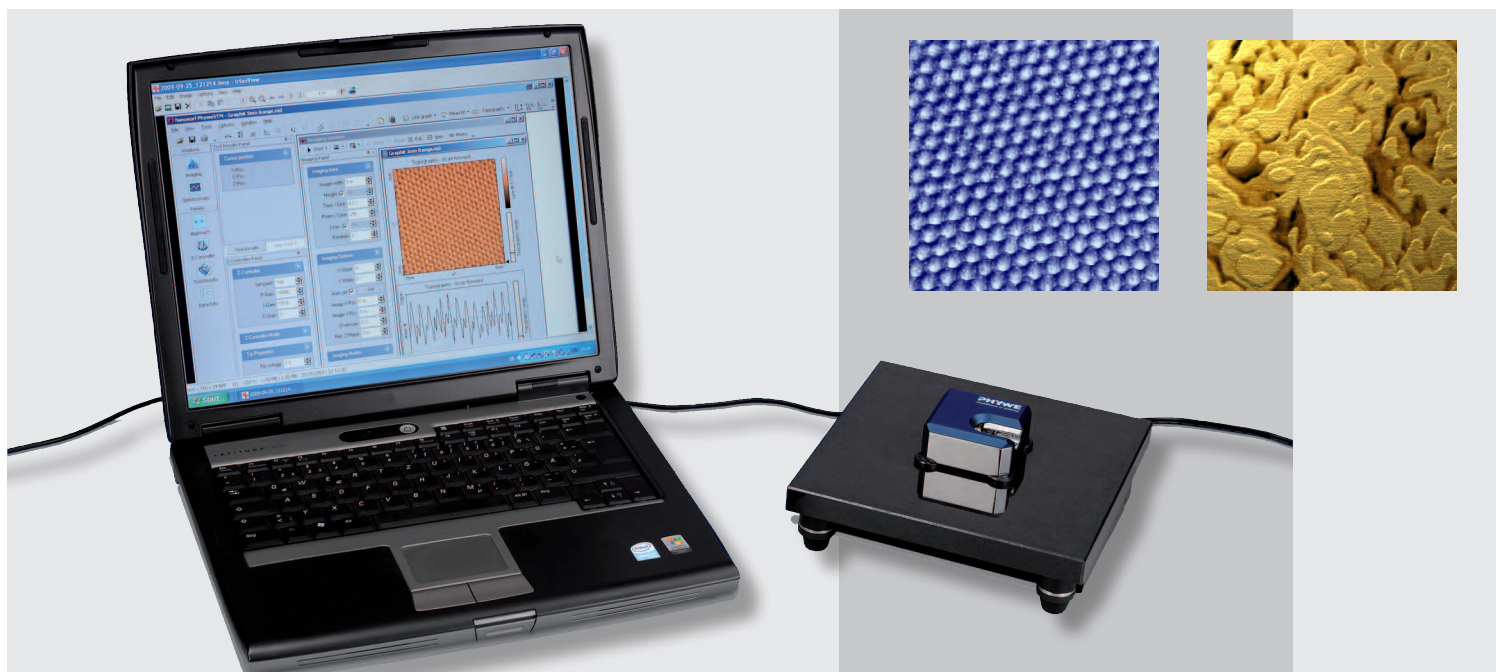


# Scanning-Tunneling-Microscope

Your entry into the nanoscale world



## Fascinating Experiments in the field of quantum mechanics, solid state physics, material sciences and nanotechnology

Since the development of the Scanning Tunneling Microscope (STM) by Gerd Binnig and Heinrich Rohrer in 1981 and the nobel prize for physics in 1986 the STM is one of the most used device in the fields of surface sciences and nano sciences. It provides a direct and affordable access to the nanoscopic world and enables the investigation of effects and characteristics at atomic and molecular scale

The Compact-STM from PHYWE is designed for quick and reliable measurements by experts and novices alike. It is characterized by a compact design with integrated controll-unit and vibrational damping. Together with the easy handling and the included well-engineered software measureNano the PHYWE STM is a ideal devices for scientific classes, science centers, lectures, lab courses and research to convey the fascination of nanoscale world as well as applications of nanotechnology.

## Features

Experiments in the fields of nano technology, quantum mechanics, solid state physics, material sciences

Compact measuring USB device with integrated control-unit and vibration damping

Imaging and spectroscopy of conducting samples at atomic scale

including measureNano, a well-engineered software for measuring, analyzing and visualization

Complete set, incl. HOPG- and Gold-Sample, Tools and Consumables

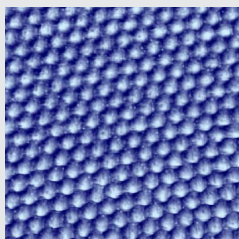
Easiest and most affordable method for a direct access into the nano world

Unpacking, Swichting-on, Measuring – in 15 min to atomic resolution

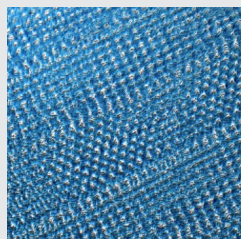
For example, the imaging of graphite (HOPG) atoms can be performed without preparation time in only 15 min, from unpacking to the result of course. The Compact-STM is an USB-device and is being delivered in stable aluminium case including consumables, tools and sample set.

A variety of experiments to following topics can be performed:

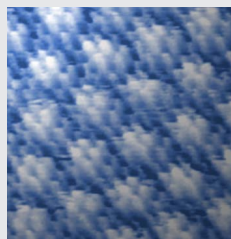
- Material characteristics, like micro and nano morphology
- Nano structures
- Imaging of atoms and molecules
- Solid State characteristics, such as conductivity
- Quantum mechanical effects, such as tunneling and charge density waves
- Single molecule contacts
- Self organization of molecules (self assembled monolayers)
- and many more



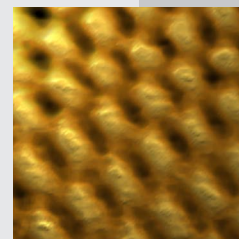
2 x 2nm<sup>2</sup>, atomic resolution on graphite (HOPG)



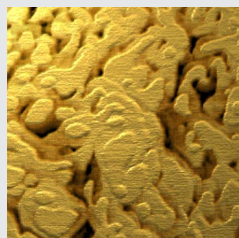
13 x 13nm<sup>2</sup>, 2-D molecular crystals of dotriacontan and octadecanol on graphite



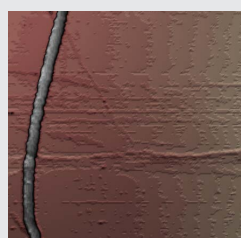
6 x 6 nm<sup>2</sup>, Charge density waves on TaS<sub>2</sub>



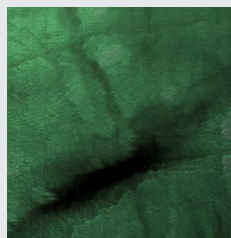
11 x 11nm<sup>2</sup>, Electrode surface modified with multilayers of polyoxometalate



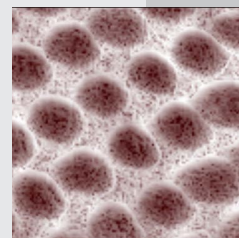
560 x 560nm<sup>2</sup>, evaporated gold terraces with mono atomic step height



500 x 500nm<sup>2</sup>, carbon nanotubes on graphite



500 x 500nm<sup>2</sup>, polished copper surface



500 x 500nm<sup>2</sup>, nano grid

## Products

### Compact-Scanning Tunneling Microscope

Complete set to study conducting samples at atomic and molecular scale, incl. samples, tools and consumables

#### Content of delivery:

Scan head and control-unit on vibration-isolated experimentation board, scan head cover with magnifying lens, toolset for preparing and mounting tunneling tips, Pt-Ir wire for tunneling tips, Sample Kit incl. HOPG (high oriented polycrystalline graphite), gold (111) films on sample support, and 4 spare sample supports, power supply, USB cable, aluminium case, software measureNANO, for measuring, analyzing and visualization, handbook including short description of starting experiments with graphite and gold (111), Quick Installation Guide

#### Compact-Scanning Tunneling Microscope

09600.99

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