

press release

attocube systems AG and SPECS Surface Nano Analysis GmbH announce a collaboration in the field of quantum transport measurements at low temperatures

The German companies **attocube systems AG** that since 15 years dedicates itself to the development and production of cutting-edge research equipment such as nano positioners, ultra precise interferometers, scanning probe microscopes and high performance cryostat systems and **SPECS Surface Nano Analysis GmbH**, since 30 years a major supplier of surface analysis instrumentation with its branch company **SPECS Zurich**, the market leading company for Control Systems for scanning probe microscopy and quantum transport measurements are pleased to announce a close collaboration in the field of quantum transport measurements at low temperatures.

Many magneto-transport measurements are conducted at variable temperatures and in high magnetic fields; often requiring an arbitrary orientation of the sample in the external field. So far, such measurements have proven to be somewhat cumbersome: expensive vector magnets yielding only limited 3D field strengths, high running costs due to liquid helium, as well as time-consuming software integration of various 3rd party instruments.

Thanks to the cooperation between SPECS Zurich and attocube, a new user-friendly system is now introduced to the market, allowing for the exploration of a very large phase space at cryogenic temperatures and high magnetic fields: the software integration of a dry magnet cryostat (attoDRY2100), a 3D sample rotator (atto3DR) and a powerful measurement electronics (Nanonis Tramea™) combines flexibly generic, yet automatable measurement routines with unprecedented speed and signal quality. The software integrates the automatic control of temperature (1.5 bis 300 K) and magnetic field (9T or more) of the dry cryostat attoDRY2100, as well as an arbitrary orientation between sample surface and magnetic field direction given by the 3D sample rotator atto3DR.

SPECS has introduced the product Nanonis Tramea to the market 18 months ago with tremendous success. Tramea is an ultrafast, low noise, ultimate precision multichannel measurement system optimized for quantum transport measurements. Different to other solutions it is a completely integrated compact tool with complete software control and comprehensive but easy out-of-the-box handling. In combination with attocube's measurement systems, the user benefits from the combination of two advanced solutions, already integrated and optimized to each other at the day of purchase. It provides faster results with reliable and repeatable state-of-the-art specifications.

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Integrated system for automated magneto-transport measurements

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“We look forward to the cooperation with SPECS Zurich”, says Dr. Martin Zech, CEO of attocube systems “ with this partnership, we are advancing user-friendly and automated magneto-transport measurement solutions for worldwide researchers, facilitating their day-to-day work. This is and has been one of attocube’s core visions since the foundation of the company.”

Dr Ferdinand Bartels, CEO of SPECS Surface Nano Analysis GmbH, adds “Combining these instruments via software integration into the Tramea GUI yields a very versatile and powerful workhorse with ultimate specifications on a daily base. Scientists can concentrate on their tasks and forget about instrumentation challenges.”

For further details check www.specs.com and www.attocube.com.

about attocube systems AG:

The attocube systems AG was founded in 2001 and is recognized internationally for innovation and excellence in the development, the production, and the distribution of cutting-edge solutions for the most challenging nanotechnology applications in research and industry. The portfolio includes nano drives, used for highly accurate positioning tasks and surface analyses, as well as ultra precise distance sensors and fully integrated microscope and cryostat systems, which work close to the limit of what is technically and physically feasible.

All products are being developed and manufactured at the company’s headquarter in Munich. An international team of physicists, mechanical engineers and product designers closely cooperates from the conception to the delivery of products, which are distributed worldwide. In addition to its premises in Munich, attocube runs two sales offices in the US. A long list of accolades – including the Bavarian Innovation Award 2006, the German Startup Award 2008 and the TOP100 Innovation Award 2013 – further prove attocube’s innovative company spirit.

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Quantum Transport
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attocube
pioneers of precision



Nanonis Tramea
QUANTUM TRANSPORT MEASUREMENT SYSTEM

Integrated system for automated
magneto-transport measurements

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