Abstract Submitted
for the MAR12 Meeting of
The American Physical Society

Next Generation SPM Control System with ppm precision
ALESSANDRO PIODA, SPECS Surface Nano Analysis GmbH — Novel scanning probe microscopy techniques, modes of operation, and advances in microscope hardware are pushing the boundary for signal resolution and flexibility in SPM measurements. Here we present a new state of the art SPM control system, which improves signal precision, resolution, bandwidth and noise performance by about one order of magnitude compared to current generation controllers. The controller incorporates the performance of expensive dedicated instruments in a compact modular multichannel package. In combination with the well proven and flexible Nanonis SPM control software, this next generation controller is the ideal platform for the most demanding microscopy, spectroscopy and transport measurements tasks, opening the door to a larger range of applications compared to current systems. Furthermore, the flexible and easily configurable user interface of the controller and the large number of measurement channels allows its operation as a high performance DC and AC source and measurement interface with ppm precision and multiple lock-in amplifiers, opening new perspectives for materials research.

Andreas Thissen
SPECS Surface Nano Analysis GmbH

Date submitted: 23 Jan 2012 Electronic form version 1.4