

Nanosurf AG

Grammetstrasse 14
4410 Liestal
Switzerland

Tel +41-61-927 56 46
Fax +41-61-927 56 47
E-Mail info@nanosurf.com

www.nanosurf.com

AN00539 — Kelvin Probe Force Microscopy

Kelvin Probe Force Microscopy (KPFM) is an extension of AFM. The technique was first published in 1991 by Nonnenmacher and coworkers. Using KPFM, images can be recorded that contain information on the local work function or local contact potential difference between tip and sample.

Although all Nanite systems with an SPM S200 controller and all current easyScan 2 AFM systems are in principle capable of performing KPFM, the FlexAFM has demonstrated best KPFM performance and is therefore the instrument of choice for this type of measurement.

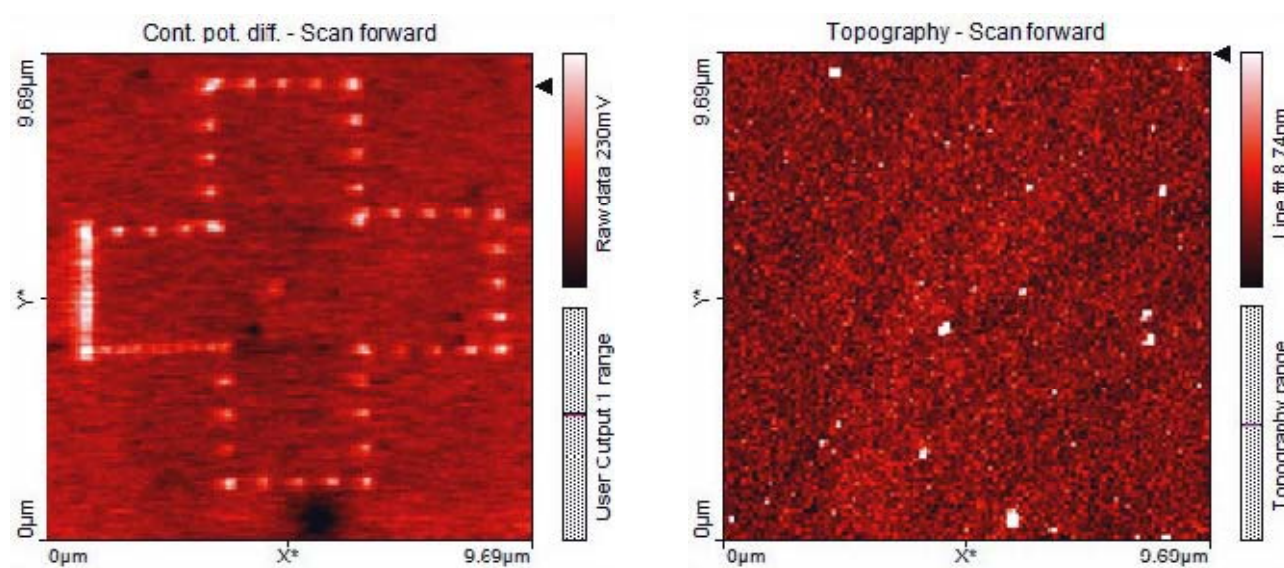


Figure: KPFM measurement. KPFM signal (left) and Topography (right) of local charges that were placed on an insulating (oxide) surface layer in a “Swiss cross” pattern. Image courtesy: Marcin Kisiel, Thilo Glatzel and students of the Nanocurriculum of the University of Basel.

NOTE: KPFM requirements and procedures can be found in technical note TN00524, which is available to registered customers via download from the Support section of the Nanosurf website.