

Abstract Submitted  
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**Nanoelectrical probing with multiprobe SPM Systems compatible with scanning electron microscopes** AARON LEWIS, Hebrew University of Jerusalem, ANDREY IGNATOV, HESHAM TAHA, Nanonics Imaging Ltd., OLEG ZHINOVIEV, ANATOLY KOMISSAR, ALEXANDER KROL, DAVID LEWIS, Nanonics Imaging Ltd. — A scanning electron microscope compatible platform that permits multiprobe atomic force microscopy based nanoelectrical characterization will be described. To achieve such multiple parameter nanocharacterization with scanning electron microscope compatibility involves a number of innovations both in instrument and probe design. This presentation will focus on how these advances were achieved and the results obtained with such instrumentation on electrical nano-characterization and electrical nano-manipulation. The advances include: 1. Specialized scanners; 2. An ultrasensitive feedback mechanism based on tuning forks with no optical feedback interference that can induce carriers in semiconductor devices; and 3. Unique probes compatible with multiprobe geometries in which the probe tips can be brought into physical contact with one another. Experiments will be described with such systems that will include multiprobe electrical measurements with metal and glass coated coaxial nanowires of platinum. This combination of scanning electron microscopes integrated with multiprobe instrumentation allows for important applications not available today in the field of semiconductor processing technology.

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