

Abstract Submitted  
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**Investigation of Electrical Behaviors of Nanostructures through Scanning-Probe Microscopy** BEVERLY CLARK III, HANS HALLEN, NC State University NSOM Lab — A scanning-probe microscope with two electrically-isolated electrodes fabricated on one probe is used to locally investigate electrical behavior of nanostructures. The split-tip probe, which we have recently developed, is optimized for light coupling into a particular region of a nanostructure while non-contact measurements are simultaneously made between the two electrodes. The capacitance is influenced by the presence of a conducting region on the surface beneath the electrodes. The capacitance coupled or scanning conductivity mode allows rapid characterization of large numbers of molecules so that molecules of interest can be identified for further study. Finite element models aid in the quantification and understanding of the data.

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