

Abstract Submitted
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Synchrotron Assisted Scanning Tunneling Microscopy H. KERSELL, NQPI, Ohio University; CNM, Argonne National Laboratory, V. ROSE, APS, CNM, Argonne National Laboratory, S.-W. HLA, NQPI, Ohio University; CNM Argonne National Laboratory, NQPI, OHIO UNIVERSITY COLLABORATION, ARGONNE NATIONAL LABORATORY COLLABORATION — Scanning tunneling microscopy (STM) provides a wealth of information regarding surface properties of conductive materials by probing the electronic properties of samples under investigation. However, the nature of STM's reliance on the sample density of electronic states often limits the chemical contrast of resulting images. By targeting the sample with high energy X-rays, such as those generated by a synchrotron light source, core level electrons may be promoted and subsequently contribute to the current measured in STM. Since core level excitation energies are chemically specific, this technique can be used to obtain chemical sensitivity in STM imaging, providing deeper insight into molecule-substrate and intermolecular interactions. We present the development of a synchrotron-assisted STM (SXSTM), capable of obtaining chemical resolution.

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