

Advanced Electron Microscopy Methods for the Characterization of Semiconducting Materials at the CFN

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The Center for Functional Nanomaterials is home to world-leading capabilities for the characterization of semiconductor materials at the nano- to atomic scale. These included dedicated facilities and deep expertise in the preparation of site-specific samples from specific device areas, as well transmission and scanning transmission electron microscopy with aberration-corrected instruments. In this presentation, I will detail how the work flow of semiconductor characterization can be accomplished with our instrumental suite, and will describe the relevant characterization approaches and their advantages and limits. Particular emphasis will be place on how electron microscopy provides complementary characterization capabilities to the advanced end stations at NSLS-II.