

New possibilities with sub-20meV spatially resolved STEM-EELS

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The recent improvements in monochromator technologies are a game changer for applications in nanoplasmonics and phonon spectroscopies with high spatial resolution. In this contribution, we will present experiments performed on a NION HERMES scanning transmission electron microscope (STEM) with a spectral resolution better than 16 meV. Examples including plasmonic bimetallic nanorods and hexagonal Boron Nitride flakes will be given. We will try to show how such increases in performance may unveil new physical effects.