

## *Nanometer scale imaging through Coherent X-ray Diffraction*

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Nanometer scale objects illuminated with x-ray beams that are both temporally and spatially coherent give rise to continuous diffraction patterns containing a wealth of information. Not only can the shape of the illuminated object be garnered but also characteristics of its internal structure. The key to extracting this information from the diffraction intensities is in the recovery of the unmeasurable phases of the diffracted beam. Given a set of suitable phases for the measured amplitudes the object of interest can be obtained through the Fourier Transform. Algorithms aimed at recovery of the phases directly from diffracted intensities, as well as results from experiments on nanometer scale silver cubes, will be discussed.