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3D Coherent Diffraction Microscopy and Its Applications in Structural Biology. Jianwei Miao, Dept. of Physics and Astronomy, California NanoSystems Inst., Univ. of California, Los Angeles, CA 90095-1547, miao@physics.ucla.edu.

When a coherent diffraction pattern is sampled at a spacing sufficiently finer than the Bragg peak frequency, the phase information is encoded inside the diffraction pattern and can be directly retrieved by using an iterative process. In a combination of this oversampling method with coherent X-rays or electrons, a novel form of microscopy, *i.e.* lensless imaging, has recently been developed to image biological systems. In this talk, I will present the principle of this microscope, discuss some applications in structural biology, and illustrate the future opportunities with X-ray free electron lasers.

References

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