3D Coherent X-ray Diffraction Microscopy: the Present and the Future

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When a coherent diffraction pattern is sampled at a spacing sufficiently finer than the Nyquist frequency (*i.e.* the inverse of the sample size), the phase information is in principle encoded inside the diffraction pattern, and can be directly retrieved by using an iterative process. In combination of this oversampling phasing method with coherent X-rays, a novel form of diffraction microscopy has recently been developed to image nanoscale materials and biological structures. In this talk, I will present the principle of this microscope, discuss the current status of this research field, and illustrate some future opportunities.

References

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