Multi-scale multi-dimensional imaging at I13-coherence branchline in Diamond Light Source

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The Coherence branch of the I13 beamline in Diamond Light Source is specialized in reciprocal space imaging using Ptychography[1] and Bragg CDI techniques[2]. The experimental hutch is 220 m from the synchrotron source, providing the x-ray beam with intrinsic high spatial coherence. The capacious hutch allows variable sample-detector distance up to 14.5 m. This, in combination with the use of the large area photon counting detector Excalibur, enables fields of view as large as 500 μm, resolution down to tens of nanometers and acquisition rate in excess of 100 Hz. Recently the ptychography scan has been combined to the x-ray fluorescence scan to simultaneously access the chemical and structural information of the sample [3].

Here we present the most recent ptycho-fluorescence results achieved.

References

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