

The Phase One MX Beamlines at Diamond Light Source

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Diamond Light Source is the new 3rd generation synchrotron in the UK, south of Oxford. Seven beamlines, including three for macromolecular crystallography (MX), have been built during Phase One and there is additional funding for a further fifteen beamlines to be built in Phase Two. The Phase Two MX beamlines include a fixed wavelength, high-throughput beamline; a microfocus beamline; and a long-wavelength beamline.

All three Phase One MX beamlines are tuneable over a wavelength range of 0.5–2.5 Å. Each beamline is equipped with a robotic sample changer and software is available to allow automated data collection with a view to allowing remote control of the beamlines in the future. One beamline, I03, has been designed to accommodate experiments with pathogenic samples at Hazard Group 3 level. The experimental hutch of I03 can operate at negative pressure and a decontamination system is available. The robotic sample changer for pathogenic samples can accommodate up to 1680 capillary-mounted crystals to allow for extended experimental runs with minimal user intervention.

The first MX data collection with external users took place in February 2007 and scheduled user operation will continue from April 2007.