

## **The Phase 1 Macromolecular Crystallography Beamlines on Diamond**

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Diamond is the new 3<sup>rd</sup> generation synchrotron source being built in the UK just south of Oxford. Seven beamlines are funded as part of Phase 1 which includes 3 beamlines for macromolecular crystallography (MX). The beamlines will use radiation from 3 in-vacuum undulators; each will be canted to allow a second undulator to be placed in the straight to provide radiation for a side station.

The beamlines will provide radiation tunable over a wavelength range of 0.5Å – 2.5Å. Significant emphasis is being placed on the automation of the beamline in terms of both hardware and software. Each of the beamlines will have diagnostics to allow the beam to be monitored remotely. The experimental station will be equipped with high quality crystal viewing systems and robotic sample changers to enable automated mounting for both cryocooled and room temperature capillary mounted samples. One of the beamlines will also include facilities for biological containment at Category 3 level at the experiment. This facility will open up opportunities for carrying out exciting structural work that it is currently very difficult to carry out due to the restrictions imposed by the safety requirements associated with working with biological pathogens.

These beamlines are scheduled to be commissioned in 2006 and will come on-line for users in 2007.

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