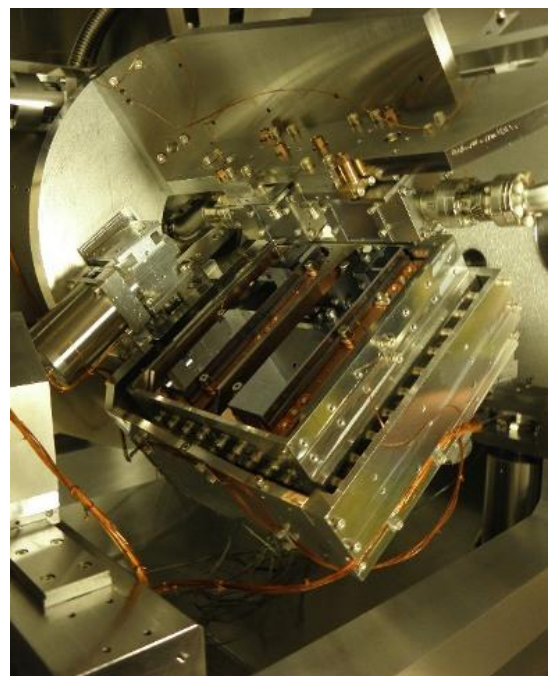
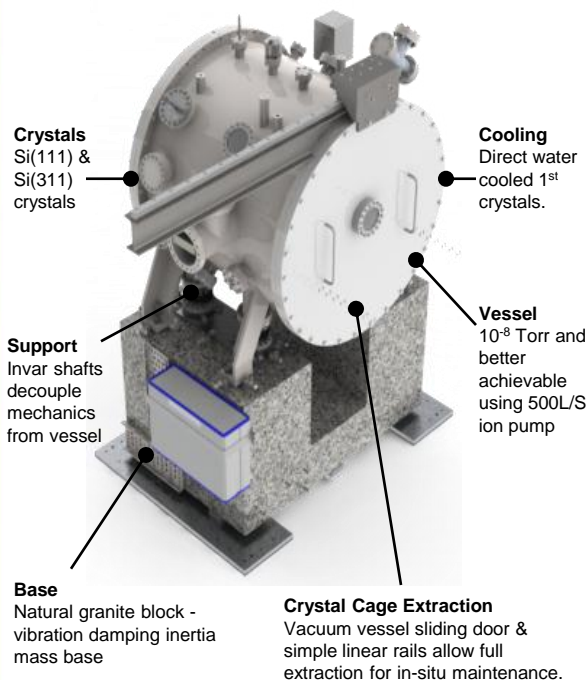


Features

- Energy range 2.05-35 keV.
- Bounce down geometry.
- Multiple crystal sets (Si(111) & Si(311)) in single chamber with automated crystal exchange.
- Step, quick & continuous scanning EXAFS mode.
- High precision, ultra-stiff rotary table.
- Novel 1st crystal cooling - heat load 44W.
- Water cooling circuits run via central bore of main rotation table.
- Full extraction of crystal cage on simple linear rails for maintenance.
- High vacuum level 5×10^{-8} Torr.
- Very stable base block of natural granite.
- Angular bragg range 0 - 75°.
- High vacuum DC motor on bragg axis
- EPICS control system.

Scanning EXAFS DCM

IDT have recently designed, built, tested & installed a complex DCM on B18 at Diamond. This is a very demanding DCM and can be used in step scan, quick scan or continuous scanning EXAFS mode.

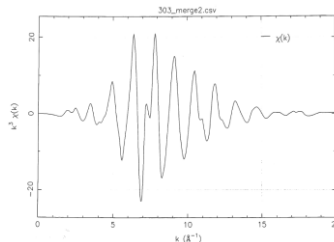
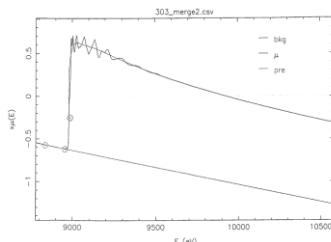


Above: Crystal cage of EXAFS DCM @ B18 Core EXAFS Beamline at Diamond.

First EXAFS spectrum on B18 – data courtesy of Diamond:

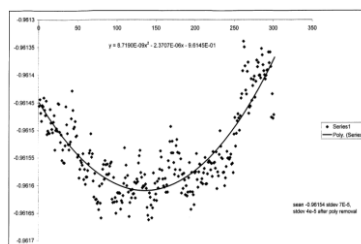
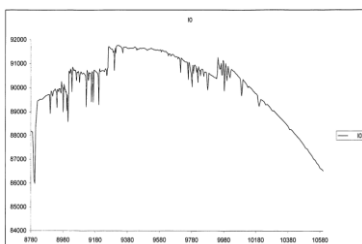
Diamond have completed a series of commissioning tests with the DCM. The measured spot stability was between 0.5-1.0µm rms at a distance to sample of 14.5m

Right: Cu K edge foil spectrum Si(111) @ 9keV.



Left: K3 weighted EXAFS – note salient features. Smooth noise-free out to 20 reciprocal angstroms.

Below left: I_0 – note low noise less than 1%.



Left: Graph of positional error on bragg motor in constant velocity mode. Standard Deviation of fitted polynomial curve 4×10^{-5} (best at SRS 2×10^{-3} STD).