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The new X-ray absorption spectroscopy beamline at Diamond:
B18 SILVIA RAMOS, GIANNANTONIO CIBIN, STEPHEN PARRY, ANDY J. DENT, Diamond Light Source Ltd., Harwell Science and Innovation Campus, Didcot OX11 0DE, United Kingdom — The new core XAS spectroscopy beamline at Diamond (B18) has been designed to provide a reliable spectrometer for a broad scientific community. The instrument first became operational in April 2010 and is currently combining further commissioning with a rapidly growing user programme. The main goal of the optics design of B18 was to achieve high stability in an instrument that can operate over a wide energy range (2.05 to 35.0 keV). XAS measurements can be carried out using several detection methods: transmission, electron yield and fluorescence (with a Ge detector, a Si drift detector or a gas microstrip). It is also possible to carry out combined absorption and diffraction measurements. The instrument offers several sample environments: a liquid nitrogen cryostat capable of loading over 40 samples, a pulse tube cryostat with base temperature of 1.6 K and an infrared furnace with a maximum temperature of 800°C and can integrate a variety of specialised set-ups designed by the users. In this talk we will present the beamline and selected examples to show its capabilities.

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