



SEMINAR

Advances in Neutron and Synchrotron X-Ray Imaging

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Helmholtz-Centre Berlin for Materials and Energy

Thursday 5 March 2009
11am – 12 noon
Science Lecture Theatre S9, Bldg 25

Abstract

Neutron imaging provides two- or three-dimensional, spatially- resolved images of the internal structure of bulk samples that are not accessible by other techniques, making it a unique tool with many potential applications. The method is now well established and is available at many neutron sources worldwide. On the other hand, most major synchrotron radiation sources provide at least one beamline dedicated to imaging such as absorption, phase-contrast or diffraction tomography and their use is continuously increasing.

The talk will give an overview of some recent developments in the area of neutron imaging - including the development of higher resolutions, Bragg edge imaging and the imaging of magnetic fields - and synchrotron X-ray imaging - including ultrafast radiography at frequencies up to 40kHz and some applications of high resolution absorption tomography and holotomography to materials science problems such as sintering and grain growth in semisolid liquids. Complementary use of both neutrons and X-rays to investigate one problem will be demonstrated.

Convenor: Dr. Joanne Etheridge

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Visitors are most welcome: Please note that there is a designated Visitors Car Park (N1) clearly ground-marked by white paint and tickets, at a cost of \$1.4/hour for up to 3 hours, available from a dispensing machine. This high-rise carpark is located on the following Clayton Campus Map, Ref. B2.

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