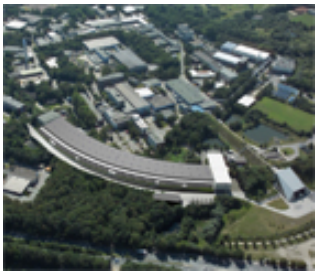

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Single crystal diffraction at ultrahigh pressure

Tuesday 19 May 2009 08:45 (45 minutes)

This talk will review the main concepts, applications and capabilities of different non-conventional varieties of single-crystal X-ray diffraction (SXD) experiment utilizing synchrotron radiation for applications in ultra-high-pressure research. Examples of how such experiments can be designed and performed to best answer the scientific goals of the study and, at the same time overcome the main technical limitations imposed by the high-pressure device and type of measurement will be discussed. The emphasis will be placed on experiments that cannot be performed using laboratory instruments, e.g. involving ultrahigh (>50 GPa) pressures, poor quality samples, laser heating in diamond anvil cell (DAC), etc. The main goal of the presentation is to demonstrate that even a non-expert crystallographer, with good understanding of the general basic principles of synchrotron SXD experiments in a DAC can successfully use these techniques as invaluable and quite easy tools in his/her own high-pressure research.

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Session Classification: Dynamic Single Crystal Diffraction at simultaneous high-pressure and -temperatures