

Synchrotron Radiation and its Applications in Energy, Resource, Environment Researches

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Abstract:

Synchrotron radiation is an accelerator-based light source with extreme brightness and unique properties. It enables the researches and applications by providing a set of techniques which are generally not possible using the regular laboratories and instruments. This presentation will give an overview on the synchrotron radiation principle and properties. As a national synchrotron facility in Canada, Canadian Light Source will be briefly introduced. The techniques available for environmental science will be presented to show the capabilities of X-ray fluorescence spectroscopy, X-ray absorption spectroscopy, X-ray diffraction, and their combinations. Some of the studies will be shared to showcase their applications in energy, resource, and environment researches.