

The Canadian Light Source A Status Report

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Invité par Paul DUMAS

**Lundi 22 janvier à 11h30
Amphi du Bât. Accueil Soleil**

The Canadian Light Source (CLS) is Canada's national synchrotron facility. The compact, double bend achromat lattice is highly optimized and capitalizes on several advances in storage ring design and insertion device technology to deliver excellent performance at 2.9 GeV with a small physical footprint (171 m circumference). Innovations include a superconducting RF cavity in the storage ring and the chicaning of most insertion devices. The ring operates routinely at 250 mA, single-bunch and top-up modes have been demonstrated, and it has been operated at energies down to 1.5 GeV.

Phase I consists of seven experimental and two diagnostic beamlines. All seven beamlines are producing scientific results, and most are now accepting proposals from general users. These beamlines span the energy range from the far-infrared to hard X-rays above 50 keV. One highlight is a superconducting wiggler (Budker) that incorporates a deliberate randomization of period length to produce a smooth X-ray spectrum from a low K ($K=6$) insertion device. It is being used for EXAFS, μ -probe and diffraction experiments. Other highlights include a soft X-ray STXM/PEEM beamline using a CLS-built Apple II-type undulator, two general purpose high-resolution soft X-ray beamlines using CLS-built chicaned undulators, and a very high resolution FTIR spectrometer (0.001 cm^{-1}).

Phase II will add six new beamline projects, which are in the early construction phase, and includes biomedical imaging/therapy and resonant elastic/inelastic soft x-ray scattering facilities. Lastly, Phase III will consist of 3 new beamline projects, including hard X-ray diffraction/scattering, Bio-XAS and ARPES, all of which recently received funding. The overall scientific program covers three broad themes: molecular/materials science, earth/environmental science and the life sciences. While academic research is the main focus, a very strong industrial research program has been developed.

Formalités d'entrée : accès libre dans l'amphi du Pavillon d'Accueil. Si la manifestation a lieu dans le Grand Amphi Soleil du Batiment Central, merci de vous munir d'une pièce d'identité et de prévenir le secrétariat en charge de l'événement.

SYNCHROTRON SOLEIL

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<http://www.synchrotron-soleil.fr/workshops/>

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