Making Movies of Molecules - The Science and Application of X-rays Lasers

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SEMINAIRE

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Amphithéâtre SOLEIL

Over the past century X-rays have revolutionized medical imaging as well as numerous fields of science. Starting in the 1970s powerful new X-ray sources based on large accelerators --the so called synchrotrons-- have dramatically advanced the scientific use of X-rays. Work at these facilities includes protein crystallography, various X-ray scattering and spectroscopy techniques as well as X-ray imaging and X-ray microscopy.
Very recently new X-ray lasers, such as the Linac Coherent Light Source (LCLS) at Stanford's SLAC National Accelerator Laboratory, have come to light. These coherent X-ray sources produce ultra-short pulses with a brightness that is ten billion times larger than even powerful synchrotron sources. For the first time scientist can study matter not just at the length scale of atoms and molecules, but also at the time scale of molecular motion. The dream of making molecular movies of a chemical reaction in real time is becoming reality. We will describe these machines and present some of the most exciting examples of recent X-ray laser research.

Ce séminaire sera suivi d'une pause café

Formalités d'entrée : accès libre dans l'amphi du pavillon d'Accueil.
Si la manifestation a lieu dans le Grand Amphi SOLEIL du Bâtiment Central merci de vous munir d'une piece d'identité (à échanger à l'accueil contre un badge d'accès)

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