

## Self-seeding : the promise of longitudinally coherent FEL SASE pulses in the hard and soft X-ray energy range

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**Grand Amphi SOLEIL**

SASE FELs pulses typically suffer from poor longitudinal coherence, due to start-up from shot noise. Self-seeding schemes can be used to obtain single-mode FEL pulses, but their applicability to the baseline of already working or designed XFELs is subject to constraints. In particular, minimal changes to the baseline design and possibility to recover the baseline mode of operation are required. A recently proposed single-bunch self-seeding scheme for hard and soft X-rays obeys these constraints. The method is based on a particular kind of monochromator, which relies on the use of a single crystal in Bragg-transmission geometry for the hard X-ray case and of a gas-cell in the soft X-ray case. These apparently different setups are based on the same physical principle. In its simplest configuration, our self-seeding scheme consists of an input undulator and an output undulator separated by the monochromator. Several, more advanced configurations can be considered. Exemplifications, based on facilities working or under construction will be discussed.



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 pièce d'identité (à échanger à l'accueil contre un badge d'accès).

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