

Synchrotron IR-THz program at 4th generation light sources: from installation to nanoscale IR spectroscopy

Dr. Raul O. FREITAS

(LNLS SIRIUS, Campinas, Brésil)

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Amphithéâtre SOLEIL

Fourth-generation synchrotron storage rings revolutionize synchrotron technology with ultra-bright, precisely focused X-ray beams. However, their compact magnetic lattices have limited access to lower-energy radiation like infrared (IR) and THz. This talk brings an overview of the installation phases and operation of the first operational IR beamline in a fourth-generation storage ring. The presentation includes an in-depth analysis of the IR source at Sirius, a detailed description of the radiation extraction method, and validation of the optical framework of the new IMBUA station through measurements and simulations. This optimized setup enables broadband IR nanospectroscopy, demonstrated on biological and hard matter samples. We highlight the unprecedented stability and advantages of fourth-generation synchrotron IR sources. Finally, it will be presented the plans for expanding the IR program towards THz analyzes.



Pause café

SEMINAIRE

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).

SYNCHROTRON SOLEIL

Route départementale 128 - 91190 SAINT AUBIN

<https://www.synchrotron-soleil.fr/fr/evenements>

CONTACT : sandrine.vasseur@synchrotron-soleil.fr