

Soutenance de Thèse SOLEIL
Spécialité : Cellular and Molecular Biophysics

Simulation and design of an infrared beamline for SESAME : applications in microspectroscopy and imaging

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The main objective of this thesis is to provide the Middle East synchrotron facility SESAME with its first completely new designed beamline, dedicated to spectroscopy and microspectroscopy. Accounting for the construction details and space constraint of the storage ring in construction, the beamline has been designed to produce beams into the experimental floor, with minimum of aberrations. The optimized optical set up, the details of the mirrors mounting, and the location of all instruments in the ground floor have been designed with the assistance of software such as SRW, Rays and Solid Works.

Infrared microspectroscopy is the main objective of the initial operation of the beamline. Important validation steps for a synchrotron infrared beamline have been undertaken at SOLEIL, in the recent operational infrared beamline SMIS. The details of the tests and calibrations, reported in this thesis, are the essential basis for making the future beamline conditioned and operational at the top most international ones.

Several studies have been carried out along this thesis, to promote various scientific disciplines, with the perspective to develop further these disciplines in SESAME: Biology and Biomedicine, Environmental science, High Pressure Chemistry.

Keywords: Infrared Synchrotron, Beamline, Spectroscopy, Microspectroscopy, Storage-ring, SRW, Rays and Solid Works.



Vous êtes cordialement invités au pot qui suivra



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

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