# Inelastic x-ray scattering activities at PETRA III


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SEMINAIRE

**Mardi 7 novembre 2017 – 11h00**

**Amphithéâtre SOLEIL**


As one of the two major experimental programs of the Dynamics Beamline, P01 of PETRA III, inelastic x-ray scattering (IXS) end-stations have been open to general users since 2015. Of the many flavors of IXS, the beamline focuses on core-level non-resonant inelastic x-ray scattering (NIXS) and resonant inelastic x-ray scattering (RIXS) techniques.

NIXS, also known as x-ray Raman scattering (XRS), is used to probe the ground state symmetries of strongly correlated materials that are hard to reach with dipole-limited processes. Thanks to the large momentum transfer attainable with hard x-rays, NIXS is susceptible to excitations beyond the dipole transition. As a photon-in photon-out technique utilizing hard x-rays, NIXS finds an additional avenue of unique opportunities to probe shallow absorption edges of materials in sample environments that inhibit conventional x-ray absorption methods.

Alternatively, RIXS is a very versatile technique to investigate elementary excitations in correlated systems. Recent advances in resolution and throughput extended the scope of RIXS to low-lying excitations like magnons and phonons. While RIXS has been limited to 5d (hard x-ray) and 3d (soft x-ray) materials, the recent upgrade of P01 allows access to L edges of 4d materials that are in the tender x-ray energies.


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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