



SEMINAIRE ISMO

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Chiral and achiral non-linear vibrational spectroscopy with polarization control

Linear and circular dichroism measurements offer a direct link between spectroscopic observables and molecular structure via the orientation of transition dipole moments. This is particularly useful for vibrational transitions, which are often localized and can be predicted with high accuracy by quantum chemistry calculations.

Polarization-sensitive transient and two-dimensional infrared (2D-IR) spectroscopy can thus correlate dipole orientations on ultrafast timescales, which can be used, for example, to gain insight into the solvation dynamics of molecular ions.

Experimentally more challenging is the measurement of chiral signals (vibrational circular dichroism, VCD) with mid-IR femtosecond laser pulses. It requires a careful and very precise control of laser polarization in combination with fast phase modulation. This can, in turn, also be exploited to set up very simple but versatile 2D-IR experiments which make efficient use of linear dichroism amplification for the determination of intramolecular angles, background and artifact suppression and Liouville-pathway selection. The seminar will provide an overview over our recent developments and applications in this field.

Vendredi 5 juillet 2013 à 9h30
Bât. 210 – Amphi II (2^{ème} étage)
Université Paris-Sud - 91405 ORSAY Cedex

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Jour et heure
inhabituels**