



Comprendre le monde,
construire l'avenir



SEMINAIRE ISMO

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Ultra-Sensitivity, Ultra-high Precision : Pushing the Frontier of Spectroscopy and Metrology.

Contemporary spectroscopy of gas targets several objectives, such as the fine description of the molecular Hamiltonians, and the trace detection of diverse species. In simple molecules such as molecular hydrogen, the transitions between energy levels can be probed to test the Standard Model of the Physics (i.e., the Quantum ElectroDynamics), and beyond. For example, the proton-to-electron mass ratio can be challenged. On the other side, the detection of trace of molecules is of crucial importance for understanding the chemistry of the atmosphere, and the combustion processes. To simultaneously reach both objectives, up-to-date techniques based on optical cavities associated with Optical Frequency Combs have been developed in the Near-Infrared.

We will illustrate the capability of the Noise-Immune Cavity-Enhanced Optical Heterodyne Molecular Spectroscopy (NICE-OHMS), from both theoretical and experimental approaches. Very recent results on a few molecular species will be tentatively discussed for questioning the ultimate resolution and sensitivity which can be targeted.

Attention :
horaire
inhabituel

Mardi 12 décembre 2017 à 15 h
Amphithéâtre du bât 520 (3^{ème} étage)
Université Paris-Sud - 91405 ORSAY Cedex

Le séminaire sera donné en français.