



SEMINAIRE ISMO

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Nanometrology with mechanical and optical probes

Mechanical and optical probes have been at the heart of many novel measurement technologies and modalities with applications in high sensitivity sensing and high resolution imaging.

The system under study can range from single molecules and nanoparticles to more complex synthetic and naturally occurring biological systems such as living human and plant cells. Whereas in the case of mechanical probes such as the microcantilever probe of an atomic force microscope, several degrees of freedom and probe tip geometry allow signal generation, in the case of optical probes additional electronic and optical modes can contribute to the signal generation. The probes often taking the form of micro- or nano-structures and particles possess physical properties that are promising for future devices of importance in a host of industrial and scientific applications.

Beginning by some basic excitation of these probes, here we will discuss how the mechanical and optical response of these probes can lead to new concepts for trapping molecules, generation of new opportunities in plasmon assisted light-by-light modulation, optical characterization at the nanoscale, and energy harvesting, and subsurface microscopy and spectroscopy.

Mardi 12 Juillet 2016 à 11h

Bât. 210 – Amphi 1 (2^{ème} étage)

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