SEMINAIRE ISMO

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"Fluorescence Spectroscopy of Organic Molecules on Surfaces: From Superradiance to Single Molecules"

Adsorption of large π-conjugated organic molecules on well-defined surfaces has become a topic of growing interest during last years under both fundamental and applied aspects, e.g., optoelectronic applications of molecular films. Although fluorescence (FL) spectroscopy of π-conjugated organic molecules is well-established for thin molecular films, for isolated or aggregated molecules on surfaces with coverages in the monolayer regime, this technique is not very common so far. However, as we demonstrate, there are at least two interesting aspects concerning the combination of surface science experiments with fluorescence spectroscopy.

The first is related to the high signal-to-noise ratio and the very high spectral resolution of FL spectroscopy which allows performing experiments for ultimate low concentrations of molecules on surfaces down to the 10^{-5} monolayer range. The second aspect concerns the self-organization of molecules on surfaces.

This enables one to prepare well-defined two-dimensional ordered molecular aggregates for which the intermolecular resonance interaction leads to interesting optical phenomena.

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Bât. 351 – 2ème étage (Bibliothèque)

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