



SEMINAIRE ISMO

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Theoretical studies of the laser control of polyatomic molecules

The laser control of simple atomic and molecular systems is nowadays a well established research field. Efficient and selective control of population inversion processes, as well as alignment and/or orientation of rigid molecules and the design of pulse sequences to increase the sensitivity of spectroscopic measurements are now possible.

In contrast, the laser control of the internal degrees of freedom of polyatomic molecules remains a challenge, because it requires a thorough understanding of the dynamics of the studied systems. I used the Multi-Configuration Time-Dependent Hartree (MCTDH) method to study two molecular control problems: (i) the control of the inversion motion of NHD_2 in its fundamental electronic state and (ii) the control of the non-radiative decay of pyrazine after excitation to the $B_{2u}(\pi\pi^*)$ state.

I will present the results obtained on these two systems and discuss the limitations of our approach and some perspectives.

**Le séminaire
sera donné
en Anglais**

Mardi 28 février 2017 à 11h
Bât. 351 – 2^{ème} étage (Bibliothèque)
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