



SEMINAIRE ISMO

Marcello CIAPPINA

ICFO (Institut de Ciències Fotòniques), Barcelona, Spain

“Monte Carlo Event Generators in atomic physics: a new tool to tackle the few-body dynamics”

Monte Carlo event generators (MCEG) have proven to be a very powerful tool to analyze the fragmentation dynamics driven by ions, and recently, electrons. To this end, single ionization (SI) by ions and double ionization (DI) by ions and electrons have been extensively explored. One of the main goals of studies of DI by ion and electron impact is to disentangle the different mechanisms that can lead to this process. Using the MCEG technique, in conjunction with a large set of theoretical models, we have achieved significant progress on this direction.

In this talk we present a summary of the progress that has been accomplished already on the reaction dynamics in collisions involving charged-particle impact. Furthermore, we outline how MCEG are able to open new avenues in advancing our understanding of the few body dynamics and we give brief details about the numerical implementation using high performance computing facilities. Additionally we show new results of the MCEG applied to single ionization of H atoms by laser pulses.

* * * * *

Mardi 17 janvier 2012 à 11 h 00
Bât. 210 - Amphi 1 (2^{ème} étage)
Université Paris-Sud 91405 ORSAY Cedex