CEA – Saclay, 91191 Gif-sur-Yvette Cedex

Service de Physique de l'Etat Condensé - UMR 3680

SÉMINAIRE

Mercredi 14 novembre 2018 à 11h15

Orme des Merisiers SPEC, Salle Itzykson, Bât.774

Raphael VOITURIEZ

Laboratoire de Physique Théorique de la Matière Condensée,
Université Pierre et Marie Curie, Paris

First-passage statistics of Markovian and non Markovian random walks

The first-passage time is a key quantity for evaluating the kinetics of various processes, and in particular chemical reactions involving "small" numbers of particles. A striking example is given by gene transcription, where specific proteins search for target sequences on DNA.

I will present asymptotic results which enable the determination of first-passage time statistics to a target site for a wide range of random processes in confined domains. I will show how these results can be extended to non Markovian processes, including ageing processes, which are often needed to model transport in complex environments.

A coffee break will be served at 11h00. The seminar will be given in English.

Contact : cristian.urbina@cea.fr/cesare.nardini@cea.fr - Tel : +33 1 69 08 74 44/70 72
http://iramis.cea.fr/spec