FIM Minicourse

Laure Saint-Raymond (ENS, Paris)

Propagation of chaos and irreversibility for systems of particles in the low density limit

December 5 - 20, 2013

Thursday, Dec. 05, 15:15 - 17:00	HG G 19.2
Friday, Dec. 06, 10:15 - 12:00	HG G 43
Thursday, Dec. 19, 15:15 - 17:00	HG G 19.2
Friday, Dec. 20, 10:15 - 12:00	HG G 43

ETH Zürich, Rämistrasse 101

Abstract

The goal of this series of lectures is to show how the Boltzmann equation can be derived rigorously from a deterministic system of interacting particles in the limit where the number of particles N tends to infinity, and their diameter simultaneously converges to O. We will discuss especially the origin of irreversibility, which is a fundamental feature of the Boltzmann equation having no counterpart at the microscopic level.

Lecture 1 : the BBGKY hierarchy and its formal low density limit
Lecture 2 : Control of recollisions
Lecture 3 : Control of large collision trees (1)
Lecture 4 : Control of large collision trees (2)

(for more details see the website)

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