Joseph Fels Ritt Lectures

Spring 2019

Professor Laure Saint Raymond (École Normale Supérieure de Lyon)

Disorder Increases Almost Surely

Consider a system of small hard spheres, which are initially (almost) independent and identically distributed. Then, in the low density limit, their empirical measure

$$\frac{1}{N}\sum_{i=1}^{N}\delta_{x_i(t),v_i(t)}$$

converges almost surely to a non reversible dynamics. Where is the missing information to go backwards?

⟶ **Wednesday, May 8 , 2019** Room 417 from 4:30 - 5:30pm

The Structure of Correlations

Although the distribution of hard spheres remains essentially chaotic in this regime, collisions give birth to small correlations. The structure of these dynamical correlations is amazing, going through all scales. How can combinatorial techniques help analyze this departure from chaos?

⟶ **Thursday, May 9, 2019** Room 417 from 4:30 - 5:30pm