

SG Seminar

Opinion Spreading and Neighbourhood Models

Dr. Claudio J. Tessone

Institut Mediterrani d'Estudis Avançats (IMEDEA, CSIC-UIB),
Palma de Mallorca, Spain

Abstract

Social systems are composed by a finite number of constituents. This happens to be a crucial difference to what is usually studied in Statistical Physics, namely: the infinite size (thermodynamic) limit. In this presentation, we will first show some non-trivial effects of system size in models inspired on social sciences. As an example, we will demonstrate the existence of a phenomenon called "system size stochastic resonance", by which an advertising agent is optimally followed when acting over a population of the right (intermediate) size.

Later, we will introduce the "Neighbourhood Models" that interpolate between nearest-neighbour and all-to-all interactions. Further, this interaction makes possible to study the spatial effects on the system. We will present, then, the results that appear in the Galam's model for minority opinion spreading under this approach. The basic ingredient in this model is the existence of a bias in the society such that one of the opinions is a favoured one. We show that for large systems, an initially minority opinion always becomes majority, making non-trivial the dependence on system-size. Further, we show the existence of a minimum domain size such that the initial minority can take over the whole system.

When? Wednesday, September 6, 2006, 10.30-12.30

Where? ETH KPL F 39, Kreuzplatz 5, 1st floor