

Stefano Galatolo (Dipartimento di Matematica di Pisa)

Title: Rigorous computation of invariant measures and Lyapunov exponents

Abstract:

We will consider the problem of computation of invariant measures and other aspects related to the statistical behavior of the dynamics up to certified errors.

In this way the output of a computation represent some rigorous quantitative estimation on the behavior of the dynamics under study, going towards more reliable tools for the simulation of dynamical models.

We will show some general approach which can be applied in several cases of systems having some hyperbolic behavior, including maps with indifferent fixed points.

Time permitting we will also consider a class piecewise hyperbolic maps related to the Lorenz attractor.