



UC3M-ICMAT Seminar – 2014

Applied Probability and Statistics

Numerical integrators for the hybrid Monte Carlo method

Jesús M. Sanz-Serna (Valladolid, Spain)

Thursday, February 20, 2014

15h00, ICMAT, Aula Gris I

In an effort to avoid random-walk behaviour, many Markov Chain Monte Carlo methods use proposals based on dynamics related to the target distribution. The Hybrid Monte Carlo (HMC) is based on Hamiltonian dynamics and offers the potential advantage of allowing global moves while retaining high probability acceptance. After reviewing the HMC method, I shall study strategies for the construction of numerical integrators tailored to these simulations. Joint work with F. Casas (Jaume I) and S. Blanes (Politecnica Valencia).

Instituto de Ciencias Matemáticas
Campus de Cantoblanco UAM
C/ Nicolás Cabrera 13-15
28049 Madrid, Spain
www.icmat.es