COLÓQUIO

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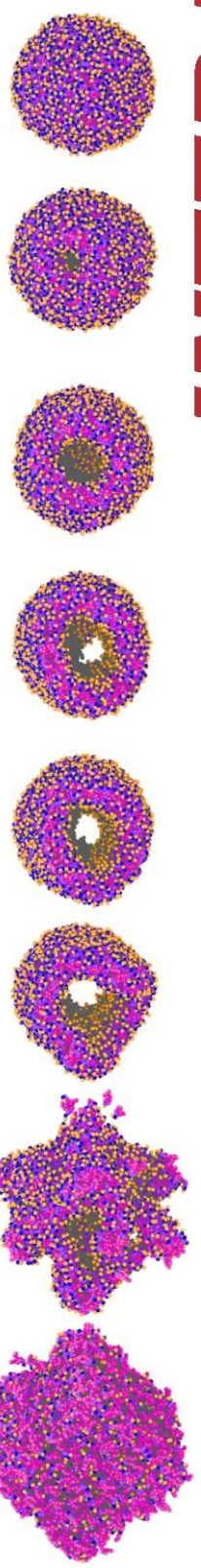
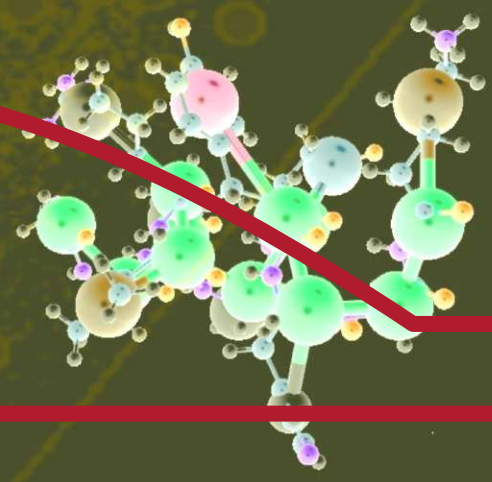


Modelos Estocásticos e Aplicações

Terça-feira - 24 de novembro de 2009



Programa:

14:30h - 16:00h

Palestrante: **Marzio Cassandro / Dipartimento di Fisica, Università di Roma "La Sapienza"**

"Coarse graining in Statistical Mechanics and Kac models"

The coarse graining technique is a mathematical device to describe the actual procedure to perform a measure in a physical system with a very large number of degrees of freedom. We discuss its relevance in Equilibrium Statistical Mechanics and illustrate the application to a class of systems with long range interactions: the Kac models.

16:10h - 17:40h

Palestrante: **Helio S. Migon / IM/COPPE–UFRJ**

"Objective Bayesian Analysis for Heteroscedastic Regression"

The normality assumption is very common in many statistical problems, but in some cases unattainable for natural phenomena due to the distribution of the data shows a leptokurtic or a platykurtic shape and is not robust to outliers. In order to accommodate this characteristic we propose the use of t-Student, which reduces the influence of outliers. Another choice is the exponential power (EP) distribution that can provide both heavier (leptokurtic) and lighter tails (platykurtic) than normal density.

Objective Bayesian analysis for linear heteroscedastic regression models is developed. We derive explicit expressions for Jeffreys priors for the model parameters and show that some of these priors lead to proper posterior distributions. Moreover, we show that our proposed Bayesian analysis compares favorably to frequentist analysis previously proposed in the literature. Finally, we illustrate our methodology with applications of the Student-t and exponential power regression models to different datasets.

Após as palestras teremos um encontro para discussão e um lanche.

Local

IMPA - Auditório 1

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