



Mês de: Fevereiro 2008

SEMINÁRIOS DE ANÁLISE

Dia 15 de Fevereiro (sexta-feira), às 11h30, na Sala B3-01

Hyperbolic conservation laws on manifolds

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Abstract:

The theory of discontinuous solutions to nonlinear hyperbolic conservation laws in several space dimensions has been so far restricted to the (flat) Euclidian space. In this lecture, motivated by applications to geophysical fluid flows, I will present some foundations for a study of entropy solutions to hyperbolic equations posed on a (curved) manifold equipped with a Riemannian or Lorentzian metric. The aim of this research is to clarify the interplay between the manifold's geometry and the behavior of discontinuous solutions to partial differential equations. I will discuss the derivation of the L1 contraction and total variation diminishing properties, which play a central role in the theory and the numerical analysis of nonlinear hyperbolic problems.

Parcialmente suportado pela FCT ao abrigo do Programa POCI

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