Departamento de Computação e Matemática - DCM/FFCLRP

Seminários em Matemática do DCM

Semi-linear wave models with power non-linearity and scale-invariant time-dependent mass and dissipation

Wanderley Nunes do Nascimento - UFSCar

Abstract: In this talk we will study in low space dimensions $n = 1, 2, 3, 4$ the global existence (in time) of small data energy solutions and blow-up behavior of classical or energy solutions to the following semi-linear Cauchy problem with scale-invariant mass and dissipation:

(1)

$$u_{tt} - \Delta u + \frac{\mu_1}{1+t}u_t + \frac{\mu_2^2}{(1+t)^2}u = |u|^p, \ \ u(0,x) = u_0(x), \ \ u_t(0,x) = u_1(x),$$

with $(t,x) \in [0,\infty) \times \mathbb{R}^n$, $p > 1$ and $\mu_1 > 0, \mu_2$ are real constants. Our goal is to understand the interplay between μ_1 and μ_2 to prove global existence (in time) of small data energy solutions or blow-up of classical or energy solutions.

Data: 17/02/2016

Local: Sala 502 DCM

Horário: 16:00 h