

**Mês de:                    ABRIL 2014**

**SEMINÁRIO DE ANÁLISE E EQUAÇÕES  
DIFERENCIAIS**

**Dia 10 de Abril (quinta-feira), às 13:30h, na Sala B3-01**

The motion of the rigid body in a viscous fluid with collisions

**N. V. Chemetov**  
(CMAF/University of Lisbon)

**Abstract:**

We consider the problem of motion of a rigid body in an incompressible viscous fluid, filling a bounded domain. It is known that the classical non-slip boundary conditions yield the *paradoxical* conclusion of *impossibility* of collision of the body with the boundary of the domain.

We study the case when instead of the non-slip conditions the Navier slip conditions are posed on the boundary. For this model the global existence of a weak solution is proved, which permits collisions with the boundary of the domain.

This result is a join work with S. Nečasova (Institute of Mathematics, Prague, Czech Republic).

Apoio:



**PEst-OE/MAT/UI0209/2013**

Local:

**INSTITUTO PARA A INVESTIGAÇÃO INTERDISCIPLINAR**  
Av. Prof. Gama Pinto, 2  
1649-003 Lisboa

