SEMINÁRIO DE EQUAÇÕES DIFERENCIAIS

On the well-posedness and large time behavior for Boussinesq equations in Morrey spaces

MARCELO FERNANDES DE ALMEIDA

IMECC - Universidade Estadual de Campinas

22/11/2012 (Quinta-Feira)

15:00 horas

Sala 253 do IMECC

Resumo: In this paper we concern with Boussinesq equations which model heat transport by natural convection inside a viscous incompressible fluid in $\mathbb{R}^n$. We prove the well-posedness of mild solutions and existence of self-similar ones in the framework of Morrey spaces. Our results allow to consider singular and unbounded gravitational field. We also study the long-time behavior of solutions and obtain existence of a basin of attraction for each self-similar solution.

References

[1] Cannon, J. R., DiBenedetto, E., *The initial value problem for the Boussinesq equations with data in L^p*, Approximation methods for Navier-Stokes problems, Lecture Notes in Math. 771 (1980), 129–144.

[2] Karch, G., Prioux, N., Self-similarity in viscous Boussinesq equations. *Proc. Amer. Math. Soc.* 136 (2008), 879-888.

[3] Ferreira, L.C.F., Villamizar-Roa, On the stability problem for the Boussinesq equations in weak-L^p spaces, *Commun. Pure Appl. Anal.* 9 (2010), 667 - 684.