Recent Progress Regarding the Navier-Stokes, Euler and Related Geophysical Equations

Resumo: The question of global regularity for the three-dimensional Navier-Stokes equations has been identified by the Clay Mathematics Institute as one of the seven most challenging mathematical problems of the Millennium; and it has allocated one million dollars prize for settling it. In this talk I will discuss the question of global regularity of the three-dimensional Navier-Stokes equations and other related equations in fluid dynamics. I will emphasize the mathematical as well as the physical and computational difficulties in achieving such global regularity result. Moreover, I will discuss the effect of rotation on ``regularizing" three-dimensional flows.

Seminar Link: http://www.im.ufrj.br/~marianty/sextas.htm