Mathematics, Statistics, and Computer Science **@ UIC**

Analysis and Applied Mathematics Seminar

The 2D Boussinesq equations with fractional dissipation

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Abstract: The Boussinesq equations concerned here model geophysical flows such as atmospheric fronts and ocean circulations. In addition, they play an important role in the study of Rayleigh-Benard convection. Mathematically the 2D Boussinesq equations serve as a lower-dimensional model of the 3D hydrodynamics equations. The global regularity problem on the 2D Boussinesq equations with partial or fractional dissipation has attracted considerable attention in the last few years. This talk presents some recent work on the 2D Boussinesq equations with general critical dissipation as well as the global regularity result on the 2D Boussinesq equations with vertical dissipation. If time permits, we will also briefly discuss the regularity problem on the partially dissipated Boussinesq equations in a bounded domain.

Monday, August 29 at 4:00 PM in SEO 636