1158-35-29 **Igor Kukavica** and **Weinan Wang*** (`wangwein@usc.edu`). *Persistence of regularity and long time behavior of solutions for the Boussinesq equations.*

We address the global persistence of Sobolev regularity for the $2D$ fractional Boussinesq equations and then we consider the long time behavior of solutions for the $2D$ Boussinesq equations in different domains, including $\mathbb{R}^2$, $\mathbb{T}^2$, bounded domain with Lions or Dirichlet boundary conditions. (Received February 08, 2020)