1051-35-158   **Susan Friedlander*** (`susanfri@usc.edu`), Math Dept, 3620 S Vermont, USC, Los Angeles, CA 90089, and **Vlad Vicol** (`vicol@usc.edu`), USC, LA, CA 90089. *Nonlinear instability and the SQG equation.*

We describe a boot-strap method which proves under certain conditions that linear instability implies nonlinear instability. This method has been used for the two dimensional Euler equations and the n-dimensional Navier-Stokes equations. Recently is has been applied to the critically dissipative surface quasi-geostrophic equation. We recall the approximations made in obtaining this equation for the full fluid equations in a rapidly rotating frame of reference. Further details will be given in the talk of Vlad Vicol. Aspects of the work are joint with Pavlovic, Shvydkoy, Vicol and Vishik. (Received August 23, 2009)

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