

1040-76-183

Clayton M Bjorland* (cbjorland@math.ucsc.edu), Mathematics Department, University of California, Santa Cruz, 194 Baskin Engineering, Santa Cruz, CA 95064. *Construction of Steady-State Solutions with Finite Energy for the Navier-Stokes equation in the Whole Space.*

In this talk we consider the steady-state Navier-Stokes equation in the whole space \mathbb{R}^3 driven by a forcing function f . We will describe, with f sufficiently small and absent of low frequencies, how to construct solutions with finite energy by considering a related linear parabolic equation whose solution can be integrated in time. (Received February 12, 2008)