

1104-35-205

Michele Coti Zelati* (micotize@umd.edu) and **Ciprian Gal** (cgal@fiu.edu). *Stability results and fractal dimension estimates for three-dimensional fluid flows.*

We compare the longtime dynamics of the three-dimensional Navier-Stokes-Voigt (NSV) model with that of the Navier-Stokes equations (NSE). As a certain regularization parameter vanishes, we prove a stability result for the weak attractor of the NSE and obtain necessary and sufficient conditions for such attractor to be strong. Moreover, we deduce an estimate on the fractal dimension of the NSV-attractors, uniform with respect to the regularization parameter, which therefore gives some insights on the finite-dimensional behavior of the NSE. (Received September 01, 2014)