1053-76-232   **Iuliana Stanculescu*** (`is162@nova.edu`). *Leray-Tikhonov Deconvolution Models of Fluid Motion.*

We study a new family of turbulence models, Leray-Tikhonov Deconvolution Models of fluid motion. This new family of models is based on a modification (consistent with the large scales) of Tikhonov-Lavrentiev regularization.

We introduce the modified Tikhonov deconvolution operator and study its mathematical properties.We also perform rigorous numerical analysis of a computational attractive algorithm for the considered family of models. Numerical experiments that support our theoretical results are presented. (Received September 05, 2009)