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Nathaniel Mays*, 301 Thackeray Hall, University of Pittsburgh, Pittsburgh, PA 15260, and
Ross Ingram, Iuliana Stanculescu and **Carolina Manica**. *Approximations to the Navier-Stokes equation using a Leray-Iterated-Tikhonov model with Time Relaxation*. Preliminary report.

The Navier-Stokes equations (NSE) constitute a well-accepted continuum model for incompressible, viscous, Newtonian fluids with a wide range of applications in climate modeling, energy sciences, and bio-engineering. Regularization methods are an enticing approach of approximating the NSE solutions due to their simple and efficient implementation. In this talk, we will look at a particular method, the Iterated-Tikhonov deconvolution model to the Leray approximation model of the NSE. We will show convergence of the method, and a numerical experiment supporting the theoretical results. (Received September 22, 2010)