

1145-35-214

**Zachary Bradshaw\*** (zb002@uark.edu) and **Tai-Peng Tsai**. *Properties of infinite energy solutions to the Navier-Stokes equations.*

Leray's classical theory of weak solutions for the Navier-Stokes equations is formulated for finite energy initial data. The ensuing solutions preserve energy and satisfy useful a priori bounds. In many mathematical settings, the initial data does not have finite energy and so the global energy methods of Leray's weak solution fail. This led Lemarie-Rieusset to introduce the class of local Leray solutions, which satisfy local analogues of the useful properties of Leray's solutions. These solutions and their associated a priori bounds have proved useful in a number modern applications. However, less is known about local Leray solutions in comparison to Leray's solutions. This talk focuses on results that begin to address this deficit. (Received August 20, 2018)