

Localized Quantitative Blow-up Rates for the Navier-Stokes Equations

Tobias Barker

University of Bath
TB2130@BATH.AC.UK

Abstract

Since Escauriaza, Seregin and Šverák's seminal work, the last 10-15 years have seen several works aimed at understanding the behaviour of scale-invariant norms near a potential blow-up/finite maximal time of existence for a variety of PDE. Most of these results and proofs are qualitative and provide no quantitative information. In a very interesting recent work, Terence Tao provided the first quantitative blow-up rates for globally defined scale-invariant norms of the Navier-Stokes equations. In this talk, I will address what happens quantitatively in the local vicinity of any potential singularity. If time permits, I will also discuss some further perspectives. Part of this talk is joint work with Christophe Prange (CNRS, Cergy Paris Université).