Texas Tech University. Applied Mathematics Seminar.

# Conditional and partial regularity for the Navier-Stokes equations

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Wednesday, November 4, 2010

Room: MATH 014, Time: 4:00pm

ABSTRACT. We will present an overview of known regularity and qualitative results for the the Navier-Stokes equations in space dimensions two and three. In particular, we will discuss partial regularity of solutions based on the classical result of Caffarelli, Kohn, and Nirenberg. Their result states that the set of singularities of the 3D Navier-Stokes system is one dimensional. We will recall different approaches to this problem and discuss a recent short proof which reduces the assumption on the force term.