

# Navier-Stokes and Euler equations: a unified approach to the regularity problem

Talk

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(joint work with R. Shvydkoy)

The problems of blow-up for Navier-Stokes and Euler equations have been extensively studied for decades using different techniques. Motivated by Kolmogorov's theory of turbulence, we present a new unified approach to the blow-up problem for the equations of incompressible fluid motion. In particular, we present a new regularity criterion which is weaker than the Beale-Kato-Majda condition in the inviscid case, and weaker than every Ladyzhenskaya-Prodi-Serrin condition in the viscous case.

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