

ANALYSIS & PDEs

seminar

QUANTITATIVE REGULARITY FOR THE NAVIER-STOKES EQUATIONS VIA SPATIAL CONCENTRATION

SPEAKER: Christophe Prange (CNRS and Paris Cergy University)

DATE: Wednesday, 14 October 2020 - 15:00

PLACE: ONLINE - Instructions:
<https://sites.google.com/view/analysis-pde-seminar/>

ABSTRACT: In this talk I will focus on two related aspects of the regularity theory for the three-dimensional Navier-Stokes equations: quantitative regularity estimates on the one hand and concentration estimates for blow-up solutions on the other hand. This connection enables in particular a quantification of Seregin's 2012 regularity criterion in terms of the critical L^3 norm. A counterpart of this is that we are able to give lower bounds on the blow-up rate of certain critical norms near potential singularities in the wake of Tao's work in 2019. This talk is based on recent works in collaboration with Tobias Barker (University of Warwick).