

Seminar of the Work Group
Nonlinear Partial Differential Equations
WS 21/22

Speaker: Niklas Knobel
November 9th, 2021, 14:00 - 15:30
Seminar room: 3.068

Infinite energy solutions for dissipative active scalar equations

KIT

Abstract

Active scalars arise from more complicated equations as the Navier-Stokes equation or Euler equation in different physical regimes. Active scalar equations are often non-linear and in the most interesting examples, also non-local. First, I will give an Introduction to active scalar equations with fractional Laplacian and their relation to the Navier Stokes and Euler equations. Therefore, I will discuss how the example of the 2d Surface geostrophic equation and the CCF could give some insights for the Euler equation. Afterwards, I will show my results for infinite energy initial data in the critical case.