basque center for applied mathematics

Working Seminar
(APDE)

Thursday, January 14th, 12:00-13:00

Luigi De Rosa

EPFL

Hölder continuous turbulent weak solutions of the incompressible Euler equations

In this talk I will give a general overview on the available results for Hölder continuous wild weak solutions of the incompressible Euler equations. Starting from the celebrated Onsager's conjecture I will explain how some deep regularity of the kinetic energy can be derived even in the range in which it is not necessarily conserved. This is linked to a conjecture by Isett and Oh from 2016, which we recently proved to be true in a joint work with Riccardo Tione, and also to the construction of wild weak solutions of Euler that are smooth outside a set of singular times of quantifiable Hausdorff dimension. The latter is a forthcoming joint work with Silja Haffter in which we also state a conjecture on what the sharp Hausdorff dimension of the singular set of such turbulent solutions could be.

Link: https://zoom.us/j/91533421483?pwd=YyttaTNpV0E0QlRXNlZDazJEM2FJZz09

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