

Boğaziçi
MATH COLLOQUIUM

Convex integration above the Onsager exponent for the forced Euler equations

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Abstract:

In recent years, convex integration techniques have led to a number of striking results concerning non-uniqueness and anomalous dissipation for C^α solutions of the incompressible Euler equations, with the recent resolution of the Onsager conjecture, showing that energy conservation fails when $\alpha < 1/3$, playing a key role. In this talk, we give an overview of this area, and describe a new alternating convex integration framework for C^α solutions of the forced Euler equations, which leads to non-uniqueness results valid for all $\alpha < 1/2$, crossing above the Onsager threshold for the first time. This is joint work with Stan Palasek (UCLA) and Manh Khang Huynh (Georgia Institute of Technology).

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