Scaling in turbulent flows: Heuristics and rigorous results

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Abstract:

In this talk I will present some classical heuristics and related recent rigorous results for the Kolmogorov-Obukhov spectral scaling for fluid flows at high Reynolds number. In particular, I will describe the main ideas introduced in the recent work: "Universal bounds for the Littlewood-Paley first-order moments of the 3D NSE", joint with Felix Otto.