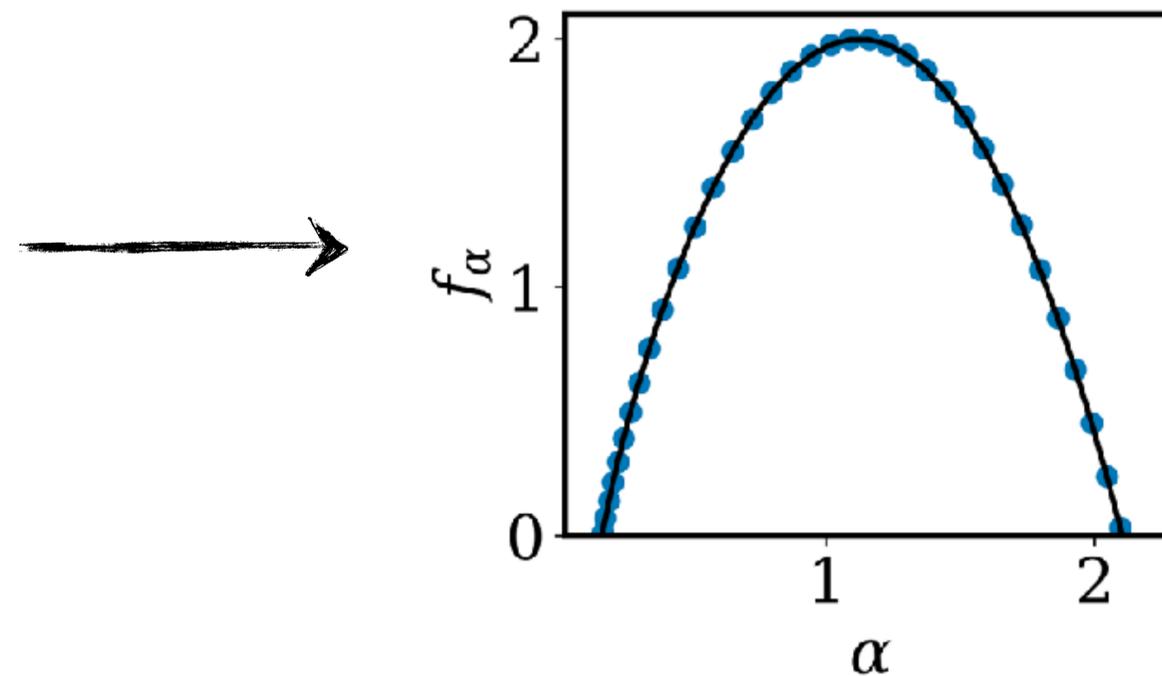


Locally varying multifractality underlies intermittent energy dissipation in turbulence

Siddhartha Mukherjee, *Laboratoire Jean Alexandre Dieudonné, Université Côte d'Azur, Nice*

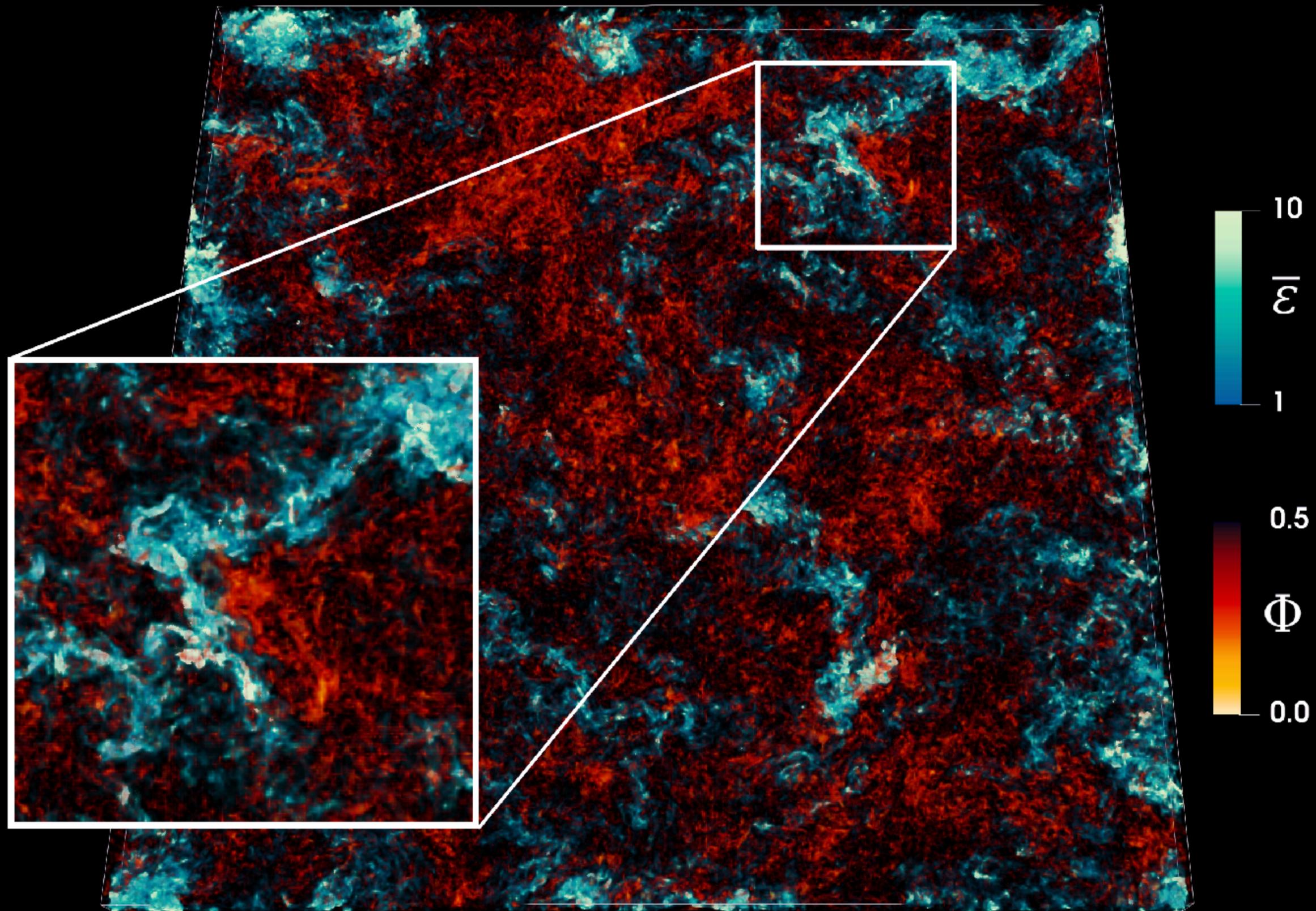
- Turbulence is *highly intermittent*, with sudden localised bursts of very large energy dissipation, which may become singular in a limit
- This property of dissipation has been best described as a condensation of the field onto *entangled fractal subsets* with *different singularity strengths*



But our tools are **incapable of characterising the local behaviour** within the flow, which **prevents identifying singular hotspots** - a long standing holy grail of turbulence.

Turbulent energy dissipation

(data from Johns Hopkins Turbulence Database)



This reveals there is a "Calm within the storm of turbulence"