Turbulent Asymptotics TOM LUNDREN, University of Minnesota, Winner of the DFD Fluid Dynamics Prize in 2006 — Kolmogorov's two insightful theories (1941) and (1962) were developed to predict the properties of turbulent flow at high Reynolds number. These physical hypotheses will be discussed and an attempt will be made to derive them from first principles by means of asymptotic analysis of the Navier Stokes equations. It will be shown that this is not completely possible without additional physical assumptions.

Abstract APS

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