数学与系统科学研究院

计算数学所网络学术报告

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报告题目：

Scaling properties of turbulent flow in compressible turbulence

邀请人：　于海军　研究员

报告时间：2021 年 12 月 9 日（周四）

晚上 19:00-20:00

报告工具：Zoom 会议

https://us02web.zoom.us/j/88996187793

Abstract:

Much research has been devoted to the study of scaling properties of incompressible turbulent flow in the inertial range where kinetic energy is transferred without losses from larger to smaller scales. It is known that scaling exponents depend non-trivially on the order of statistical moment of velocity difference. These exponents are believed to be a universal property of all fluids independent of the forces driving the flow and material properties such as viscosity. Much less is known for compressible turbulence despite that it might play a key role in such applications as star formation in dense molecular clouds. In this talk, we will review what is known about the scaling exponents of the compressible turbulence as a function of the Mach number that determines how pronounced compressibility effects are. We will consider the limits of small and large Mach numbers, where some information is available and how interpolation between these limits works. We will address the issue of universality.

欢迎大家参加！