中国科学院数学与系统科学研究院

偏微分方程及其应用中心

学术报告

报告题目： **Sharp decay characterization for the compressible Navier-Stokes equations**

报 告 人： 徐江教授，南京航空航天大学

时　　间： 2024.12.24(周二)，下午 14:00--15:00

地　　点： 腾讯会议：860-362-928

摘　　要： The low-frequency assumption has been extensively applied to the large-time asymptotics of solutions to the compressible Navier-Stokes equations and incompressible Navier-Stokes equations since from those classical efforts. In this talk, we will give a sharp decay characterization for the compressible Navier-Stokes equations in the critical framework. Precisely, the Besov boundedness of the low-frequency part of initial perturbation is not only sufficient but also necessary to achieve those upper bounds of time-decay estimates. Furthermore, it is shown that upper and lower bounds of time-decay estimates both hold if and only if the low-frequency part of the initial perturbation belongs to a nontrivial subset of some Besov space. This is a joint work with Brandolese, Shou and Zhang.