

数学与系统科学研究院

计算数学所学术报告

报告人: 毛志平 教授

(厦门大学)

报告题目:

**Solving high-speed flows using
PINNs and DeepMMnets**

邀请人: 徐劼 副研究员

报告时间: 2021 年 7 月 8 日 (周四)

下午 14:00-15:00

报告地点: 科技综合楼

311 教室

Abstract:

Recently, neural network-based deep learning methods, which are different from the classical numerical methods, have attracted lots of attention not only in the traditional artificial intelligence community but also the scientific computing community. In this talk, I will introduce my work using physics-informed neural networks (PINNs) and deep multi-scale multi-physics nets (DeepMMnet) for high-speed flows. In particular, I shall solve the inverse problems of the shock wave problems in supersonic flow by using PINNs based on the information of density gradient and limited data of pressure and inflow conditions instead of using boundary conditions. Then I will introduce the inference of the flow past a normal shock in hypersonic flow by using the DeepMMnets with the help of DeepOnets.

欢迎大家参加！