

特邀美国德克萨斯大学格兰德河谷分校刘炳远助理教授来我校 作学术报告

报告题目: The Diederich–Fornæss index and the $\bar{\partial}$ -Neumann problem

报告时间: 2023 年 12 月 26 日 (周二) 下午 15:40—16:40

报 告 人: 刘炳远 助理教授

主 持 人: 刘文军 教授

报告地点: 藕舫楼 724 室

报告摘要:

A domain $\Omega \subset \mathbb{C}^n$ is said to be pseudoconvex if $-\log(-\delta(z))$ is plurisubharmonic in Ω , where δ is a signed distance function of Ω . The study of global regularity of $\bar{\partial}$ -Neumann problem on bounded pseudoconvex domains is dated back to the 1960s. However, a complete understanding of the regularity is still absent. On the other hand, the Diederich–Fornæss index was introduced in 1977 originally for seeking bounded plurisubharmonic functions. Through decades, enormous evidence has indicated a relationship between global regularity of the $\bar{\partial}$ -Neumann problem and the Diederich–Fornæss index. Indeed, it has been a long-lasting open question whether the trivial Diederich–Fornæss index implies global regularity. In this talk, we will introduce the backgrounds and motivations. The main theorem of the talk proved recently by Emil Straube and me answers this open question for $(0, n-1)$ forms.

欢迎广大师生踊跃参加!

数学与统计学院

江苏省应用数学 (南京信息工程大学) 中心

江苏省系统建模与数据分析国际合作联合实验室

2023 年 12 月 18 日

附: 专家简介

刘炳远, 华盛顿大学博士, 德克萨斯大学格兰德河谷分校助理教授。曾在加州大学河滨分校和阿肯色大学任教。在 *Advances in Mathematics*, *Communications in Partial Differential Equations*, *Indiana University Mathematics Journal* 等国际知名杂志发表学术论文 10 余篇。