西北大学 NORTHWEST UNIVERSITY

非线性科学研究中心综合报告会

Solutions of the Minimal Surface Equation and of the Monge-Ampere Equation near Infinity

报告人：韩青 教授（圣母大学数学系; Department of Mathematics, University of Notre Dame）

报告时间：2021 年 12 月 21 日（星期二）8:30--10:30

报告形式：线下 + 线上

线下：数学学院 东学楼 凌岭报告厅

线上：腾讯会议 会议号 960 955 892

报告摘要：

Classical results assert that, under appropriate assumptions, solutions near infinity are asymptotic to linear functions for the minimal surface equation (due to Bers and Schoen) and to quadratic polynomials for the Monge-Ampere equation (due to Caffarelli-Li) for dimension n at least 3, with an extra logarithmic term for n=2. We characterize remainders in the asymptotic expansions by a single function, which is given by a solution of some elliptic equation near the origin via the Kelvin transform. Such a function is smooth in the entire neighborhood of the origin for the minimal surface equation in every dimension and for the Monge-Ampere equation in even dimension, but only C^{n-1,\alpha} for the Monge-Ampere equation in odd dimension, for any \alpha in (0,1).

报告人简介：

韩青，美国圣母大学数学系终身教授。美国纽约大学库朗数学研究所博士，美国芝加哥大学博士后，曾在德国莱比锡马普所和美国纽约大学库朗数学研究所进行科研工作。获美国 Sloan Research Fellowship。韩青教授长期致力于非线性偏微分方程和几何分析的研究，在等距嵌入、Monge-Ampere 方程、调和函数的零点集和奇异集、退化方程等方面做出了一系列原创性的重要研究成果。

欢迎各位老师和同学参加！

西北大学 数学学院
非线性科学研究中心
2021 年 12 月 5 日