2022 西安电子科技大学
非线性分析、微分方程与动力系统系列报告

4 月 21 日（上午） 9:00-12:00　　腾讯会议号：635 818 213

时间	报告人	Title
9:00-10:00	盛伟杰	Entire solutions of time periodic bistable Lotka–Volterra competition-diffusion systems in R^N
10:00-11:00	刘　爽	The level sets of principal eigenvalue for a time-periodic parabolic operators
11:00-12:00	王春程	Diffusive population models with memory effect

邀请人：吴事良

主办单位：西安电子科技大学数学与统计学院

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报告信息

(以姓氏拼音为序)

The level sets of principal eigenvalue for a time-periodic parabolic operators

刘爽 北京理工大学

摘要： In this talk, we shall discuss the effect of diffusion and frequency on the principal eigenvalue of a linear time-periodic parabolic operator with zero Neumann boundary conditions. Monotonocity of the principal eigenvalue and its asymptotic behaviors, as diffusion rate and frequency approach zero or infinity, are established. This leads to a classification of the topological structures of level sets for the principal eigenvalue, as a function of diffusion rate and frequency. This is a joint work with Professor Yuan Lou.

报告人简介： 刘爽，北京理工大学数学与统计学院副研究员，2021 年 12 月毕业于中国人民大学，师从楼元教授。主要研究方向为偏微分方程和生物数学，关注椭圆和抛物算子的特征值理论和多物种的传播性质。在 Trans. Amer. Math. Soc.， J. Funct. Anal.，SIAM J. Math. Anal.，SIAM J.Appl. Math.等期刊发表论文十余篇。

Entire solutions of time periodic bistable Lotka–Volterra competition-diffusion systems in R^N

盛伟杰 哈尔滨工业大学

摘要： In this talk, I will first review some results on front solutions of reaction- diffusion equations. Then I will investigate the global mean speed of any transition front of time periodic bistable Lotka–Volterra competition-diffusion systems in RN .Finally I will show that there is a new entire solution originating from planar traveling fronts and converging to a

nonplanar traveling front. This is based on a joint work with M.Wang and Z.-C. Wang.

报告人简介：盛伟杰，哈尔滨工业大学数学学院教授。2012 年毕业于兰州大学，师从李万同教授。2016 年受国家留学基金委资助访问法国艾克斯马赛大学，合作导师：Francois Hamel 教授。主要从事反应扩散方程的行波解及相关问题的研究。目前已在 J.Math. Pures Appl.，Calc. Var. PDE，CCM， JDE 等国际重要期刊发表论文。主持国家自然科学基金面上项目 1 项。

Diffusive population models with memory effect

王春程　哈尔滨工业大学

摘要： In this talk, I will present some delayed diffusive models via a modified Fick's law, that can be used to describe the movement of high developed animals. The local dynamics near the steady state are investigated, showing that the memory effect play an important role on its stability. In addition, we show that the spatial heterogeneity or boundary condition could induce spatially inhomogeneous time periodic pattern through Hopf bifurcations. These are joint works with Junping Shi, Hao Wang, Xiangping Yan, Dejun Fan, Yujia Wang.

报告人简介：王春程，哈尔滨工业大学数学学院，教授。2000-2004 年大连理工大学学习，2010 年毕业于哈工大，获博士学位。主要研究方向：泛函微分方程与动力系统、生物数学。在 JDE、JDDE、DCDS 等刊物发表论文 20 余篇，主持和参与多项国家基金。