

**非线性分析及其应用青年博士系列报告**

**会议时间：**2021年6月25日下午

**会议地点：**腾讯会议（会议号：957 397 299）

**主办：**

福建师范大学数学与统计学院

福建省分析数学及应用重点实验室

福建省应用数学中心（福建师范大学）

福建师范大学数学研究中心

**会议资助：**

福建省分析数学及应用重点实验室

福建省应用数学中心（福建师范大学）

福建省百千万人才工程领军人才项目

福建省自然科学基金重点项目

会议指导小组：李永青，王志强

会议组织者：陈建清，沈建和

会议联系人：陈建清（13685010684；微信：cjq13685010684）

**报告安排**

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| 时间 | 报告人 | 报告题目 | 主持人 |
| 6.25下午 | 腾讯会议号：957 397 299 |
| 14:00-14:05 | 开始 | 陈建清 |
| 14:05-14:40 | 赵亮（福建师范大学） |  Canards and homoclinic orbits in a slow-fast modifified May-Holling-Tanner predator-prey model with weak multiple Allee effect | 沈建和 |
| 休息5分钟 |
| 14:45-15:30 | 陈艳红（暨南大学） |  Weak solutions for the time fractional harmonic map flow | 陈建清 |
| 15:30- | 总结 |

**报告题目和摘要（按做报告的时间顺序排列）**

2021年6月25日下午; 腾讯会议号：957 397 299

**一、报告人：赵亮（福建师范大学）**

**报告题目：Canards and homoclinic orbits in a slow-fast modifified May-Holling-Tanner predator-prey model with weak multiple Allee effect**

**报告摘要**： This paper studies bifurcations of canards and homoclinic orbis in a slow fast modifified May-Holling-Tanner predator-prey model with weak multiple Allee effect. Based on geometric singular perturbation theory (GSPT) and canard theory, canard explosion is observed and the associated bifurcation curve is determined. Due to the canard point, a homoclinic orbit with slow and fast segments and homoclinic to a saddle can also exist, in which, the stable and unstable manifolds of the saddle are connected under certain parameter value. By analyzing the slow divergence integral, it is proved that the cyclicity of canard cycles in this model is at most four. Finally, by calculating the entry-exit function explicitly, a unique, orbitally stable canard relaxation oscillation passing through a transcritical bifurcation point is detected.

**二、报告人：陈艳红（暨南大学）**

**报告题目： Weak solutions for the time fractional harmonic map flow**

**报告摘要**：In this talk, we consider the time fractional harmonic map flow on a smooth bounded domain, which can be seen as generalization of the classical harmonic map flow with free boundary. We prove the existence of global weak solutions as well as some energy estimates.