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COLLOQUIUM

107年10月03日(三) 14:30

應用數學系多媒體教室 (理408室)

Some dynamical behaviors for a singular predator-prey model

Abstract.

We study the asymptotic behaviors and quenching of the solutions for a two-component system of reaction-diffusion equations modeling prey-predator interactions in an insular environment. First, we give a global existence result for the solutions to the corresponding shadow system. Then, by constructing some suitable Lyapunov functionals, we characterize the asymptotic behaviors of global solutions to the shadow system. Also, we give a finite time quenching result for the shadow system. Finally, some global existence results for the original reaction-diffusion system are given.



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RESEARCH INTERESTS:

- Partial Differential Equations
- Applied Mathematics
- Mathematical Biology
- Wave Propagation

AWARDS and HONORS

- Honor Researcher for Theoretical Sciences, Mathematics Division, National Center for Theoretic Sciences (Taipei Office), 8/1/2008-7/31/2009
- Outstanding Research Award, National Science Council, Taiwan, 2010
- Outstanding Research Award, Ministry of Science and Technology, Taiwan, 2016

NATIONAL BOARDS

- President, Mathematical Society of R.O.C. (Taiwan), 2018 - present
- Chair, Institutional Accreditation in Mathematics and Statistics, Higher Education Evaluation & Accreditation Council of Taiwan, 2009-2010
- Advisory Committee, Mathematics Division, National Science Council, 2008-2010 Grant Panel, Mathematics Division, National Science Council, 1996-1998, 2002-2004



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