

Yu-Yu Liu

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Citizenship: Taiwan

Employment

2012.8 – present Assistant Professor, Department of Mathematics
National Cheng Kung University, Taiwan

Education

2007.9 – 2012.6 Ph.D. Mathematics, University of California, Irvine, USA
Thesis Title: Turbulent Flame Speeds of G-equations
Advisors: Jack Xin and Yifeng Yu
2005.9 – 2007.6 M.S. Mathematics, National Taiwan University, Taiwan
Thesis Title: Ground and Bound States of Nonlinear Schrödinger Equation
Advisor: Tai-Chia Lin
2001.9 – 2005.6 B.S. Mathematics, National Taiwan University, Taiwan

Research Interests

Applied Mathematics
Partial Differential Equations and Numerical Computation

Publications and Preprints

1. Yu-Yu Liu, Jack Xin, Yifeng Yu. *Turbulent Flame Speeds of G-equation Models in Unsteady Cellular Flows*. Mathematical Modeling of Natural Phenomena, accepted.
2. Yu-Yu Liu, Jack Xin, Yifeng Yu. *A Numerical Study of Turbulent Flame Speeds of Curvature and Strain G-equations in Cellular Flows*. Physica D 243 (2013), 20-31.
3. Yu-Yu Liu, Jack Xin, Yifeng Yu. *Asymptotics for turbulent flame speeds of the viscous G-equation enhanced by cellular and shear flows*. Archive for Rational Mechanics and Analysis 199 (2011), 527-561.
4. Yu-Yu Liu, Jack Xin, Yifeng Yu. *Periodic Homogenization of G-equations and the Viscosity Effects*. Nonlinearity 23 (2010), 2351-2367.

Selected Talks

1. 21st Annual Workshop on Differential Equations, National Central University, Taiwan, Jan 2013
2. Annual Meeting of Taiwan Mathematical Society, Hsinchu, Taiwan, Dec 2012
3. 1st Annual Southern Taiwan Workshop on Differential Equations, NCTS South Division, Sep 2012
4. Nonlinear PDEs and Related Topics, Providence University, Taiwan, Aug 2012

5. PDE Seminar, NCTS South Division, Taiwan, Jul 2012
6. Colloquium, National Cheng Kung University, Taiwan, Mar 2012
7. Seminar on Applied Mathematics, National Taiwan University, Taiwan, Mar 2012
8. SIAM Conference on Analysis of Partial Differential Equations, San Diego, USA, Nov 2011
9. Frontiers in Applied and Computational Mathematics, NJIT, USA, Jun 2011
10. Workshop on PDE Models of Biological Process, NCTS, Taiwan, Dec 2010

Teaching Experience

Instructor, National Cheng-Kung University

Introduction to Differential Equations, Spring 2013

Calculus, Fall 2012, Spring 2013

Teaching Assistant, University of California, Irvine

Linear Algebra, Spring 2011

Differential Calculus, Winter 2011

Mathematics for Economics Majors, Fall 2010

Elementary Differential Equation, Fall 2009

Teaching Assistant, National Taiwan University

Partial Differential Equations, Fall 2006, Spring 2007

Linear Algebra, Fall 2005, Spring 2006