

Curriculum Vitae

Robin Ming Chen

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Education

- Ph.D. in Mathematics, May 2007.
Department of Mathematics, Brown University, Providence, RI.
Thesis Title: Analysis of some nonlinear dispersive waves in a compressible hyperelastic plate
Advisor: Prof. Walter A. Strauss
- B.Sc. in Mathematics, June 2002.
Special Class for the Gifted Young,
University of Science and Technology of China, Hefei, Anhui, P.R. China.

Academic Positions

- University of Minnesota 2008 - present
Dunham Jackson Assistant Professor
- University of Minnesota 2007 - 2008
Visiting Assistant Professor

Research Interests

- Nonlinear dispersive equations, stability theory, mathematical elasticity.

Awards

- NSF Research Grant DMS-0908663 (PI), 2009 - 2012.
- Dissertation Fellowship, 2007, Brown University.

Publications

1. R.M. Chen, Y. Liu and P.Z. Zhang, *The Hölder continuity of the solution map to the b-family equation in weak topology*, submitted.
2. R.M. Chen, J. Lenells and Y. Liu, *Stability of the μ Camassa Holm Peakons*, submitted.
3. R.M. Chen, Y. Liu and Z. Qiao, *Stability of solitary waves and global existence of a generalized two-component Camassa-Holm system*, submitted.

4. R.M. Chen, Y.J. Guo and D. Spirn, *Asymptotic behavior and symmetry of condensate solutions in electroweak theory*, J. Anal. Math., accepted for publication.
5. R.M. Chen and Y. Liu, *Wave-breaking and global existence for a generalized two-component Camassa-Holm system*, Int. Math. Res. Not., (2010), in press.
6. R.M. Chen, Y. Liu and P.Z. Zhang, *Local regularity and decay estimates of solitary waves for the RMKP equation*, Trans. Amer. Math. Soc., (2010), in press.
7. R.M. Chen, Y.J. Guo, D. Spirn and Y. Yang, *Electrically and magnetically charged vortices in the Chern-Simons-Higgs theory*, Proc. R. Soc. Lond. Ser. A **465** (2009) 3489-3516.
8. R.M. Chen and D. Spirn, *Symmetric planar Chern-Simons-Higgs vortices*, Comm. Math. Phys., **285** (2009) 1005-1031.
9. R.M. Chen, V. Hur and Y. Liu, *Solitary waves of the rotation-modified Kadomtsev-Petviashvili equation*, Nonlinearity, **21** (2008) 2949-2979.
10. R.M. Chen, *The Cauchy problem and the stability of solitary waves of a hiperelastic dispersive equation*, Indiana U. J. Math, **57** (2008) 2377-2422.
11. R.M. Chen, *Some nonlinear dispersive waves arising in compressible hyperelastic plates*, International Journal of Engineering Science, **44** (2006) 1188-1204.
12. M.C. Calderer and R.M. Chen, *Long time existence of classical solutions to a swelling gel*, in preparation.

Journal Refereeing

- Advances in Mathematical Physics.
- Journal of Differential Equations.
- Journal of Mathematical Analysis and Applications.
- Proceedings of The Royal Society of London. Series A.
- SIAM Journal on Mathematical Analysis.

Invited Talks and Presentations

- Colloquium, University of Pittsburgh, January 2011.
- 2011 Joint Mathematics Meetings, New Orleans, Louisiana, January 2011.
- Applied Mathematics Seminar, University of Texas at Arlington, October 2010.
- NSF/CBMS Regional Research Conference on Nonlinear Water Waves with Applications to Wave-Current Interactions and Tsunamis, University of Texas-Pan American, May 2010.
- PDE Seminar, University of Minnesota, December 2009.
- AMS Spring Eastern Sectional Meeting, Worcester, Massachusetts, April 2009.

- The Eleventh New Mexico Analysis Seminar, New Mexico State University, April 2008.
- SIAM Conference on Analysis of Partial Differential Equations, Mesa, Arizona, December 2007.
- Dynamical System Seminar, University of Minnesota, September 2007.
- The Fifth IMACS International Conference on Nonlinear Evolution Equations and Wave Phenomena: Computation and Theory, University of Georgia, April 2007.
- A Conference on Applied Analysis on the Occasion of the 65th Birthday of David Kinderlehrer, Carnegie Mellon University, October 2006.
- PDE Seminar, Brown University, March 2006 and February 2007.

Conferences and Programs Attended

- International Conference on Advances in Partial Differential Equations and their Applications, Fudan University, China, June 2010.
- The Eleventh–Thirteenth Rivière-Fabes Symposium on Analysis and PDE, University of Minnesota, 2008–2010.
- IMA Summer School: Nonlinear Conservation Laws and Applications, University of Minnesota, July 2009.
- Nonlinear Waves Conference, Brown University, May 2008.
- SIAM Conference on Analysis of Partial Differential Equations, Boston, Massachusetts, July 2006.
- The Lefschetz Center Conference on Partial Differential Equations and Fluids, Brown University, April 2006.
- The Ninth Rivière-Fabes Symposium on Analysis and PDE, University of Minnesota, April 2006.
- SIAM Conference on Analysis of Partial Differential Equations, Houston, Texas, December 2004.

Teaching Experience

- Lecturer: University of Minnesota, Sept. 2007 - current.
Calculus I, II, III; Applied Linear Algebra; Dynamical Systems; Elementary PDEs.
- Lecturer: Brown University, Sept. 2005 - Dec. 2006.
Advanced Placement Calculus; Advanced Placement Calculus (Physics/Engineering).
- Teaching Assistant: Brown University, Sept. 2003 - May 2005.
Calculus I and II.