

Nguyen Hoang

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Education

B.A. Mathematics, Vietnam National University, Hanoi, 1998-2002.
Thesis: Trigonometric collocation Runge-Kutta-Nystrom methods.
Advisor: Prof. Nguyen Huu Cong.

Ph.D. Mathematics, Kansas State University, 2006-2011.
Thesis: Numerical solutions to some ill-posed problems.
Advisor: Prof. Alexander G. Ramm.

Employment

Lecturer, Mathematics-Mechanics-Informatics Department, Vietnam National University, Hanoi, August 2002 – August 2006.

Researcher, Center for high performance computing, Vietnam National University, Hanoi, January – July 2006.

Teaching Assistant, Mathematics Department, Kansas State University, August 2006–July 2011.

Visiting Assistant Professor, Department of Mathematics, University of Oklahoma, August 2011 – present.

Research interests

Numerical analysis, Operator theory, Ordinary and partial differential equations, Optimization, Inverse and ill-posed problems.

Work experience

- Mathematics-Mechanics-Informatics Department, Vietnam National University, Hanoi, 2002-2006.
 - Recitation teacher for courses: Calculus I, Calculus II, Calculus III, Linear Algebra.
 - Lecturer: Numerical Analysis, Linear algebra.
- Advanced Computational Modelling Centre, The University of Queensland, Australia, August-December, 2004.
 - Doing research on Runge-Kutta methods under the supervision of Dr. Roger B. Sidje.
- Center for High Performance Computing, Vietnam National University, Hanoi, January–August, 2006

- Doing research and implementing algorithms on parallel computers.
- Mathematics Department, Kansas State University
 - Recitation teacher for courses: Calculus II, Calculus III, Elementary differential equations.
 - Lecturer: Elementary differential equations, Calculus III
 - Course coordinator: Calculus III
- Department of Mathematics, University of Oklahoma
 - Analytic geometry and Calculus IV

Conferences attended

"Tenth Prairie Analysis Seminar", The University of Kansas, Lawrence, KS, October 29-30 2010.

Introductory Workshop on Inverse Problems and Applications, MSRI, Berkeley, CA, August 23-27, 2010.

Summer School on Seismic Imaging, University of Washington, Seattle, WA., August 2009.

Summer School on Inverse Problems, MSRI, Berkeley, CA., July 2009.

"Ninth Prairie Analysis Seminar", Kansas State University, Manhattan, KS, October 2-3 2009.

Climate Change Summer School, MSRI, Berkeley, CA, July 2008.

"Seven Prairie Analysis Seminar", Kansas State University, Manhattan, KS, November 2-3 2007.

Talks given

Dynamical Systems Method for solving nonlinear equations with monotone operators.

Conference "Tenth Prairie Analysis Seminar", The University of Kansas, October 29-30 2010.

Dynamical Systems Method for solving linear operator equations.

Conference "Ninth Prairie Analysis Seminar", Kansas State University, October 2-3 2009.

An iterative scheme for solving equations with monotone operators.

Analysis seminar, Mathematics Department, Kansas State University, December 10 2008.

A discrepancy for solving equations with monotone operators.

Analysis seminar, Mathematics Department, Kansas State University, December 03 2008.

Dynamical systems method for solving finite-rank operator equations.

Analysis seminar, Mathematics Department, Kansas State University, April 16 2008.

Awards

Hostinsky Outstanding Graduate Teaching Assistant Academics Award, Mathematics Department, Kansas State University, 2008.

Doctoral Development Program Fellowship, the University of Queensland, Australia, 2004.

Fourth Place Prize in the Undergraduate Student Scientific Research Competition of the Vietnam Ministry of Education and Training, Hanoi, Vietnam, 2002.

Second Place Prize in the Undergraduate Student Scientific Research Competition of College of Sciences, Vietnam National University, Hanoi, Vietnam, 2002.

Bronze Medal in the 1998 Asia Pacific Mathematics Olympiad for High School Students, 1998.

Publications

Journal Articles

Hoang, N. S., Sidje R. B. and Cong, N. H., *On functionally-fitted Runge-Kutta methods*, BIT Numer. Math., 46, (2006), pp. 861–874.

Hoang, N. S., Sidje, R. B. and Cong N. H., *Analysis of Trigonometric implicit Runge-Kutta methods*, J. Comput. Appl. Math., 198, (2007), pp. 187–270.

Hoang, N. S. and Sidje, R. B., *On the stability of functionally-fitted Runge-Kutta methods*, BIT Numer. Math., 48, N1, (2008), pp.61-77.

Hoang, N. S. and Ramm, A. G., *Solving ill-conditioned linear algebraic systems by the DSM*, Inverse Problems in Science and Engineering, 16, N5, (2008), pp. 617 - 630.

Hoang, N. S. and Sidje, R.B., *Functionally-fitted pseudo two-step Runge-Kutta methods*, Appl. Numer. Math., 59, N1, (2009), pp. 39-55.

Hoang, N. S. and Ramm, A. G., *An iterative scheme for solving equations with monotone operators*, BIT Numer. Math., 48, N4, (2008), 725-741.

Hoang, N. S. and Ramm, A. G., *A nonlinear inequality*, Jour. Math. Ineq., 2, N4, (2008), 459-464.

Hoang, N. S. and Ramm, A. G., *A discrepancy principle for equations with monotone continuous operators*, Nonlinear Analysis Series A: Theory, Methods & Applications, 70, (2009), 4307-4315.

Hoang, N. S. and Ramm, A. G., *Dynamical systems method for solving finite-rank operator equations*, Ann. Polon. Math., 95, N1, (2009), 77-93.

Hoang, N. S. and Ramm, A. G., *Dynamical systems method for solving nonlinear equations with monotone operators*, Math. Comp., 79, (2010), 239-258.

Hoang, N. S. and Ramm, A. G., *A nonlinear inequality and applications*, Nonlinear Analysis Series A: Theory, Methods & Applications, 71, (2009), 2744– 2752.

Hoang, N. S. and Ramm, A. G., *Dynamical systems Gradient method for solving nonlinear equations with monotone operators*, Acta Appl. Math., 106, (2009) , 473-499,

Hoang, N. S. and Ramm, A. G., *A new version of the Dynamical systems method (DSM) for solving nonlinear equations with monotone operators*, Diff. Eq. Appl., 1, N1, (2009), 1–25.

- Hoang, N. S. and Ramm, A. G., *Symmetry problems 2*, Annal. Polon. Math., 96, N1, (2009), 61-64.
- Hoang, N. S. and Ramm, A. G., *The Dynamical Systems Method for solving nonlinear equations with monotone operators*, Asian Europ. Math. Journ., 3, N1, (2010), 57-105.
- Hoang, N. S. and Ramm, A. G., *An inverse problem for a heat equation with piecewise-constant thermal conductivity*, J. Math. Phys., 50, N6, 063512 (2009).
- Hoang, N. S. and Ramm, A. G., *Existence of solution to an evolution equation and a justification of the DSM for equations with monotone operators*, Commun. Math. Sci., 7, N4, (2009), 1073-1079.
- Hoang, N. S. and Ramm, A. G., *Dynamical Systems Method (DSM) for solving equations with monotone operators without smoothness assumptions on $F'(u)$* , J. Math. Anal. Appl., 367, N2, (2010), 508-515.
- Hoang, N. S. and Ramm, A. G., *Dynamical systems gradient method for solving ill-conditioned linear algebraic systems*, Acta Appl. Math., 111, N2, (2010), 189-204.
- Hoang, N. S. and Ramm, A. G., *DSM of Newton-type for solving operator equations $F(u) = f$ with minimal smoothness assumptions on F* , Int. J. Comput. Sci. Math., 3, N 1/2, (2010), 3-55.
- Hoang, N. S., *Dynamical System Method for solving nonlinear equations with locally Hölder continuous monotone operators*, Int. J. Comput. Sci. Math., 3, N 1/2, (2010), 56-75.
- Hoang, N. S., *Dynamical Systems Method of gradient type for solving nonlinear equations with monotone operators*, BIT Numer. Math., 50, N4, (2010), 751-780.
- Hoang, N. S. and Ramm, A. G., *Nonlinear differential inequality*, Math. Inequal. Appl. (MIA), 14, N4, (2011), 967-976.

Proceedings

- Sidje, R. B. and Hoang, N. S., *On the stability function of functionally-fitted Runge-Kutta methods*, ANZIAM J. 48 (CTAC 2006), pp. C151-C167, 2007.

Submitted Articles

- Hoang, N. S., *An iterative scheme for solving equations with locally σ -inverse monotone operators*.
- Hoang, N. S. and Ramm, A. G., *Some nonlinear inequalities and applications*.

Monograph

- Ramm, A. G. and Hoang, N. S., *Dynamical Systems Method and Applications: Theoretical Developments and Numerical Examples*. (to appear)

Professional services

- Referee for: Mathematical Reviews; Int. J. Math. Math. Sci.; Inverse Probl. Sci. Eng.; J. Indian Math. Soc.
Member: AMS

Computer languages and software

Matlab, C, C++, Fortran, Latex, Maple, Linux, Windows.