

Zhichao Peng

CONTACT INFORMATION	Department of Mathematical Sciences Michigan State University 619 Red Cedar Road, Wells Hall East Lansing, MI, 48824 USA	pengzhic@msu.edu https://zhichaopengmath.github.io
EDUCATION	Department of Mathematical Sciences, Rensselaer Polytechnic Institute, Troy, NY, USA Research Associate, Department of Mathematics, Michigan State University, East Lansing, MI, United States, 08/2020-now.	
EDUCATION	Department of Mathematical Sciences, Rensselaer Polytechnic Institute, Troy, NY, USA Ph.D. Candidate, Applied Mathematics, 08/2015-08/2020 <ul style="list-style-type: none">• Advisor: Professor Fengyan Li School of Mathematical Sciences, Peking University, Beijing, P.R.China B.S. in Mathematics, 09/2011 - 07/2015	
RESEARCH INTERESTS	<ul style="list-style-type: none">• Finite element methods: discontinuous Galerkin (DG) method, discontinuous Petrov-Galerkin (DPG) method• Numerical methods for kinetic equations, wave equations, electromagnetics• Structure preserving methods: asymptotic preserving, positivity preserving, energy stable• Model order reduction	
RESEARCH EXPERIENCE	08/2015 –05/2020	Student research assistant Advisor: Professor Fengyan Li Rensselaer Polytechnic Institute 05/2019 –08/2019 Student Intern Advisor: Dr. Xianzhu Tang Los Alamos National Laboratory
PUBLICATIONS	<ul style="list-style-type: none">• Refereed journal papers:<ul style="list-style-type: none">– Z. Peng, F. Li, <i>Asymptotic preserving IMEX-DG-S schemes for linear kinetic transport equations based on Schur complement</i>, SIAM Journal on Scientific Computing (accepted)– Z. Peng, Y. Cheng, J.-M. Qiu, F. Li, <i>Stability-enhanced AP IMEX1-LDG method: energy-based stability and rigorous AP property</i>, SIAM Journal on Numerical Analysis (accepted)– Z. Peng, Q. Tang, X.-Z. Tang, <i>An adaptive discontinuous Petrov-Galerkin method for the Grad-Shafranov equation</i>, SIAM Journal on Scientific Computing (accepted)– Z. Peng, Y. Cheng, J.-M. Qiu, F. Li, <i>Stability-enhanced AP IMEX-LDG schemes for linear kinetic transport equations under a diffusive scaling</i>, Journal of Computational Physics Volume 415, 15 August 2020, 109485	

- Z. Peng, V. A. Bokil, Y. Cheng, F. Li, *Asymptotic and positivity preserving methods for Kerr-Debye model with Lorentz dispersion in one dimension*, Journal of Computational Physics, Volume 402, 1 February 2020, 109101

PRESENTATIONS

- Invited talks
 - RTG Seminar, Rensselaer Polytechnic Institute, Troy, NY, USA, 10/29/2019
 - Applied Math Days, Rensselaer Polytechnic Institute, Troy, NY, USA, 04/05/2019 - 04/06/2019
 - Seminar, School of Mathematical Sciences, Peking University, Beijing, China, 12/27/2018
 - Seminar, School of Mathematical Sciences, University of Science and Technology of China, Hefei, China, 12/25/2018
 - 2018 SIAM Annual Meeting, Oregon Convention Center, Portland, OR, USA, 07/09/2018 - 07/13/2018
 - The 3rd Annual Meeting of SIAM Central States Section, Colorado State University, Fort Collins, CO, USA, 09/29/2017 - 10/01/2017
- Poster presentation
 - The ICERM 2018 Topical Workshop: Computational Aspects of Time Dependent Electromagnetic Wave Problems in Complex Materials, ICERM, Providence, RI, USA, 07/25/2018 - 07/29/2018

PROFESSIONAL TRAVEL

- Model and Dimension Reduction in Uncertain and Dynamic Systems, ICERM, Providence, RI, USA 01/27/2020 - 05/01/2020
- Frontiers in Applied and Computational Mathematics, ICERM, Providence, RI, USA, 01/04/2017- 01/06/2017

TEACHING EXPERIENCE

Spring, 2021 Instructor, MTH 314 - Matrix Algebra with Computational Applications, Michigan State University
 Fall, 2020 Instructor, MTH 124 - Survey of Calculus I, Michigan State University
 Fall, 2019 Teaching Assistant, MATH 2400 - Introduction to Differential Equations, Rensselaer Polytechnic Institute
 Fall, 2018 Teaching Assistant, MATH 4090 - Foundation of Analysis, Rensselaer Polytechnic Institute
 Fall, 2017 Teaching Assistant, MATH 4200 - Mathematical Analysis I, Rensselaer Polytechnic Institute
 Fall, 2017 Teaching Assistant, MATH 4090 - Foundation of Analysis, Rensselaer Polytechnic Institute
 Summer, 2016 Mentoring, Undergraduate Research, Rensselaer Polytechnic Institute

HONORS AND AWARDS

2020 The Joaquin B. Diaz Prize, Rensselaer Polytechnic Institute
 2018 Founders Award of Excellence, Rensselaer Polytechnic Institute

PROFESSIONAL SERVICE

Reviewers for *SIAM Journal on Scientific Computing*, *Journal of Applied Mathematics and Physics*, *SIAM Journal on Numerical Analysis*, *Journal of Scientific Computing*

RELEVANT
SKILLS

- Fortran, C, C++, Matlab, Python
- MPI, PETSC, MFEM, HYPRE, TensorFlow, Latex, Git
- English, Chinese