Junyan Zhang

CITIZENSHIP	Chinese (The People's Republic of China)

CONTACT INFORMATION

Johns Hopkins University

Department of Mathematics

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EDUCATION

Johns Hopkins University

Ph.D. Candidate, Mathematics, Aug 2017-expected May 2022.

- Dissertation Title: On the motion of free interface in magnetohydrodynamics.
- Advisor: Professor Hans Lindblad.

University of Science and Technology of China (USTC)

B.A. in Mathematics, August 2013-June 2017.

- Undergrad Thesis: Inviscid dampimg and Asymptotic Stability of PDEs in fluids.
- Advisor: Professor Lifeng Zhao.

RESEARCH INTERESTS

PDEs in fluids, especially the free-boundary problems.

PUBLICATION & PREPRINT

Junyan Zhang. *A priori Estimates for the Free-Boundary problem of Compressible Resistive MHD Equations and Incompressible Limit,* arxiv 1911.04928 preprint.

Chenyun Luo, Junyan Zhang. *A priori Estimates for the Incompressible Free-Boundary Magnetohydrodynamics Equations with Surface Tension,* arxiv 1907.11827 preprint.

Chenyun Luo, Junyan Zhang. *A Regularity Result for the Incompressible Magnetohydrodynamics Equations with Free Surface Boundary,* to appear in Nonlinearity.

TALKS & SEMINARS

- *On the free-boundary problem of MHD equations with or without surface tension,* University of Science and Technology of China, Dec 23 2019.
- *On the Incompressible MHD with or without Surface Tension,* Institute of Mathematics, Chinese Academy of Sciences, May 23 2019.

CONFERENCES ATTENDED	• *Workshop on Free Surface Hydrodynamics*, the Fields Insitute, University of Toronto, October 2020 (Expected). • *2020 Shanks Workshop on Mathematical Aspects of Fluid Dynamics*, Vanderbilt University, March 2020 (Expected). • *2019 Southern California Analysis and PDE Conference*, UCSD, November 2019. • *Summer School on Mathematical General Relativity and the Geometric Analysis of Waves of Fluids*, MIT, June 2018.

TEACHING EXPERIENCE

Johns Hopkins University

2020 Spring	Teaching assistant, Honor Analysis II
	Grader, Undergraduate PDEs
2019 Fall	Teaching assistant, Honor Analysis I
	Grader, Graduate Real Analysis
2019 Spring	Teaching assistant, Honor Analysis II
	Teaching assistant, Calculus II (Engineering)
2018 Fall	Teaching assistant, Calculus II (Engineering)
2018 Spring	Grader, Undergraduate PDEs
2017 Fall	Grader, Undergradute Complex Analysis
	Grader, Calculus I (Engineering)

University of Science and Technology of China

2017 Spring	Teaching assistant, Partial Differential Equations II (Graduate PDE)
2016 Fall	Teaching assistant, Advanced Real Analysis (Graduate)
2016 Spring	Teaching assistant, Honor Real Analysis

GRADUATE COURSES

Johns Hopkins University

❏ Topics in Analysis: Blow-up of Euler's equation. (2020 Spring)
❏ Topics in PDEs: The Analysis of Black Holes. (2019 Fall)
❏ Topics in Mathematical Physics: Free-boundary Euler's equation. (2018 Fall)
❏ Topics in Mathematical Physics: General Relativity. (2018 Spring)

University of Science and Technology of China

❏ Nonlinear Dispersive PDEs (2017 Spring)
❏ PDEs of fluids: Inviscid Damping and Asymptotic Stability (2016 Fall)
❏ Topics in Stochastic Analysis (2016 Spring)
❏ Graduate PDEs and Harmonic Analysis (2016 Spring)
❏ Riemannian Geometry (2017 Spring)
❏ Advanced Stochastic Process and Stochastic Calculus (2016)

HONORS AND AWARDS	**Johns Hopkins University**
	2017-Now Full tuition fellowship and Teaching assistantship.

University of Science and Technology of China

2017	Outstanding Undergraduates.
	Outstanding Teaching Assistant.
2016	Huang Yu Honored Scholarship.
	Outstanding Teaching Assistant.
2015	First Prize in The Chinese Mathematics Competitions.

RELEVANT SKILLS   Languages: Chinese(native), English(fluent)

REFERENCES

- ❏ **Professor Hans Lindblad**, Department of Mathematics, Johns Hopkins University.
  `lindblad@math.jhu.edu`
- ❏ **Dr. Chenyun Luo**, Department of Mathematics, Vanderbilt University.
  `chenyun.luo@vanderbilt.edu`
- ❏ **Professor Chengchun Hao**, Institute of Mathematics, Academy of Mathematics and Systems Science, Chinese Academy of Sciences.
  `hcc@amss.ac.cn`