

Jincheng Yang

CONTACT INFORMATION

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RESEARCH INTERESTS

Analysis, partial differential equations, and their application in fluid mechanics.

EDUCATION

The University of Texas at Austin, Austin, Texas USA

Ph.D. in Mathematics (Pure)

Aug. 2017 - Present

Xi'an Jiaotong University (XJTU), Xi'an, Shaanxi China

B.Sc. in Mathematics and Applied Mathematics (Elite Class)

Aug. 2013 - July 2017

Thesis: *Linear Inviscid Damping of a Shear Flow in a Half Space and in a Finite Channel*

Advisor: Dongsheng Li and Zhiwu Lin.

HONORS AND AWARDS

First Everest Research Scholarship, XJTU

2014

National Scholarship, Ministry of Education, China

2016

Pacemaker to Outstanding Student, XJTU

2016

Frank Gerth III Graduate Excellence Award, UT Austin

2018

Senate of College Council's TA of the Year, UT Austin

2019

ACADEMIC EXPERIENCE

Xi'an Jiaotong University, Xi'an, Shaanxi China

Programmer/Writer

May 2013 - Sept. 2014

Programming and editing a college-level textbook which applies RAPTOR language in algorithm courses for non-computer science major. I wrote and checked coding for all examples and exercises.

Georgia Institute of Technology, Atlanta, Georgia USA

Visiting Research Student

Feb. 2017 - May 2017

Research includes studying the effect of density variation of fluids on the inviscid damping of stratified Couette flow with Zhiwu Lin. By means of Fourier decomposition and solving frequency equations with hypergeometric functions, we showed the decay rate for velocity and density variation to linearized Euler equations near stratified Couette flow under optimal regularity. We found the sharp decay rate depends solely on Richardson number.

The University of Texas at Austin, Austin, Texas USA

Teaching Assistant

Sept. 2017 - Present

Teaching assistant for differential/integral/vector calculus, differential equations and linear algebra.

PUBLICATIONS

Xie, T., Cheng, X. & Yang, J. (2014) RAPTOR Program Designing Tutorial. Beijing: Tsinghua University Press.

Yang, J. & Lin, Z. (2018) *Linear Inviscid Damping for Couette Flow in Stratified Fluid*, Journal of Mathematical Fluid Mechanics, **20**: 445-472. <https://doi.org/10.1007/s00021-017-0328-3>

Lin, Z., Yang, J. & Zhu, H. (2020) *Barotropic Instability of Shear Flows*, Studies in Applied Mathematics, **144**: 289-326. <https://doi.org/10.1111/sapm.12297>