## Jincheng Yang


**Contact Information**

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**Research Interests**

Analysis, dynamical systems, 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