Aidi Zhang

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Education

2017 – Now 🔖 **Ph.D. candidate, University of California, Berkeley**, in Mechanical Engineering.
Thesis title: *The three-dimensional structure and longeivity of the Great Red Spot (in preparation)*

2013 – 2017 🔖 **B.Eng., Theoretical and Applied Mechanics, Sun Yat-Sen University, China**
Thesis title: *The study of two-dimensional Rayleigh-Bénard Convection with different Prandtl number*

Research Publications

Journal Articles

1. A. Zhang and P. Marcus, "Families of planetary vortices: Stable solutions to the 3-dimensional equations of motion that are constrained by two-dimensional observations," Under review for Journal of Fluid Mechanics.

Conference Proceedings

1. A. Zhang, A. Ermakov, and P. S. Marcus, "Gravity signatures of stable, equilibrial 3d great red spot solutions consistent with observed cloud-level velocities," in *Fall Meeting 2022*, AGU, 2022.

2. A. Zhang and P. Marcus, "Hydrodynamic stability constraints on the three-dimensional structure of planetary vortices," in *Bulletin of the American Physical Society*, APS, 2022.

3. P. Marcus and A. Zhang, "Vertical aspect ratios and longevities of complex vortices and the application to gfd flows and astrophysical vortices," in *APS Division of Fluid Dynamics Meeting Abstracts*, 2021, H24–009.

4. A. Zhang and P. Marcus, "Longevity of stratified anticyclones with thermal dissipation and cyclones with viscous dissipation and their relevance to jupiter," in *APS Division of Fluid Dynamics Meeting Abstracts*, 2021, T11–011.

5. P. S. Marcus, P. Hassanzadeh, M. H. Wong, *et al.*, "On the shedding of jupiter's red flakes," in *AGU fall meeting abstracts*, vol. 2019, 2019, P13B–3505.

6. A. Zhang and P. Marcus, "How the great red spot of jupiter stays alive while losing energy through viscous and radiative dissipation," in *APS Division of Fluid Dynamics Meeting Abstracts*, 2019, B13–004.

Miscellaneous Experience

Research Experiences

2018 - Now	◆	Research about the longevity and three-dimensional structure of the Great Red Spot on Jupiter, University of California, Berkeley
2016 - 2017	◆	the Study of two-dimensional Rayleigh-Bénard Convection with different Pr number, Sun Yat-Sen University
2015 - 2016	◆	applying Big Bang-Big Crunch algorithm in structure health analysis, Sun Yat-Sen University

Awards

2023	◆	**Chang-Lin Tien Graduate Fellowship**, University of California, Berkeley
2022	◆	**Robert P. Lin Graduate Fellowship**, Space Science Lab, University of California, Berkeley
2020	◆	**Graduate Division Summer Grant**, University of California, Berkeley
2019	◆	**Graduate Division Summer Grant**, University of California, Berkeley
2018	◆	**Graduate Division Summer Grant**, University of California, Berkeley
2015	◆	**Outstanding undergraduate student**, Sun Yat-Sen University
2014	◆	**Outstanding undergraduate student**, Sun Yat-Sen University

Internships

2022	◆	**Robert P. Lin Fellow**, the Space Science Laboratory at University of California, Berkeley
2016	◆	Internship in South China Sea Institute of Oceanology, Chinese Academy of Science