

Weicheng Zang

PERSONAL INFORMATION

CfA Postdoctoral Fellow Phone: +1 857 285 0649
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EDUCATION

2017.08 – 2022.06 PhD in Astronomy, Tsinghua University, Beijing, China
Thesis: Detecting Extrasolar Planets with Microlensing
Advisor: [Prof. Shude Mao](#)
2013.08 – 2017.06 BS in Physics, Zhejiang University, Hangzhou, China

PROFESSIONAL APPOINTMENTS

2022.11 – Now **CfA Postdoctoral Fellow**, Center for Astrophysics | Harvard & Smithsonian

RESEARCH INTERESTS

Gravitational microlensing: Using the Gravitational Microlensing technique to study extrasolar planets, binary stars and stellar remnants (e.g., white dwarf).

SCIENTIFIC LEADERSHIP/MEMBERSHIP

The Earth 2.0 Microlensing Space Telescope	PI
The LCOGT key project for high-magnification microlensing events	PI
The Roman Galactic Exoplanet Survey Project Infrastructure Team	Leader of a sub-group
The KMTNet microlensing survey	co-I
The <i>Spitzer</i> microlensing project	co-I

FELLOWSHIP & AWARDS

2022	CfA Fellowship
2022	51 Pegasi b Postdoctoral Fellowship (declined)
2021	Tsinghua University Special Scholarship (the highest in Tsinghua, 10 every year)
2023	Outstanding Ph.D. Thesis, Beijing
2022	Outstanding Ph.D. Graduate Award, Tsinghua University

2022	Outstanding Ph.D. Thesis, Tsinghua University
2018, 2019	China National Scholarship, Tsinghua University
2015	China National Scholarship, Zhejiang University
2017, 2018, 2020	First Prize in AMD Scholarship, Tsinghua University

ADVISING AND MENTORSHIP

Name	Institution/Career	Duration	Publication
Hanyue Wang	Harvard University undergraduate	2021–2022	Wang, H., Zang, W., et al. (2022) Jung, Y., Zang, W., Wang, H., et al. (2023)
Xiangyu Zhang	Tsinghua University undergraduate	2018–2020	Zhang, X., Zang, W., et al. (2020) Yang, H., Zhang, X., Hwang, K., Zang, W., et al. (2020)
Jiyuan Zhang	Tsinghua University undergraduate/PhD	2021–now	Zhang, J., Zang, W., et al. (2023) Bell, A., Zhang, J., Zang, W., et al. (2024) Gould A., Shvartzvald, Y., Zhang, J., et al. (2023)
Hongjing Yang	Xiamen/Tsinghua undergraduate/PhD	2018–now	Yang, H., Zhang, X., Hwang, K., Zang, W., et al. (2020) Yang, H., Zang, W., et al. (2024)
Ruocheng Zhai	Tsinghua University undergraduate	2022–2024	Zhai, R., Poleski, R., Zang, W., et al. (2024) Gui, Y., Zang, W., Zhai, R., et al. (2024)
Yuqian Gui	Tsinghua University undergraduate	2022–2024	Gui, Y., Zang, W., Zhai, R., et al. (2024)
Yongxin Wen	Sun Yat-sen master	2022–2023	Wen, Y., Zang, W., Ma, B. (2023)
Aislyn Bell	Colorado Boulder undergraduate	2023	Bell, A., Zhang, J., Zang, W., et al. (2024)
Qiyue Qian	Tsinghua/PhD	2023–now	
Yunyi Tang	Tsinghua/undergrad	2022–2023	
Xikai Shan	Tsinghua/Postdoc	2024–now	
Hongyu Li	Tsinghua/undergrad	2024–now	
Shi Yan	Nankai/undergrad	2022	

OBSERVING EXPERIENCE (AS PI OR CO-PI)

Telescope	Instrument	Season	Time	Season	Time
CFHT (60.0 hrs)	MegaCam	2018A	22.0 hrs	2018B	6.4 hrs
		2020A	5.5 hrs	2021B	4.1 hrs
		2022A	11.7 hrs	2022B	6.0 hrs
		2025A	4.3 hrs		
LCOGT (2059 hrs)	Sinistro	2017B	48 hrs	2018A	40 hrs
		2018B	50 hrs	2019A	60 hrs
		2019B	60 hrs	2020A	60 hrs
		2020B	150 hrs	2021A	100 hrs
		2021B	85 hrs	2022A	220 hrs
		2022B	100 hrs	2023A	190 hrs
		2023B	203 hrs	2024A	500 hrs
		2024B	193 hrs		
Keck (1.5 nights)	OSIRIS-LGS	2024B	0.5 nights		
	NIRC2-LGS	2025A	1.0 nights		
Gemini (7.5 hrs)	GSAOI-GeMS	2025A	7.5 hrs		
Blanco (6 nights)	DECam	2025A	6 nights		
Magellan (2.0 nights)	FIRE	2025A	2.0 nights		

SERVICE AND OUTREACH

Since 2017	Referee for AJ, ApJ, ApJS, ApJL, MNRAS
Since 08/2023	One of Two Organizers for the CfA Exoplanet Pizza Lunch
2024–2025	SOC member of the 27th International Microlensing Conference
2023 Summer	Mentor of NSF Research Experience for Undergraduates (REU) Summer Intern Program; Student: Aislyn Bell
2023	Contributor for the CfA-Early Career Astronomers workshop , organized a workshop on “How to Build a Personal Website”.
2021.12	Scientific organising committee and Session chair for 2021 Chinese Astronomical Union Conference
2021.9–2022.6	Scholarship Committee of Department of Astronomy, Tsinghua University
2020–2022	Founder and Organizer of the badminton club of Department of Astronomy, Tsinghua University

TEACHING EXPERIENCE

Teaching Assistant, *The beauty of the universe*, 2020 Fall and 2021 Fall

Teaching Assistant, *Roaming in the intersection of physics and Astronomy*, 2021 Spring

PUBLICATION LIST

Full Publication List: [ADS Link](#)

Full Publication	First-Author	Second/Third-Author	Citation	h-index
152	10	17/9	2100+	25

First-Author; [ADS Link](#)

1. **Zang, W.**, Jung, Y., Yee, J., et al. *Super-Earths are common in Jupiter-like orbits*, [Science, to be accepted](#)
2. **Zang, W.**, Jung, Y., Yang H., et al. *Systematic KMTNet Planetary Anomaly Search, Paper VII: Complete Sample of $q < 10^{-4}$ Planets from the First 4 yr Survey*, [2023, AJ, 165, 103](#)
3. **Zang, W.**, Yang H., Han, C., et al., *Systematic KMTNet Planetary Anomaly Search. IV. Completed Statistical Sample of 2019 KMTNet Prime-Field Microlensing Planets*, [2022, MNRAS, 515, 928](#)
4. **Zang, W.**, Shvartzvald, Y., Udalski, A., et al., *OGLE-2018-BLG-0799Lb: a $q \sim 2.7 \times 10^{-3}$ planet with Spitzer parallax*, [2022, MNRAS, 514, 5952](#)
5. **Zang, W.**, Han, C., Konda, I., et al., *An Earth-mass planet in a time of Covid-19: KMT-2020-BLG-0414Lb*, [2021, RAA, 21, 239](#)
6. **Zang, W.**, Hwang, K., Udalski, A., et al., *Systematic KMTNet Planetary Anomaly Search, Paper I: OGLE-2019-BLG-1053Lb, A Buried Terrestrial Planet*, [2021, AJ, 162, 163](#)
7. **Zang, W.**, Dong, S., Gould, A., et al., *Spitzer + VLTI-GRAVITY Measure the Lens Mass of a Nearby Microlensing Event*, [2020, ApJ, 897, 180](#)
8. **Zang, W.**, Shvartzvald, Y., Udalski, A., et al., *Spitzer Microlensing Parallax Reveals Two Isolated Stars in the Galactic Bulge*, [2020 ApJ, 891, 3](#)
9. **Zang, W.**, Hwang, K., Kim, H., et al., *KMT-2016-BLG-1397b: KMTNET-only Discovery of a Microlens Giant Planet*, [2018, AJ, 156, 236](#)
10. **Zang, W.**, Penny, M., Zhu, W., et al., *Measurement of Source Star Colors with the K2C9-CFHT Multi-color Microlensing Survey*, [2018, PASP, 130, 104401](#)

Second- or Third- Author including Corresponding Author (*); [ADS Link](#)

1. *Zhang, K., **Zang, W.**, El-Badry, K., et al., *An Earth-Mass Planet and a Brown Dwarf in Orbit Around a White Dwarf*, 2024, [Nature Astronomy](#), 9, 2375
2. *Yang, H., **Zang, W.**, Gan, T., et al., *How Rare are TESS Free-Floating Planets?*, 2024, [ApJL](#), 972, L12
3. *Gui, Y., **Zang, W.**, Zhai, R., et al., *Systematic KMTNet Planetary Anomaly Search. XII. Complete Sample of 2017 Subprime Field Planets*, 2024, [AJ](#), 168, 49
4. *Zhang, J., **Zang, W.**, Jung, Y., et al. *KMT-2022-BLG-0440Lb: A New $q < 10^{-4}$ Microlensing Planet with the Central-Resonant Caustic Degeneracy Broken*, 2023, [MNRAS](#), 522, 6055
5. *Hwang, K., **Zang, W.**, Gould, A., et al., *Systematic KMTNet Planetary Anomaly Search, Paper II: Five New $q < 2 \times 10^{-4}$ Mass-ratio Planets*, 2022, [AJ](#), 163, 43
6. *Yee, J., **Zang, W.**, Udalski, A., et al., *OGLE-2019-BLG-0960Lb: The Smallest Microlensing Planet*, 2021, [AJ](#), 162, 180
7. *Gould, A., **Zang, W.**, Mao, S., Dong, S., *Masses for free-floating planets and dwarf planets*, 2021, [RAA](#), 21, 133
8. *Zhang, X., **Zang, W.**, Udalski, A., et al., *OGLE-2015-BLG-1771Lb: A Microlens Planet Orbiting an Ultracool Dwarf?*, 2020, [AJ](#), 159, 116
9. Wen, Y., **Zang, W.**, Ma, B., *Towards Measuring Microlensing Event Rate in the Galactic Center: I. Events Detection from the UKIRT Microlensing Survey Data*, 2023, [ApJS](#), 269, 28
10. Han, C., **Zang, W.**, Jung, Y., et al., *KMT-2021-BLG-1547Lb: Giant microlensing planet detected through a signal deformed by source binarity*, 2023, [A&A](#), 678, 101
11. Jung, Y., **Zang, W.**, Wang, H., et al., *Systematic KMTNet Planetary Anomaly Search. VIII. Complete Sample of 2019 Subprime Field Planets*, 2023, [AJ](#), 165, 226
12. Kuang, R., **Zang, W.**, Mao, S., et al. *Simulations of Triple Microlensing Events I: Detectability of a scaled Sun-Jupiter-Saturn System*, 2023, [MNRAS](#), 520, 4540
13. Jung, Y., **Zang, W.**, Han, C., et al., *Systematic KMTNet Planetary Anomaly Search. VI. Complete Sample of 2018 Sub-Prime-Field Planets*, 2022, [AJ](#), 164, 262
14. Yang, H., **Zang, W.**, Gould, A., et al., *KMT-2021-BLG-0171Lb and KMT-2021-BLG-1689Lb: Two Microlensing Planets in the KMTNet High-cadence Fields with Followup Observations*, 2022, [MNRAS](#) 516, 1894
15. Kuang, R., **Zang, W.**, Jung, Y., et al., *OGLE-2019-BLG-1470LABc: Another Microlensing Giant Planet in a Binary System*, 2022, [MNRAS](#) 516, 1704
16. Wang, H., **Zang, W.**, Zhu, W., et al., *Systematic Korea Microlensing Telescope Network planetary anomaly search - III. One wide-orbit planet and two stellar binaries*, 2022, [MNRAS](#), 510, 1778

17. Li, S., **Zang, W.**, Udalski, A., et al., *OGLE-2017-BLG-1186: first application of asteroseismology and Gaussian processes to microlensing*, 2019, *MNRAS*, 488, 3308
18. Bell, A., Zhang, J., **Zang, W.**, et al., *KMT-2023-BLG-1431Lb: A New $q < 10^{-4}$ Microlensing Planet from a Subtle Signature*, 2024, *PASP*, 136, 054402
19. Shin, I., Yee, J., **Zang, W.**, et al., *Systematic KMTNet Planetary Anomaly Search. XI. Complete Sample of 2016 Sub-Prime Field Planets*, 2024, *AJ*, 167, 269
20. Zhai, R., Poleski, R., **Zang, W.**, et al., *OGLE-2017-BLG-0448Lb: A Low Mass-Ratio Wide-Orbit Microlensing Planet?*, 2024, *AJ*, 167, 162
21. Shin, I., Yee, J., **Zang, W.**, et al., *Systematic KMTNet Planetary Anomaly Search. IX. Complete Sample of 2016 Prime-Field Planets*, 2023, *AJ*, 166, 104
22. Han, C., Lee, C., **Zang, W.**, et al., *KMT-2021-BLG-2010Lb, KMT-2022-BLG-0371Lb, and KMT-2022-BLG-1013Lb: Three microlensing planets detected via partially covered signals*, 2023, *A&A*, 674, 90
23. Gould, A., Han, C., **Zang, W.**, et al., *Systematic KMTNet planetary anomaly search. V. Complete sample of 2018 prime-field*, 2022, *A&A*, 664, 13
24. Yang, H., Mao, S., **Zang, W.**, Zhang, X., *Microlensing predictions: impact of Galactic disc dynamical models*, 2021, *MNRAS*, 502, 5631
25. Jung, Y., Udalski, A., **Zang, W.**, et al., *KMT-2019-BLG-0842Lb: A Cold Planet below the Uranus/Sun Mass Ratio*, 2020, *AJ*, 160, 255
26. Jung, Y., Gould, A., **Zang, W.**, et al., *KMT-2017-BLG-0165Lb: A Super-Neptune-mass Planet Orbiting a Sun-like Host Star*, 2019, *AJ*, 157, 72

WHITE PAPER

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1. Ge, J., Zhang H., **Zang, W.**, et al., *ET White Paper: To Find the First Earth 2.0*, [arXiv:2206.06693](https://arxiv.org/abs/2206.06693)

CONFERENCE TALKS (* = INVITED)

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1. RGES PIT Year 2 F2F Meeting, Greenbelt, MD, 10/2024
 2. Micro-Workshop on the Frontiers of Astrophysics, Hangzhou, China, 06/2024
 3. *ISSI-BJ: Toward detection of Earth-like planets in the Universe, Beijing, China, 06/2024
 4. Roman SSC/RGES Microlensing Modeling Meeting, Pasadena, CA, 02/2024
 5. 26th International Microlensing Conference, Livermore, CA, 01/2024
 6. 243th Meeting of the American Astronomical Society, New Orleans, LA, 01/2024
 7. *Roman RGES PIT Kick-Off Meeting, Columbus, OH, 10/2023
 8. *The First workshop on time domain and lensing, virtual conference, 04/2023
 9. The 7th Telescope Access Program (TAP) User Meeting, virtual conference, 12/2022

10. 25th International Microlensing Conference, virtual conference, 09/2022
11. 2021 Chinese Astronomical union conference, virtual conference, 12/2021
12. *The 6th Telescope Access Program (TAP) User Meeting, virtual conference, 12/2021
13. ACAMAR: Future of Traditional Survey Science, virtual conference, 09/2021
14. 2021 Chinese Planetary Science Conference, Suzhou, China, 06/2021
15. *The 5th Telescope Access Program (TAP) User Meeting, virtual conference, 01/2021
16. *Earth 2.0 Mission Science Discussion Meeting, virtual conference, 10/2020
17. 23rd International Microlensing Conference, New York, NY, 01/2019

SEMINARS (* = INVITED)

1. Institute for Theory and Computation Luncheon Talk, Center for Astrophysics | Harvard & Smithsonian, 10/2024
2. *Astrophysics Seminar, Shanghai Astronomic Observatory, 07/2024
3. Origins Seminar, University of Arizona, 04/2024
4. EPL Seminar, Carnegie Sciences Earth & Planets Laboratory (EPL), 01/2024
5. Institute for Theory and Computation Luncheon Talk, Center for Astrophysics | Harvard & Smithsonian, 11/2023
6. Exoplanet Pizza Lunch Seminar, Center for Astrophysics | Harvard & Smithsonian, 09/2023
7. *Special Seminar, Zhejiang University, 09/2023
8. Exoplanet Group Seminar, Ohio State University, 05/2023
9. *Theoretical Astrophysics Center Seminar, Berkeley University, 03/2023
10. *The Earth 2.0 Mission Seminar, Online, 08/2022