

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
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RESEARCH INTERESTS

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

SCIENTIFIC LEADERSHIP/MEMBERSHIP

The Earth 2.0 Microlensing Space Telescope	PI
The Roman Galactic Exoplanet Survey Project Infrastructure Team	co-I
The LCOGT key project for high-magnification microlensing events	co-PI
The CFHT microlensing survey	PI
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)

2018, 2019 China National Scholarship, Tsinghua University
2015 China National Scholarship, Zhejiang University
2017, 2018, 2020 First Prize in AMD Scholarship, Tsinghua University

LEADING MENTERSHIP

1. **Hanyue Wang**, Harvard University, undergraduate, 2021–2022
Paper: **Wang, H., Zang, W., Zhu, W., et al.**, [2022, MNRAS, 510, 1778](#);
Jung, Y., **Zang, W., Wang, H., et al.**, [2023, AJ, 165, 226](#)
2. **Xiangyu Zhang**, Tsinghua University, undergraduate, 2018–2020
Paper: **Zhang, X., Zang, W., Udalski, A., et al.**, [2020, AJ, 159, 116](#)
3. **Jiyuan Zhang**, Tsinghua University, undergraduate/Ph.D., 2021–now
Paper: **Zhang, J., Zang, W., Jung, Y., et al.**, [2023, MNRAS 522, 6055](#);
Bell, A., **Zhang, J., Zang, W., et al.**, [2023 PASP submitted](#)
4. **Hongjing Yang**, Xiamen/Tsinghua University, undergraduate/Ph.D., 2019
Paper: **Yang, H., Zhang, X., Hwang, K., Zang, W., et al.**, [2020, AJ, 159, 98](#)
5. **Yongxin Wen**, Sun Yat-sen University, MA student, 2022–2023
Paper: **Wen, Y., Zang, W., Ma, B.**, [2023, ApJS, 269, 28](#)
6. **Ruocheng Zhai**, Tsinghua University, undergraduate, 2022–now
Paper: **Zhai, R., Poleski, R., Zang, W., et al.** AJ submitted
7. **Yuqian Gui**, Tsinghua University, undergraduate, 2022–now
Paper: **Gui, Y., Zang, W., Jung, Y., et al.** MNRAS to be submitted
8. **Aislyn Bell**, University of Colorado Boulder, undergraduate, 2023–now
Paper: **Bell, A., Zhang, J., Zang, W., et al.**, [2023, PASP submitted](#)
9. **Yunyi Tang**, Tsinghua University, undergraduate, 2022–now
10. **Qiyue Qian**, Tsinghua University, Ph.D. student, 2023–now
11. **Shi Yan**, Nankai University, undergraduate, 2022 Spring

OBSERVING EXPERIENCE (AS PI OR CO-PI)

CFHT (55.7 hrs in total)	22.0 hrs in 2018A, 6.4 hrs in 2018B, 5.5 hrs in 2020A 4.1 hrs in 2021B, 11.7 hrs in 2022A, 6.0 hrs in 2022B
LCOGT (1366 hrs in total)	48 hrs in 2017B, 40 hrs in 2018A, 50 hrs in 2018B 60 hrs in 2019A, 60 hrs in 2019B, 60 hrs in 2020A 150 hrs in 2020B, 100 hrs in 2021A, 85 hrs in 2021B

220 hrs in 2022A, 100 hrs in 2022B, 190 hrs in 2023A
203 hrs in 2023B

SERVICE AND OUTREACH

Since 2017	Referee for AJ, ApJ, ApJS, MNRAS
2023 Summer	Mentor of NSF Research Experience for Undergraduates (REU) Summer Intern Program; Student: Aislyn Bell
Since 02/2023	Contributor for the CfA-Early Career Astronomers workshop , organized a workshop on “How to Build a Personal Website”.
Since 08/2023	One of Two Organizers for the CfA Exoplanet Pizza Lunch
2015–2016	the executive president of the Physics Student Union of Zhejiang University, China
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

132 papers including: 10 first-author, 14 second-author, and 6 third-author; 1600+ total citations; h-index = 22; Full list: [ADS Link](#)

First-Author; [ADS Link](#)

1. **Zang, W.**, Jung, Y., Yee, J., et al. *The KMTNet Mass-Ratio Distribution: Super-Earths are common in Jupiter-like orbits*, [Nature in review](#)
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, 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](#)
2. *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](#)
3. *Yee, J., **Zang, W.**, Udalski, A., et al., *OGLE-2019-BLG-0960Lb: The Smallest Microlensing Planet*, [2021, AJ, 162, 180](#)
4. *Gould, A., **Zang, W.**, Mao, S., Dong, S., *Masses for free-floating planets and dwarf planets*, [2021, RAA, 21, 133](#)
5. *Zhang, X., **Zang, W.**, Udalski, A., et al., *OGLE-2015-BLG-1771Lb: A Microlens Planet Orbiting an Ultracool Dwarf?*, [2020, AJ, 159, 116](#)
6. 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](#)
7. 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](#)
8. 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](#)
9. 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](#)
10. 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](#)

11. Kuang, R., **Zang, W.**, Jung, Y., et al., *OGLE-2019-BLG-1470LABc: Another Microlensing Giant Planet in a Binary System*, 2022, [MNRAS 516, 1704](#)
12. 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](#)
13. 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](#)
14. 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, in press](#)
15. 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](#)
16. 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*, [A&A, 674, 90](#)
17. 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](#)
18. Yang, H., Mao, S., **Zang, W.**, Zhang, X., *Microlensing predictions: impact of Galactic disc dynamical models*, 2021, [MNRAS, 502, 5631](#)
19. 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](#)
20. 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](#)

CONFERENCE TALKS (* = INVITED)

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1. *Roman RGS PIT Kick-Off Meeting, Columbus, OH, 10/2023
 2. *The First workshop on time domain and lensing, virtual conference, 04/2023
 3. The 7th Telescope Access Program (TAP) User Meeting, virtual conference, 12/2022
 4. 25th International Microlensing Conference, virtual conference, 09/2022
 5. 2021 Chinese Astronomical union conference, virtual conference, 12/2021
 6. *The 6th Telescope Access Program (TAP) User Meeting, virtual conference, 12/2021
 7. ACAMAR: Future of Traditional Survey Science, virtual conference, 09/2021
 8. 2021 Chinese Planetary Science Conference, Suzhou, China, 06/2021
 9. *The 5th Telescope Access Program (TAP) User Meeting, virtual conference, 01/2021

10. *Earth 2.0 Mission Science Discussion Meeting, virtual conference, 10/2020
11. 23rd International Microlensing Conference, New York, NY, 01/2019

SEMINARS (* = INVITED)

1. Institute for Theory and Computation Luncheon Talk, Center for Astrophysics | Harvard & Smithsonian, 11/2023
2. Exoplanet Pizza Lunch Seminar, Center for Astrophysics | Harvard & Smithsonian, 09/2023
3. *Special Seminar, Zhejiang University, 09/2023
4. Exoplanet Group Seminar, Ohio State University, 05/2023
5. *Theoretical Astrophysics Center Seminar, Berkeley University, 03/2023
6. *The Earth 2.0 Mission Seminar, Online, 08/2022