

Songhu Wang, Ph.D.

Department of Astronomy
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EDUCATION

NANJING UNIVERSITY, China
Ph.D. in Astronomy, 2016
Thesis: *CSTAR Exoplanet Detection and Transiting Exoplanet Follow-up Research*
Advisor: Ji-Lin Zhou

LANZHOU UNIVERSITY, China
B.S. in Physics, 2008

APPOINTMENTS

YALE UNIVERSITY, New Haven, CT 2016 –present
51 Pegasi b Fellow

UNIVERSITY OF CALIFORNIA, Santa Cruz, CA 2014 – 2016
China Scholarship Council Fellow

FELLOWSHIPS & AWARDS

- 51 Pegasi b Fellowship, 2017
- Trotter Fellowship, 2016 (declined)
- Nanjing University Outstanding Ph.D. Graduate Award, 2016
- China Scholarship Council Fellowship, 2014-2016
- Nanjing University Communications Holding Award (Outstanding Award), 2015
- Nanjing University Presidential Award, 2014

OBSERVING PROGRAMS

- Keck I, HIRESr, Do Multi-planet Systems Share Alignment with Their Parent Stars?, 2018A, 1 night, PI
- Keck I, HIRESr, Measuring the Spin-Orbit Alignment of a Multi-Planet System, 2017A, 1 night, PI
- SMARTS, CHIRON, Characterizing Hot Jupiters of the Southern Hemisphere, 2018A, 60 hours, PI
- SMARTS, CHIRON, Characterizing Hot Jupiters of the Southern Hemisphere, 2017B, 30 hours, PI
- Palomar Hale, WIRC, Assessing the Habitability of Trappist-1 Multiple-planet System, 2017B, 11 night, PI
- The Transiting Exoplanet Monitoring Project, 4*1m telescopes, 2014-Present, 200 nights/year, PI
- The Lick-Carnegie Exoplanet Survey, 2.4m Automated Planet Finder, 2014-Present, 140 nights/year, Co-I
- The Anglo-Australia Planet Search Program, 3.9m Anglo-Australia telescope, 2012A, 9 nights, Co-I
- The Lijet Planet Search Program, 2.4m YAO telescope, 2011, 5 nights, Co-I

SELECTED TALKS AND CONFERENCES

- Invited Seminar, Williams Collage, Massachusetts, Jan. 2018 (Scheduled)
From Neptune to Trappist-1
- Invited Seminar, Nanjing University, Nanjing, China, Dec. 2017 (Scheduled)
Origin of Exoplanetes
- Invited Colloquium, Purple Mountain Observatory, Nanjing, China, Dec. 2017 (Scheduled)
Placing Solar System into Galactic Planetary Census
- IREx Colloquium, University of Montreal, Montreal, Nov. 2017 (Scheduled)
Exoplanetary Diversity and Uniformity
- Invited talk in WIRC+Pol/Spec progress meeting, Caltech, Pasadena, Aug. 2017

Transit Timing Variations

- Invited talk for ELS Community, New Haven, Aug. 2017
The Search for Alien Life
- Symposium talk, Heising-Simons Foundation, Los Altos, Aug. 2017
The Search for New Worlds
- Invited talk in Yale Society of Physics Students, Yale, New Haven, Jul. 2017
Solar System and Beyond
- Invited talk in Hartness Workshop, Hartness House Inn, Vermont, Jul. 2017
Finding Exoplanets with Small Telescopes
- Kepler Conference talk, NASA Ames, Pasadena, Jun. 2017
Updated Masses for Trappist-1 Planets with K2
- ERES Conference talk, Yale, New Haven, Jun. 2017
From K2 to K2
- Invited talk in Connecticut Exoplanet Picnic, Wesleyan University, May. 2017
Transit and Transit Timing Variations
- Pop talk in Northeast Astronomy Postdoc Retreat, Columbia University, New York, Mar. 2017
Mass vs Period
- Symposium talk, University of Bern, Switzerland, Feb. 2016
Multifaceted Exoplanet Detection
- 3 Seminar talks, ETH Zurich, University of Zurich, Geneva Observatory, Switzerland, Feb. 2016
Multifaceted Exoplanet Detection
- 1 Pops talk and 2 Posters, Sagan Exoplanet workshop, Caltech, Jul. 2015
Time-domain Astronomy with the Chinese Small Telescope ARray
Photometric Follow-up Observations of Transiting Hot Jupiter HAT-P-29
- Seminar talk, Xinjiang Observatory, China, Jan. 2014
Detection and Study of Exoplanets
- Seminar talk, Three Dimensional Structure of the Milky Way Group, NAOC, China, Dec. 2013
Search for Stellar Flares in the Kepler Light Curves
- Seminar talk, BATC group, NAOC, China, Dec. 2013
Detection and Characterization of Exoplanets
- Conference talk, Nanjing University, China, Oct. 2013
Exoplanet Candidates in the CSTAR Field
- Conference talk, Tsinghua University, China, Sep. 2013
Exoplanet Detection with CSTAR
- Workshop talk, NAOC, China, Nov. 2012
AST3 Transit Survey Pipeline
- Poster, ASA Annual Scientific Meeting, UNSW, Australia, Jun. 2012
The Inhomogeneous Effect of Cloud on CSTAR Photometry
- Workshop talk, Observational Astronomy Summer School, KIAA, China, Oct. 2011
High Precision Differential Photometry of the WASP-33b Using the BATC Telescope

PUBLICATIONS (8 First Author, 6 Second Author, 21 Total)

First Author:

- *Stellar Spin-Orbit Alignment for Kepler-9, a Multi-transiting Planetary system with Two Outer Planets Near 2:1 Resonance*
Songhu Wang, Brett Addison, Debra Fischer et al. 2017, **The Astronomical Journal**, Under Review
- *Transiting Exoplanet Monitoring Project (TEMP). III. On the Relocation of the Kepler-9~b Transit*
Songhu Wang, Dong-Hong Wu, Brett Addison et al. 2017, **The Astronomical Journal**, Under Review
- *Updated Masses for the TRAPPIST-1 Planet*
Songhu Wang, Dong-Hong Wu, Thomas Barclay, and Gregory Laughlin 2017, **The Astrophysical Journal Letter**, Under Review
- *Transiting Exoplanet Monitoring Project (TEMP). I. Refined System Parameters and Transit Timing Variations of HAT-P-29b*
Songhu Wang, Yong-Hao Wang, Xiaojia Zhang et al. 2017, **The Astronomical Journal**, Under Review
- *Photometric Variability in the CSTAR Field: Results from the 2008 Data Set*

- Songhu Wang, Hui Zhang, Xu Zhou et al. 2015, **The Astrophysical Journal Supplement**, 218, 20
- *Planetary Transit Candidates in the CSTAR Field: Analysis of the 2008 Data Set*
- Songhu Wang, Hui Zhang, Ji-Lin Zhou et al. 2014, **The Astrophysical Journal Supplement**, 211, 26
- *The Correction of Diurnal Effects on CSTAR Photometry*
- Songhu Wang, Xu Zhou, Hui Zhang et al. 2014, **Research in Astronomy and Astrophysics**, 14, 345
- *The Inhomogeneous Effect of Cloud on CSTAR Photometry and Its Correction*
- Songhu Wang, Xu Zhou, Hui Zhang et al. 2012, **The Publications of the Astronomical Society of the Pacific**, 124, 1167

Second Author:

- *Transiting Exoplanet Monitoring Project (TEMP). V. Refined System Parameters and Transit Timing Variations of HAT-P-25b*
- Xian-Yu Wang, Songhu Wang, Tobias Hinse, et al. 2017, **The Astronomical Journal**, Under Review
- *Kepler Multi-Planet Systems Exhibit Unexpected Intra-system Uniformity in Mass and Radius*
- Sarah Millholland, Songhu Wang, Gregory Laughlin 2017, **The Astrophysical Journal Letters**, Accepted.
- *Transiting Exoplanet Monitoring Project (TEMP). II. Refined System Parameters and Transit Timing Variations of HAT-P-33b*
- Yong-Hao Wang, Songhu Wang, Hui-Gen Liu et al. 2017, **The Astronomical Journal**, 154, 49
- *Stellar Flares in the CSTAR Field. Results from the 2008 Data Set*
- En-Si Liang, Songhu Wang, Ji-Lin Zhou et al. 2016, **The Astronomical Journal**, 152, 168
- *On the Detection of Non-transiting Hot Jupiters in Multiple-Planet System*
- Sarah Millholland, Songhu Wang, Gregory Laughlin 2016, **The Astrophysical Journal Letters**, 823, 7
- *Forever Alone? Testing Single Eccentric Planetary Systems for Multiple Companions*
- Robert A. Wittenmyer, Songhu Wang, Jonathan Horner et al. 2013, **The Astrophysical Journal Supplement**, 208, 2

Contributing Author:

- *Detecting Habitable Planets in Multi-planet Systems via High Precision Astrometry*
- Zhou-Yi Yu, Hui-Gen Liu, Dong-Hong Wu, Songhu Wang, et al. 2017, **The Monthly Notices of the Royal Astronomical Society**, Under Review
- *The Study of Galactic Disk Kinematics with SCUSS and SDSS Data*
- Xiyan Peng, Zhenyu Wu, Zhaoxiang Qi, and 5 coauthors including Songhu Wang, 2017, **The Monthly Notices of the Royal Astronomical Society**, Under Review
- *The Lick-Carnegie Exoplanet Survey: HD32963 - A New Jupiter Analog Orbiting A Sun-Like Star*
- Dominick Rowan, Stefano Meschiari, Gregory Laughlin, and 9 coauthors including Songhu Wang, 2016, **The Astrophysical Journal**, 817, 104
- *A Six-Planet System Orbiting HD 219134*
- Steven S. Vogt, Jennifer Burt, Stefano Meschiari, and 10 coauthors including Songhu Wang, 2015, **The Astrophysical Journal**, 814, 12
- *Eclipsing Binaries From the CSTAR Project at Dome A, Antarctica*
- Ming Yang, Hui Zhang, Songhu Wang et al. 2015, **The Astrophysical Journal Supplement**, 217, 28
- *An Investigation of the Absolute Proper Motions of the SCUSS Catalog*
- Xiyan Peng, Zhaoxiang Qi, Zhenyu Wu, and 21 coauthors including Songhu Wang, 2015, **The Publications of the Astronomical Society of the Pacific**, 127, 250
- *Ghost Image Correction in CSTAR Photometry*
- Zeyang Meng, Xu Zhou, Hui Zhang, and 6 coauthors including Songhu Wang, 2013, **The Publications of the Astronomical Society of the Pacific**, 125, 1105

STUDENTS AND POSTDOCS MENTORING

- Trustin Henderson, 1st year undergraduate student, Yale, 2017-Present
- Yong-Hao Wang, 5th year graduate student, National Astronomical Observatory of China, 2014-Present
- Xian-Yu Wang, Senior undergraduate student, Shandong University, 2016 - Present
- Dong-Hong Wu, 5th year graduate student, Nanjing University, 2016-Present
- En-Si Liang, 5th year graduate student, Nanjing University, 2014-2016
- Zhou-Yi Yu, 5th year graduate student, Nanjing University, 2014-2016