Xin Wang

Personal Information

Current Status:	Postdoctoral Research Associate at Caltech/IPAC
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Education and Employment

Aug. 2019– Present	Infrared Processing and Analysis Center, Caltech **Postdoctoral Research Associate**
Sept. 2015– Jun. 2019	Department of Physics and Astronomy, University of California, Los Angeles **Ph.D. in Astronomy & Astrophysics**
Sept. 2013– Jun. 2015	Physics Department, University of California, Santa Barbara **Master of Arts in Physics**
Sept. 2010– Jun. 2013	School of Astronomy and Space Sciences, Nanjing University **Master of Science in Astrophysics**
Sept. 2006– Jun. 2010	Department of Astronomy, Nanjing University **Bachelor of Science in Astronomy**

Awards and Honors

Mar. 2020	Kavli Visiting Fellow, Peking University
Jun. 2019	UCLA Physics and Astronomy Commencement Speaker
Jan. 2019	Chinese Government Award for Outstanding Graduate Students Abroad ($6k)
Dec. 2018	UCLA Doctoral Student Travel Grant ($1k)
Jul. 2018	UCLA Richardson Travel Fund ($1.7k)
Jun. 2018	UCLA Dissertation Year Fellowship ($47k: stipend+tuition)
May 2018	Rudnick-Abelmann Fellowship, UCLA ($2k)
Apr. 2018	IAU grant for participating the XXXth General Assembly (€0.75k)
Apr. 2018	AAS International Travel Grant ($2k)
Apr. 2015	AAS International Travel Grant ($1k)
Jun. 2014	1st Prize for Excellent M.Sc. Thesis amongst all Universities and Colleges in Jiangsu Province
Sept. 2013	Broida Fellowship, UCSB ($3k)
Dec. 2012	National Scholarship for Graduate Students (CNY30k)
Aug. 2010	1st Prize for Excellent B.Sc. Thesis amongst all Universities and Colleges in Jiangsu Province
Oct. 2009	Scholarship of National Astronomical Observatories, Chinese Academy of Sciences

Talks and Colloquia

Jan. 2022	**Contributed Talk**, @ AAS 239, Salt Lake City
Jan. 2021	**Contributed Talk**, @ AAS 237, virtual
Dec. 2020	**Invited Seminar**, @ Department of Physics and Astronomy, University of Missouri
Dec. 2019	**Invited Talk**, @ Purple Mountain Observatory, Nanjing
Dec. 2019	**Invited Talk**, @ 2019 Nanjing University Youth Forum, Nanjing
Dec. 2019	**Invited Talk**, @ Shanghai Astronomical Observatory
Dec. 2019	**Invited Talk**, @ Shanghai Jiao Tong University, Shanghai
Aug. 2019	**Lunch Talk**, @ The Kavli Institute for Astronomy and Astrophysics at Peking University
Aug. 2019	**Invited Talk**, @ National Astronomical Observatories of China, Beijing
Aug. 2019	**Invited Talk**, @ Key Laboratory of Space Utilization, CAS
Jun. 2019	**Invited Talk**, @ CLEAR collaboration meeting, STScI

Feb. 2019 | **Contributed Talk**, @ Extremely Big Eyes on the Early Universe, UCLA
Jan. 2019 | **Dissertation Talk**, @ AAS 233, Seattle
Dec. 2018 | **Astronomy Seminar** @ Columbia
Dec. 2018 | **Galread Extragalactic Discussion Group** @ Princeton
Dec. 2018 | **Galaxy Journal Club** @ STScI
Dec. 2018 | **Galaxies & Cosmology Seminar** @ CfA Harvard & Smithsonian
Nov. 2018 | **IMPS Seminar** @ UC Santa Cruz
Nov. 2018 | **Lunch Talk** @ Carnegie Observatories, Pasadena, CA
Oct. 2018 | **Astronomy Tea Talk** @ Caltech, Pasadena, CA
Aug. 2018 | **Contributed Talk**, @ Focus Meeting 7 at the XXXth IAU General Assembly, Vienna, Austria
Jul. 2018 | **Invited Talk**, @ University of Science and Technology of China, Hefei
Jun. 2018 | **Contributed Talk with Conference Fellowship**, @ KIAA Forum on Gas in Galaxies, Beijing
May 2018 | **Invited Talk**, @ 2018 Nanjing University Youth Forum, Nanjing
Feb. 2018 | **Colloquium Talk**, @ IPAC, Caltech, Pasadena, CA
Jan. 2018 | **Lunch Talk**, @ Carnegie Observatories, Pasadena, CA
Sept. 2017 | **Invited Talk**, @ Tsinghua University, Beijing
Sept. 2017 | **Invited Talk**, @ Nanjing University, Nanjing
Sept. 2017 | **Invited Talk**, @ Shanghai Jiao Tong University, Shanghai
Jun. 2017 | **Contributed talk**, @ Special Session 11 at European Week of Astronomy and Space Science, Prague, Czech Republic
Jan. 2017 | **Colloquium talk**, @ Steward Observatory, University of Arizona, Tucson, AZ
Aug. 2016 | **Colloquium talk**, @ Department of Astronomy, University of Michigan, Ann Arbor, MI
Jul. 2016 | **Invited talk**, @ Tsinghua University, Beijing
Jun. 2016 | **Invited talk**, @ Nanjing University, Nanjing
Jun. 2016 | **Invited talk**, @ Purple Mountain Observatory, Nanjing
Jun. 2016 | **Invited talk**, @ National Astronomical Observatories of China, Beijing
Aug. 2015 | **Contributed talk**, @ Focus Meeting 22 at the XXIXth IAU General Assembly, Honolulu, HI
Nov. 2012 | **Contributed talk**, @ Tsinghua Transient Workshop 2012, Tsinghua University, Beijing
Jun. 2010 | **Contributed talk**, @ A mini-workshop on "Gamma-ray Sky from Fermi: Neutron Stars and their Environment", Hong Kong, China
Apr. 2009 | **Contributed talk**, @ Frontiers of Space Astrophysics: Neutron Stars & Gamma Ray Bursts — Recent Developments & Future Directions, Cairo & Alexandria, Egypt

Approved Observing Proposals

9 Keck 2022A_U016, PI Malkan, *2 Full Nights*: The Most Massive Galaxy Protoclusters at Cosmic Noon—Impact on Galaxy Evolution

8 HST-GO-16276, **PI Wang**, *45 Primary Spacecraft Orbits*: WFC3 Spectroscopy of the Most Massive Galaxy Protoclusters at Cosmic Noon

7 JWST-GO-01571, PI Malkan: PASSAGE–Parallel Application of Slitless Spectroscopy to Analyze Galaxy Evolution

6 JWST-GO-02136, PI Jones: The emergence of the modern Hubble sequence revealed by JWST slit-stepping

5 JWST-ERS-01324, PI Treu: Through the Looking GLASS: A JWST Exploration of Galaxy Formation and Evolution from Cosmic Dawn to Present Day

4 Keck 2017A_U037, 2017B_U058, 2018A_U158, 2018B_U061, 2019A_U130, 2019B_U057, PI Jones: Dissecting Galaxy Formation and Testing Feedback Models on 100 pc Scales: An OSIRIS Survey of Lensed Galaxies at $z \simeq 2$

3 HST-GO-15647, PI Teplitz: Ultraviolet Imaging of the Cosmic Assembly Near-infrared Deep Extragalactic Legacy Survey Fields (UVCANDELS)

2 HST-DDT-14922, PI Kelly: Probing the Nature of Dark Matter with Individual Stars Highly Magnified by a Galaxy Cluster

1 HST-GO-13459, PI Treu: The Grism Lens-Amplified Survey from Space (GLASS)

Observing Experience

- Keck OSIRIS, 16 nights
- Keck MOSFIRE, 1 night
- Lick Observatory Shane telescope, 1 night
- Palomar Observatory P200 telescope, 2 nights
- Keck DEIMOS, 3 nights
- Keck ESI, 1 night
- Steward Observatory Bok telescope, 6 nights

Professional Service

- Referee for *ApJ, ApJS, PASJ*
- External reviewer for Large HST proposals in Cycle 29
- External reviewer for Chinese Telescope Access Program Time Allocation Committee
- Selected participant in the inaugural JWST Master Class
- Organizer of the KIAA JWST Proposal Planning Workshop and the UCLA JWST Proposal Planning Workshop
- Organizer of Treu Group Meetings, @ UCSB & UCLA
- Organizer of Graduate Journal Club in School of Astronomy and Space Sciences, NJU

Teaching and Mentoring

2020–Present	Zihao Li, graduate student at Tsinghua University, co-advising with Prof. Zheng Cai
2018–2019	Jessie Hirtenstein, graduate student at UC Davis, co-advising with Prof. Tucker Jones
Mar.–Jun. 2014	Teaching assistant of *Physics 3: Basic Physics*, University of California, Santa Barbara
Sept.–Dec. 2013	Teaching assistant of *Physics 6 Lab*, University of California, Santa Barbara
Sept.–Dec. 2010	Teaching assistant of *Theoretical Astrophysics* (upper division undergraduate course), NJU

Working Experience and Outreach Activities

2015–2017	Demonstrator of Astronomy experiments to local K12 schools in Los Angeles
2015–2017	Volunteer in the annual Exploring Your Universe! events, UCLA
2010–2012	President of Graduate Student Union in School of Astronomy and Space Sciences, NJU

Publications

Full list available at ADS

1st/2nd Author Papers in Refereed Academic Journals

13 **Wang, X.** et al. The Lyman Continuum Escape Fraction of Star-forming Galaxies at $z \gtrsim 2.4$ from UVCANDELS. In prep.

12 **Wang, X.** et al. Early results from GLASS-JWST. IV. Spatially resolved metallicity in a low-mass $z \sim 3$ galaxy with NIRISS. 2022, *Astrophys. J. Letters*, in press (arXiv:2207.13113) [2 citations]

11 Li, Z., **Wang, X.** et al. First Census of Gas-phase Metallicity Gradients of Star-forming Galaxies in OverdenseEnvironments at Cosmic Noon. 2022, *Astrophys. J. Letters*, 929, L8 (arXiv:2204.03008) [3 citations]

10 **Wang, X.** et al. The mass-metallicity relation at cosmic noon in overdense environments: first results from the MAMMOTH-Grism HST slitless spectroscopic survey. 2022, *Astrophys. J.*, 926, 70 (arXiv:2108.06373) [5 citations]

9 **Wang, X.** et al. A Census of Sub-kiloparsec Resolution Metallicity Gradients in Star-forming Galaxies at Cosmic Noon from HST Slitless Spectroscopy. 2020, *Astrophys. J.*, 900, 183 (arXiv:1911.09841) [19 citations]

8 **Wang, X.** et al. Discovery of Strongly Inverted Metallicity Gradients in Dwarf Galaxies at $z\sim2$. 2019, *Astrophys. J.*, 882, 94 (arXiv:1808.08800) [31 citations]

7 **Wang, X.** et al. The Grism Lens-Amplified Survey from Space (GLASS) X. Sub-kiloparsec resolution gas-phase metallicity maps at cosmic noon behind the Hubble Frontier Fields cluster MACS1149.6+2223. 2017, *Astrophys. J.*, 837, 89 (arXiv:1610.07558) [46 citations]

6 **Wang, X.** et al. The Grism Lens-Amplified Survey from Space (GLASS) IV. Mass reconstruction of the lensing cluster Abell 2744 from frontier field imaging and GLASS spectroscopy. 2015, *Astrophys. J.*, 811, 29 (arXiv:1504.02405) [48 citations]

5 Jones, T., **Wang, X.** et al. The Grism Lens-Amplified Survey from Space (GLASS) II. Gas-Phase Metallicity and Radial Gradients in an Interacting System At z∼2. 2015, *Astron. J.*, 149, 107 (arXiv:1410.0967) [54 citations]

4 **Wang, X.**, Meng, X.-L., & Huang, Y. F., Testing X-ray Measurements of Galaxy Cluster Gas Mass Fraction Using the Cosmic Distance-Duality Relation and Type Ia Supernovae. 2013, RAA, 13, 1013 (arXiv:1305.2077) [3 citations]

3 **Wang, X.**, Meng, X.-L. et al. Observational Constraints on Cosmic Neutrinos and Dark Energy Revisited. 2012, *J. Cosmol. Astropart. Phys.*, 11, 018 (arXiv:1210.2136) [27 citations]

2 **Wang, X.**, Huang, Y. F., & Kong, S. W. Constraint on the Counter-jet Emission in GRB Afterglows from GRB 980703. 2010, *Sci. China-Phys. Mech. Astron.*, 53 (Suppl.1), 259 [3 citations]

1 **Wang, X.**, Huang, Y. F., & Kong, S. W. On the Afterglow from the Receding Jet of Gamma-Ray Bursts. 2009, *Astron. Astrophys.*, 505, 1213 (arXiv:0903.3119) [8 citations]

Contributing Author Papers in Refereed Academic Journals

22 Prichard, L. J., ..., **Wang, X.** et al. Lyman Continuum Galaxy Candidates in COSMOS. 2021 *Astrophys. J.* in press (arXiv:2110.06945) [3 citations]

21 Abramson, L. E., ..., **Wang, X.** et al. The Grism Lens-Amplified Survey from Space (GLASS). XIII. G800L optical spectra from the parallel fields. 2020, *MNRAS*, 493, 952 (arXiv:1906.00008) [4 citations]

20 Bradac, M., ..., **Wang, X.** Hubble Frontier Field photometric catalogues of Abell 370 and RXC J2248.7-4431: multiwavelength photometry, photometric redshifts, and stellar properties. *MNRAS*, 489, 99 (arXiv:1906.01725) [10 citations]

19 Morishita, T., ..., **Wang, X.**. Massive Dead Galaxies at z∼2 with HST Grism Spectroscopy. I. Star Formation Histories and Metallicity Enrichment. 2019, *Astrophys. J.*, 877, 141 (arXiv:1812.06980) [28 citations]

18 Hirtenstein, J., Jones, T., **Wang, X.** et al. The OSIRIS Lens-Amplified Survey (OLAS) I: Dynamical Effects of Stellar Feedback in Low Mass Galaxies at z∼2. 2018, *Astrophys. J.*, 880, 54 (arXiv:1811.11768) [13 citations]

17 Strait, V., ..., **Wang, X.** et al. Mass and Light of Abell 370: A Strong and Weak Lensing Analysis. 2018, *Astrophys. J.*, 868, 129 (arXiv:1805.08789) [19 citations]

16 Finney, E., ..., **Wang, X.** et al. Mass Modeling of Frontier Fields Cluster MACS J1149.5+2223 Using Strong and Weak Lensing. 2018, *Astrophys. J.*, 859, 1 (arXiv:1806.00698) [9 citations]

15 Morishita, T., Abramson, L. E., Treu, T., **Wang, X.** et al. Metal Deficiency in Two Massive Dead Galaxies at z∼2. 2018, *Astrophys. J. Letters*, 856, L4 (arXiv:1803.01852) [12 citations]

14 Abramson, L. E., ..., **Wang, X.** et al. The Grism Lens-Amplified Survey from Space (GLASS). XII. Spatially Resolved Galaxy Star Formation Histories and True Evolutionary Paths at z>1. 2018, *Astron. J.*, 156, 29 (arXiv: 1710.00843) [10 citations]

13 Kelly, P. L., ..., **Wang, X.** et al. Extreme magnification of an individual star at redshift 1.5 by a galaxy-cluster lens. 2018, *Nature Astronomy*, 2, 334 (arXiv:1706.10279) [75 citations]

12 Williams, P. R., ..., **Wang, X.** Discovery of three strongly lensed quasars in the Sloan Digital Sky Survey. 2018, *MNRAS*, 477L, 70 (arXiv:1706.01506) [16 citations]

11 Schmidt, K. B., ..., **Wang, X.** The Grism Lens-Amplified Survey from Space (GLASS). XI. Detection of CIV in Multiple Images of $z = 6.11$ Lyα Emitter Behind RXCJ2248.7-4431. 2017, *Astrophys. J.*, 839, 17 (arXiv:1702.04731) [39 citations]

10 Morishita, T., Abramson, L. E., Treu, T., Schmidt, K. B., Vulcani, B., **Wang, X.** Characterizing Intracluster Light in the Hubble Frontier Fields. 2017, *Astrophys. J.*, 846, 139 (arXiv:1610.08503) [54 citations]

9 Vulcani, B., ..., **Wang, X.** The Grism lens-amplified survey from space (GLASS). VIII. The influence of the cluster properties on Halpha emitter galaxies at $0.3 < z < 0.7$. 2017, *Astrophys. J.*, 837, 126 (arXiv:1610.04615) [15 citations]

8 Morishita, T., ..., **Wang, X.**, et al. The Grism Lens-Amplified Survey from Space (GLASS). IX. The dual origin of low-mass cluster galaxies as revealed by new structural analyses. 2017, *Astrophys. J.*, 835, 254 (arXiv:1607.00384) [35 citations]

7 Huang, K., ..., **Wang, X.** Detection of Lyman-Alpha Emission From a Triple Imaged z=6.85 Galaxy Behind MACS J2129.4-0741. 2016, *Astrophys. J. Letters*, 823L, 14 (arXiv:1605.05771) [30 citations]

6 Hoag, A., ..., **Wang, X.** et al. The Grism Lens-Amplified Survey from Space (GLASS). VI. Comparing the Mass and Light in MACSJ0416.1-2403 using Frontier Field imaging and GLASS spectroscopy. 2016, *Astrophys. J.*, 831, 182 (arXiv:1603.00505) [34 citations]

5 Schmidt, K. B., ..., **Wang, X.** The Grism Lens-Amplified Survey from Space (GLASS). III. A census of Lyα Emission at $z \gtrsim 7$ from HST Spectroscopy. 2016, *Astrophys. J.*, 818, 38 (arXiv:1511.04205) [56 citations]

4 Rodney, S., ..., **Wang, X.**, et al. Illuminating a Dark Lens : A Type Ia Supernova Magnified by the Frontier Fields Galaxy Cluster Abell 2744. 2015, *Astrophys. J.*, 811, 70 (arXiv:1505.06211) [59 citations]

3 Treu, T., Schmidt, K. B., Brammer, G. B., Vulcani, B., **Wang, X.** et al. The Grism Lens-Amplified Survey from Space (GLASS). I. Survey Overview and First Data Release. 2015, *Astrophys. J.*, 812, 114 (arXiv:1509.00475) [150 citations]

2 Schmidt, K. B., Treu, T., Brammer, G. B., Bradac, M., **Wang, X.** et al. Through the Looking GLASS: HST Spectroscopy of Faint Galaxies Lensed by the Frontier Fields Cluster MACSJ0717.5+3745. 2014, *Astrophys. J. Letters*, 782L, 36 (arXiv:1401.0532) [102 citations]

1 Meng, X.-L., Zhang, T.-J., Zhan, H., & **Wang, X.** Morphology of Galaxy Clusters: A Cosmological Model-Independent Test of the Cosmic Distance-Duality Relation. 2012, *Astrophys. J.*, 745, 98 (arXiv:1104.2833) [62 citations]