Xin Wang

Personal Information

Date and Place of Birth:	September 1st, 1988 | Tianjin, China
Current Status:	Graduate Student at University of California, Los Angeles
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Education

Sept. 2015 – Present | Department of Physics and Astronomy, UCLA | **Towards Ph.D. in Astrophysics (Jun. 2019)**
Field of Interest: Spatially Resolved Spectroscopy, Chemical Evolution of Galaxies, Extragalactic Nebular Emission, Strong Gravitational Lensing.
`Advisor: Prof. Tommaso Treu`

Sept. 2013 – Sept. 2015 | Physics Department, UCSB | **M.A. in Physics (Jun. 2015)**
`Advisor: Prof. Tommaso Treu`; Cumulative Total (Grad) GPA: 3.96

Sept. 2010 – May 2013 | School of Astronomy and Space Sciences, Nanjing University | **M.Sc. in Astrophysics (Jun. 2013)**
Field of Interest: Precision Cosmology, Galaxy Clusters, Primordial Power Spectrum.
`Advisors: Profs. Y. F. Huang, Charling Tao, Gong-Bo Zhao`

Sept. 2006 – Jun. 2010 | Department of Astronomy, Nanjing University | **B.Sc. in Astronomy (Jun. 2010)**
Weighted Average Score: 84.64/100 (overall), 87.68/100 (major); Ranking: 2nd/26

Research Experience

Sept. 2013 – Present | *Title: The Grism Lens-Amplified Survey from Space (GLASS) Project*
GLASS is a cycle-21 HST Large Program allocated 140 orbits of Grism spectroscopy assisted with HST optical and infrared imaging. We survey the core and infall regions of 10 dynamically relaxed, massive clusters, including 8 targeted by CLASH and 6 Frontier Fields. We will address three scientific questions: 1) What's the role that galaxies play in the process of reionization? 2) Why and how is galaxy evolution environmental dependent? 3) How do metals cycle in and out of galaxies and what's the interplay between cycling of metals and SF activities?
Project in progress and scientific products: Wang et al. (2017), Wang et al. (2015), Jones et al. (2015)

Feb. 2012 – Oct. 2012 | *Title: Constraints on Cosmic Neutrinos and Dark Energy Revisited*
Using various cosmological observations, i.e., CMB, weak lensing (WL), BAO, observational Hubble parameter data (OHD), type Ia supernovae (SNIa), we impose constraints on the sum of neutrino masses (Σm_ν), the effective number of neutrino species ($N_{\rm eff}$) and dark energy equation of state (w). We find that a tight upper limit on Σm_ν can be extracted if $N_{\rm eff}$ and w are fixed, however it will be severely weakened if $N_{\rm eff}$ and w are allowed to vary. This result raises questions on the robustness of previous strict upper bounds on Σm_ν, reported in the literature. The best-fits from our most generalized constraint read $\Sigma m_\nu = 0.556^{+0.231}_{-0.288}$eV, $N_{\rm eff} = 3.839 \pm 0.452$, and $w = -1.058 \pm 0.088$. The different constraining abilities of current WL, OHD and SNIa samples are assessed and compared.
Scientific Product: Wang et al. (2012)

Sept. 2008 – | *Title: Investigation on the Emission from the Receding Jet of Gamma-Ray Bursts*

Sept. 2009	In a series of work, we have studied the dynamical evolution of double-sided jets launched by the central engine of GRBs and calculated the afterglow emission from both jet components. For the first time, we present a detailed numerical study on the afterglow contributed from the jet component receding from the observer, with the effects of synchrotron self-absorption and equal arrival time surface taken into account. It is found that the receding jet emission is generally very weak and only manifests as a plateau in the late time radio afterglow light curves. However the emission from the receding jet can be significantly enhanced and possibly detectable, if the circum-burst medium density is very high. **Scientific Product: Wang et al. (2009)**

Publications and Activities

Selected Papers in Refereed Academic Journals

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)

2 **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)

3 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)

4 **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)

5 **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)

Selected Academic Activities

Apr. 2009	**Presented a talk**, @ Frontiers of Space Astrophysics: Neutron Stars & Gamma Ray Bursts — Recent Developments & Future Directions, Cairo & Alexandria, Egypt
Jun. 2010	**Presented a talk**, @ A mini-workshop on "Gamma-ray Sky from Fermi: Neutron Stars and their Environment", University of Hong Kong, Hong Kong
Aug. 2015	**Presented a talk**, @ Focus Meeting 22 at XXIX IAU General Assembly, Honolulu, HI
Jun. 2017	**Presented a talk**, @ Special Session 11 at European Week of Astronomy and Space Science, Prague, Czech Republic
Jul. 2017	**Presented a talk**, @ Shedding Light on the Dark Universe with Extremely Large Telescopes, Lanzhou, China

Awards and Honors (selected)

Apr. 2015	AAS International Travel Grant ($1k)
Jun. 2014	1st Prize for Excellent M.Sc. Thesis amongst all Universities and Colleges in Jiangsu Province
Dec. 2012	National Scholarship for Graduates *This is the highest honorific scholarship within China conferred annually upon excellent graduate students.*
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

Computer Skills

Python, MATLAB, FORTRAN, C, LaTeX, vim, Mathmatica, Origin Lab

Working Experience

Dec. 2010–	Organizer of Graduate Journal Club in School of Astronomy and Space Sciences, Nanjing University
Dec. 2011	In total, I arranged 17 meetings, and invited 34 speakers. The topics are related to the major field of interest of the speakers, who will also share with participants some academic experience in doing scientific research. This activity is financially supported by our school.
Jun. 2014–	Organizer of Treu Group Meeting, UCSB & UCLA
Jun. 2015	I organized the weekly group meetings of my advisor's.