

Zhen-Yi CAI

Dr. astrophysics

personal info

February 8, 1986
Quanzhou, China
Male, married

research interests

Galaxy Formation and Evolution, Variability of Active Galactic Nuclei etc.

academic record

2016.11-now	Associate Researcher , USTC, Department of Astronomy	Hefei, China
2014.04-2016.10	Postdoc , USTC, Department of Astronomy Advisor: Prof. Jun-Xian Wang	Hefei, China

contacts

Associate Researcher
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Astronomy
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No. 96, Jinzhai Road
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education

2009.11-2013.10	SISSA, Ph.D. degree in Astrophysics Supervisors: Prof. Luigi Danese, Gianfranco De Zotti & Andrea Lapi Thesis: <i>Toward a physical model for the evolution of galaxies and active galactic nuclei through cosmic times</i>	Trieste, Italy
2007.09-2014.04	Xiamen University (XMU), Ph.D. degree in Theoretical Physics Supervisors: Prof. Ju-Fu Lu & Wei-Min Gu	Xiamen, China
2003.09-2007.06	Xiamen University (XMU), B.Sc. in Physics Advisor: Prof. Wei-Min Gu	Xiamen, China

languages

Mandarin (native)
Amoy (native)
English (fluent)

awards

2013	Graduated <i>cum laude</i>	SISSA
2007	Outstanding Graduates	XMU

programming

♥ IDL (advanced)
LaTeX (advanced)
C/C++ (median)
Fortran (median)
Bash (basic)
HTML (basic)
Python (basic)

publication¹

- Total number: **11** as first or corresponding author; **48** publications in all.
- Total citations: **>160** for first or corresponding author; **>1,100** for all.
- Representative works:
 1. **Cai, Z.-Y.**; Wang, Jun-Xian; Sun, Mou-Yuan, *EUCLIA. II. On the puzzling large UV to X-ray lags in Seyfert galaxies*, **2020**, *ApJ accepted*
 2. **Cai, Z.-Y.**; De Zotti, Gianfranco; Bonato, Matteo, *High-z dusty star-forming galaxies: a top-heavy initial mass function?*, **2020**, *ApJ*, **891**, 74
 3. **Cai, Z.-Y.**; Sun, Y.-H.; Wang, J.-X.; et al., *New Clues to Jet Launching: The inner disks in radio loud quasars may be more stable*, **2019**, *SCPMA*, **62**, 69511
 4. **Cai, Z.-Y.**; Wang, J.-X.; Zhu, F.-F.; et al., *EUCLIA—Exploring the UV/Optical Continuum Lag in Active Galactic Nuclei. I. A Model without Light Echoing*, **2018**, *ApJ*, **855**, 117
 5. **Cai, Z.-Y.**; Wang, J.-X.; Gu, W.-M.; et al., *Simulating the timescale dependent color variation in quasars with a revised inhomogeneous disk model*, **2016**, *ApJ*, **826**, 7

¹<https://ui.adsabs.harvard.edu/public-libraries/eXalh49hS1akTjbsBXCFhg>

6. Cai, Z.-Y.; Lapi, A.; Bressan, A.; et al., *A Physical Model for the Evolving Ultraviolet Luminosity Function of High Redshift Galaxies and their Contribution to the Cosmic Reionization*, [2014, ApJ, 785, 65](#)
7. Cai, Z.-Y.; Lapi, A.; Xia, J.-Q.; et al., *A Hybrid Model for the Evolution of Galaxies and Active Galactic Nuclei in the Infrared*, [2013, ApJ, 768, 21](#)

funding

2019.01-2022.12	National Natural Science Foundation of China <i>The origin of UV/optical variability of active galactic nuclei</i>	PI
2016.01-2018.12	National Natural Science Foundation of China (Youth fund) <i>The co-evolution of galaxies and active galactic nuclei</i>	PI
2014.08-2016.08	China Postdoctoral Science Foundation <i>Modeling the co-evolution of galaxies and active galactic nuclei</i>	PI
2019.01-2023.12	National Natural Science Foundation of China (Major Program) <i>Growth history of galaxies and their central black holes in cosmic web</i>	Co-I
2017.01-2020.12	National Natural Science Foundation of China <i>Study on the physical properties of high-redshift massive compact galaxies</i>	M

activities & talks

2019.09	“Mapping Central Regions of Active Galactic Nuclei” <i>Title: Exploring the X-ray/UV/optical continuum lag in AGN: without light echoing</i>	Guilin, China
2017.12	“East-Asia AGN Workshop 2017” <i>Title: Producing the UV/optical continuum lag in AGN without light echoing</i>	Kagoshima, Japan
2017.07	“Unveiling the Physics Behind Extreme AGN Variability” <i>Title: An Upgraded Inhomogeneous Disk Model with Tight Inter-Band Correlations and Lags</i>	Virgin Islands, USA
2016.09	“East-Asia AGN Workshop 2016” <i>Title: Simulating the timescale dependent color variation in quasars</i>	Seoul, Korea

peer-reviewing

2016-	Referee for Research in Astronomy and Astrophysics	China
2015-	Referee for Astrophysics and Space Science	Netherlands
2014-	Referee for Progress in astronomy	China
2013-	Referee for Monthly Notices of the Royal Astronomical Society	UK