ZEFENG LI

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EDUCATION & EMPLOYMENT

Postdoctoral Research Associate, Durham University Oct 2023 - present

Ph.D., Astronomy & Astrophysics, Australian National University Oct 2019 - Aug 2023
Thesis: *metallicity correlations in galaxies* Advisor: Mark Krumholz & Emily Wisnioski

Algorithm Engineer, Cloudwalk Technology Oct 2018 - May 2019

B.S., Physics, Astronomy, Peking University Sept 2013 - Jul 2017

VISITING EXPERIENCES

Undergraduate Visiting Research, University of Arizona Mar 2016 - Jul 2016

Summer Research, Australian National University Oct 2017 - Jan 2018

CONFERENCES & TALKS

Contributed talk, Metal Production and Distribution in a Hierarchical Universe	Santiago, Nov, 2023
Seminar talk at PKU / KIAA	Beijing, Sept, 2023
Seminar talk at JLU	Changchun, Sept, 2023
Seminar talk at SHAO	Shanghai, Sept, 2023
Seminar talk at NJU	Nanjing, Sept, 2023
Seminar talk at UWA / ICRAR	Perth, April, 2023
Attendee, CSST workshop	Beijing, Jul 2022
Poster, From Stars to Galaxies II	Gothenburg, Jun 2022
Oral talk, star formation group meeting at SHAO	Shanghai, Jan, 2022
Poster, KIAA Forum on Gas in Galaxies	Beijing, Nov 2021
Poster, MOS-Galaxy STScI workshop	Baltimore, May 2021
Contributed talk, Annual Conference of the Chinese Astronomical Society	Wuhan, Nov 2016

PROFESSIONAL EXPERIENCE

Team

· MUSE-JELS large program of star formation and AGN in the COSMOS field: Co-I
· MUSE-ALMA Unveiling the Virgo Environment (MAUVE): member

Computation

· Python packages ADABIN (adaptive binning) and METCORR (two-point correlation computation)
· Enterprise-class machine learning / deep learning (convolutional neural network)

Observation

· 6-m class telescope (Multiple Mirror Telescope): 5 nights
· 2-m class telescope (Bok Telescope, Siding Spring 2.3m Telescope): 18 nights

AWARDS

RSAA HDR travel fund (A$5,000)	Australian National University, Dec 2022
ASTRO 3D travel fund (A$3,000 in total)	Australian National University, Dec 2022
Vice Chancellor travel fund (A$1,500)	Australian National University, Dec 2022
Summer Research Scholarship (A$2,000)	Australian National University, Oct 2017
Weiming Scholarship for outstanding thesis (top 10%)	Peking University, Jul 2017
Lin-Qiao Scholarship for outstanding undergraduate research (top 20%)	Peking University, Oct 2016
Shenkeqi Scholarship (top 30%)	Peking University, Sept 2014

PUBLICATIONS

All the published papers can be found in my ORCID homepage, among which astronomy-related refereed papers can be found in the ADS library (**h-index = 10**).

Corresponding-author

- (5) Li, S.-L., **Li, Z.**, Wisnioski, E., Krumholz, M. R., Sánchez, S. F. 2024, in preparation
  Comparing metallicity correlations in nearby non-AGN and AGN-host galaxies
- (4) **Li, Z.**, Grand, R. J. J., Wisnioski, E., Mendel, J. T., Krumholz, M. R., Ting, Y.-S., Pakmor R., Fragkoudi, F., Gómez, F. A., Marinacci, F., Ciucă, I. 2024, MNRAS, 528, 7103
  Cosmological evolution of metallicity correlation functions from the Auriga simulations
- (3) **Li, Z.**, Wisnioski, E., Mendel, J. T., Krumholz, M. R., Kewley, L. J., López-Cobá, C., Sánchez, S. F., Anderson, J. P., Galbany, L. 2023, MNRAS, 518, 286 (10 citations)
  Spatial metallicity distribution statistics at ~ 100 *pc scales in the AMUSING++ nearby galaxy sample*
- (2) **Li, Z.**, Krumholz, M. R., Wisnioski, E., Mendel, J. T., Kewley, L. J., Sánchez, S. F., Galbany, L. 2021, MNRAS, 504, 5496 (16 citations)
  Detection of metallicity correlations in 100 nearby galaxies
- (1) **Li, Z.**, McGreer, I. D., Wu, X.-B., Fan, X., Yang, Q. 2018, ApJ, 861, 6 (22 citations)
  The Ensemble Photometric Variability of Over 10^5 *Quasars in the Dark Energy Camera Legacy Survey and the Sloan Digital Sky Survey*

Co-author

- (18) Taylor, D. J. et al. (including **Li, Z.**) 2024, in submission
  The properties of the interstellar medium in dusty, star-forming galaxies at z ∼2-4: The shape of the CO spectral line energy distributions
- (17) Chen, Q.-H., Grasha, K., Battisti, A. J., Wisnioski, E., **Li, Z.** + 11 authors 2024, in submission
  Quantifying the azimuthal variations in the interstellar medium in the spiral galaxies with the TYPHOON survey
- (16) Myszka, A. et al. (including **Li, Z.**) 2024, in submission
  Calibrating the Chemical Content of Galaxies with the SAMI Zoom Survey: a data release of 92 spatially resolved HII regions in nearby galaxies
- (15) Zhu, Z., **Li, Z.**, Campbell, I. H., Cawood, P. A., Lu, N., Nebel, O. 2024, in submission
  Quantifying the loss of continental crust into the mantle from mass/volume balance in modern collisional mountains
- (14) Shen, Y. et al. (including **Li, Z.**) 2024, ApJS, 272, 26
  The Sloan Digital Sky Survey Reverberation Mapping Project: Key Results
- (13) Li, S.-L. et al. (including **Li, Z.**) 2024, MNRAS, 529, 4993
  The mass-metallicity and fundamental metallicity relations in non-AGN and AGN-host galaxies
- (12) Chen, Q.-H. et al. (including **Li, Z.**) 2024, MNRAS, 527, 2991
  The MAGPI Survey: Effects of Spiral Arms on Different Tracers of Interstellar Medium at $z \sim 0.3$

- (11) Zhu, Z., Campbell, I. H., Allen, C. M., **Li, Z.** 2023, Geochimica et Cosmochimica Acta, 346, 133
  Evolution of the preserved European continental crust, constrained by U-Pb, O and Hf isotopic analyses of river detrital zircons
- (10) Di, Y., **Li, Z.**, Amelin, Y. 2021, Journal of Analytical Atomic Spectrometry, 36: 1489-1502
  Monitoring and quantitative evaluation of Faraday cup deterioration using multidynamic isotope analyses of laboratory standards
- (9) Kinemuchi, K. et al. (including **Li, Z.**) 2020, ApJS, 250, 10
  The Sloan Digital Sky Survey Reverberation Mapping Project: Photometric g and i Light Curves
- (8) Di, Y., Tian, W., Chen, M., **Li, Z.**, Chu, Z., Liang, J. 2020, American Mineralogist, 105 (2): 149-161
  Original Water Content of Potassic Basalts from the Cenozoic Wudalianchi-Erkeshan-Keluo Volcanic Field, Northern China
- (7) Wolf, C. et al. (including **Li, Z.**) 2020, MNRAS, 491, 1970
  Ultra-luminous quasars at redshift $z > 4.5$ from SkyMapper
- (6) Grier, C. J. et al. (including **Li, Z.**) 2019, ApJ, 887, 1
  The Sloan Digital Sky Survey Reverberation Mapping Project: Initial CIV Lag Results from Four Years of Data
- (5) Zou, H. et al. (including **Li, Z.**) 2019, ApJS, 245, 4
  The Third Data Release of the BeijingArizona Sky Survey
- (4) Shen, Y. et al. (including **Li, Z.**) 2019, ApJ, 883, 14
  The Sloan Digital Sky Survey Reverberation Mapping Project: Improving Lag Detection with an Extended Multi-Year Baseline
- (3) Zou, H. et al. (including **Li, Z.**) 2017, AJ, 153, 276
  The First Data Release of the Beijing-Arizona Sky Survey
- (2) Wang, F. et al. (including **Li, Z.**) 2017, ApJ, 839, 27
  First Discoveries of $z > 6$ Quasars with the DECam Legacy Survey and UKIRT Hemisphere Survey
- (1) Yang, J. et al. (including **Li, Z.**) 2017, AJ, 153, 184
  Discovery of 16 New $z \sim 5.5$ Quasars: Filling in the Redshift Gap of Quasar Color Selection