Yue Shen Curriculum Vitae

Contact Information

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Education

- Ph.D, Astrophysics, 2009, Princeton University
- M.S., Physics, 2005, Tsinghua University, Beijing, China
- B.S., Physics, 2002, Tsinghua University, Beijing, China

Academic Appointments

- Professor of Astronomy, UIUC, 2023–present
- Associate Professor of Astronomy, UIUC, 2019–2023
- Assistant Professor of Astronomy, UIUC, 2015–2019
- Hubble Post-Doctoral Fellow, Carnegie Observatories, 2012–2015
- Clay Post-Doctoral Fellow, Harvard-Smithsonian Center for Astrophysics, 2009–2012

Selected Honors and Awards

- Campus Distinguished Promotion Award, 2023, UIUC
- LAS Dean's Distinguished Professorial Scholar, 2023-2024, UIUC
- Scialog Fellow, 2018 and 2019, Research Corporation for Science Advancement
- NCU-Delta Young Astronomer Lectureship Award, 2018, National Central University and Delta Electronics Foundation (Taiwan)
- Center for Advanced Study Fellowship, 2018–2019, UIUC
- Alfred P. Sloan Research Fellowship, 2016
- Hubble Fellowship, 2012, Space Telescope Science Institute
- Clay Fellowship, 2009, Smithsonian Astrophysical Observatory
- Yej Chi-Sun Prize, 2002, Department of Physics, Tsinghua University

Research Synopsis

In a nutshell, I am mainly interested in understanding the physics and evolution of supermassive black holes and their broad implications in galaxy formation. I heavily use multi-wavelength and time-domain observations from ground and space-based facilities, often focusing on survey data. I design and conduct large and long-term programs, as well as develop innovative techniques to address fundamental problems in the field of SMBHs, by measuring properties of SMBHs and their host galaxies/environments, and by deriving physical inferences on these cosmic ecosystems.

Publication Record

As of Aug 2023: 190 refereed papers (46 first-author); total citations $21000+$ (h-index 65); first-author paper citations $5000+$ (h-index 31).

Observing Programs and Grants

- **Observing Programs (PI only):**
  - The SDSS-RM project; The BHM-RM project
  - 2 Gemini Large-and-Long programs; 2 NOIRLab survey programs
  - 7 HST programs; 3 JWST programs; 1 Chandra program
  - $100+$ ($40+$) nights awarded on 6-10m (2-4m) class telescopes
- **Grants** (page 3): totaling $3M since 2015

Teaching, Advising, Outreach

- **Teaching:**
  - *ASTR 122: Stars and Galaxies*; SP16/FA16
  - *ASTR 350: The Big Bang, Black Holes, and the End of the Universe*; FA21
  - *ASTR 406: Galaxies and the Universe*; FA19/FA22
  - *ASTR 414: Astronomical Techniques*; SP18/SP19/SP20/SP21/SP23
  - *ASTR 502: Astrophysical Dynamics*; FA23
  - *ASTR 596: Seminar in Astronomy*; SP17/FA19
- **Advising:**
  - Research adviser for $8+$ graduate students
  - Research adviser for $10+$ undergraduate students
  - Undergraduate advisor for 2015 class of astronomy, UIUC
- **Outreach:**
  - Annual Girls Astronomy Summer Camp, 2018–
  - Public lectures and astronomy open houses

Professional Services

- **Peer-review journals:**
  - Associate Editor, *SCIENCE CHINA: Physics, Mechanics & Astronomy*, 2018–
  - Referee: *Nature, Nature Astronomy, Nature Reviews Physics, ApJ/AJ, MNRAS, A&A, PASP, PASA, PASJ, JCAP, JQSRT*, etc.
- **Review panel:**
  - NASA Hubble Fellowship (2020)
  - HST panel review (Cycles 24, 27); JWST panel review (Cycle 2)
  - NSF Graduate Research Fellowships Program (2018)
  - NASA ADAP panel review (2013, 2022)
- **External reviewer:**
  - Subaru TAC, Canadian Gemini TAC, Chinese Telescope Access Program TAC
  - Polish National Science Foundation (2015, 2016)
  - Israel Science Foundation (2017, 2019)
  - NASA Earth and Space Science Fellowship Program (2015)
- **Other synergistic activities:**
  - Survey Scientist, Sloan Digital Sky Survey V
  - Convener, TMT International Science Development Team on SMBHs
  - SMBH Science Working Group Chair, the Maunakea Spectroscopic Explorer

References

Prof. Michael A. Strauss, Princeton University, strauss@astro.princeton.edu
Prof. Luis C. Ho, Kavli Institute for Astronomy and Astrophysics, lho.pku@gmail.com
Prof. Scott Tremaine, Institute for Advanced Study, tremaine@ias.edu
Prof. Avi Loeb, Harvard University, aloeb@cfa.harvard.edu
Prof. W. N. Brandt, The Pennsylvania State University, wnbrandt@gmail.com
Dr. John Mulchaey, Carnegie Observatories, mulchaey@obs.carnegiescience.edu

YUE SHEN PUBLICATIONS

Referred Journal Articles

NASA ADS records (Aug 2023): 190 refereed papers (**46 first-author**); total citations $21000+$ (h-index 65); **first-author citations 5000+ (h-index 31)**.

First-author or corresponding author (†) papers

47. **Shen, Y.**, et al. 2023, **ApJS**, submitted, *The Sloan Digital Sky Survey Reverberation Mapping Project: Key Results*
46. **Shen, Y.**, et al. 2023, **ApJ**, 943, 38, *Statistics of Galactic-Scale Quasar Pairs at Cosmic Noon*
45. **Shen, Y.** 2021, **ApJ**, 921, 70, *Extreme Variability and Episodic Lifetime of Quasars*
44. **Shen, Y.**, & Burke, C. J. 2021, **ApJ**, 918, L19, *A Sample Bias in Quasar Variability Studies*
43. Burke, C. J., **Shen, Y.†,** et al. 2021, **Science**, 373, 789, *A characteristic optical variability timescale in astrophysical accretion disks*
42. **Shen, Y.†,** et al. 2021, **Nature Astronomy**, 5, 569, *A hidden population of high-redshift double quasars unveiled by astrometry*
41. **Shen, Y.,** et al. 2019, **ApJ**, 885, L4, *Varstrometry for Off-nucleus and Dual Sub-Kpc AGN (VODKA): How Well Centered Are Low-z AGN?*
40. **Shen, Y.,** et al. 2019, **ApJ**, 883, L14, *The Sloan Digital Sky Survey Reverberation Mapping Project: Improving Lag Detection with an Extended Multiyear Baseline*
39. **Shen, Y.**, et al. 2019, **ApJS**, 241, 34, *The Sloan Digital Sky Survey Reverberation Mapping Project: Sample Characterization*
38. **Shen, Y.**, et al. 2019, **ApJ**, 873, 35, *Gemini GNIRS Near-infrared Spectroscopy of 50 Quasars at $z > 5.7$*
37. **Shen, Y.**, 2018, **Nature Astronomy**, 2, 30, *Weighing supermassive black holes (News and Views)*
36. **Shen, Y.**, et al. 2016, **ApJ**, 831, 7, *The Sloan Digital Sky Survey Reverberation Mapping Project: Velocity Shifts of Quasar Emission Lines*
35. **Shen, Y.**, et al. 2016, **ApJ**, 818, 30, *The Sloan Digital Sky Survey Reverberation Mapping Project: First Broad-line Hβ and Mg II Lags at $z \gtrsim 0.3$ from six-Month Spectroscopy*
34. **Shen, Y.** 2016, **ApJ**, 817, 55, *Rest-frame Optical Properties of Luminous $1.5 < z < 3.5$ Quasars: The Hβ-[OIII] Region*
33. **Shen, Y.**, et al. 2015, **ApJ**, 805, 96, *The Sloan Digital Sky Survey Reverberation Mapping Project: No Evidence for Evolution in the $M_\bullet - \sigma_*$ Relation to $z \sim 1$*
32. **Shen, Y.**, et al. 2015, **ApJS**, 216, 4, *The Sloan Digital Sky Survey Reverberation Mapping Project: Technical Overview*
31. **Shen, Y.†**, Ho, L. C. 2014, **Nature**, 513, 210, *The diversity of quasars unified by accretion and orientation*

30. **Shen, Y.**, Liu, X., Loeb, A., Tremaine, S. 2013, **ApJ**, 775, 49, *Constraining sub-Parsec Binary Supermassive Black Holes in Quasars with Multi-Epoch Spectroscopy. I. The General Quasar Population*

29. **Shen, Y.**, et al. 2013, **ApJ**, 778, 98, *Cross-Correlation of SDSS DR7 Quasars and DR10 BOSS Galaxies: The Weak Luminosity Dependence of Quasar Clustering at* $z \sim 0.5$

28. **Shen, Y.** 2013, **BASI**, 41, 61, *The Mass of Quasars* (review)

27. **Shen, Y.** 2012, **ApJ**, 757, 152, *Astrometric Reverberation Mapping*

26. **Shen, Y.**, Liu, X. 2012, **ApJ**, 753, 125, *Comparing Single-Epoch Virial Black Hole Mass Estimators for Luminous Quasars*

25. **Shen, Y.**, Ménard, B. 2012, **ApJ**, 748, 131, *On the Link between Associated MgII Absorbers and Star Formation in Quasar Hosts*

24. **Shen, Y.**, Kelly, B. C. 2012, **ApJ**, 746, 169, *The Demographics of Broad-Line Quasars in the Mass-Luminosity Plane. I. Testing FWHM-Based Virial Black Hole Masses*

23. **Shen, Y.**, Liu, X., Greene, J. E., Strauss, M. A. 2011, **ApJ**, 735, 48, *Type 2 Active Galactic Nuclei with Double-peaked [O III] Lines. II. Single AGNs with Complex Narrow-line Region Kinematics are More Common than Binary AGNs*

22. **Shen, Y.**, et al. 2011, **ApJS**, 194, 45, *A Catalog of Quasar Properties from SDSS DR7*

21. **Shen, Y.**, Kelly, B. C. 2010, **ApJ**, 713, 41, *The Impact of the Uncertainty in Single-Epoch Virial Black Hole Mass Estimates on the Observed Evolution of the Black Hole - Bulge Scaling Relations*

20. **Shen, Y.**, Loeb, A. 2010, **ApJ**, 725, 249, *Identifying Supermassive Black Hole Binaries With Broad Emission Line Diagnosis*

19. **Shen, Y.** et al. 2010, **ApJ**, 719, 1693, *Binary Quasars at High Redshift II: Sub-Mpc Clustering at* $z \sim 3 - 4$

18. **Shen, Y.** 2009, **ApJ**, 704, 89, *Sumpermassive Black Holes in the Hierarchical Universe: A General Framework and Observational Tests*

17. **Shen, Y.**, Draine, B. T., & Johnson, E. T. 2009, **ApJ**, 696, 2126, *Modeling Porous Dust Grains with Ballistic Aggregates II: Properties of Scattered Light*

16. **Shen, Y.**, et al. 2009, **ApJ**, 697, 1656, *Quasar Clustering from SDSS DR5: Dependences on Physical Properties*

15. **Shen, Y.**, & Tremaine, S. 2008, **AJ**, 136, 2453, *Stability of Distant Satellites of Giant Planets in the Solar System*

14. **Shen, Y.**, Draine, B. T., & Johnson, E. T. 2008, **ApJ**, 689, 260, *Modeling Porous Dust Grains with Ballistic Aggregates I: Geometry and Optical Properties*

13. **Shen, Y.**, & Turner, E. L. 2008, **ApJ**, 685, 553, *On the Eccentricity Distribution of Exoplanets from Radial Velocity Surveys*

12. **Shen, Y.**, Greene, J. E., Strauss, M. A., Richards, G. T., & Schneider, D. P. 2008, **ApJ**, 680, 169, *Biases in Virial Black Hole Masses: An SDSS Perspective*

11. **Shen, Y.**, et al. 2008, **ApJ**, 677, 858, *Do Broad Absorption Line Quasars Live in Different Environments from Ordinary Quasars?*

10. **Shen, Y.**, et al. 2007, **AJ**, 133, 2222, *Clustering of High-Redshift ($z >= 2.9$) Quasars from the Sloan Digital Sky Survey*

9. **Shen, Y.**, Mulchaey, J, S., Raychaudhury, S., Rasmussen, J., & Ponman, T. J. 2007, **ApJ**, 654, L115, *Differences in the AGN Populations of Groups and Clusters: Clues to AGN Evolution*

8. **Shen, Y.**, Stone, J. M., & Gardiner, T. A. 2006, **ApJ**, 653, 513, *Three-dimensional Compressible Hydrodynamic Simulations of Vortices in Disks*

7. **Shen, Y.**, & Lou, Y.-Q. 2006, **MNRAS**, 370L, 85, *Dispersal of Gaseous Circumstellar Discs around High-mass Stars*

6. **Shen, Y.**, & Lou, Y.-Q., 2005, **ChJAS**, 5, 241, *Outflows and Inflows in Astrophysical Systems*

5. **Shen, Y.**, Liu, X., & Lou, Y.-Q. 2005, **MNRAS**, 356, 1333, *Structures in a class of magnetized scale-free discs*

4. **Shen, Y.**, & Lou, Y.-Q. 2004, **ChJAA**, 4, 541, *Global Axisymmetric Stability Analysis for a Composite System of Two Gravitationally Coupled Scale-Free Discs*

3. **Shen, Y.**, & Lou, Y.-Q., 2004, **MNRAS**, 353, 249, *Gravitationally coupled scale-free discs*

2. **Shen, Y.**, & Lou, Y.-Q., 2004, **ApJ**, 611, L117, *Shocked Self-similar Collapses and Flows in Star Formation Processes*

1. **Shen, Y.**, & Lou, Y.-Q., 2003, **MNRAS**, 345, 1340, *Axisymmetric stability criterion for two gravitationally coupled singular isothermal discs*

Major contribution papers (* indicates advisee)

65. Chen, Y.-C., et al. 2023, **ApJ**, submitted, *Varstrometry for Off-nucleus and Dual Sub-kpc AGN (VODKA): Very Long Baseline Array Searches for Dual or Off-nucleus Quasars and Small-scale Jets*

64. *Li, J., Zhuang, M.-Y., & **Shen, Y.,** 2023, **ApJ**, submitted, *JWST Confirms the Nature of CID-42*

63. *Li, J., Liu, X., **Shen, Y.,** et al. 2023, **ApJ**, submitted, *Varstrometry for Off-nucleus and Dual sub-Kpc AGN (VODKA). SDSS J1608+2716: A Sub-arcsec Quadruply Lensed Quasar at $z = 2.575$*

62. *Zhuang, M., & **Shen, Y.,** 2023, **ApJ**, submitted, *Characterization of JWST NIRCam PSFs and Implications for AGN+Host Image Decomposition*

61. *Li, J., & **Shen, Y.,** 2023, **ApJ**, 950, 122, *Constraining AGN Torus Sizes with Optical and Mid-Infrared Ensemble Structure Functions*

60. *Gross, A. C., et al. 2023, **ApJ**, submitted, *Varstrometry for Off-nucleus and Dual sub-Kpc AGN (VODKA): Investigating the Nature of J0823+2418 at $z = 1.81$: a Likely Lensed Quasar*

59. Wang, Z. F., Burke, C. J., Liu, X., & **Shen, Y.** 2023, **MNRAS**, 521, 99, *Dwarf AGNs from Variability for the Origins of Seeds (DAVOS): Optical Variability of Broad-line Dwarf AGNs from the Zwicky Transient Facility*

58. *Li, J. I.-H., **Shen, Y.,** et al. 2023, **ApJ**, *The Sloan Digital Sky Survey Reverberation Mapping Project: The Black Hole Mass – Stellar Mass Relations at $0.2 < z < 0.8$*

57. Chen, Y.-C., Liu, X., Foord, A., **Shen, Y.**, et al. 2023, **Nature**, 616, 45, *A Close Quasar Pair in a Disk-Disk Galaxy Merger at $z = 2.17$*

56. *Stone, Z., **Shen, Y.** 2023, **MNRAS**, 524, 4521, *Temperature Fluctuations in Quasar Accretion Discs from Spectroscopic Monitoring Data*

55. Burke, C. J., **Shen, Y.**, et al. 2023, **MNRAS**, 516, 2736, *Dwarf AGNs from variability for the origins of seeds (DAVOS): Intermediate-mass black hole demographics from optical synoptic surveys*

54. *Yang, Q., & **Shen, Y.** 2023, **ApJS**, 264, 9, *A Southern Photometric Quasar Catalog from the Dark Energy Survey Data Release 2*

53. *Wu, J., **Shen, Y.**, et al. 2022, **MNRAS**, 517, 2659, *Demographics of $z \sim 6$ quasars in the black hole mass-luminosity plane*

52. *Wu, Q., **Shen, Y.** 2022, **ApJS**, 263, 42, *A Catalog of Quasar Properties from Sloan Digital Sky Survey Data Release 16*

51. *Stone, Z., **Shen, Y.**, et al. 2022, **MNRAS**, 514, 164, *Optical Variability of Quasars with 20-Year Photometric Light Curves*

50. *Chen, Y.-C., Hwang, H.-C., **Shen, Y.,** et al. 2022, **ApJ**, 925, 162, *Varstrometry for Off-nucleus and Dual Subkiloparsec AGN (VODKA): Hubble Space Telescope Discovers Double Quasars*

49. Wang, S., Jiang, L., **Shen, Y.**, et al. 2022, **ApJ**, 925, 121, *Metallicity in Quasar Broad-line Regions at Redshift 6*

48. Burke, C. J., Liu, X., **Shen, Y.**, et al. 2022, MNRAS, 516, 2736, *Dwarf AGNs from Optical Variability for the Origins of Seeds (DAVOS): insights from the dark energy survey deep fields*

47. *Li, J. I.-H., **Shen, Y.,** Ho, L. C., et al. 2021, **ApJ**, 906, 103, *The Sloan Digital Sky Survey Reverberation Mapping Project: The $M_{\rm BH}$-Host Relations at $0.2 < z < 0.6$ from Reverberation Mapping and Hubble Space Telescope Imaging*

46. Zou, S., Jiang, L., **Shen, Y.**, et al., 2021, **ApJ**, 906, 32, *Strong Mg II and Fe II Absorbers at $2.2 < z < 6.0$*

45. *Wang, S., **Shen, Y.,** Jiang, L., et al. 2020, **ApJ**, 903, 51, *The Sloan Digital Sky Survey Reverberation Mapping Project: How Broad Emission Line Widths Change When Luminosity Changes*

44. *Yang, Q., **Shen, Y.,** et al. 2020, **ApJ**, 900, 58, *Dust Reverberation Mapping in Distant Quasars from Optical and Mid-infrared Imaging Surveys*

43. *Luo, Y., **Shen, Y.**, Yang, Q. 2020, **MNRAS**, 494, 3686, *Characterization of Optical Light Curves of Extreme Variability Quasars Over a ∼16-yr Baseline*

42. *Burke, C. J., **Shen, Y.**, Chen, Y.-C., et al. 2020, **ApJ**, 899, 136, *Optical Variability of the Dwarf AGN NGC 4395 from the Transiting Exoplanet Survey Satellite*

41. *Yang, Q., **Shen, Y.**, et al. 2020, **MNRAS**, 493, 5773, *Spectral variability of a sample of extreme variability quasars and implications for the Mg II broad-line region*

40. *Hwang, H.-C., **Shen, Y.**, et al. 2020, **ApJ**, 888, 73, *Varstrometry for Off-nucleus and Dual Subkiloparsec AGN (VODKA): Methodology and Initial Results with Gaia DR2*

39. *Guo, H., **Shen, Y.**, et al. 2020, **ApJ**, 888, 58, *Understanding Broad Mg II Variability in Quasars with Photoionization: Implications for Reverberation Mapping and Changing-look Quasars*

38. Grier, C. J., **Shen, Y.**, et al. 2019, **ApJ**, 887, 38, *The Sloan Digital Sky Survey Reverberation Mapping Project: Initial CIV Lag Results from Four Years of Data*

37. *Yang, Q., **Shen, Y.**, et al. 2019, **ApJ**, 885, 110, *An Unusual Mid-infrared Flare in a Type 2 AGN: An Obscured Turning-on AGN or Tidal Disruption Event?*

36. Dexter, J., Xin, S., **Shen, Y.**, et al. 2019, **ApJ**, 885, 44, *The Sloan Digital Sky Survey Reverberation Mapping Project: Accretion and Broad Emission Line Physics from a Hypervariable Quasar*

35. *Li, I. J., **Shen, Y.**, et al. 2019, **ApJ**, 884, 119, *The Sloan Digital Sky Survey Reverberation Mapping Project: Comparison of Lag Measurement Methods with Simulated Observations*

34. *Wang, S., **Shen, Y.**, et al. 2019, **ApJ**, 882, 4, *The Sloan Digital Sky Survey Reverberation Mapping Project: Low-Ionization Broad-Line Widths and Implications for Virial Black Hole Mass Estimation*

33. Guo, H., Liu, X., **Shen, Y.**, et al. 2019, **MNRAS**, 482, 3288, *Constraining sub-parsec binary supermassive black holes in quasars with multi-epoch spectroscopy - III. Candidates from continued radial velocity tests*

32. Xu, F., Bian, F., **Shen, Y.**, et al. 2018, **MNRAS**, 480, 345, *The evolution of chemical abundance in quasar broad line region*

31. Yue, M., Jiang, L., **Shen, Y.**, et al. 2018, **ApJ**, 863, 21, *The Sloan Digital Sky Survey Reverberation Mapping Project: Quasar Host Galaxies at $z < 0.8$ from Image Decomposition*

30. Liu, X., Guo, H., **Shen, Y.**, et al. 2018, **ApJ**, 862, 29, *Hubble Space Telescope Wide Field Camera 3 Discovers A $r_p = 1$ Kpc Dual Active Galactic Nucleus in the Minor Galaxy Merger SDSS J0924+0510 at $z = 0.1495$*

29. Liu, X., Dittmann, A., **Shen, Y.**, Jiang, L. 2018, **ApJ**, 859, 8, *A Candidate Tidal Disruption Event in a Quasar at z = 2.359 from Abundance Ratio Variability*

28. Liu, X., Lazio, T. J. W., **Shen, Y.**, Strauss, M. A. 2018, **ApJ**, 854, 169, *Very Long Baseline Array Imaging of Type 2 Seyferts with Double-Peaked Narrow Emission Lines: Searches for Sub-kpc Dual AGNs and Jet-Powered Outflows*

27. *Rumbaugh, N., **Shen, Y.**, et al. 2018, **ApJ**, 854, 160, *Extreme variability quasars from the Sloan Digital Sky Survey and the Dark Energy Survey*

26. Grier, C. J., Trump, J. R., **Shen, Y.**, et al. 2017, **ApJ**, 851, 21, *The Sloan Digital Sky Survey Reverberation Mapping Project: Hα and Hβ Reverberation Measurements from First-year Spectroscopy and Photometry*

25. Jiang, L., **Shen, Y.**, et al. 2017, **ApJ**, 846, 134, *A Magellan M2FS Spectroscopic Survey of Galaxies at $5.5 < z < 6.8$: Program Overview and a Sample of the Brightest Lyα Emitters*

24. *Li, J., **Shen, Y.**, et al. 2017, **ApJ**, 846, 79, *The Sloan Digital Sky Survey Reverberation Mapping Project: Composite Lags at $z \leq 1$*

23. Tao, L., Feng, H., **Shen, Y.**, et al. 2017, **ApJ**, 841, 118, *PHL 6625: A Minor Merger-associated QSO Behind NGC 247*

22. Zheng, Z., Butler, N. R., **Shen, Y.**, Jiang, L., Wang, J.-X., Chen, X., Cuadra, J. 2016, **ApJ**, 827, 56, *SDSS J0159+0105: A Radio-Quiet Quasar with a Centi-Parsec Supermassive Black Hole Binary Candidate*

21. Jiang, L., **Shen, Y.**, McGreer, I. D., Fan, X., Morganson, E., & Windhorst, R. A. 2016, **ApJ**, 818, 137, *Reverberation Mapping with Intermediate-band Photometry: Detection of Broad-line Hα Time Lags for Quasars at $0.2 < z < 0.4$*

20. Sun, M., Trump, J. R., **Shen, Y.**, et al. 2015, **ApJ**, 811, 42, *The Sloan Digital Sky Survey Reverberation Mapping Project: Ensemble Spectroscopic Variability of Quasar Broad Emission Lines*

19. Matsuoka, Y., Strauss, M. A., **Shen, Y.**, et al. 2015, **ApJ**, 811, 91, *The Sloan Digital Sky Survey Reverberation Mapping Project: Post-Starburst Signatures in Quasar Host Galaxies at $z < 1$*

18. *Sun, J., & **Shen, Y.** 2015, **ApJ**, 804, L15, *Dissecting the Quasar Main Sequence: Insight from Host Galaxy Properties*

17. Feng, H., **Shen, Y.**, Li, H. 2014, **ApJ**, 794, 77, *Single-epoch Black Hole Mass Estimators for Broad-line Active Galactic Nuclei: Recalibrating Hβ with a New Approach*

16. Tremaine, S., **Shen, Y.**, Liu, X., Loeb, A. 2014, **ApJ**, 794, 49, *Relativistic Redshifts in Quasar Broad Lines*

15. Liu, X., **Shen, Y.**, Bian, F., Loeb, A., Tremaine, S. 2014, **ApJ**, 789, 140, *Constraining Sub-Parsec Binary Supermassive Black Holes In Quasars With Multi-Epoch Spectroscopy. II. The Population With Kinetically Offset Broad Balmer Emission Lines*

14. Kelly, B. C., **Shen, Y.** 2013, **ApJ**, 764, 45, *The Demographics of Broad Line Quasars in the Mass-Luminosity Plane II. Black Hole Mass and Eddington Ratio Functions*

13. Liu, X., Civano, F., **Shen, Y.**, et al. 2013, **ApJ**, 762, 110, *Chandra X-ray and Hubble Space Telescope Imaging of Optically Selected kiloparsec-Scale Binary Active Galactic Nuclei I. Nature of the Ionizing Sources*

12. Liu, X., **Shen, Y.**, Strauss, M. A. 2012, **ApJ**, 745, 94, *Active Galactic Nucleus Pairs from the Sloan Digital Sky Survey. II. Evidence for Tidally Enhanced Star Formation and Black Hole Accretion*

11. Liu, X., **Shen, Y.**, Strauss, M. A. 2011, **ApJ**, 736, L7, *Cosmic Train Wreck by Massive Black Holes: Discovery of a Kiloparsec-scale Triple Active Galactic Nucleus*

10. Liu, X., **Shen, Y.**, Strauss, M. A., Hao, L. 2011, **ApJ**, 737, 101, *Active Galactic Nucleus Pairs from the Sloan Digital Sky Survey. I. The Frequency on $\sim$5-100 kpc Scales*

9. Lin Y.-T., **Shen, Y.**, Strauss M. A., Richards, G. T., Lunnan, R. 2010, **ApJ**, 723, 1119, *On the Populations of Radio Galaxies with Extended Morphology at $z < 0.3$*

8. Shankar, F., Weinberg, D. H., **Shen, Y.** 2010, **MNRAS**, 406, 1959, *Constraints on black hole duty cycles and the black hole-halo relation from SDSS quasar clustering*

7. Hennawi, J. F., Myers, A. D., **Shen, Y.** et al. 2010, **ApJ**, 719, 1672, *Binary Quasars at High Redshift I: 24 New Quasar Pairs at* $z \sim 3-4$

6. Liu, X., Greene, J. E., **Shen, Y.**, Strauss, M. A. 2010, **ApJ**, 715, L30, *Discovery of Four kpc-Scale Binary AGNs*

5. Liu, X., **Shen, Y.**, Strauss, M. A., Greene, J. E. 2010, **ApJ**, 708, 427, *Type 2 AGNs with Double-Peaked [O III] Lines: Narrow Line Region Kinematics or Merging Supermassive Black Hole Pairs?*

4. Ross, N. P., **Shen, Y.**, et al. 2009, **ApJ**, 697, 1634, *Clustering of Low-Redshift (z <=2.2) Quasars from the Sloan Digital Sky Survey*

3. Hu, J., **Shen, Y.**, Lou, Y.-Q., & Zhang, S. N. 2006, **MNRAS**, 365, 345, *Forming supermassive black holes by accreting dark and baryon matter*

2. Lou, Y.-Q., & **Shen, Y**. 2004, **MNRAS**, 348, 717, *Envelope expansion with core collapse - I. Spherical isothermal similarity solutions*

1. Lou, Y.-Q., & **Shen, Y.** 2003, **MNRAS**, 343, 750, *Perturbation configurations in a two-fluid system of singular isothermal discs*

Other contributing-author papers

78. Waddell, S. G. H., et al. 2023, **A&A**, *The eROSITA Final Equatorial Depth Survey (eFEDS): Complex absorption and soft excesses in hard X-ray-selected active galactic nuclei*

77. Akiba, T., et al. 2023, **ApJ**, 953, 124, *Reprocessing Models for the Optical Light Curves of Hypervariable Quasars from the Sloan Digital Sky Survey Reverberation Mapping Project*

76. Benítez, E., et al. 2023, **ApJ**, 952, 45, *3D Spectroscopy with GTC-MEGARA of the Triple AGN Candidate in SDSS J102700.40+174900.8*

75. Wang, F., et al. 2023, **ApJ**, 951, L4, *A SPectroscopic survey of biased halos In the Reionization Era (ASPIRE): JWST Reveals a Filamentary Structure around a* $z = 6.61$ *Quasar*

74. Yang, J., et al. 2023, **ApJ**, 961, L5, *A SPectroscopic survey of biased halos In the Reionization Era (ASPIRE): A First Look at the Rest-frame Optical Spectra of* $z > 6.5$ *Quasars Using JWST*

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