WUJI WANG

ZAH Astronomisches Recheninstitut, Mönchhofstr. 12-14, 69120 Heidelberg, Germany
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RESEARCH INTERESTS

I am interested in the feedback from the most energetic active supermassive black holes at and near Cosmic Noon ($z \sim 2-3$). I study the impact from both jet-mode and radio-mode AGN processes on the interstellar medium to cirumgalactic medium scales using observations from various instruments.

SKILLS

Expert in the analysis of data from multi-wavelength IFU instruments on both ground based and space telescopes: MUSE/VLT, JWST NIRSpec IFU and ALMA.

EDUCATION & RESEARCH

• **PhD, Astrophysics, Heidelberg University/IMPRS-HD, DE** Oct. 2020 –
Thesis: *Mapping the circum-galactic medium around high-redshift radio galaxies in 3D*
Supervisors: Dominika Wylezalek, Joël Vernet, Carlos De Breuck

• **MSc, Astrophysics, Munich University (LMU)/ESO, DE** Apr. 2018 – Jul. 2020
Thesis: *MUSE View of the CGM around a* $z \sim 4.5$ *Radio Galaxy*
Supervisors: Dominika Wylezalek, Joël Vernet, Carlos De Breuck, Benjamin Moster
Grade: 1.26 – German system

• **BSc, Astronomy, Nanjing University, CN** Sep. 2013 – Jul. 2017
Thesis: *Investigating the high-redshift tidal disruption event candidate in the Chandra Deep Field*
Supervisor: Bin Luo
Grade: 4.38/5

• **Summer Intern, ESO, DE** Jun. 2016 – Aug. 2016
Project: *Research on White Dwarfs Polluted by Planetary Debris*
Supervisor: Siyi Xu

AWARDED TELESCOPE TIME

• **JWST NIRSpec/IFU** Cycle1:
PI, Zooming into the Monster's Mouth: Tracing Feedback from Their Hosts to Circumgalactic Medium in $z = 3.5$ Radio-loud AGN, Program ID:1970 (24.5h)

• **ALMA Band8** Cycle8:
PI, Pushing the frontier with ALMA: star formation at sub-kpc scale in distant radio-loud AGN hosts, Program ID: 2021.1.00576.S (13.9h)

• **UVES/VLT** P108:
PI, Spectrally Resolving the Complex CGM of High-redshift Radio-loud AGN using UVES, Program ID:108.21WL.001 (20h)

• **NOEMA** 2023:
Co-I, Weak outflows in quenching active galaxies - How does the molecular gas respond?, Program ID: S23BT (30h)

PUBLICATIONS

• Link to ADS library of Wuji Wang's published papers. List of publications attached to the end.

TALKS & MEDIA

Media

- Apr. 20th 2021, ZAH Press release
- Aug. 1st 2021, UNI SPIEGEL

Invited talks & Workshops

- Jun. 30th 2021, Group meeting talk at Tsinghua High-z Team, online
- Oct. 2023, The importance of jet-induced feedback on galaxy scales, workshop, NL

Conferences & seminars

- Jun. 17th 2021, ARI Institute Colloquium, Seminar talk, DE
- Jun. 28th – July.2nd 2021, EAS 2021, ePoster, online
- Nov. 3rd 2021, 1st KooGiG-Junior, Contributed talk, online
- Jan. 26th 2022, Quasars and Galaxies through Cosmic Time, Contributed talk, online
- Jan. 27th 2022, MPIA Galaxy Coffee, Seminar talk, DE
- Sep. 12th – 16th 2022, What matter(s) around galaxies 2022, Contributed talk, IT
- Sep. 26th – 30th 2022, What drives the growth of black holes, Poster, IS
- Dec. 1st 2022, ARI Institute Colloquium, Seminar talk, DE
- Feb. 23rd 2023, MPIA Galaxy Coffee, Seminar talk, DE
- Jul. 10th – 14th 2023, EAS 2023, Contributed talk, PL
- Sep. 11th – 15th 2023, The many facets of fuelling and feedback in jetted AGN, Contributed talk, IT

TEACHING & MENTORING

• Jelena Ritter, MSc Thesis, Heidelberg University – co-advised Jun. 2023 –
• Yu-Ruei Wang, BSc Project & Thesis, Heidelberg University – co-advised Oct. 2022 – Jun. 2023
• Chuanming Mao, BSc Thesis, Heidelberg University – co-advised Mar. 2021 – Jul. 2021
• Lab Experiment – tutor Oct. 2021 – Jun. 2022
CCD photometry in modern astronomy (FP30), Heidelberg University
• Lecture – tutor Mar. 2021 – Jul. 2021
Galactic and Extragalactic Astronomy (MVastro3), Heidelberg University

SERVICE & EXPERIENCE

- Referee, Monthly Notices of the Royal Astronomical Society (MNRAS)
- Scientific assistant, ESO Observing Programmes Committee (OPC) 104, 105

LANGUAGES

Native speaker of Mandarin Chinese; Fluent in English (TOEFL 106/120); Basic German

ADDITIONAL INFORMATION

Proficient in Python, Linux/Mac OS programming and data reduction using ESO Recipe Execution Tool and JWST pipeline; Experienced in reduction of data from Chandra, echelle spectrograph on Magellan telescope and radio telescope (ARO)

REFERENCES AVAILABLE TO CONTACT

Dr. Dominika Wylezalek PhD supervisor
Emmy-Noether Group Leader, ARI Heidelberg University, Germany
Email: dominika.wylezalek@uni-heidelberg.de

Dr. Joël Vernet PhD co-supervisor/collaborator
ELT Instrumentation project scientist, ESO, Germany
Email: jvernet@eso.org

Dr. Carlos De Breuck PhD co-supervisor/collaborator
Full astronomer and ALMA development scientist, ESO, Germany
Email: cdebreuc@eso.org

Dr. Matthew Lehnert collaborator
Director, Centre de Recherche Astrophysique de Lyon - CRAL, France
Email: matthew.lehnert@univ-lyon1.fr

LIST OF PUBLICATIONS

First author

- **Wang, W.**, Wylezalek, D., De Breuck C., Vernet J., Humphrey, A., Villar Martín, M., Lehnert, M., and Kolwa S. (2021) Mapping the "invisible" circumgalactic medium around a $z \sim 4.5$ radio galaxy with MUSE, *Astronomy and Astrophysics*, 654, A88
- **Wang, W.**, Wylezalek, D., Vernet J., De Breuck C., Gullberg, B., Swinbank, M., Villar Martín, M., Lehnert, M., Drouart, G., Arrigoni Battaia F., Humphrey, A., Noirot, G., Kolwa S., Seymour N., and Lagos, P. (2023) 3D tomography of the giant intrinsic Lyα nebulae of $z\approx$3–5 radio-loud AGN, *Astronomy and Astrophysics*, accepted
- **Wang, W.**, Wylezalek, D., De Breuck C., Vernet J., and et al. (2023) JWST/NIRSpec finds no evidence for outflows on kpc scales in a powerful $z\approx$3.5 radio-loud AGN, in prep.

Co-author

- Kolwa, S., ..., **Wang, W.**, ... (2023) Faint [CI](1-0) emission in $z\sim$3.5 radio galaxies, MNRAS, accepted
- Zhang, S., ..., **Wang, W.**, ... (2023) Revealing the Gas Recycling in the Circumgalactic Medium (CGM) Utilizing a Luminous Lyα nebula around a Type-II Quasar at $z = 2.6$ with the Keck Cosmic Web Imager (KCWI), ApJ, 952, 124Z
- Bertemes, C., ..., and **Wang, W.** (2023) MASCOT: Molecular gas depletion times and metallicity gradients – evidence for feedback in quenching active galaxies, MNRAS, 518, 5500
- Wylezalek, D., ..., **Wang, W.**, ... (2022) MASCOT – An ESO-ARO legacy survey of molecular gas in nearby SDSS-MaNGA galaxies: I. first data release, and global and resolved relations between H_2 and stellar content, MNRAS, 510, 3119
- Falkendal, T., ..., and **Wang, W.** (2021) ALMA and MUSE observations reveal a quiescent multi-phase circumgalactic medium around the $z \sim 3.6$ radio galaxy 4C 19.71, A&A, 645, A120