

# WENJIN YANG

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I am now a postdoc in the Nanjing University. I mainly work on astronomical masers ( $\text{CH}_3\text{OH}$ ,  $\text{SiO}$ ,  $\text{HCN}$ ,  $\text{OH}$ ,  $\text{H}_2\text{O}$ ) in star formation regions, evolved stars and supernova remnants, as well as methanol absorption features in star formation regions.

Updated on February 18, 2024

## RESEARCH INTERESTS

- Astronomical masers
- Circumstellar envelopes of evolved stars
- Supernova remnants
- Star formation
- Kinematics and dynamics of interstellar medium

## EDUCATION

- **Purple Mountain Observatory & University of science and technology of China** 2014.09–2020.07  
*Ph.D in Astrophysics*  
Thesis: *Observational studies of class I methanol masers*  
Advisors: Prof. Dr. Ye Xu, Prof. Dr. Xi Chen
- **Wuhan University** 2010.09–2014.06  
*Bachelor of Engineering in Geographical Information System (GIS)*

## EMPLOYMENT

- **Nanjing University** 2023.09–present  
*Postdoc Researcher*
- **Max-Planck-Institut für Radioastronomie** 2020.11–2023.06  
*Postdoc Researcher*  
Scientific employee of SOFIA/GREAT, 2023.03–2023.06  
(Guest of Menten's group, 2023.07–2025.10)

## PRESENTATIONS

- 2024.02 [talk] The second Cross-Strait Workshop on Radio Astronomy, Shanghai, China, "Methanol masers and absorption features in massive star formation regions"
- 2023.10 [group talk] Group meeting of Millimeter and Submillimeter Astronomy in MPIfR, Bonn, Germany, "Maser Investigation toward Off-Plane Stars: detection of  $\text{SiO}$  masers in the Galactic thick disk and halo"
- 2023.06 [talk] Nanjing University, Nanjing, China, "Masers in star formation regions and evolved stars"
- 2023.03 [poster+flash talk] IAU 380 Cosmic Masers, Kagoshima, Japan, "ATLASGAL: Methanol masers at 3 mm"
- 2022.06 [poster] Meeting of the MPIfR's Scientific Advisory Committee (Fachbeirat), Bonn, Germany, "Probing infall in high-mass star-forming regions from red-shifted absorption of  $\text{CH}_3\text{OH}$  and  $\text{HNCO}$ "
- 2022.03 [group talk] Group meeting of Millimeter and Submillimeter Astronomy in MPIfR, Bonn, Germany, "Methanol masers and absorption features at 3 mm toward ATLASGAL sources"
- 2021.11 [invited-talk (on-line)] Guangzhou University, China, "How to use RADEX code"
- 2019.07 [talk] Symposium on molecular clouds and star formation 2019, Altay, China, "44 GHz Methanol Masers: Observations toward 95 GHz Methanol Masers"
- 2017.10 [talk] Symposium on molecular clouds and star formation 2017, Yichang, China, "The new catalog of 95 GHz methanol maser"

- 2016.11 [talk] The Chinese Annual Astronomy/Astrophysics Meeting, Wuhan, China, "The Current Status of 95 GHz methanol masers observations"

## ACCEPTED PROPOSALS

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- VLA (24A-198), 9.0 h (PI): First unbiased 36 GHz class I methanol maser survey toward SNR G1.4-0.1
- ATCA (C3471), 9.5 h (PI): Studying rare class II CH<sub>3</sub>OH masers at 3 & 7 mm
- APEX (M-0111.F-9509B-2023), 8.2 h (PI): An unbiased survey of new class II methanol masers in G345.01+1.79
- IRAM-30 m (141-22, 112-23), 29 h (PI): Searching for class I methanol masers at 132.9 and 146.6 GHz
- Effelsberg-100 m (17-21), 22 h (PI): Methanol: Do class I maser lines originate in Class II line absorbing clouds?
- Effelsberg-100 m (65-17), 29 h (PI): Ammonia observations toward 95 GHz methanol masers
- VLBA (17A-112), 24 h (PI): Locating the very distant Outer Scutum Centaurus spiral arm of the Milky Way
- PMO-13.7 m (20A-007), 147 h (PI): Studying the shock environments of 84 GHz class I methanol masers
- PMO-13.7 m (18A-001), 57 h (PI): Mapping HCO<sup>+</sup> to study kinetic environment and physical environment of 95 GHz masers
- PMO-13.7 m (17A-007), 130 h (PI): Searching for 95 GHz class I methanol masers toward Red MSX Sources
- Co-I. Projects  
ALMA (2023.1.01576.S), VLA (23A-136), VLBA (20B-107), ATCA (C3457), EAVN (EAVN 2024A 378), Effelsberg-100 m (92-20, 13-21, 92-21, 95-21, 100-21, 34-22, 75-22, 12-23, 14-23), APEX (9519A\_109), KVN (KVN-16B-SD-03), Yebes-40m (23A009)

## OUTREACH

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**2024.02-present** Organizer and host of the MARTES Talk in School of Astronomy and Space Science @NJU

## HONOR AND AWARDS

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- 2020 Outstanding graduate, University of science and technology of China
- 2017 National scholarship for master student, University of science and technology of China
- 2014-2015 Merit student, University of Chinese Academy of Sciences

## SKILLS OF NOTE

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**Software/Language** GILDAS, python, CASA, MIRIAD (basic), html/css (basic), markdown  
**Radiative transfer code** RADEX/myRadex, molpop-cep, Cassis (basic)  
**Observing experience** Effelsberg-100m (remote), IRAM-30m (remote), APEX-12m (remote), ATCA (remote), PMO-13.7m (on site)

## REFERENCES

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**Dr. Ping Zhou** (Nanjing University)

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**Prof. Dr. Karl M. Menten** (Max-Planck-Institut für Radioastronomie)

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**Prof. Dr. Ye Xu** (Purple Mountain Observatory, Chinese Academy of Science)

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**Prof. Dr. Xi Chen** (Guangzhou University)

E-mail: [chenxi@gzhu.edu.cn](mailto:chenxi@gzhu.edu.cn)

## PROCEEDINGS

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3. **W. Yang**, Y. Gong, K. M. Menten, F. Wyrowski, J. S. Urquhart, C. Henkel, T. Csengeri, S. P. Ellingsen, A. R. Bemis, J. Jang, [ATLASGAL: methanol masers at 3 mm](#), 2024, IAU, 380, 266

2. Zsófia Marianna Szabó, Yan Gong, **Wenjin Yang**, Karl M. Menten, Olga S. Bayandina, Claudia J. Cyganowski, Ágnes Kóspál, Péter Ábrahám, Arnaud Belloche, Friedrich Wyrowski, [H<sub>2</sub>O masers and host environments of FU Orionis and EX Lupi type low-mass eruptive YSOs](#), 2024, IAU, 380, 246

1. Yuanwei Wu, Bo Zhang, Yan Gong, **Wenjin Yang**, Nicolas Maun, [Searching masers from the Sagittarius stellar stream](#), 2024, IAU, 380, 128

## PUBLICATIONS

### A full list via ADS

#### First authored Publications:

5. **Wenjin Yang**, Yuanwei Wu, Yan Gong, Nicolas Maun, Bo Zhang, Karl Menten, Xiaofeng Mai, Dejian Liu, Juan Li, and Jingjing Li, [Maser Investigation toward Off-Plane Stars \(MIOPS\): detection of SiO masers in the Galactic thick disk and halo](#), 2024, ApJ, 961, 190
4. **W. Yang**, Y. Gong, K. M. Menten, J. S. Urquhart, C. Henkel, F. Wyrowski, T. Csengeri, S. P. Ellingsen, A. R. Bemis, J. Jang, [ATLASGAL: 3-mm class I methanol masers in high-mass star formation regions](#), 2023, A&A, 675, A112
3. **W. J. Yang**, K. M. Menten, A. Y. Yang, F. Wyrowski, Y. Gong, S. P. Ellingsen, C. Henkel, X. Chen, Y. Xu, [Redshifted methanol absorption tracing infall motions of high-mass star formation regions](#), 2022, A&A, 658, A192
2. **Wenjin Yang**, Ye Xu, Yoon Kyung Choi, Simon P. Ellingsen, Andrej M. Sobolev, Xi Chen, Jingjing Li, Dengrong Lu, [44GHz Methanol Masers: Observations toward 95GHz Methanol Masers](#), 2020, ApJS, 248, 18
1. **Wenjin Yang**, Ye Xu, Xi Chen, Simon P. Ellingsen, Dengrong Lu, Binggang Ju, Yingjie Li, [A New 95 GHz Methanol Maser Catalog. I. Data](#), 2017, ApJS, 231, 20

#### Co-authored Publications:

10. Dejian Liu, Ye Xu, Yingjie Li, Zehao Lin, Chaojie Hao, **Wenjin Yang**, Jingjing Li, Xinrong Liu, Yiwei Dong, Shuaibo Bian, and Deyun Kong, [Molecular Bubble and Outflow in S Mon Revealed by Multi-band Datasets](#), 2024, ApJ accepted
9. Y. Gong, C. Henkel, K. M. Menten, C.-H. R. Chen, Z. Y. Zhang, Y. T. Yan, A. Weiss, N. Langer, J. Z. Wang, R. Q. Mao, X. D. Tang, **W. Yang**, Y. P. Ao, M. Wang, [Sulfur Isotope Ratios in the Large Magellanic Cloud](#), 2023, A&A, 679, L6
8. Y. Gong, F. J. Du, C. Henkel, A. M. Jacob, A. Belloche, J. Z. Wang, K. M. Menten, **W. Yang**, D. H. Quan, C. T. Bop, G. N. Ortiz-León, X. D. Tang, M. R. Rugel, S. Liu, [Protonated hydrogen cyanide as a tracer of pristine molecular gas](#), 2023, A&A, 679, A39
7. Zs. M. Szabó, Y. Gong, **W. Yang**, K. M. Menten, O. S. Bayandina, C. J. Cyganowski, Á. Kóspál, P. Ábrahám, A. Belloche, F. Wyrowski, [The Effelsberg survey of FU Orionis and EX Lupi objects II. H<sub>2</sub>O maser observations](#), 2023, A&A, 674, A202
6. Zs. M. Szabó, Y. Gong, K. M. Menten, **W. Yang**, C. J. Cyganowski, Á. Kóspál, P. Ábrahám, A. Belloche, F. Wyrowski, [The Effelsberg survey of FU Orionis and EX Lupi objects. I. Host environments of FUors and EXors traced by NH<sub>3</sub>](#), 2022, A&A, 672, A158
5. Yan Gong, Shu Liu, Junzhi Wang, Weishan Zhu, Guang-Xing Li, **Wenjin Yang**, Jixian Sun, [Widespread subsonic turbulence in Ophiuchus North 1](#), 2022, A&A, 663, A82
4. Yingjie Li, Ye Xu, Jingjing Li, Yuanwei Wu, Shaibo Bian, Zehao Lin, **Wenjin Yang**, Chaojie Hao, Dejian Liu, [Light Deflection under the Gravitational Field of Jupiter-Testing General Relativity](#), 2022, ApJ, 925, 47
3. S. A. Levshakov, I. I. Agafonova, C. Henkel, Kee-Tae Kim, M. G. Kozlov, B. Lankhaar, **W. Yang**, [Probing the electron-to-proton mass ratio gradient in the Milky Way with Class I methanol masers](#), 2022, MNRAS, 511, 413
2. Y. Gong, X. D. Tang, C. Henkel, K. M. Menten, R. Q. Mao, Y. Wang, M.-Y. Lee, W. S. Zhu, Y. Lin, S. B. Zhang, X. P. Chen, **W. J. Yang**, [Searching for further evidence for cloud-cloud collisions in L188](#), 2019, A&A, 632, A115
1. Yingjie Li, Fa-Cheng Li, Ye Xu, Chen Wang, Xin-Yu Du, **Wenjin Yang**, Ji Yang, [Molecular Gas toward the Gemini OB1 Molecular Cloud Complex. II. CO Outflow Candidates with Possible WISE Associations](#), 2018, ApJS, 235, 15