

# Wenjin Yang

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## ***Research Interests***

- Astronomical masers
- Kinematics and dynamics of interstellar medium
- Star formation in molecular clouds
- Supernova remnants

## ***Employment***

- 2020.11-present  
postdoc in Max Planck Institute for Radio Astronomy

## ***Education***

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

## ***Presentations***

- 2023.03, poster, [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 CH<sub>3</sub>OH and HNCO”*
- 2022.03, 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”*

### ***Workshop/Conference Experience***

- 10th IRAM 30-meter School on Millimeter Astronomy (Virtual Edition), 15-19, 22 and 23 November, 2021
- 6th SKA summer school in China, Guangzhou University (on-line), 8-14 August, 2021
- CASA-VLBI workshop (on-line), 02-06 November, 2020
- The Milky Way 2019: Lamost and other leading surveys, 14-18 October, 2019, Three Gorges University, Yichang, China

### ***Accepted proposals***

- **ATCA, #C3471, 9.5 h (as P.I)**  
Studying rare class II CH<sub>3</sub>OH masers at 3 & 7 mm in the same epoch
- **IRAM-30 m, #141-22, 29h (as P.I)**  
Searching for class I methanol masers at 132.9 and 146.6 GHz
- **Effelsberg-100 m, #17-21, 22 h (as P.I)**  
Methanol: Do class I maser lines originate in Class II line absorbing clouds?
- **Effelsberg-100 m, #65-17, 29 h (as P.I)**  
Ammonia observations toward 95 GHz methanol masers

- **VLBA, #17A-112, 24 h (as P.I)**  
Locating the very distant Outer Scutum Centaurus spiral arm of the Milky Way
- **PMO-13.7 m #20A-007, 147 h (as P.I)**  
Studying the shock environments of 84 GHz class I methanol masers
- **PMO-13.7 m #18A-001, 57 h (as P.I)**  
Mapping HCO<sup>+</sup> to study kinetic environment and physical environment of 95 GHz masers
- **PMO-13.7 m #17A-007, 130 h (as P.I)**  
Searching for 95 GHz class I methanol masers toward Red MSX Sources
- **VLA, #23A-136, 3 h (as co-I)**  
GIRL: Gas Interaction Regions in Low-mass star formation
- **VLBA, #20B-107, 14 h (as co-I)**  
Deflection of Light by Jupiter -- Test General Relativity
- **ATCA, #C3457, 55 h (as co-I)**  
Extragalactic class I methanol masers related to shocks induced by rotational galactic bars?
- **Effelsberg-100 m, #92-20, 24 h (as co-I)**  
Verify Ongoing-masering Line DETECTION toward MWISP Outflow Related Targets (VOLDEMORT): Cygnus
- **Effelsberg-100 m, #13-21, 20 h (as co-I)**  
Spatial variations of  $m_p/m_e$  in the Galaxy
- **Effelsberg-100 m, #92-21, 20 h (as co-I)**  
Extragalactic class I methanol masers related to shocks induced by rotational galactic bars?
- **Effelsberg-100 m, #95-21, 21 h (as co-I)**  
An H<sub>2</sub>O and OH maser search toward eruptive young stellar objects
- **Effelsberg-100 m, #100-21, 36 h (as co-I)**  
The density structure of prominent molecular clouds in the Galactic center
- **Effelsberg-100 m, #34-22, 70 h (as co-I)**  
A global survey on K-band in high-mass star-forming regions
- **Effelsberg-100 m, #75-22, 36 h (as co-I)**  
Can enhanced thermal emission explain the luminous 36.2 GHz extragalactic methanol emission?
- **APEX-12 m, #9519A\_109, 27.5 h (as co-I)**  
Exploring the host environment of FU Orionis and EX Lupi type objects
- **KVN, #KVN-16B-SD-03, 77 h (as co-I)**  
44 GHz Methanol Masers Search Towards 95 GHz Masers

### ***Honor and Awards***

- 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***

- Software: GILDAS, python, CASA, MIRIAD (basic), html/css (basic)
- 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)

*Date: 03 Jan. 2023*

# Full list of Publications

1. **Yang, W. J.** ; Menten, K. M. ; Yang, A. Y.; Wyrowski, F. ; Gong, Y. ; Ellingsen, S. P. ; Henkel, C. ; Chen, X. ; Xu, Y.; 2022, A&A, 658, A192  
[Redshifted methanol absorption tracing infall motions of high-mass star formation regions](#)
2. **Yang, Wenjin** ; Xu, Ye ; Choi, Yoon Kyung ; Ellingsen, Simon P. ; Sobolev, Andrej M. ; Chen, Xi ; Li, Jingjing ; Lu, Dengrong; 2020, ApJS, 248, 18  
[44 GHz Methanol Masers: Observations toward 95 GHz Methanol Masers](#)
3. **Yang, Wenjin** ; Xu, Ye ; Chen, Xi ; Ellingsen, Simon P. ; Lu, Dengrong ; Ju, Binggang ; Li, Yingjie; 2017, ApJS, 231, 20  
[A New 95 GHz Methanol Maser Catalog. I. Data](#)
4. Gong, Yan ; Liu, Shu ; Wang, Junzhi ; Zhu, Weishan ; Li, Guang-Xing ; **Yang, Wenjin** ; Sun, Jixian; 2022, A&A, 663, 82  
[Widespread subsonic turbulence in Ophiuchus North 1](#)
5. Levshakov, S. A.; Agafonova, I. I.; Henkel, C.; Kim, Kee-Tae; Kozlov, M. G.; Lankhaar, B.; **Yang, W.** ; 2022, MNRAS, 511, 413  
[Probing the electron-to-proton mass ratio gradient in the Milky Way with Class I methanol masers](#)
6. Li, Yingjie; Xu, Ye; Li, JingJing; Wu, Yuanwei; Bian, Shaibo; Lin, ZeHao; **Yang, WenJin**; Hao, Chaojie; Liu, DeJian; 2022, ApJ, 925, 47  
[Light Deflection under the Gravitational Field of Jupiter-Testing General Relativity](#)
7. Gong, Y.; Tang, X. D.; Henkel, C.; Menten, K. M.; Mao, R. Q.; Wang, Y.; Lee, M. -Y.; Zhu, W. S.; Lin, Y.; Zhang, S. B.; Chen, X. P.; **Yang, W. J.**; 2019, A&A, 632, 115  
[Searching for further evidence for cloud-cloud collisions in L1188](#)
8. Li, Yingjie; Li, Fa-Cheng; Xu, Ye; Wang, Chen; Du, Xin-Yu; **Yang, Wenjin**; Yang, Ji; 2018, ApJS, 235, 15  
[Molecular Gas toward the Gemini OB1 Molecular Cloud Complex. II. CO Outflow Candidates with Possible WISE Associations](#)

## Submitted/To be submitted:

1. ATLASGAL: 3-mm class I methanol masers in high-mass star formation regions, to be submitted in Jan. 2023  
**W. Yang**, Y. Gong, K. M. Menten, J. S. Urquhart, et al.
2. ATLASGAL: Methanol masers and absorption features at 107 GHz, in prep.  
**W. Yang**, F. Wyrowski, Y. Gong, K. M. Menten, et al.

3. Methanol masers toward a sample of HCHII/UCHII regions, in prep.

**W. Yang**, A. Yang, et al.

4. Rare class II CH<sub>3</sub>OH masers at 3 and 7 mm, in prep.

**W. Yang**, T. McCarthy, S. Ellingsen, et al.

5. The Effelsberg survey of FU Orionis and EX Lupi objects I. Host environments of FUors/EXors traced by NH<sub>3</sub>, submitted to A&A

Zs. M. Szabó, Y. Gong, K. M. Menten, **W. Yang**, C. J. Cyganowski, Á. Kóspál, P. Ábrahám, A. Belloche, and F. Wyrowski

6. The Effelsberg survey of FU Orionis and EX Lupi objects II. H<sub>2</sub>O maser observations, submitted to A&A

Zs. M. Szabó, Y. Gong, **W. Yang**, K. M. Menten, O. S. Bayandina, C. J. Cyganowski, Á. Kóspál, P. Ábrahám, A. Belloche and F. Wyrowski