Wenjin Yang

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I mainly work on methanol masers and methanol absorptions in star formation regions.

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_3OH 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_3OH masers at 3 & 7 mm in the same epoch
- **IRAM-30 m, #141-22, 29 h (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^+ 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

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, 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)

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. Zs. M. Szabó, Y. Gong, K. M. Menten, W. Yang, C. J. Cyganowski, Á. Kóspál, P. Ábrahám, A. Belloche, and F. Wyrowski; accepted by A&A
   The Effelsberg survey of FU Orionis and EX Lupi objects I. Host environments of FUors/EXors traced by NH3

5. 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

6. 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

7. 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

8. 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

9. 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 Feb. 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 CH3OH 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 II. H2O 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