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RESEARCH INTERESTS

• Large-scale structure and kinematics of molecular clouds

- Star formation in molecular clouds
- Astrochemistry
- Astronomical masers
- Circumstellar envelopes of late-type stars

EDUCATION

09/2009-07/2016 Ph.D. in Astrophysics, Purple Mountain Observatory

Thesis: "A search for triggered star formation and a 1.3 cm spectral line survey"

Advisors: Prof. Dr. Rui-qing Mao & Dr. Christian Henkel

09/2005-07/2009 B.Sc. in physics, Central China Normal University

Professional appointments

o7/2016–08/2017 Research assistant, Purple Mountain Observatory
o9/2017–09/2021 Postdoc, Max-Planck Institut für Radioastronomie
o9/2021–12/2023 Scientific Staff, Max-Planck Institut für Radioastronomie
o1/2024– guest scientist, Max-Planck Institut für Radioastronomie
o1/2024– guest scientist, Purple Mountain Observatory

REFEREED PUBLICATIONS

54. Sun, Li; Chen, Xuepeng; Fang, Min; Zhang, Shaobo; Gong, Yan; Feng, Jiancheng; Li, Xuefu; Yan, Qing-Zeng; Yang, Ji, 2024, AJ, accepted, Magnetically Aligned Striations in the L914 Filamentary Cloud

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52. Liu, Xunchuan; Liu, Tie; Shen, Zhiqiang; Qin, Sheng-Li; Luo, Qiuyi; Gong, Yan; Cheng, Yu; Henkel, Christian; Gu, Qilao; Zhu, Fengyao; Zhang, Tianwei; Zhao, Rongbing; Wu, Yajun; Li, Bin; Li, Juan; Zhao, Zhang; Wang, Jinqing; Zhong, Weiye; Liu, Qinghui; Xia, Bo; Fu, Li; Yan,

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- 51. Yang, Wenjin; Wu, Yuanwei; <u>Gong, Yan</u>; Mauron, Nicolas; Zhang, Bo; Menten, Karl M.; Mai, Xiaofeng; Liu, Dejian; Li, Juan; Li, Jingjing, 2024, ApJ, 961, 190, <u>Maser Investigation toward Off-Plane Stars</u> (MIOPS): detection of SiO masers in the Galactic thick disk and halo
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- 49. <u>Gong, Y.</u>; Henkel, C.; Menten, K. M.; R. Chen, C.-H.; Zhang, Z. Y.; Yan, Y. T.; Weiss, A.; Langer, N.; Wang, J. Z.; Mao, R. Q.; Tang, X. D.; Yang, W.; Ao, Y. P.; Wang, M., 2023, A&A, 679, L6, Sulfur Isotope Ratios in the Large Magellanic Cloud
- 48. <u>Gong, Y.</u>; Du, F. J.; Henkel, C.; Jacob, A. M.; Belloche, A.; Wang, J. Z.; Menten, K. M.; Yang, W.; Quan, D. H.; Bop, C. T.; Ortiz-León, G. N.; Tang, X. D.; Rugel, M. R.; Liu, S., 2023, A&A, 679, A39, Protonated hydrogen cyanide as a tracer of pristine molecular gas
- 47. Gong, Y.; Ortiz-León, G. N.; Rugel, M. R.; Menten, K. M.; Brunthaler, A.; Wyrowski, F.; Henkel, C.; Beuther, H.; Dzib, S. A.; Urquhart, J. S.; Yang, A. Y.; Pandian, J. D.; Dokara, R.; Veena, V. S.; Nguyen, H.; Medina, S.-N. X.; Cotton, W. D.; Reich, W.; Winkel, B.; MÃijller, P.; Skretas, I.; Csengeri, T.; Khan, S.; Cheema, A., 2023, A&A, 678, A130, A global view on star formation: The GLOSTAR Galactic plane survey VIII. Formaldehyde absorption in Cygnus X
- 46. Zhou, J. W.; Wyrowski, F.; Neupane, S.; Urquhart, J. S.; Evans, N. J., II; Vázquez-Semadeni, E.; Menten, K. M.; $\underline{\text{Gong, Y.}}$; Liu, T.; 2023, A&A, 676, A69 High-resolution APEX/LAsMA ^{12}CO and ^{13}CO (3-2) observation of the G333 giant molecular cloud complex: I. Evidence for gravitational acceleration in hub-filament systems
- 45. Yang, W.; Gong, Y.; Menten, K. M.; Urquhart, J. S.; Henkel, C.; Wyrowski, F.; Csengeri, T.; Ellingsen, S. P.; Bemis, A. R.; Jang, J.; 2023, A&A, 675, A112 ATLASGAL: 3-mm class I methanol masers in high-mass star formation regions
- 44. Szabó, Zs. M.; Gong, Y.; Yang, W.; Menten, K. M.; Bayandina, O. S.; Cyganowski, C. J.; Kóspál, Á.; Ábrahám, P.; Belloche, A.; Wyrowski., F.; 2023, A&A, 674, A202 The Effelsberg survey of FU Orionis and EX Lupi objects II. H₂O maser observations
- 43. Gisela N. Ortiz-León; Sergio A. Dzib; Laurent Loinard; <u>Yan Gong</u>; Thushara Pillai; Adele Plunkett; 2023, A&A, 673, L1, The distance to the Serpens South Cluster from H₂O masers
- 42. Szabó, Zs. M.; Gong, Y.; Menten, K. M.; Yang, W.; Cyganowski, C. J.; Kóspál, Á.; Ábrahám, P.; Belloche, A.; Wyrowski., F.; 2023, A&A, 672, A158 The Effelsberg survey of FU Orionis and EX Lupi objects I. Host environments of FUors/EXors traced by NH₃
- 41. Yan, Y. T.; Henkel, C.; Kobayashi, C.; Menten, K. M.; Gong, Y.; Zhang, J. S.; Yu, H. Z.; Yang, K.; Xie, J. J.; Wang, Y. X.; 2022, A&A, 670, A98, Direct measurements of carbon and sulfur isotope ratios in the Milky Way

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- 36. Ladeyschikov, Dmitry A.; <u>Gong, Yan</u>; Sobolev, Andrey M.; Menten, Karl M.; Urquhart, James S.; Breen, Shari L.; Shakhvorostova, Nadezhda N.; Bayandina, Olga S.; Tsivilev, Alexander P.; 2022, ApJS, 261, 14, Water Masers as an Early Tracer of Star Formation
- 35. Moutzouri, M.; Mackey, J.; Carrasco González, C.; Gong, Y.; Brose, R.; Zargaryan, D.; Toalá, J. A.; Menten, K. M.; Gvaramadze, V. V.; Rugel, M. R.; 2022, A&A, 663, A80, And then they were two: detection of non-thermal radio emission from the bow shocks of two runaway stars
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- 33. Gong, Y.; Liu, S.; Wang, J. Z.; Zhu, W. S.; Li, G. X.; Yang, W. J.; Sun, J. X.; 2022, A&A, 663, A82, Widespread subsonic turbulence in Ophiuchus North 1
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- 29. Skalidis, R.; Tassis, K.; Panopoulou, G. V.; Pineda, J. L.; <u>Gong, Y.</u>; Mandarakas, N.; Blinov, D.; Kiehlmann, S.; Kypriotakis, J. A.; 2022, A&A, accepted, <u>HI-H₂</u> transition: exploring the role of the magnetic field

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- 24. Nguyen, H.; Rugel, M. R.; Menten, K. M.; Brunthaler, A.; Dzib, S. A.; Yang, A. Y.; Kauffmann, J.; Pillai, T.; Nandakumar, G.; Schultheis, M.; Urquhart, J. S.; Dokara, R.; <u>Gong, Y.</u>; Medina, S-N. X.; Ortiz-León, G. N.; Reich, W.; Wyrowski, F.; Beuther, H.; Cotton, W. D.; Csengeri, T. Pandian, J. D.; Roy, N.; 2021, A&A, 651, A88, A global view on star formation: The GLOSTAR Galactic plane survey IV. Radio continuum detections of young stellar objects in the Galactic Centre region <u>MPIFR/NRAO press release</u>
- 23. Dokara, Rohit; Brunthaler, A.; Menten, K. M.; Dzib, S. A.; Reich, W.; Cotton, W. D.; Anderson, L. D.; Chen, C. -H. R.; Gong, Y.; Medina, S. -N. X.; Ortiz-León, G. N.; Rugel, M.; Urquhart, J. S.; Wyrowski, F.; Yang, A. Y.; Beuther, H.; Billington, S. J.; Csengeri, T.; Carrasco-González, C.; Roy, N.; 2021, A&A, 651, A86, A global view on star formation: The GLOSTAR Galactic plane survey. II. Supernova Remnants in the first quadrant of the Milky Way MPIFR/NRAO press release
- 22. Li, Fei; Wang, Junzhi; Gao, Feng; Liu, Shu; Zhang, Zhi-Yu; Li, Shanghuo; Gong, Yan; Li, Juan; Shi, Yong; 2021, MNRAS, 503, 4508, Dense gas in local galaxies revealed by multiple tracers
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- 14. 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, A115, Search for further evidence for cloud-cloud collisions in L1188
- 13. Tang, X. D.; Henkel, C.; Menten, K. M.; <u>Gong, Y.</u>; Martin, S.; Muhle, S.; Aalto, S.; Muller, S.; Garcia-Burillo, S.; Levshakov, S.; Aladro, R.; Spaans, M.; Viti, S.; Asiri, H. M.; Ao, Y. P.; Zhang, J. S.; Zheng, X. W.; Esimbek, J.; Zhou, J. J., A&A, 629, A6, <u>ALMA</u> view of the ¹²C/¹³C isotopic ratio in starburst galaxies
- 12. Medina, S. N. X.; Urquhart, J. S.; Dzib, S. A.; Brunthaler, A.; Cotton, B.; Menten, K. M.; Wyrowski, F.; Beuther, H.; Billington, S. J.; Carrasco-Gonzalez, C.; Csengeri, T.; Gong, Y.; Hofner, P.; Nguyen, H.; Ortiz-León, G. N.; Ott, J.; Pandian, J. D.; Roy, N.; Sarkar, E.; Wang, Y. Winkel, B., A&A, 627, A175, GLOSTAR Radio Source Catalog I: $28^{\circ} < l < 36^{\circ}$ and $|b| < 1^{\circ}$
- 11. Su, Yang; Yang, Ji; Zhang, Shaobo; <u>Gong, Yan</u>; Wang, Hongchi; Zhou, Xin; Wang, Min; Chen, Zhiwei; Sun, Yan; Chen, Xuepeng; Xu, Ye; Jiang, Zhibo, 2019, ApJS, 240, 9, *The Milky Way Imaging Scroll Painting (MWISP): Project Details and Initial Results from the Galactic Longitudes of 25.8–49.7*
- 10. Gong, Y.; Li, G. X.; Mao, R. Q.; Henkel, C.; Menten, K. M.; Fang, M.; Wang, M.; Sun, J. X., 2018, A&A, 620, A62, *The Serpens filament at the onset of slightly supercritical collapse*
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- 8. Tang, X. D.; Henkel, C.; Menten, K. M.; Wyrowski, F.; Brinkmann, N.; Zheng, X. W.; Gong, Y.; Lin, Y. X.; Esimbek, J.; Zhou, J. J.; Yuan, Y.; Li, D. L.; He, Y. X., 2018, A&A, 609, A16, Kinetic temperature of massive star-forming molecular clumps measured with formaldehyde. III. The Orion molecular cloud 1
- 7. Su, Yang; Zhou, Xin; Yang, Ji; Chen, Yang; Chen, Xuepeng; Gong, Yan; Zhang, Shaobo, 2017, ApJ,

- 845, 48, "Is HESS J1912+101 associated with an old Supernova Remnant?"
- 6. Gong, Y.; Henkel, C.; J. Ott; K. M. Menten; M. R. Morris; D. Keller; M. J. Claussen; M. Grasshoff; R. Q. Mao, 2017, ApJ, 843, 54, "SiS in the circumstellar envelope of IRC +10216: maser and quasi-thermal emission"
- 5. <u>Gong, Yan</u>; Fang, Min; Mao, Ruiqing; Zhang, Shaobo; Wang, Yuan; Su, Yang; Chen, Xuepeng; Yang, Ji; Wang, Hongchi; Lu, Dengrong, 2017, ApJL, 835, L14, "L1188: a promising candidate of cloud–cloud collision triggering the formation of the low- and intermediate-mass stars"
- 4. Gong, Y.; Mao, R. Q.; Fang, M.; Zhang, S. B.; Su, Y.; Yang, J.; Jiang, Z. B.; Xu, Y.; Wang, M.; Wang, Y.; Lu, D. R.; Sun, J. X., 2016, A&A, 588, A104, "Molecular clouds and star formation toward the Galactic plane within $216.25^{\circ} \le l \le 218.75^{\circ}$ and $0.75^{\circ} \le b \le 1.25^{\circ}$ "
- 3. Zhang, C. P.; Li, G. X.; Wyrowski, F.; Wang, J. J.; Yuan, J. H.; Xu, J. L.; Gong, Y.; Yeh, Cosmos C.; Menten, K. M., 2016, A&A, 585, A117, "N131: A dust bubble born from the disruption of a gas filament"
- 2. <u>Gong, Y.</u>; Henkel, C.; Thorwirth, S.; Spezzano, S.; Menten, K. M.; Walmsley, C. M.; Wyrowski, F.; Mao, R. Q.; Klein, B, 2015, A&A, 581, A48, "A 1.3 cm line survey toward Orion KL"
- 1. <u>Gong, Y.</u>; Henkel, C.; Spezzano, S.; Thorwirth, S.; Menten, K. M.; Wyrowski, F.; Mao, R. Q.; Klein, B, 2015, A&A, 574, A56, "*A 1.3 cm line survey toward IRC* +10216"

PROCEEDINGS

- 2. <u>Gong, Y.</u>, Mao, R. Q.; Henkel, C.; Urquhart, J.; Wang, Y.; Zhang, Z. Y.; Wyrowski, F., 2013b, in Protostars and Planets VI Posters, 11, "Triggered Star Formation at the End of the Galactic Bar?"
- 1. <u>Gong, Y.</u>, Mao, R., Fang, M., Sun, J., & Lu, D. 2013a, in IAU Symposium, Vol. 292, IAU Symposium, ed. T. Wong & J. Ott, 43–43, "*Molecular gas around infrared dust bubbles*"

Honors and Awards

2011-2012	Merit Student, University of Chinese Academy of Sciences
2012-2015	MPG-CAS Joint Doctoral Promotion Program
2016	The Zhu-Li Yuehua outstanding doctoral award of Chinese Academy of Sciences
2017	Excellent Doctoral Dissertation of Chinese Academy of Sciences

Refereeing Duties

• PASJ, MNRAS, RAA, ALMA, FAST

Presentations

- 04/2024: invited talk (Martes talk #42), Nanjing, Nanjing University "Decoding interstellar and circumstellar environments with molecular tools"
- 08/2023: talk, Shanghai, SHAO "Recent progress on the GLOSTAR survey"
- 07/2023: talk, Hangzhou, Zhejiang lab "Decoding interstellar and circumstellar environments with molecular tools"
- 07/2023: talk, Wuhu, Anhui Normal University "Recent progress on the GLOSTAR survey"
- 07/2023: talk, PMO Youth Forum, Nanjing, PMO "Recent progress on the GLOSTAR survey"
- 06/2021: e-poster, EAS2021
- "Physical and chemical structure of the Serpens filament: fast formation and gravity-driven accretion"
- 11/2020: Online talk, Guangzhou University "The Serpens filament as a key to the initial conditions of filament evolution"
- 02/2020: talk, APEX2020, Schloss Ringberg "The Serpens filament as a key to the initial conditions of filament evolution"
- 06/2019: talk, the CASSACA & Calan star formation joint meeting, CASSACA, Santiago "L1188: a tangoing molecule cloud complex"
- 06/2018: talk, Star and Planet Formation Seminar, Garching, ESO "The Serpens filament: at the onset of slightly supercritical collapse"
- 11/2016: talk, The Chinese Annual Astronomy/Astrophysics Meeting, Wuhan, China

- "Star formation triggered by a collision of molecular clouds in L1188"
- 04/2016: talk, JCMT PI Science, Mitaka, Japan "Studying the thermal state of dense gas with JCMT"
- 08/2015: talk, Zhangheng academic seminar, Delingha "Molecular clouds and star formation toward the Galactic plane within 216.25° $\leq l \leq$ 218.75° and 0.75° $\leq b \leq$ 1.25°"
- 08/2015: talk, Scientific talk at XAO, Urumqi "A 1.3 cm line survey toward Orion KL"
- 08/2014: talk, MPIFR group meeting, Bonn "A 1.3 cm line survey toward IRC +10216"
- 07/2013: Protostars & Planets VI, Heidelberg, (poster) "Triggered Star Formation at the End of the Galactic Bar?"
- 08/2012: The 28th IAU, Beijing, (poster) "Molecular gas around infrared dust bubbles"

Skills of Note

- Advanced: GILDAS, IDL, PYTHON
- Experienced: CASA, DS9, LATEX, KARMA, MONTAGE, HTML, vi, Emacs, NOD3, Markdown
- Operating systems: Linux, Mac OS, Windows
- \bullet Observing experience: IRAM-30 m (>1000 hours, on site+remote; PI: 262 hours); PMO-13.7 m (>800 hours, on site/service); Effelsberg-100 m (>2000 hours, on site+remote; PI: >100 hours); APEX (>300 hours, four weeks, on site+remote; PI: 398 hours); Onsala-20 m (a week, onsite); SMT-10 m (a week, remote), ALMA (17.2 hours), ACA (\sim 240 hours), VLA (>100 hours; PI: 15 hours), SMA (>50 hours; PI: 27 hours)
- Speaking languages: Chinese (mother tongue), English (fluent), and German (A1)

Professional References

Prof. Dr. Karl M. Menten

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