

# Curriculum Vitae

## Qizhou Zhang

**Present Address** Harvard-Smithsonian Center for Astrophysics  
60 Garden Street, MS 42  
Cambridge, MA 02138, USA  
E-mail: qzhang@cfa.harvard.edu

**Education** **Ph.D.** in Astrophysics, Harvard University, 1997  
**M.S.** in Astrophysics, Harvard University, June 1993  
**B.S.** in Astronomy, Nanjing University, China June 1983

### Working Experiences

2018-present Senior Astrophysicist, Harvard-Smithsonian Center for Astrophysics  
1998-2018 Astrophysicist, Harvard-Smithsonian Center for Astrophysics  
2002-2013 Lecturer on Astronomy, Harvard University  
Oct. 97-Mar. 98 Jansky Fellow, National Radio Astronomy Observatory  
Feb. 97-Sept. 97 Post Doctoral Fellow, Harvard-Smithsonian Center for Astrophysics  
1991-1996 Research Assistant, Astronomy Department, Harvard University  
1986-1989 Lecturer, Astronomy Department, Nanjing University, China

**Fellowships and Awards**

- Jansky Fellowship, 1997.
- Advancement Award in Science and Technology, 1987, Chinese National Education Commission.

**Grants**

- PI, NRAO ALMA Student Observing Support program “A Statistical Study of Magnetic Fields in Massive Star Formation”, 2017
- PI, SI Scholarly Studies Awards Grant “Are Magnetic Fields Dynamically Important in Massive Star Formation?”, 2017
- PI, NRAO ALMA Student Observing Support program “Are Sub-virial Cores in IRDC G28.34 Supported by Magnetic Fields?”, 2016
- PI, NRAO ALMA Student Observing Support program “Formation of O Stars by Accretion of Ionized Gas”, 2015
- PI, SI Competitive Grants Program for Science “Magnetic Fields and Massive Star Formation”, 2015
- PI, SI Competitive Grants Program for Science “Star formation in the Central Molecular Zone of the Milky Way”, 2014

- Co-I, SI Competitive Grants Program for Science “Astronomy and Atmospheric Science from Dome A, Antarctica”, 2013
- Co-I, NASA ADAP grant proposal “Dark Filaments, Clouds and Cores: A Multiband IR Study of the Early Stages of Star Formation in Extended Structures as Seen by Herschel and Spitzer”, 2012
- Co-I, SI Scholarly Studies Grant “Characterizing the far-infrared atmosphere at Dome A, Antarctica”, 2012
- Co-I, Herschel Space Observatory observing program “HIFI Observations of Cold Cores in Infrared Dark Clouds”, 2011
- PI, SI Endowment Grant “Constraining the effect of stellar heating during early fragmentation”, 2010
- Co-I, Herschel Space Observatory observing program “High-J lines of HCN as tracer of feedback processes in high-mass star formation”, 2010
- PI, SI Endowment Grant “Initial Fragmentation for Massive Cluster Star Formation”, 2009
- Co-I, SI Endowment Grant “Exploring the Terahertz window from Dome A, Antarctica: Site testing and atmospheric modeling”, 2009
- Co-I, Herschel Space Observatory observing program “Hi-GAL: The Herschel infrared Galactic Plane Survey”, 2007
- PI: Spitzer Space Telescope Cycle 1 Observing Grant “IRAC and MIPS imaging of high mass outflows: Probing the role of accretion and clustering in massive star formation”, 2004

## Committees

- CfA Professional Accomplishments Evaluation Committee 11-13, 2017-
- Science Advisory Committee, Five-hundred-meter Aperture Spherical Telescope (FAST), 2017-
- SMA Time Allocation Committee, 2006-present. Chair, 2007-2009, 2013-2016
- SMA Post Doctoral Fellowship Selection Committee, 2006-
- CfA Post Doctoral Fellowship Selection Committee, 2015
- Advisory Panel, School of Astronomy and Space Science, Nanjing University, 2014-
- SMA Large-Scale Project Review Committee, 2013-2015
- External Expert Review Panel, Chinese Academy of Sciences, 2013-2015
- CfA Library Committee, 2013-2016
- Foreign Expert Panel, Qitai 110m Radio Telescope (QTT) project, 2012-
- Science Advisory Panel, Purple Mountain Astronomical Observatory, Chinese Academy of Sciences, 2010-
- Science Advisory Committee, Chinese TMT project, 2010-2012
- CfA Prize Committee, 2007-2010
- SMA Legacy Science Committee, 2004-2005
- CfA Pre Doctoral Fellowship Oversight Committee, 2004-2006

- Science Advisory Panel, National Astronomical Observatories of China, Chinese Academy of Sciences, 2001-2009
- CfA Post Doctoral Fellowship Selection Committee, 2002-2004
- CfA Pre Doctoral Fellowship Selection Committee, 2002-2004

## Societies

- Member of American Astronomical Society
- Member of International Astronomical Union

## Professional Activities

- Reviewer for NASA ATP Program, NSF University Radio Observatory Program, the Chilean Research Fund Council, the Dutch National Science Foundation (NWO), NSF China grant proposals, and Very Large Array observing proposals. Referee for major astronomy journals
- SOC member, IAU General Assembly focus meeting “Magnetic fields along the star-formation sequence: bridging polarization-sensitive views”, Vienna, Austria, 2018
- SOC member, “Magnetic Fields or Turbulence: Which is the critical factor for the formation of stars and planetary disks?” Taipei, Taiwan, 2018
- SOC member, “Radio Astronomy Forum”, Guizhou, China, 2017
- SOC member, “Multi-Scale Star Formation”, Morelia, Mexico, 2017
- Co-Chair of SOC , “Terahertz Astronomy”, Suzhou, China, 2016
- SOC member, “SMA science in the Next Decade”, Taipei, Taiwan, 2016
- SOC member, “The Soul of High Mass Star Formation”, Puerto Varas, Chile, 2015
- SOC member, “SMA: First Decade of Discovery”, Cambridge, MA, 2014
- SOC member, “Frontiers in Radio Astronomy and FAST Early Sciences”, 2012
- SOC co-chair, “THz Astronomy from Dome A, Antarctica”, Nanjing, China, 2008
- SOC member, “Site Survey in Western China”, Tibet, China, 2004
- SOC co-chair, “Astronomy and Chinese Astronomy: Present and Future”, Beijing, 2001

## Teaching Experience

2011-	Astronomy 191, Advanced Laboratory Astrophysics (Prof. Kovac), Department of Astronomy, Harvard University
2016-2017	Astronomy 99, Senior Thesis, Department of Astronomy, Harvard University

2013	Astronomy 98, Junior Research Tutorial, Department of Astronomy, Harvard University
2011-2012	Astronomy 99, Senior Thesis, Department of Astronomy, Harvard University
2010	Astronomy 98, Junior Research Tutorial, Department of Astronomy, Harvard University
2004-2008	Astronomy 191, Advanced Laboratory Astrophysics (Prof. Thaddeus), Department of Astronomy, Harvard University

### Invited Talks and Colloquia

1. “ALMA Science”, 5th U.S. - China Workshop on Radio Astronomy Science & Technology, Charlottesville, VA, July, 2017
2. “Fragmentation and Massive Cluster Formation”, Purple Mountain Observatory, Chinese Academy of Sciences, Nanjing, China, April, 2017
3. Colloquium “SMA: More than a Decade of Discovery and its Future”, School of Astronomy and Space Science, Nanjing University, Nanjing, China, April, 2017
4. “Massive Star Formation in the ALMA Era”, conference Half a Decade of ALMA: Cosmic Dawns Transformed, Indian Wells, CA, September 2016
5. “Fragmentation and protocluster formation”, Early Phases of Star Formation (EPoS), Ringberg Castle, Germany, June 2016
6. Colloquium “Massive Star Formation”. National Radio Astronomical Observatory, Socorro, NM, May 2016
7. “Magnetic Fields and Massive Star Formation”, conference From Stars to Massive Stars, Gainesville, FL, April 2016
8. “Star Formation Science with DATE5 Telescope”, workshop on Terahertz Astronomy, Suzhou, China, March, 2016
9. Colloquium “Massive Star Formation”, School of Astronomy and Space Science, Nanjing University, March, 2016
10. “Polarized Dust Emission in Massive Star Forming Regions”, conference the Magnetic Fields in the Universe , Corsica, France, October 2015
11. “Magnetic Fields in Star Formation”, Harvard-Heidelberg Workshop on Star Formation, Cambridge, MA, May 2015
12. Colloquium “How to Make Massive Stars”, University of Toronto/Dunlap Institute of Astronomy, Toronto, Canada, November 2014
13. “Workshop Summary: identifying the big questions”, conference Mass Assembly from clouds to clusters, Sexton, Italy, July 2014

14. “Fragmentation of Molecular Clumps and Formation of Massive Cores”, AASTCS 4: Workshop on Dense Cores: Origin, Evolution, and Collapse, Monterey, CA, July 2014
15. Colloquium “Magnetic Fields and Massive Star Formation”, School of Astronomy and Space Science, Nanjing University, Nanjing, China, April 2014
16. Colloquium “Massive Star Formation” at Purple Mountain Observatory, Chinese Academy of Sciences, Nanjing, China, April 2014
17. Colloquium “How to Make Massive Stars”, Astronomy Department of Boston University, Boston, MA, March 2014
18. Colloquium “Three Problems with Massive Star Formation”, Institut de Ciències de l’Espai (CSIC-IEEC), Barcelona, Spain, June 2012
19. Colloquium “Massive Star Formation through Accretion of Ionized Gas”, Peking University and Kavli Institute for Astronomy and Astrophysics, Beijing, China, June 2012
20. Colloquium “How to Make Massive Stars”, National Radio Astronomical Observatory and University of Virginia, Charlottesville, VA, April 2012
21. “Massive Star Formation: an Observer’s View”, University of Florida, Gainesville, FL, February 2012
22. Colloquium “How to Make Big Stars”, Peking University and Kavli Institute for Astronomy and Astrophysics, Beijing, China, November 2011
23. Colloquium “Unsolved Problems in Massive Star Formation”, CRyA, UNAM, August 2011
24. Colloquium “Early Phases of Massive Star Formation”, Purple Mountain Observatory, Chinese Academy of Sciences, Nanjing, China, February 2011
25. “From Cold Cores to Hot Cores: Early Phases of Massive Star Formation”, conference Frontier on Interstellar Medium, Beijing, China, June 2010
26. “THz Astronomy from Dome A, Antarctica”, conference Astronomy and Astrophysics in Antarctica, Beijing, China, August 2010
27. Colloquium “Unsolved Problems in Star Formation”, Department of Astronomy, Nanjing University, Nanjing, China, August 2010
28. Colloquium “Outflows and Massive Star Formation”, Northwestern University, Evanston, IL, January 2010
29. Colloquium “Recent Development in Massive Star Formation”, JPL, Pasadena, CA, December 2009
30. “Massive Star Formation: From Infrared Dark Clouds to Hyper-Compact HII Regions”, Millimeter and Submillimeter Astronomy at High Angular Resolution, Taipei, Taiwan, June 2009

31. “THz Astronomy from Dome A, Antarctica” in URSI conference, Boulder, CO, January 2009
32. “Star and Planet Formation, Science Drivers for Dome A THz Telescope”, workshop THz Astronomy from Dome A, Antarctica, Nanjing China, November 2008
33. “Fragmentation in (Pre)cluster Forming Regions” in conference Transformational Science with ALMA: The Birth and Feedback of Massive Stars, Within and Beyond the Galaxy, Charlottesville, VA, September 2008
34. “Massive Star Formation: From Infancy to Adolescence” in conference From Chemistry to Life, Taipei, Taiwan, December 2007
35. “Centimeter to Sub-millimeter Views of Disks” in conference Massive Star Formation, Observations Confront Theory, Heidelberg, Germany, September 2007
36. “Science from the SMA”, in international conference ‘Legacy of Multi-wavelength Surveys’, Cambridge, MA, August 2007
37. “Massive Star Disks”, at IAU Symposium 227 Massive star birth: A crossroads of Astrophysics, Sicily, Italy, May 2005
38. “Early Results from the SMA”, in IAU Symposium 221 Star Formation at High Angular Resolution, Sydney, Australia, July 2003
39. “Massive Star Formation and the SMA”, at Workshop Magnetohydrodynamics, Radiation Diagnostics, and Chemistry of Star Formation, Taipei, Taiwan, June 2002
40. “Massive Star Formation: Many Unsolved Mysteries”, in conference Astronomy and Chinese Astronomy: Present and Future, Beijing, China, December 2001
41. Colloquium “Formation of High-Mass Stars: Coalescence or Accretion?”, ATNF, Australia, December 2001
42. Colloquium “High-mass Star Formation: Coalescence vs. Accretion”, IfA, University of Hawaii, Manoa, HI, June 2001
43. Colloquium “Dynamic Collapse and Disks in High-mass Star Forming Region”, National Radio Astronomical Observatory and University of Virginia, Charlottesville, VA, February, 1998

## Research Highlights and Media Coverage

1. “A Young Protostellar Dust Disk”, 2017, CfA Science Update, <http://adsabs.harvard.edu/abs/2014ApJ...792..116Z>
2. “The Coldest, Driest, Most Remote Place on Earth Is the Best Place to Build a Radio Telescope”, 2016, Smithsonian Magazine, <http://www.smithsonianmag.com/smithsonian-institution/coldest-driest-place-earth-best-place-radio-telescope-180961495/>

3. “Antarctic Site Promises to Open a New Window on the Cosmos”, 2016, CfA press release, <https://www.cfa.harvard.edu/news/2016-28>
4. “As Stars Form, Magnetic Fields Influence Regions Big and Small”, 2015, CfA press release, <https://www.cfa.harvard.edu/news/2015-09>
5. “Study Supports Role of Magnetic Fields in Star Formation”, 2015, The Harvard Crimson, <http://www.thecrimson.com/article/2015/4/15/magnetic-fields-star-formation>
6. “Scientists track growth of an embryo of a star”, 2015, provided expert commentary to CBS News report, <https://www.cbsnews.com/news/a-star-is-forming-and-scientists-are-there-to-see-it/>
7. “SMA Unveils How Small Cosmic Seeds Grow Into Big Stars, 2014”: CfA press release, <https://www.cfa.harvard.edu/news/2014-04>
8. “SMA Reveals Giant Star Cluster in the Making, 2013”: CfA press release, <https://www.cfa.harvard.edu/news/2013-31>
9. AAS press conference during the 2013 AAS Winter meeting announcing the findings in the paper by Kauffmann, Pillai and Zhang 2013
10. “A Cloudy Mystery”, 2013: Caltech press release, <http://www.caltech.edu/content/cloudy-mystery>
11. “Masers in Stellar Nurseries”, 2012: CfA Science Update, <http://www.cfa.harvard.edu/news/2012/su201244.html>
12. “Hot Cores in Dark Clouds”, 2011: CfA Science Update, <http://www.cfa.harvard.edu/news/2011/su201148.html>
13. “Astronomers Witness a Star Being Born”, 2010: Yale University press release, <http://news.yale.edu/2010/06/17/astronomers-witness-star-being-born>
14. “Magnetic Fields Dominate Young Stars of all Sizes?” 2009: <http://www.universetoday.com/32205/magnetic-fields-dominate-young-stars-of-all-sizes>
15. “Jets from a Possible Young Brown Dwarf”, 2009: CfA Science Update, <http://www.cfa.harvard.edu/news/2009/su200932.html>
16. “Turbulence May Promote the Birth of Massive Stars”, 2009: CfA press release, <http://www.cfa.harvard.edu/news/2009/pr200907.html>
17. “Stellar Giants Thrive on Chaos”, 2009: <http://news.sciencemag.org/sciencenow/2009/02/25-03.html>
18. “Spiraling Jets in New Stars”, 2008: CfA Science Update, <http://www.cfa.harvard.edu/news/2008/su200802.html>
19. “Ammonia in Dark Clouds”, 2008: CfA Science Update, <http://www.cfa.harvard.edu/news/2008/su200806.html>

20. “Jets are a real drag”, 2007”, CfA press release, <http://www.cfa.harvard.edu/news/2007/pr200734.html>
21. “How to Build a Big Star, 2005”, CfA press release, <http://www.cfa.harvard.edu/news/2005/pr200527.html>
22. Research on long-term solar brightness changes (Zhang et al. 1994) was cited and presented in details in United Nations Intergovernmental Panel on Climate Change (IPCC) Second Assessment Report, 1996, pp 116-117, and the Atmospheric Sciences Entering the Twenty-First Century: National Academy of Sciences Report, 1998, P 271

### **Graduate Student Research**

1. Daniel Callanan, PhD student (SAO predoctoral program), 2017-
2. Fang Xiong, PhD student (SAO predoctoral program), 2017-
3. Shanghuo Li, PhD student (SAO predoctoral program), 2017-
4. Patrick King, PhD student (SAO predoctoral program), 2016-2017
5. Nannan Yue, PhD student (SAO predoctoral program), 2015-2017
6. Daniel Walker, PhD student (SAO predoctoral program), 2015-2016
7. Tao-Chung Ching, PhD student (SAO predoctoral program), 2013-2015
8. Xing Lu, PhD student (SAO predoctoral program), 2012-2015
9. Victor Rivilla, visiting PhD Student, 2011
10. Hau-Yu Liu, PhD student (SAO predoctoral program, co-advisor: Paul Ho), 2009-2012
11. Laura Gomez, visiting PhD Student, 2009
12. Ke Wang, PhD student (SAO predoctoral program), 2008-2012
13. Javier Rodon, visiting PhD Student, 2008
14. Felipe Alves, visiting PhD Student, 2008
15. Roberto Galvan-Madrid, PhD student (SAO predoctoral program, co-advisor: Paul Ho), 2007-2011
16. Cassandra Fallscheer, visiting PhD student, 2007
17. Gemma Busquet, visiting PhD student, 2007
18. Keping Qiu, PhD student (SAO predoctoral program), 2006-2009
19. Yang Wang, PhD student (SAO predoctoral program), 2003-2006



20. Peter Sollins, PhD student (Harvard, co-advisor: Paul Ho), 2002-2006
21. Junzhi Wang, PhD student (SAO predoctoral program), 2002-2005
22. Yuan Chen, Master student (Harvard), 2002-2005

### **PhD Thesis Committee**

1. Christopher Faesi, Harvard University University, 2016-
2. How-Huan Chen, Harvard University University, 2016-
3. Riwanj Pokhrel, Chair of SAO Predoc Committee, 2016-
4. Sadia Hoq, Boston University, 2015-2016
5. Gozde Saral, SAO Predoc Committee, 2013
6. Patricio Sanhueza, Boston University, 2013
7. Susanna Finn, Boston University, 2012
8. Katharina Immer, Chair of SAO Predoc Committee, 2011
9. Gemma Busquet, Chair of Thesis Committee, University of Barcelona, 2010
10. Edward Chambers, Boston University, 2009
11. Ya-Wen Tang, National Taiwan University, 2009
12. Katharine Johnston, Chair of SAO Predoc Committee, 2009-2010
13. Pamela Klaassen, SAO Predoc Committee, 2006-2007
14. Aina Palau, University of Barcelona, 2006

### **Undergraduate Student Research**

1. Deanna Emery, SAO intern, 2017
2. Charles Law, SAO intern, 2017
3. May Wang, summer student, Harvard University, 2017
4. Deanna Emery, Harvard Senior Thesis, 2016-2017
5. Anna Laws, University of Southampton SAO Student Exchange Program (co-advisor Joseph Hora), 2016-2017
6. Juliana Garcia-Mejia, undergrad research assistant, Harvard University, 2014-2015

7. Sophie Welsh, summer student, Harvard University, 2014
8. James Kirk, University of Southampton SAO Student Exchange Program (co-advisor with Joseph Hora), 2013-2014
9. Brian Claus, Junior research tutorial, Harvard University, 2013
10. Zoey Bergstrom, undergrad research assistant, Harvard University, 2012 - 2013
11. Marion Dierickx, summer student, Harvard University, 2012
12. Lindsey Wimberly, summer student, Boston University, 2012
13. William Hawley, Harvard Senior Thesis, 2011-2012
14. How-Huan Chen, summer student, Harvard University, 2011
15. Andrea Silva, SAO intern, 2010-2012
16. Stephanie Wang, summer student, Harvard University, 2009
17. Furgan Fazal, summer student (co advisor T. K. Sridharan), 2007
18. Mark Kramer, summer student, 2000
19. Paul Hamilton, Junior research, Harvard University, 2000
20. Beth Lindsey, summer student (co-advisor David Wilner), 1998

## Publications in Refereed Journals

1. SMA Observations of the Hot Molecular Core IRAS 18566+0408, Silva, Andrea, **Zhang, Qizhou**, Sanhueza, Patricio, Lu, Xing, Beltran, Maria T., Fallscheer, Cassandra, Beuther, Henrik, Sridharan, T. K., Cesaroni, Riccardo 2017, accepted to Astrophysical Journal, arXiv:1708.07431
2. A rotating protostellar jet launched from the innermost disk of HH 212, Lee, Chin-Fei, Ho, Paul. T. P., Li, Zhi-Yun, Hirano, Naomi, **Zhang, Qizhou**, Shang, Hsien 2017, Nature Astronomy, 1, 0152
3. Simultaneous low- and high-mass star formation in a massive protocluster: ALMA observations of G11.92-0.61, Cyganowski, C. J., Brogan, C. L., Hunter, T. R., Smith, R., Kruijssen, J. M. D., Bonnell, I. A., **Zhang, Q.** 2017, MNRAS, 468, 3694
4. ALMA observations of dust polarization and molecular line emission from the Class 0 protostellar source Serpens SMM1, Hull, Charles L. H., Girart, Josep M., Tychoniec, ukasz, Rao, Ramprasad, Coréts, Paulo C., Pokhrel, Riway, **Zhang, Qizhou**, Houde, Martin, Dunham, Michael M., Kristensen, Lars E. et al. 2017, accepted to Astrophysical Journal, arXiv:1707.03827
5. Magnetized Converging Flows toward the Hot Core in the Intermediate/High-mass Star-forming Region NGC 6334 V, Juárez, C., Girart, J. M., Zamora-Avilés, M., Manuel, Tang, Ya-Wen, Koch, Patrick M., Liu, Hanyu Baobab, Palau, Aina, Ballesteros-Paredes, Javier, **Zhang, Qizhou**, Qiu, Keping 2017, Astrophysical Journal, 844, 44
6. Formation and Atmosphere of Complex Organic Molecules of the HH 212 Protostellar Disk, Lee, Chin-Fei, Li, Zhi-Yun, Ho, Paul T. P., Hirano, Naomi, **Zhang, Qizhou**, Shang, Hsien 2017, Astrophysical Journal, 843, 27
7. The Galactic Center Molecular Cloud Survey. II. A lack of dense gas and cloud evolution along Galactic center orbits, Kauffmann, Jens, Pillai, Thushara, **Zhang, Qizhou**, Menten, Karl M., Goldsmith, Paul F., Lu, Xing, Guzmán, Andrés E., Schmiedeke, Anika 2017, Astronomy & Astrophysics, 603, A90
8. The Galactic Center Molecular Cloud Survey. I. A steep linewidth-size relation and suppression of star formation, Kauffmann, Jens, Pillai, Thushara, **Zhang, Qizhou**, Menten, Karl M., Goldsmith, Paul F., Lu, Xing, Guzmán, Andrés E. 2017, Astronomy & Astrophysics, 603, A89
9. A Massive Prestellar Clump Hosting No High-mass Cores, Sanhueza, Patricio, Jackson, James M., **Zhang, Qizhou**, Guzmán, Andrs E., Lu, Xing, Stephens, Ian W., Wang, Ke, Tatematsu, Kenichi 2017, Astrophysical Journal, 841, 97
10. The ALMA view of W33A: a spiral filament feeding the candidate disc in MM1-Main, Maud, L. T., Hoare, M. G., Galván-Madrid, R., **Zhang, Q.**, de Wit, W. J., Keto, E., Johnston, K. G., Pineda, J. E. 2017, MNRAS, 467, L120

11. ALMA reveals sequential high-mass star formation in the G9.62+0.19 complex, Liu, Tie, Lacy, John, Li, Pak Shing, Wang, Ke, Qin, Sheng-Li, **Zhang, Qizhou**, Kim, Kee-Tae, Garay, Guido, Wu, fang, Mardones, Diego, and et al. 2017, arXiv:1705.04907
12. First detection of equatorial dark dust lane in a protostellar disk at submillimeter wavelength, Lee, Chin-Fei, Li, Zhi-Yun, Ho, Paul T. P., Hirano, Naomi, **Zhang, Qizhou**, Shang, Hsien 2017, Science Advances, 3, e1602935
13. The Molecular Gas Environment in the 20 km s<sup>-1</sup> Cloud in the Central Molecular Zone, Lu, Xing, **Zhang, Qizhou**, Kauffmann, Jens, Pillai, Thushara, Longmore, Steven N., Kruijssen, J. M. Diederik, Battersby, Cara, Liu, Haiyu Baobab, Ginsburg, Adam, Mills, Elisabeth A. C, Zhang, Zhi-Yu, Gu, Qiusheng 2017, Astrophysical Journal, 839, 1
14. Magnetic Fields in the Massive Dense Cores of the DR21 Filament: Weakly Magnetized Cores in a Strongly Magnetized Filament, Ching, Tao-Chung, Lai, Shih-Ping, **Zhang, Qizhou**, Girart, Josep M., Qiu, Keping, Liu, Haiyu B. 2017, Astrophysical Journal, 838, 121
15. Angular Momentum in Disk Wind Revealed in the Young Star MWC 349A, **Zhang, Q.**, Claus, B., Watson, L., & Moran, J. 2017, Astrophysical Journal, 837, 53
16. Growth of a Massive Young Stellar Object Fed by a Gas Flow from a Companion Gas Clump, Chen, X., Ren, Z., **Zhang, Q.**, Shen, Z., & Qiu, K. 2017, Astrophysical Journal, 835, 227
17. Formation of ethylene glycol and other complex organic molecules in star-forming regions, Rivilla, V. M., Beltrán, M. T., Cesaroni, R., Fontani, F., Codella, C., **Zhang, Q.** 2017, Astronomy & Astrophysics, 598, A59
18. Anatomy of the internal bow shocks in the IRAS 04166+2706 protostellar jet, Tafalla, M., Su, Y.-N., Shang, H., Johnstone, D., **Zhang, Q.**, Santiago-García, J., Lee, C.-F., Hirano, N., Wang, L.-Y. 2017, Astronomy & Astrophysics, 597, A119
19. Terahertz and far-infrared windows opened at Dome A in Antarctica, Shi, Sheng-Cai, Paine, Scott, Yao, Qi-Jun, Lin, Zhen-Hui, Li, Xin-Xing, Duan, Wen-Ying, Matsuo, Hiroshi, **Zhang, Qizhou**, Yang, Ji, Ashley, M. C. B., Shang, Zhaohui, Hu, Zhong-Wen, 2016, Nature Astronomy, 1, 0001
20. Dense Core Properties in the Infrared Dark Cloud G14.225-0.506 Revealed by ALMA, Ohashi, Satoshi, Sanhueza, Patricio, Chen, Huei-Ru Vivien, **Zhang, Qizhou**, Busquet, Gemma, Nakamura, Fumitaka, Palau, Aina, Tatematsu, Kenichi 2016, Astrophysical Journal, 833, 209
21. Magnetically Dominated Parallel Interstellar Filaments in the Infrared Dark Cloud G14.225-0.506, Santos, F. P., Busquet, G., Franco, G. A. P., Girart, J. M., & **Zhang, Q.** 2016, Astrophysical Journal, 832, 186
22. G11.92-0.61 MM1: a Keplerian disc around a massive young proto-O star, Ilee, J. D., Cyganowski, C. J., Nazari, P., Hunter, T. R., Brogan, C. L., Forgan, D. H., **Zhang, Q.** 2016, MNRAS, 462, 4386

23. 880  $\mu\text{m}$  SMA Polarization Observations of the Quasar 3C 286, Hull, C. L. H., Girart, J. M., & **Zhang, Q.** 2016, *Astrophysical Journal*, 830, 124
24. Star Formation Laws in Both Galactic Massive Clumps and External Galaxies: Extensive Study with Dust Continuum, HCN (4-3), and CS (7-6), Liu, Tie, Kim, Kee-Tae, Yoo, Hyunju, Liu, Sheng-yuan, Tatematsu, Ken'ichi, Qin, Sheng-Li, **Zhang, Qizhou**, Wu, fang, Wang, Ke, Goldsmith, Paul F., Juvela, Mika, Lee, Jeong-Eun, Tóth, L. Viktor, Mardones, Diego, Garay, Guido, Bronfman, Leonardo, Cunningham, Maria R., Li, Di, Lo, Nadia, Ristorcelli, Isabelle, Schnee, Scott 2016, *Astrophysical Journal*, 829, 59
25. The structure and early evolution of massive star forming regions. Substructure in the infrared dark cloud SDC13, McGuire, C., Fuller, G. A., Peretto, N., **Zhang, Q.**, Traficante, A., Avison, A., Jimenez-Serra, I. 2016, *Astronomy & Astrophysics*, 594, A118
26. Outflow Detection in a 70  $\mu\text{m}$  Dark High-Mass Core, Feng, Siyi, Beuther, Henrik, **Zhang, Qizhou**, Liu, Haiyu Baobab, Zhang, Zhiyu, Wang, Ke, Qiu, Keping 2016, *Astrophysical Journal*, 828, 100
27. Are infrared dark clouds really quiescent? Feng, S., Beuther, H., **Zhang, Q.**, Henning, Th., Linz, H., Ragan, S., Smith, R. 2016, *Astronomy & Astrophysics*, 592, A21
28. Rotating Bullets from A Variable Protostar, Chen, X., Arce, H. G., **Zhang, Q.**, Launhardt, R., & Henning, T. 2016, *Astrophysical Journal*, 824, 72
29. Discovery of an Extremely Wide-angle Bipolar Outflow in AFGL 5142, Liu, Tie, **Zhang, Qizhou**, Kim, Kee-Tae, Wu, Yuefang, Lee, Chang-Won, Goldsmith, Paul F., Li, Di, Liu, Sheng-Yuan, Chen, Huei-Ru, Tatematsu, Ken'ichi, Wang, Ke, Lee, Jeong-Eun, Qin, Sheng-Li, Mardones, Diego, Cho, Se-Hyung 2016, *Astrophysical Journal*, 824, 31
30. A Hot and Massive Accretion Disk around the High-mass Protostar IRAS 20126+4104, Chen, Huei-Ru Vivien, Keto, Eric, **Zhang, Qizhou**, Sridharan, T. K., Liu, Sheng-Yuan, Su, Yu-Nung 2016, *Astrophysical Journal*, 823, 125
31. Hot ammonia around young O-type stars. III. High-mass star formation and hot core activity in W51 Main, Goddi, C., Ginsburg, A., & **Zhang, Q.** 2016, *Astronomy & Astrophysics*, 589, A44
32. Molecular gas kinematics within the central 250 pc of the Milky Way, Henshaw, J. D., Longmore, S. N., Kruijssen, J. M. D., Davies, B., Bally, J., Barnes, A., Battersby, C., Burton, M., Cunningham, M. R., Dale, J. E., Ginsburg, A., Immer, K., Jones, P. A., Kendrew, S., Mills, E. A. C., Molinari, S., Moore, T. J. T., Ott, J., Pillai, T., Rathborne, J., Schilke, P., Schmiedeke, A., Testi, L., Walker, D., Walsh, A., **Zhang, Q.** 2016, *MNRAS*, 457, 2675
33. Helical Magnetic Fields in the NGC 1333 IRAS 4A Protostellar Outflows, Ching, Tao-Chung, Lai, Shih-Ping, **Zhang, Qizhou**, Yang, Louis, Girart, Josep M., Rao, Ramprasad 2016, *Astrophysical Journal*, 819, 159

34. What Is Controlling the Fragmentation in the Infrared Dark Cloud G14.225-0.506?: Different Levels of Fragmentation in Twin Hubs Busquet, Gemma, Estalella, Robert, Palau, Aina, Liu, Haiyu Baobab, **Zhang, Qizhou**, Girart, Josep Miquel, de Gregorio-Monsalvo, Itziar, Pillai, Thushara, Anglada, Guillem, Ho, Paul T. P. 2016, *Astrophysical Journal*, 819, 139
35. First-generation science cases for ground-based terahertz telescopes, Hirashita, Hiroyuki, Koch, Patrick M., Matsushita, Satoki, Takakuwa, Shigehisa, Nakamura, Masanori, Asada, Keiichi, Liu, Haiyu Baobab, Urata, Yuji, Wang, Ming-Jye, Wang, Wei-Hao, Takahashi, Satoko, Tang, Ya-Wen, Chang, Hsian-Hong, Huang, Kuiyun, Morata, Oscar, Otsuka, Masaaki, Lin, Kai-Yang, Tsai, An-Li, Lin, Yen-Ting, Srinivasan, Sundar, Martin-Cocher, Pierre, Pu, Hung-Yi, Kemper, Francisca, Patel, Nimesh, Grimes, Paul, Huang, Yau-De, Han, Chih-Chiang, Huang, Yen-Ru, Nishioka, Hiroaki, Lin, Lupin Chun-Che, **Zhang, Qizhou**, Keto, Eric, Burgos, Roberto, Chen, Ming-Tang, Inoue, Makoto, Ho, Paul T. P. 2016, *Publications of the Astronomical Society of Japan*, 68, R1
36. Planck Cold Clumps in the  $\lambda$  Orionis Complex. I. Discovery of an Extremely Young Class 0 Protostellar Object and a Proto-brown Dwarf Candidate in the Bright-rimmed Clump PGCC G192.32-11.88, Liu, Tie, **Zhang, Qizhou**, Kim, Kee-Tae, Wu, Yuefang, Lee, Chang Won, Lee, Jeong-Eun, Tatematsu, Ken'ichi, Choi, Minh, Juvela, Mika, Thompson, Mark, and et al. 2016, *Astrophysical Journal Suppl.*, 222, 7
37. Deeply Embedded Protostellar Population in the 20 km s<sup>-1</sup> Cloud of the Central Molecular Zone, Lu, Xing, **Zhang, Qizhou**, Kauffmann, Jens, Pillai, Thushara, Longmore, Steven N., Kruijssen, J. M. Diederik, Battersby, Cara, Gu, Qiusheng 2015, *Astrophysical Journal*, 814, L18
38. Extremely Energetic Outflow and Decelerated Expansion in W49N, Liu, Tie, Kim, Kee-Tae, Wu, Yuefang, Li, Di, Lee, Chang-Won, De Pree, Christopher G., Qin, Sheng-Li, Wang, Ke, Tatematsu, Ken'ichi, **Zhang, Qizhou**, Mardones, Diego, Liu, Sheng-Yuan, Cho, Se-Hyung 2015, *Astrophysical Journal*, 810, 147
39. The Distribution of Deuterated Formaldehyde within Orion-KL, Favre, Cécile, Bergin, Edwin A., Neill, Justin L., Crockett, Nathan R., **Zhang, Qizhou**, Lis, Dariusz C. 2015, *Astrophysical Journal*, 808, 155
40. SMA Observations of C<sub>2</sub>H in High-mass Star-forming Regions, Jiang, Xue-Jian, Liu, Haiyu Baobab, **Zhang, Qizhou**, Wang, Junzhi, Zhang, Zhi-Yu, Li, Juan, Gao, Yu, Gu, Qiusheng 2015, *Astrophysical Journal*, 808, 114
41. Jet Motion, Internal Working Surfaces, and Nested Shells in the Protostellar System HH 212, Lee, Chin-Fei, Hirano, Naomi, **Zhang, Qizhou**, Shang, Hsien, Ho, Paul T. P., Mizuno, Yosuke 2015, *Astrophysical Journal*, 805, 186
42. Initial Fragmentation in the Infrared Dark Cloud G28.53-0.25, Lu, X., **Zhang, Q.**, Wang, K., & Gu, Q. 2015, *Astrophysical Journal*, 805, 171
43. Fragmentation of Molecular Clumps and Formation of a Protocluster, **Zhang, Q.**, Wang, K., Lu, X., & Jiménez-Serra, I. 2015, *Astrophysical Journal*, 804, 141

44. ALMA Resolves the Spiraling Accretion Flow in the Luminous OB Cluster-forming Region G33.92+0.11, Liu, H. B., Galván-Madrid, R., Jiménez-Serra, I., Román-Zuniga, Carlos, **Zhang, Qizhou**, Li, Zhiyun, Chen, Huei-Ru 2015, *Astrophysical Journal*, 804, 37
45. Self-similar fragmentation regulated by magnetic fields in a region forming massive stars, Li, Hua-Bai, Yuen, Ka Ho, Otto, Frank, Leung, Po Kin, Sridharan, T. K., **Zhang, Qizhou**, Liu, Haiyu, Tang, Ya-Wen, Qiu, Keping, 2015, *Nature*, 520, 518
46. Submillimeter Array High-angular Resolution Observations of the Monoceros R2 Star-forming Cluster, Dierickx, M., Jiménez-Serra, I., Rivilla, V. M., & **Zhang, Q.** 2015, *Astrophysical Journal*, 803, 89
47. Hot ammonia around young O-type stars. II. JVLA imaging of highly excited metastable NH<sub>3</sub> masers in W51-North, Goddi, C., Henkel, C., **Zhang, Q.**, Zapata, L., & Wilson, T. L. 2015, *Astronomy & Astrophysics*, 573, A109
48. Hot ammonia around young O-type stars. I. JVLA imaging of NH<sub>3</sub> (6, 6) to (14, 14) in NGC 7538 IRS1, Goddi, C., **Zhang, Q.**, & Moscadelli, L. 2015, *Astronomy & Astrophysics*, 573, A108
49. The Importance of the Magnetic Field from an SMA-CSO-combined Sample of Star-forming Regions, Koch, Patrick M., Tang, Ya-Wen, Ho, Paul T. P., **Zhang, Qizhou**, Girart, Josep M., Chen, Huei-Ru Vivien, Frau, Pau, Li, Hua-Bai, Li, Zhi-Yun, Liu, Hau-Yu Baobab, Padovani, Marco, Qiu, Keping, Yen, Hsi-Wei, Chen, How-Huan, Ching, Tao-Chung, Lai, Shih-Ping, Rao, Ramprasad 2014, *Astrophysical Journal*, 797, 99
50. G11.92-0.61-MM2: A Bonafide Massive Prestellar Core? Cyganowski, C. J., Brogan, C. L., Hunter, T. R., Graninger, D., Oberg, K. I., Vasyunin, A., **Zhang, Q.**, Friesen, R., Schnee, S. 2014, *Astrophysical Journal*, 796, L2
51. Submillimeter Array Observations of Magnetic Fields in G240.31+0.07: An Hourglass in a Massive Cluster-forming Core, Qiu, K., **Zhang, Q.**, Menten, K. M., Liu, Haiyu B., Tang, Ya-Wen, Girart, Josep M. 2014, *Astrophysical Journal*, 794, L18
52. Magnetic Fields and Massive Star Formation, **Zhang, Qizhou**, Qiu, Keping, Girart, Josep M., Liu, Haiyu, Tang, Ya-Wen, Koch, Patrick M., Li, Zhi-Yun, Keto, Eric, Ho, Paul T. P., Rao, Ramprasad, Lai, Shih-Ping, Ching, Tao-Chung, Frau, Pau, Chen, How-Huan, Li, Hua-Bai, Padovani, Marco, Bontemps, Sylvain, Csengeri, Timea, Juárez, Carmen 2014, *Astrophysical Journal*, 792, 116
53. Very Large Array Observations of Ammonia in High-mass Star Formation Regions, Lu, X., **Zhang, Q.**, Liu, H. B., Wang, J., & Gu, Q. 2014, *Astrophysical Journal*, 790, 84
54. Core and Filament Formation in Magnetized, Self-gravitating Isothermal Layers, Van Loo, S., Keto, E., & **Zhang, Q.** 2014, *Astrophysical Journal*, 789, 37
55. Shaping a high-mass star-forming cluster through stellar feedback. The case of the NGC 7538 IRS 1-3 complex, Frau, P., Girart, J. M., **Zhang, Q.**, & Rao, R. 2014, *Astronomy & Astrophysics*, 567, A116

56. ALMA Results of the Pseudodisk, Rotating Disk, and Jet in the Continuum and HCO<sup>+</sup> in the Protostellar System HH 212, Lee, Chin-Fei, Hirano, Naomi, **Zhang, Qizhou**, Shang, Hsien, Ho, Paul T. P., Krasnopolsky, Ruben 2014, *Astrophysical Journal*, 786, 114
57. A subarcsecond study of the hot molecular core in G023.01-00.41, Sanna, A., Cesaroni, R., Moscadelli, L., **Zhang, Q.**, Menten, K. M., Molinari, S., Caratti o Garatti, A., De Buizer, J. M. 2014, *Astronomy & Astrophysics*, 565, A34
58. Hierarchical fragmentation and differential star formation in the Galactic ‘Snake’: infrared dark cloud G11.11-0.12, Wang, Ke, **Zhang, Qizhou**, Testi, Leonardo, van der Tak, Floris, Wu, Yuefang, Zhang, Huawei, Pillai, Thushara, Wyrowski, Friedrich, Carey, Sean, Ragan, Sarah E., Henning, Thomas 2014, *MNRAS*, 439, 3275
59. Fragmentation of Massive Dense Cores Down to  $\lesssim 1000$  AU: Relation between Fragmentation and Density Structure, Palau, Aina, Estalella, Robert, Girart, Josep M., Fuente, Asunción, Fontani, Francesco, Commerçon, Benoit, Busquet, Gemma, Bontemps, Sylvain, Sánchez-Monge, Álvaro, Zapata, Luis A., **Zhang, Qizhou**, Hennebelle, Patrick, di Francesco, James 2014, *Astrophysical Journal*, 785, 42
60. Hot Core, Outflows, and Magnetic Fields in W43-MM1 (G30.79 FIR 10), Sridharan, T. K., Rao, R., Qiu, K., Cortes, P., Li, H., Pillai, T., Patel, N. A., **Zhang, Q.** 2014, *Astrophysical Journal*, 783, L31
61. Submillimetre polarization and magnetic field properties in the envelopes of protoplanetary nebulae CRL 618 and OH 231.8+4.2, Sabin, L., **Zhang, Q.**, Zijlstra, A. A., Patel, N. A., Vázquez, R., Zauderer, B. A., Contreras, M. E., Guillén, P. F. 2014, *MNRAS*, 438, 1794
62. Time Monitoring of Radio Jets and Magnetospheres in the Nearby Young Stellar Cluster R Coronae Australis, Liu, H. B., Galván-Madrid, R., Forbrich, J., Rodríguez, Luis F., Takami, Michihiro, Costigan, Gráinne, Manara, Carlo Felice, Yan, Chi-Hung, Karr, Jennifer, Chou, Mei-Yin, Ho, Paul T.-P., **Zhang, Qizhou** 2014, *Astrophysical Journal*, 780, 155
63. Molecular Jet of IRAS 04166+2706, Wang, Liang-Yao, Shang, Hsien, Su, Yu-Nung, Santiago-García, Joaquín, Tafalla, Mario, **Zhang, Qizhou**, Hirano, Naomi, Lee, Chin-Fei 2014, *Astrophysical Journal*, 780, 49
64. Star Cluster Formation and Feedback, Krumholz, M. R., Bate, M. R., Arce, H. G., Dale, J. E., Gutermuth, R., Klein, R. I., Li, Z.-Y., Nakamura, F., Zhang, Q 2014, *Protostars and Planets VI*, 243
65. Conceptual design studies of the 5 m terahertz antenna for Dome A, Antarctica, Yang, Ji, Zuo, Ying-Xi, Lou, Zheng, Cheng, Jing-Quan, **Zhang, Qi-Zhou**, Shi, Sheng-Cai, Huang, Jia-Sheng, Yao, Qi-Jun, Wang, Zhong 2013, *Research in Astronomy and Astrophysics*, 13, 1493-1508



66. From Poloidal to Toroidal: Detection of a Well-ordered Magnetic Field in the High-mass Protocluster G35.2-0.74 N, Qiu, K., **Zhang, Q.**, Menten, K. M., Liu, H. B., & Tang, Y.-W. 2013, *Astrophysical Journal*, 779, 182
67. MUSCLE W49: A Multi-Scale Continuum and Line Exploration of the Most Luminous Star Formation Region in the Milky Way. I. Data and the Mass Structure of the Giant Molecular Cloud, Galván-Madrid, R., Liu, H. B., Zhang, Z.-Y., Pineda, J. E., Peng, T.-C., **Zhang, Q.**, Keto, E. R., Ho, P. T. P., Rodríguez, L. F., Zapata, L., Peters, T., De Pree, C. G. 2013, *Astrophysical Journal*, 779, 121
68. Properties of dense cores in clustered massive star-forming regions at high angular resolution, Sánchez-Monge, Á., Palau, A., Fontani, F., Busquet, Gemma, Juárez, Carmen, Estalella, Robert, Tan, Jonathan C., Sepúlveda, Inma, Ho, Paul T. P., **Zhang, Qizhou**, Kurtz, Stan 2013, *MNRAS*, 432, 3288
69. DR 21(OH): A Highly Fragmented, Magnetized, Turbulent Dense Core, Girart, J. M., Frau, P., **Zhang, Q.**, Koch, P. M., Qiu, K., Tang, Y.-W., Lai, S.-P., Ho, P. T. P. 2013, *Astrophysical Journal*, 772, 69
70. Gas Kinematics and the Dragged Magnetic Field in the High-mass Molecular Outflow Source G192.16-3.84: An SMA View, Liu, H. B., Qiu, K., **Zhang, Q.**, Girart, J. M., & Ho, P. T. P. 2013, *Astrophysical Journal*, 771, 71
71. AFGL 5157 NH3: a new stellar cluster in the forming process, Jiang, Zhi-Bo, Chen, Zhi-Wei, Wang, Yuan, Yang, Ji, Huang, Jia-Sheng, **Zhang, Qi-Zhou**, Fazio, Giovanni 2013, *Research in Astronomy and Astrophysics*, 13, 695-704
72. Massive Quiescent Cores in Orion: Dynamical State Revealed by High-resolution Ammonia Maps, Li, D., Kauffmann, J., **Zhang, Q.**, & Chen, W. 2013, *Astrophysical Journal*, 768, L5
73. SMA Observations of Class 0 Protostars: A High Angular Resolution Survey of Protostellar Binary Systems, Chen, Xuepeng, Arce, Héctor G., **Zhang, Qizhou**, Bourke, Tyler L., Launhardt, Ralf, Jorgensen, Jes K., Lee, Chin-Fei, Foster, Jonathan B., Dunham, Michael M., Pineda, Jaime E., Henning, Thomas 2013, *Astrophysical Journal*, 768, 110
74. The Galactic Center Cloud G0.253+0.016: A Massive Dense Cloud with low Star Formation Potential, Kauffmann, J., Pillai, T., & **Zhang, Q.** 2013, *Astrophysical Journal*, 765, L35
75. Unveiling a Network of Parallel Filaments in the Infrared Dark Cloud G14.225-0.506, Busquet, Gemma, **Zhang, Qizhou**, Palau, Aina, Liu, Hauyu Baobab, Sánchez-Monge, Álvaro, Estalella, Robert, Ho, Paul T. P., de Gregorio-Monsalvo, Itziar, Pillai, Thushara, Wyrowski, Friedrich, Girart, Josep M., Santos, Fábio P., Franco, Gabriel A. P. 2013, *Astrophysical Journal*, 764, L26
76. A New Radio Recombination Line Maser Object toward the MonR2 H II Region, Jiménez-Serra, I., Báez-Rubio, A., Rivilla, V. M., Martín-Pintado, J., **Zhang, Q.**, Dierickx, M., Patel, N. 2013, *Astrophysical Journal*, 764, L4

77. SiO collimated outflows driven by high-mass YSOs in G24.78+0.08, Codella, C., Beltrán, M. T., Cesaroni, R., Moscadelli, L., Neri, R., Vasta, M., **Zhang, Q.** 2013, *Astronomy & Astrophysics*, 550, A81
78. Water deuterium fractionation in the high-mass hot core G34.26+0.15, Liu, F.-C., Parise, B., Wyrowski, F., **Zhang, Q.**, & Güsten, R. 2013, *Astronomy & Astrophysics*, 550, A37
79. Early Stages of Cluster Formation: Fragmentation of Massive Dense Cores down to  $\lesssim$  1000 AU, Palau, Aina, Fuente, Asunción, Girart, Josep M., Estalella, Robert, Ho, Paul T. P., Sánchez-Monge, Álvaro, Fontani, Francesco, Busquet, Gemma, Commerçon, Benoit, Hennebelle, Patrick, Boissier, Jérémie, **Zhang, Qizhou**, Cesaroni, Riccardo, Zapata, Luis A. 2013, *Astrophysical Journal*, 762, 120
80. A double-jet system in the G31.41 + 0.31 hot molecular core, Moscadelli, L., Li, J. J., Cesaroni, R., Sanna, A., Xu, Y., **Zhang, Q.** 2013, *Astronomy & Astrophysics*, 549, A122
81. The Protocluster G18.67+0.03: A Test Case for Class I CH<sub>3</sub>OH Masers as Evolutionary Indicators for Massive Star Formation, Cyganowski, C. J., Brogan, C. L., Hunter, T. R., **Zhang, Q.**, Friesen, R. K., Indebetouw, R., Chandler, C. J., 2012, *Astrophysical Journal*, 760, L20
82. Forming an O Star via Disk Accretion?, Qiu, Keping, **Zhang, Qizhou**, Beuther, Henrik, Fallscheer, Cassandra, 2012, *Astrophysical Journal*, 756, 170
83. Fragmentation and OB Star Formation in High-Mass Molecular Hub-Filament System, Liu, Hanyu Baobab, Jimenez-Serra, Izaskun, Ho, Paul T.-P., Chen, Huei-Ru, **Zhang, Qizhou**, Li, Zhi-Yun, 2012, *Astrophysical Journal*, 756, 10
84. Dense gas in IRAS 20343+4129: an ultracompact H II region caught in the act of creating a cavity, Fontani, F., Palau, Aina, Busquet, G., Isella, A., Estalella, R., Sánchez-Monge, Á., Caselli, P., **Zhang, Q.**, 2012, *MNRAS*, 423, 1691
85. Different Evolutionary Stages in the Massive Star-forming Region W3 Main Complex, Wang, Yuan, Beuther, Henrik, **Zhang, Qizhou**, Bik, Arjan, Rodon, Javier A., Jiang, Zhibo, Fallscheer, Cassandra, 2012, *Astrophysical Journal*, 754, 87
86. Chemical Segregation toward Massive Hot Cores: The AFGL2591 Star-forming Region, Jimenez-Serra, I., **Zhang, Q.**, Viti, S., Martin-Pintado, J., de Wit, W.-J., 2012, *Astrophysical Journal*, 753, 34
87. H<sub>2</sub>D<sup>+</sup> in the High-mass Star-forming Region Cygnus X, Pillai, T., Caselli, P., Kauffmann, J., **Zhang, Q.**, Thompson, M. A., Lis, D. C., 2012, *Astrophysical Journal*, 751, 135
88. SMA and Spitzer Observations of Bok Globule CB17: A Candidate First Hydrostatic Core?, Chen, Xuepeng, Arce, Hector G., Dunham, Michael M., **Zhang, Qizhou**, Bourke, Tyler L., Launhardt, Ralf, Schmalzl, Markus, Henning, Thomas 2012, *Astrophysical Journal*, 751, 89

89. Temperature and kinematics of protoclusters with intermediate and high-mass stars: the case of IRAS 05345+3157, Fontani, F., Caselli, P., **Zhang, Q.**, Brand, J., Busquet, G., Palau, Aina 2012, *Astronomy and Astrophysics*, 541, 32
90. Discovery of a Binary System in IRAM 04191+1522, Chen, Xuepeng, Arce, Hector G., Dunham, Michael M., **Zhang, Qizhou** 2012, *Astrophysical Journal*, 747, 43
91. Protostellar Outflow Heating in a Growing Massive Protocluster, Wang, Ke, **Zhang, Qizhou**, Wu, Yuefang, Li, Hua-bai, Zhang, Huawei 2012, *Astrophysical Journal*, 745, 30
92. The Origin of OB Clusters: From 10 pc to 0.1 pc, Liu, Haiyu Baobab, Quintana-Lacaci, Guillermo, Wang, Ke, Ho, Paul T. P., Li, Zhi-Yun, **Zhang, Qizhou**, Zhang, Zhi-Yu 2012, *Astrophysical Journal*, 745, 61
93. Unveiling the Physical Properties and Kinematics of Molecular Gas in the Antennae Galaxies (NGC 4038/9) through High-resolution CO ( $J = 3-2$ ) Observations, Ueda, Junko, Iono, Daisuke, Petitpas, Glen, Yun, Min S., Ho, Paul T. P., Kawabe, Ryohei, Mao, Rui-Qing, Martin, Sergio, Matsushita, Satoki, Peck, Alison B., Tamura, Yoichi, Wang, Junzhi, Wang, Zhong, Wilson, Christine D., **Zhang, Qizhou** 2012, *Astrophysical Journal*, 745, 65
94. Intermediate-mass Hot Cores at  $\sim 500$  AU: Disks or Outflows? Palau, Aina, Fuente, Asuncion, Girart, Josep M., Fontani, Francesco, Boissier, Jeremie, Pietu, Vincent, Sánchez-Monge, Álvaro, Busquet, Gemma, Estalella, Robert, Zapata, Luis A., **Zhang, Qizhou**, Neri, Roberto, Ho, Paul T. P., Alonso-Albi, Tomas, Audard, Marc 2011, *Astrophysical Journal*, 743, 32
95. Hot Molecular Cores in Infrared Dark Clouds, Rathborne, J. M., Garay, G., Jackson, J. M., Longmore, S., **Zhang, Q.**, Simon, R. 2011, *Astrophysical Journal*, 741, 120
96. Structure of the hot molecular core G10.47+0.03, Rolffs, R., Schilke, P., **Zhang, Q.**, Zapata, L. 2011, *Astronomy and Astrophysics*, 536, 33
97. Molecular outflows and hot molecular cores in G24.78+0.08 at sub-arcsecond angular resolution, Beltran, M. T., Cesaroni, R., **Zhang, Q.**, Galvan-Madrid, R., Beuther, H., Fallscheer, C., Neri, R., Codella, C. 2011, *Astronomy and Astrophysics*, 532, 91
98. Dissecting a hot molecular core: The case of G31.41+0.31, Cesaroni, R., Beltran, M. T., **Zhang, Q.**, Beuther, H., Fallscheer, 2011, *Astronomy and Astrophysics*, 533, 73
99. Hierarchical Fragmentation and Jet-like Outflows in IRDC G28.34+0.06: A Growing Massive Protostar Cluster, Wang, Ke, **Zhang, Qizhou**, Wu, Yuefang, Zhang, Huawei, 2011, *Astrophysical Journal*, 735, 64
100. Submillimeter continuum observations of Sagittarius B2 at subarcsecond spatial resolution, Qin, S.-L., Schilke, P., Rolffs, R., Comito, C., Lis, D. C., **Zhang, Q.**, 2011, *Astronomy and Astrophysics*, 530, L9

101. High resolution CO observation of massive star forming regions, Klaassen, P. D., Wilson, C. D., Keto, E. R., **Zhang, Q.**, Galvan-Madrid, R., Liu, H.-Y. B., 2011, *Astronomy and Astrophysics*, 530, 53
102. IRDC G030.88+00.13: A Tale of Two Massive Clumps, **Zhang, Qizhou**, Wang, Ke, 2011, *Astrophysical Journal*, 733, 26
103. An Overall Picture of the Gas Flow In Massive Cluster Forming Region: The Case of G10.6-0.4, Liu, Haiyu Baobab, **Zhang, Qizhou**, Ho, Paul T. P. 2011, *Astrophysical Journal*, 729, 100
104. A High Mass Dusty Disk Candidate: The Case of IRAS 18151-1208, Fallscheer, Cassandra, Beuther, Henrik, Sauter, Jurgen, Wolf, Sebastian, **Zhang, Qizhou**, 2011, *Astrophysical Journal*, 729, 66
105. Infall and outflow detections in a massive core JCMT 18354-0649S, Liu, Tie, Wu, Yuefang, **Zhang, Qizhou**, Ren, Zhiyuan, Guan, Xin, Zhu, Ming 2011, *Astrophysical Journal*, 728, 91
106. Bipolar Molecular Outflows and Hot Cores in GLIMPSE Extended Green Objects (EGOs), Cyganowski, C. J., Brogan, C. L., Hunter, T. R., Churchwell, E., **Zhang, Q.**, 2011, *Astrophysical Journal*, 729, 124
107. Is protostellar heating sufficient to halt fragmentation? A case study of the massive protocluster G8.68-0.37, Longmore, Steven N., Pillai, Thushara, Keto, Eric, **Zhang, Qizhou**, Qiu, Keping, 2011, *Astrophysical Journal*, 726, 97
108. The magnetic field in the NGC 2024 FIR 5 dense core, Alves, Felipe de O., Girart, Josep M., Lai, Shih-Ping, Rao, Ramprasad, **Zhang, Qizhou**, 2011, *Astrophysical Journal*, 726, 63
109. Outflows, Accretion, and Clustered Protostellar Cores Around a Forming O Star, Qiu, Keping, **Zhang, Qizhou**, Menten, Karl M., 2011, *Astrophysical Journal*, 728, 6
110. N<sub>2</sub>H<sup>+</sup> depletion in the massive protostellar cluster AFGL 5142, Busquet, Gemma, Estalella, Robert, **Zhang, Qizhou**, Viti, Serena, Palau, Aina, Ho, Paul T. P., Sánchez-Monge, Álvaro, 2011, *Astronomy and Astrophysics*, 525, 141
111. High Velocity Molecular Outflows In Massive Cluster Forming Region G10.6-0.4, Liu, Haiyu, Ho, Paul T. P., **Zhang, Qizhou**, 2010, *Astrophysical Journal*, 725, 2190
112. From the Convergence of Filaments to Disk-Outflow Accretion: Massive-Star Formation in W33A, Galvan-Madrid, Roberto, **Zhang, Qizhou**, Keto, Eric, Ho, Paul T. P., Zapata, Luis A., Rodríguez, Luis F., Pineda, Jaime E., Vazquez-Semadeni, Enrique, 2010, *Astrophysical Journal*, 725, 17
113. The Decrease of Specific Angular Momentum and the Hot Toroid Formation: The Massive Clump G10.6-0.4, Liu, Haiyu, Ho, Paul T. P., **Zhang, Qizhou**, Keto, Eric, Wu, Jingwen, Li, Huabai, 2010, *Astrophysical Journal*, 722, 262

114. IRAS 22198+6336: Discovery of an Intermediate-Mass Hot Core, Sánchez-Monge, Álvaro, Palau, Aina, Estalella, Robert, Kurtz, Stan, **Zhang, Qizhou**, Di Francesco, James, Shepherd, Debra, 2010, *Astrophysical Journal*, 721, L107
115. The  $\text{NH}_2\text{D}/\text{NH}_3$  ratio toward pre-protostellar cores around the UCHII region in IRAS 20293+3952 , Busquet, G., Palau, Aina, Estalella, R., Girart, J. M., Sánchez-Monge, A., Viti, S., Ho, P. T. P., **Zhang, Q.** 2010, *Astronomy and Astrophysics*, 517, L6
116. Clouds, filaments and protostars: the Herschel Hi-GAL Milky Way , Molinari, S., Swinyard, B., Bally, J., Barlow, M., et al. 2010, *Astronomy and Astrophysics*, 518, 100
117. Hi-GAL: The Herschel Infrared Galactic Plane Survey , Molinari, S., Swinyard, B., Bally, J., Barlow, M., et. al. 2010, *PASP*, 122, 314
118. A Large, Massive, Rotating Disk Around an Isolated Young Stellar Object , Quanz, Sascha P., Beuther, Henrik, Steinacker, Jurgen, Linz, Hendrik, Birkmann, Stephan M., Krause, Oliver, Henning, Thomas, **Zhang, Qizhou**, 2010, *Astrophysical Journal*, 717, 693
119. L1448 IRS2E: A Candidate First Hydrostatic Core , Chen, Xuepeng, Arce, Hector G., **Zhang, Qizhou**, Bourke, Tyler L., Launhardt, Ralf, Schmalzl, Markus, Henning, Thomas, 2010, *Astrophysical Journal*, 715, 1344
120. Deuterium Fractionation as an Evolutionary Probe in the Infrared Dark Cloud G28.34+0.06, Chen, Huei-Ru, Liu, Sheng-Yuan, Su, Yu-Nung, **Zhang, Qizhou**, 2010, *Astrophysical Journal*, 713, L50
121. The reflection-symmetric wiggle of the young protostellar jet HH 211, Lee, Chin-Fei, Hasegawa, Tatsuhiro I., Hirano, Naomi, Palau, Aina, Shang, Hsien, Ho, Paul T. P. and **Zhang, Qizhou**, 2010, *Astrophysical Journal*, 713, 731
122. The standard model of star formation applied to massive stars: accretion disks and envelopes in molecular lines, Keto, Eric and **Zhang, Qizhou** 2010, *MNRAS*, 406, 102
123. Three intermediate-mass YSOs with different properties emerging from the same natal cloud in IRAS 00117+6412, Palau, Aina, Sánchez-Monge, A., Busquet, G., Estalella, R., **Zhang, Q.**, Ho, P. T. P., Beltran, M. T., Beuther, H. 2010, *Astronomy and Astrophysics*, 510, 5
124. Infrared dark clouds as precursors to star clusters , Rathborne, Jill M., Jackson, James M., Simon, Robert, **Zhang, Qizhou** 2009, *Ap&SS*, 324, 155
125. Formation of an O-Star Cluster by Hierarchical Accretion in G20.08-0.14 N, Galvan-Madrid, Roberto, Keto, Eric, **Zhang, Qizhou**, Kurtz, Stan, Rodríguez, Luis F., Ho, P. T. P., 2009, *Astrophysical Journal*, 706, 1036
126. Discovery of Extremely High Velocity "Molecular Bullets" in the HH 80-81 High-Mass Star-Forming Region, Qiu, Keping and **Zhang, Qizhou**, 2009, *Astrophysical Journal*, 702, L66

127. Rotation of the Warm Molecular Gas Surrounding Ultracompact HII Regions, Klaassen, P. D., Wilson, C. D., Keto, E. R., **Zhang, Q.**, 2009, *Astrophysical Journal*, 703, 1308
128. Rotational Structure and Outflow in the Infrared Dark Cloud 18223-3, Fallscheer, C., Beuther, H., **Zhang, Qizhou**, Keto, E., Sridharan, T. K., 2009, *Astronomy and Astrophysics*, 504, 127
129. Magnetic Fields in the Formation of Massive Stars, Girart, Josep M., Beltran, Maria T., **Zhang, Qizhou**, Rao, Ramprasad, Estalella, Robert, *Science*, 2009, 324, 1408
130. Rotation and Outflow motions in the very low-mass Class 0 protostellar system HH 211 at subarcsecond resolution, Lee, Chin-Fei, Hirano, Naomi, Palau, Aina, Ho, Paul T. P., Bourke, Tyler L., **Zhang, Qizhou**, Shang, Hsien, 2009, *Astrophysical Journal*, 699, 1584
131. Linking pre- and proto-stellar objects in the intermediate-/high-mass star forming region IRAS 05345+3157, Fontani, F., **Zhang, Qizhou.**, Caselli, P., Bourke, T. L., 2009, *Astronomy and Astrophysics*, 499, 233
132. Fragmentation at the Earliest Phase of Massive Star Formation, **Zhang, Qizhou**, Wang, Yang, Pillai, Thushara, Rathborne, Jill, 2009, *Astrophysical Journal*, 696, 268
133. Submillimeter Array Observations of the Molecular Outflow in High-mass Star-forming Region G240.31+0.07, Qiu, Keping, **Zhang, Qizhou**, Wu, Jingwen, Chen, Huei-Ru, 2009, *Astrophysical Journal*, 696, 66
134. Chemical Diversity in High-Mass Star Formation, Beuther, H., **Zhang, Qizhou**, Bergin, E. A., Sridharan, T. K., 2009, *Astronomical Journal*, 137, 406
135. Spectral Energy Distributions of High Mass Proto Stellar Objects - Evidence for High Accretion Rates, Fazal, F. M., Sridharan, T. K., Qiu, K., Robitaille, T., Whitney, B., **Zhang, Q.** 2008, *Astrophysical Journal*, 688, L41
136. SMA observations of Infrared Dark Clouds: A tale of two cores, Rathborne, J. M., Jackson, J. M., **Zhang, Qizhou**, Simon R. 2008, *Astrophysical Journal*, 689, 1141
137. Spitzer IRAC and MIPS Imaging of Clusters and Outflows in 9 High-mass Star Forming Regions, Qiu, Keping, **Zhang, Qizhou**, Megeath, S Thomas, Gutermuth, Robert A., Beuther, Henrik, Shepherd, Debra S., Testi, L., and De Pree, C. G. 2008, *Astrophysical Journal*, 685, 1005
138. SMA Imaging of CO(3-2) Line and 860 micron Continuum of Arp 220 : Tracing the Spatial Distribution of Luminosity, Sakamoto, Kazushi, Wang, Junzhi, Wiedner, Martina C., Wang, Zhong, Peck, Alison B., **Zhang, Qizhou**, Petitpas, Glen R., Ho, Paul T. P., Wilner, David J. 2008, *Astrophysical Journal*, 684, 957
139. ATCA 3mm observations of NGC6334I and I(N): dense cores, outflows and an UCHII region, Beuther, H., Walsh, A. J., Thorwirth, S., **Zhang, Qizhou**, Hunter, T. R., Megeath, S. T., and Menten, K. M. 2008, *Astronomy and Astrophysics*, 481, 169

140. Observations of the Infrared Dark Cloud G28.34+0.06, Wang, Y., **Zhang, Q.**, Pillai, T., Wyrowski, F., and Wu Y. 2008, *Astrophysical Journal*, 672, L33.
141. The Early Evolution of Massive Stars: Radio Recombination Line Spectra, K eto, Eric, **Zhang, Qizhou**, and Kurtz Stanley, 2008, *Astrophysical Journal*, 672, 423.
142. Multi-line (sub)millimetre observations of the high-mass proto cluster IRAS 05358+3543, Leurini, S., Beuther, H., Schilke, P., Wyrowski, F., **Zhang Q.** and Menten, K.M., 2007, *Astronomy and Astrophysics*, 475, 925.
143. The Outflow from the Luminous Young Stellar Object IRAS 20126+4104: From 4000 AU to 0.4 pc, Su, Yu-Nung, Liu, Sheng-Yuan, Chen, Huei-Ru, **Zhang, Qizhou**, and Cesaroni, Riccardo, 2007, *Astrophysical Journal*, 671, 571.
144. An evolved disk surrounding the massive main sequence star MWC 297?, Manoj, P., Ho, Paul T. P., Ohashi, Nagayoshi, **Zhang, Qizhou**, Hasegawa, T., Chen, Huei-Ru, Bhatt, H. C., and Ashok, N. M. 2007, *Astrophysical Journal*, 667, L187.
145. Submillimeter arcsecond-resolution mapping of the highly collimated protostellar jet HH 211, Lee, Chin-Fei, Ho, Paul T.P., Palau, Aina, Hirano, Naomi, Bourke, Tyler L., Shang, Hsien, and **Zhang Qizhou**, 2007, *Astrophysical Journal*, 670, 1188.
146. The  $10^5$  Lsun High-Mass Protostellar Object IRAS23151+5912, Beuther, H., **Zhang, Q.**, Hunter, T.R., Sridharan, T.K., and Bergin, E.A., 2007, *Astronomy and Astrophysics*, 493, 493.
147. Jet-like Outflow toward the High-Mass (Proto)stellar Object IRAS 18566+0408, **Zhang, Qizhou**, Sridharan, T. K., Hunter, T. R., Chen, Yuan, Beuther, Henrik, and Wyrowski, Friedrich, 2007, *Astronomy and Astrophysics*, 470, 269.
148. Dust and gas emission in the prototypical hot core G29.96-0.02 at sub-arcsecond resolution, Beuther, H., **Zhang, Q.**, Bergin, E.A., Sridharan, T. K., Hunter, T. R., and Leurini, S. 2007, *Astronomy and Astrophysics*, 468, 1045.
149. SMA Observations Of 321 GHz Water Maser Emission in Cepheus-A, Patel, Nimesh A., Curiel, Salvador, **Zhang, Qizhou**, Sridharan, T.K., Ho, Paul T. P. and Torrelles, Jose M., 2007, *Astrophysical Journal*, 658, L55.
150. Interferometric Multi-Wavelength (Sub)millimeter Continuum Study of the Young High-Mass Protocluster IRAS 05358+3543, Beuther, H., Leurini, S, Schilke, P., Wyrowski, F., Menten, K.M. and **Zhang, Q.**, 2007, *Astronomy and Astrophysics*, 466, 1065.
151. Hot Ammonia in NGC6334I & I(N) , Beuther, H., Walsh, A., Thorwirth S., **Zhang, Q.**, Hunter T. R., Megeath, S.T., Menten, K.M., 2007, *Astronomy and Astrophysics*, 466, 989.
152. PROSAC: A Submillimeter Array Survey of Low-Mass Protostars I. Overview of Program: Envelopes, Disks, Outflows and Hot Cores, Jorgensen, Jes K., Bourke, Tyler L., Myers, Philip C., Di Francesco, James, van Dishoeck, Ewine F., Lee, Chin-Fei, Ohashi,

- Nagayoshi, Schoeier, Fredrik Takakuwa, L., Shigehisa, Wilner, David J. and **Zhang, Qizhou**, 2007, *Astrophysical Journal*, 659, 479.
153. HH 212: SMA Observations of a Remarkable Protostellar Jet, Lee, Chin-Fei, Ho, Paul T. P., Beuther, Henrik, Bourke, Tyler L., Hirano, Naomi, Shang, Hsien and **Zhang, Qizhou**, 2007, *Astrophysical Journal*, 659, 499.
154. Star Formation in a Clustered Environment Around the UCHII Region in IRAS 20293+3952, Palau, A., Estalella, Girart, J. M., Ho, P. T. P., **Zhang, Q.**, Beuther, H., 2007, *Astronomy and Astrophysics*, 465, 219.
155. Multiple Jets from the High-Mass (Proto)stellar Cluster AFGL5142, **Zhang, Q.**, Hunter, T. R., Beuther, H., Sridharan, T. K., Liu, S. -Y., Su, Y. -N., Chen, H. -R., and Chen Y., 2007, *Astrophysical Journal*, 658, 1152.
156. 650 GHz Continuum and C18O (6-5) Observations of G240.31+0.07 with the Submillimeter Array, Chen, Huei-Ru, Su, Yu-Nung, Liu, Sheng-Yuan, Hunter, Todd R., Wilner, David J., **Zhang, Qizhou**, Lim, Jeremy, Ho, Paul T. P., Ohashi, Nagayoshi, and Hirano, Naomi, 2007, *Astrophysical Journal*, 654, L87.
157. High Resolution Imaging of Molecular Outflows in Massive Young Stars, Qiu, K., **Zhang, Q.**, Beuther, H., and Yang, J. 2007, *Astrophysical Journal*, 654, 361.
158. Disks around Young O-B (Proto)Stars: Observations and Theory, Cesaroni, R., Galli, D., Lodato, G., Walmsley, C. M., and **Zhang, Q.**, 2007, in *Protostars and Planets V.*, p197.
159. NH<sub>3</sub> cores in high-mass star formation regions, Wu, Yuefang, **Zhang, Qizhou**, Yu, Wentao, Miller, Martin, Mao, Ruiqing, Sun, Kefong and Wang, Yang, 2007, *Astronomy and Astrophysics*, 450, 607.
160. The Role of Disks in the Formation of High-Mass Stars, Cesaroni, R., Galli, D., Lodato, G., Walmsley, C. M., and **Zhang, Q.**, 2006, *Nature*, 444, 703.
161. Water Masers Associated with Infrared Dark Cloud, Wang, Y., **Zhang, Q.**, Rathborne, J. M., Jackson, J., and Wu, Y., 2006, *Astrophysical Journal*, *Astrophysical Journal*, 651, L125.
162. VLA NH<sub>3</sub> Observations of Regions of Massive Star Formation in Protostellar Cores, Wang, Y., Wu, Y., **Zhang, Q.**, Mao, R.-Q., and Miller, M., 2006, *Astronomy and Astrophysics*, 450, 607.
163. Silicon Monoxide Observations Reveal a Cluster of Hidden Compact Outflows in the OMC1 South Region, Zapata, L. A., Ho, P. T. Prigvez, L. F., O'Dell, C. R., Zhang, Q. and Muench, A. 2006, *Astrophysical Journal*, , 653, 398
164. The distribution of SiO in the circumstellar envelope around IRC+10216, Schoeier, F. L. Fong, D., Olofsson, H., **Zhang, Q.**, and Patel, N., 2006, *Astrophysical Journal*, 649, 965.
165. The high-mass star-forming region IRAS18182-1433, Beuther, H., **Zhang, Q.**, Sridharan, T. K., Lee, C.-F., and Zapata, L. A., 2006, *Astronomy and Astrophysics*, 454, 221.



166. Infall and Outflow around the HH 212 Protostellar System, Lee, Chin-Fei, Ho, Paul T. P., Beuther, Henrik, Bourke, Tyler, **Zhang, Qizhou**, Hirano, Naomi and Hsien Shang, 2006, *Astrophysical Journal*, 639, 292.
167. Submillimeter Emission from the Hot Molecular Jet HH211, Palau, A., Ho, P. T. P., **Zhang, Q.**, Estalella, R., Hirano, N., Shang, H., Lee, C.-F., Bourke, T. L., Beuther, H., and Kuan Y.-J., 2006, *Astrophysical Journal*, 636, L137.
168. SiO J=5–4 in the HH211 Protostellar Jet Imaged with the SMA, Hirano, Naomi, Liu, Sheng-Yuan, Shang, Hsien, Ho, Paul T. P., Huang, Hui-Chun, Kuan, Yi-Jehng, McCaughrean, Mark J. and **Zhang, Qizhou**, 2006, *Astrophysical Journal*, 636, L141.
169. In Search of Circumstellar Disks around Young Massive Stars, Zapata, Luis A., Rodríguez, Luis F., Ho, Paul T. P., Beuther, Henrik, and **Zhang, Qizhou**, 2006, *Astronomical Journal*, 131, 939.
170. Submillimeter Array 440 $\mu$ m/690GHz Line and Continuum Observations of Orion-KL, Beuther, H., **Zhang, Q.**, Reid, M. J., Hunter, T. R., Greenhill, L. J., Gurwell, M., Wilner, D. J., Zhao, J-H, Shinnaga, H., Keto, E., Ho, P. T. P., Moran, J. M. and Liu, S.-Y., 2006, *Astrophysical Journal*, 636, 323.
171. A Highly Collimated, Young and Fast CO (2-1) Outflow in OMC1 South, Zapata, L. A., Rodríguez, L. F., Ho, P. T. P., **Zhang, Q.**, Qi, C. and Kurtz, S. E., 2005, *Astrophysical Journal*, 630, L85.
172. A Disk of Dust and Molecular Gas around a High-mass Protostar, Patel, N. A., Curiel, S., Sridharan, T. K., **Zhang, Q.**, Hunter, T. R., Ho, T. P. T., Torrelles, T. M., Moran, J. M., Gomez, J. F. and Anglada, G., 2005, *Nature*, 437, 1038.
173. Submm Line Imaging of Orion-KL at 865  $\mu$ m with the Submillimeter Array, Beuther, H., **Zhang, Q.**, Greenhill, L. J., Reid, M. J., Wilner, D. J., Keto, E., Shinnaga, H., Ho, P. T. P., Moran, J. M., Liu, S.-Y. and Chang, C.-M., 2005, *Astrophysical Journal*, 632, 355.
174. An Infalling Torus of Molecular Gas Around the Ultra-Compact HII Region G28.20-0.05, Sollins, Peter, K., **Zhang, Qizhou**, Keto, Eric and Ho, Paul. T. P. 2005, *Astrophysical Journal*, 631, 399.
175. Discovery of a Massive SCUBA Core with Both Inflow and Outflow Motions, Wu, Yuefang, Zhu, Ming, Wei, Yue, Xu, Dandan, **Zhang, Qizhou** and Fiege, Jason D. 2005, *Astrophysical Journal*, 628, L57.
176. Spherical Infall in G10.6-0.4: Accretion through an Ultracompact HII region, Sollins, Peter, K., **Zhang, Qizhou**, Keto, Eric and Ho, Paul. T. P. 2005, *Astrophysical Journal*, 624, 49.
177. Search for CO Outflows toward a Sample of 69 High-Mass Protostellar Candidates II: Outflow Properties, **Zhang, Q.**, Hunter, T. R., Brand, J., Sridharan, T. K., Cesaroni, R., Molinari, S., Wang, J., Kramer, M. A. 2005, *Astrophysical Journal*, 625, 864.

178. Testing the massive disk scenario for IRAS 18089-1732, Beuther, H., **Zhang, Q.**, Sridharan, T. K. and Chen, Y. 2005, *Astrophysical Journal*, 628, 800.
179. High-spatial resolution observations of NH<sub>3</sub> and CH<sub>3</sub>OH towards the massive twin cores NGC6334 I & I(N), Beuther, H., Thorwirth, S., **Zhang, Q.**, Hunter, T.R. , Megeath, S.T., Walsh, A.J. and Menten K.M. 2005, *Astrophysical Journal*, 627, 834.
180. CO J = 2-1 Maps of Bipolar Outflows in Massive Star-forming Regions, Wu, Y. **Zhang, Q.**, Chen, H., Yang, C., and Ho, P. T. P., 2005, *Astronomical Journal*, 129, 330.
181. Sub-arcsecond Sub-mm Continuum Observations of Orion-KL, Beuther, H., **Zhang, Q.**, Greenhill, L. J., Reid, M. J., Wilner, D., Keto, E., Marrone, D., Ho, P. T. P., Moran, J. M., Rao, R., Shinnaga, H. and Liu, S.-Y. 2004, *Astrophysical Journal*, 616, L31.
182. Organic Molecules in Low-Mass Protostellar Hot Cores: Submillimeter Imaging of IRAS 16293-2422, Kuan, Yi-Jehng, Huang, Hui-Chun, Charnley, S. B., Hirano, N., Takakuwa, S., Wilner, D. J., Liu, Sheng-Yuan, Ohashi, N., Bourke, T. L., Qi, C., and **Zhang, Qizhou** 2004, *Astrophysical Journal*, 616, L27.
183. High Velocity Bipolar Outflow and Disk-like Envelopes in the Carbon Star V Hya, Hirano, N., Shinnaga, H., Dinh-V-Trung, Fong, D., Keto, E., Patel, N., Qi, C., Young, K., **Zhang, Q.**, and Zhao, J. 2004, *Astrophysical Journal*, 616, L43.
184. Imaging the Disk around TW Hya with the Submillimeter Array, Qi, C., Ho, Paul T. P., Wilner, D. J., Takakuwa, S., Hirano, N., Ohashi, N., Bourke, T. L., **Zhang, Qizhou**, Blake, G. A., Hogerheijde, M., Saito, M., Choi, M., and Yang, J, 2004, *Astrophysical Journal*, 616, L11.
185. Submillimeter Array Observations of L1551 IRS 5 in CS (J=7-6), Takakuwa, S., Ohashi, N., Ho, Paul T. P., Qi, C., Wilner, D. J., **Zhang, Qizhou**, Bourke, T. L., Hirano, N., Choi, M., and Yang, J. 2004, *Astrophysical Journal*, 616, L15.
186. Warm Molecular Gas in Galaxy-Galaxy Merger NGC6090, Wang, Junzhi, **Zhang, Qizhou**, Wang, Zhong, Ho, Paul T. P., Fazio, G. G., and Wu, Yuefang 2004, *Astrophysical Journal*, 616, L67.
187. In Search of Calibrators at the Submillimeter Band for the Submillimeter Array: I Ultra-compact HII-regions, Su, Y.-N., Liu, S.-Y., Lim, J., Ohashi, N., Beuther, H., **Zhang, Q.**, Sollins, P., Hunter, T., Sridharan, T. K., Zhao, J.-H. and Ho, P. T. P. 2004, *Astrophysical Journal*, 616, L39-L42.
188. SMA Outflow/Disk Studies in the Massive Star-Forming Region IRAS18089-1732, Beuther, H., Hunter, T. R., **Zhang, Q.**, Sridharan, T. K., Zhao, J.-H., Sollins, P., Ho, P. T. P., Ohashi, N., Su, Y. N., Lim, J., and Liu, S.-Y. 2004, *Astrophysical Journal*, 616, L23.
189. SMA Multi-Line Observations of the Massive Star-Forming Region IRAS18089-1732, Beuther, H., **Zhang, Q.**, Hunter, T. R., Sridharan, T. K., Zhao, J.-H., Sollins, P., Ho, P. T. P., Liu, S.-Y., Ohashi, N., Su, Y. N. and Lim, J. 2004, *Astrophysical Journal*, 616, L19.

190. Mapping the Outflow from G5.89-0.39 in SiO J=5-4, Sollins, P. K., Hunter, T. R., Battat, J., Beuther, H., Ho, P. T. P., Lim, J., Liu, S. Y., Ohashi, N., Sridharan, T. K., Su, Y. N., Zhao, J.-H., and **Zhang, Q.** 2004, *Astrophysical Journal*, 616, L35-L38.
191. IRAS 18317-0757: A Cluster of Embedded Massive Stars and Protostars, Hunter, T. R., **Zhang, Q.** and Sridharan, T. K. 2004, *Astrophysical Journal*, 606, 929.
192. The Core-Outflow Structure in Two Massive Proto-stellar Candidates: IRAS 21307+5049 and IRAS 22172+5549, Fontani, F., Cesaroni, R., Testi, L., Molinari, S., **Zhang, Q.**, Brand, J., and Walmsley, C. M., 2004, *Astronomy and Astrophysics*, 424, 179.
193. A Case for Local Collapse in the W51 Star Forming Region, Sollins, Peter, K., **Zhang, Qizhou** and Ho, Paul. T. P., 2004, *Astrophysical Journal*, 606, 943.
194. Bipolar Molecular Outflows from High-Mass Protostars, Su, Yu-Nung, **Zhang, Qizhou** and Lim Jeremy, 2004, *Astrophysical Journal*, 604, 258.
195. IRAS 23385+6053: A Candidate Protostellar Massive Object, Fontani, F., Cesaroni, R., Testi, L., Walmsley, C. M., Molinari, S., Neri, R., Shepherd, D., Brand, J., Palla, F., and **Zhang, Q.**, 2004, *Astronomy and Astrophysics*, 414, 299.
196. The Formation of Massive Stars. I. High Resolution Millimeter and Radio Studies of High-Mass Protostellar Candidates, Molinari, S., Testi, L. Rodríguez L. R. and **Zhang, Q.**, 2002 *Astrophysical Journal*, 570, 758.
197. A Disk/Jet System toward the High-mass Young Star in AFGL 5142, **Zhang, Q.**, Hunter, T. R., Sridharan, T. K., and Ho, P. T. P., 2002, *Astrophysical Journal*, 566, 982.
198. Search for CO Outflows toward a Sample of 69 High-mass Protostellar Candidates: Frequency of occurrence, **Zhang, Qizhou**, Hunter, T. K., Brand, J., Sridharan, T. K., Molinari, S., Kramer, M. A., and Cesaroni, R., 2001, *Astrophysical Journal*, 552, L167.
199. Multi-field Mosaic of the NGC 7538 Region, Zheng, X-W, **Zhang, Qizhou**, Ho, Paul T. P., and Pratap, Preethi, 2001, *Astrophysical Journal*, 550, 301.
200. Proper Motion of Water Masers Associated with IRAS 21391+5802: Bipolar Outflow and an AU-scale Dusty Circumstellar Shell, Patel, N, A., Greenhill, L. J., Herrnstein, J., **Zhang, Q.**, Moran, J. M., Ho, P. T. P. and Goldsmith, P. F., 2000, *Astrophysical Journal*, 538, 268.
201. The SiO and CS Emission in the Molecular Outflow toward L1157, **Zhang, Q.**, Ho, P. T. P. and Wright, M. C. H., 2000, *Astronomical Journal*, 119, 1345.
202. Shock Heated NH<sub>3</sub> in a Molecular Jet Associated with a High-mass Young Star, **Zhang, Q.**, Hunter, T. R., Sridharan, T. K., and Cesaroni, R., 1999, *Astrophysical Journal*, 527, L117.
203. The Protostellar Outflow from IRAS 20126+4104 in CO(J=7-6), Kawamura, J.H., Hunter, T.R. , Tong, C.-Y.E., Blundell, R., **Zhang, Q.**, Katz, C., Papa, D. C. and T.K. Sridharan, 1999, *PASP*, 111, 1088.

204. Molecular Jets and H<sub>2</sub>O Masers in the AFGL 5142 Hot Core, Hunter, T. R., Testi, L., **Zhang, Q.** and Sridharan, T. K., 1999, *Astronomical Journal*, 118, 477.
205. A Rotating Disk around A High-mass Young Star, **Zhang, Q.**, Hunter, T. R. and Sridharan, T. K., 1998, *Astrophysical Journal*, 505, L151.
206. Dynamical Collapse in W51 Massive Cores: CS(3-2) and CH<sub>3</sub>CN Observations, **Zhang, Q.**, Ho, P. T. P. and Ohashi, N., 1998, *Astrophysical Journal*, 494, 636.
207. Dynamical Collapse in W51 Massive Cores: NH<sub>3</sub> Observations, **Zhang, Q.** and Ho, P. T. P., 1997, *Astrophysical Journal*, 488, 241.
208. Isotopic CO Images near Young Triple Star GSS30, **Zhang, Q.**, Wootten, A. and Ho, P. T. P., 1997, *Astrophysical Journal*, 475, 713.
209. Search for Infall: Aperture Synthesis HCO<sup>+</sup> and SiO(2-1) Observations of G45.47+0.05 Region, Wilner, D. J., Ho, P. T. P. and **Zhang, Q.**, 1996, *Astrophysical Journal*, 462, 339.
210. SiO Emission in a Jet-like Outflow toward L1157, **Zhang, Q.**, Ho, P. T. P., Wright, M. C. H. and Wilner, D. J., 1995, *Astrophysical Journal*, 451, L72.
211. Ammonia Maser in a Molecular Outflow toward W51, **Zhang, Q.** and Ho, P. T. P., 1995, *Astrophysical Journal*, 450, L63.
212. Chromospheric Variations in Main-sequence Stars II, Baliunas et al., 1995, *Astrophysical Journal*, 438, 269.
213. A Method of Determining Possible Brightness Variations of the Sun in Past Centuries from Observations of Solar-type Stars, **Zhang, Q.**, Soon, W. H., Baliunas, S. L., Lockwood, G. W., Skiff, B. A. and Radick, R. R., 1994, *Astrophysical Journal*, 427, L111.
214. Long-term Surface Activity of the Sun and Solar-type Stars, Soon, W. H., Baliunas, S. L. and **Zhang, Q.**, 1994, *Solar Physics*, 154, 385.
215. A Technique for Estimating Long-term Variations of Solar Total Irradiance: Preliminary Estimates Based on Observations of the Sun and Solar-type Stars, Soon, W. H., Baliunas, S. L. and **Zhang, Q.**, in *The Solar Engine and Its Influence on Terrestrial Atmosphere and Climate* (NATO, Advanced Research Workshop Series: Springer-Verlag), Ed. E. Nesme-Ribes (Heidelberg), 133 (1994).
216. The Mount Wilson Observatory Metallicity Index,  $C_{rv}$ : Comparison to Other Photometric Systems, Soon, W. H., **Zhang, Q.**, Baliunas, S. L. and Kurucz, R. L. 1993, *Astrophysical Journal*, 417, 488.
217. An Interpretation of Cycle Periods of Stellar Chromospheric Activity, Soon, W. H., Baliunas, S. L. and **Zhang, Q.**, 1993, *Astrophysical Journal*, 414, L33.
218. Spectral analysis of the Oct 1984 prominence II, Hu, J., **Zhang, Q.**, Fang, C. and Ye, S., 1990, *ACT. Astrophys. Sin.*, 14, 262.

219. A Comparison Between the Non-LTE Radiative Transfer with the Complete Linearization Treatment, **Zhang, Q.**, Fang, C., 1990, Publ. of Nanjing University, 15, 135 .
220. Spectral Analysis of the Oct 1984 Prominence I, Hu, J., **Zhang, Q.**, Fang, C. and Ye, S., 1988, Publ. of Purple Mountain Obs., 7, 45.
221. Height-varying Semi-empirical Models of a Quiescent Prominence, Fang, C., **Zhang, Q.**, Yin, S., and Livingston, W. C., 1988, Scientia Sinica (A), 4, 413.
222. Spectral Analysis and the Two-dimensional Distribution of Physical Parameters in a Quiescent Prominence, **Zhang, Q. Z.**, Hu, J., Fang, C. and Livingston, W. C., 1987, Solar Physics, 144, 245.
223. Non-LTE Radiative Transfer and Semi-empirical Models of a Quiescent Prominence, **Zhang, Q.** and Fang, C., 1987, Astronomy and Astrophysics, 175, 277.
224. Two-dimensional Distributions of Physical Parameters in the Prominence of 1984 March 23, **Zhang, Q.** and Fang, C., 1987, Chin. Astron. Astrophys., 11, 215.
225. Application of the Complete Linearization Method to the Analysis of Solar Prominence Emission Spectra, **Zhang, Q.** and Fang, C., 1986, Chin. Astron. Astrophys., 10, 324.

## Publications in Conference Proceedings

1. Deeply Embedded Protostellar Population in the Central Molecular Zone Suggested by H<sub>2</sub>O Masers and Dense Cores, Lu, Xing; Zhang, Qizhou; Kauffmann, Jens; Pillai, Thushara; Longmore, Steven N.; Kruijssen, J. M. Diederik; Battersby, Cara 2017, The Multi-Messenger Astrophysics of the Galactic Centre, Proceedings of the International Astronomical Union, IAU Symposium, 322, 99
2. A Brief Update on the CMZoom Survey, Battersby, C.; Keto, E.; Zhang, Q.; Longmore, S. N.; Kruijssen, J. M. D.; Pillai, T.; Kauffmann, J.; Walker, D.; Lu, X.; Ginsburg, A.; Bally, J.; Mills, E. A. C.; Henshaw, J.; Immer, K.; Patel, N.; Tolls, V.; Walsh, A.; Johnston, K.; Ho, L. C. 2017, The Multi-Messenger Astrophysics of the Galactic Centre, Proceedings of the International Astronomical Union, IAU Symposium, 322, 90
3. A Massive, Prestellar Clump Hosting no High-Mass Cores, Sanhueza, P., Jackson, J. M., Zhang, Q., Foster, J., & Guzmán, A. 2015, *Revolution in Astronomy with ALMA: The Third Year*, 499, 245
4. Magnetic Fields in Star-Forming Regions in the pre-ALMA Era: The SMA View, Girart, J.; Zhang, Q.; Frau, P.; Qiu, K.; Liu, H.-B.; Tang, Y.-W.; Koch, P. 2015, *Revolution in Astronomy with ALMA: The Third Year*, 499, 197
5. Next Generation Very Large Array Memo No. 6, Science Working Group 1: The Cradle of Life, Isella, A., Hull, C. L. H., Moullet, A., et al. 2015, arXiv:1510.06444
6. Follow-Up Observations Toward Planck Cold Clumps with Ground-Based Radio Telescopes, Liu, T., Wu, Y., Mardones, D., et al. 2015, *Publication of Korean Astronomical Society*, 30, 79
7. Deuteration in High-Mass Star Forming Regions, Rodón, J. A., Beuther, H., & Zhang, Q. 2014, *The Labyrinth of Star Formation, Astrophysics and Space Science Proceedings*, 36, 425
8. GLIMPSE Extended Green Objects and the Early Stages of Massive Star Formation, Cyganowski, C. J., Brogan, C. L., Hunter, T. R., et al. 2014, *The Labyrinth of Star Formation, Astrophysics and Space Science Proceedings*, 36, 391
9. Unveiling the Physical Properties and Kinematics of Molecular Gas in the Antennae Galaxies with the SMA, Ueda, J., Iono, D., Petitpas, G., et al. 2013, *Galaxy Mergers in an Evolving Universe*, 477, 311
10. Fragmentation in High-Mass Star Forming Regions, Rodón, J. A., Beuther, H., Schilke, P., & Zhang, Q. 2013, *New Trends in Radio Astronomy in the ALMA Era: The 30th Anniversary of Nobeyama Radio Observatory*, 476, 315
11. Masers in GLIMPSE Extended Green Objects (EGOs), Cyganowski, C. J., Brogan, C. L., Hunter, T. R., Churchwell, E., Koda, J., Rosolowsky, E., Towers, S., Whitney, B., and Zhang, Q. (2012). *Proceedings of the International Astronomical Union, IAU Symposium 287: Cosmic Masers from OH to H<sub>0</sub>*, eds. R. Booth, L. Humphries, & W. Vlemmings (Cambridge: Cambridge University Press).

12. Deuterium Fractionation of Massive Star Forming Clumps in Infrared Dark Clouds, Su, Y. N., Liu, S. Y., Chen, V. H.-R., & Zhang, Q. 2011, *The Molecular Universe*, the proceedings of the IAU 280th Symposium, 280, 342
13. Disks, outflows, and hot cores in the mm range at subarcsecond angular resolution, Palau, A., Fuente, A., Boissier, J., et al. 2011, *The Molecular Universe*, the proceedings of the IAU 280th Symposium, 280, 284
14. Chemical segregation in hot cores: SMA imaging of the AFGL2591 star forming region, Jimenez-Serra, I., Zhang, Q., Martin-Pintado, J., Viti, S., & de Wit, W. J. 2011, *The Molecular Universe*, the proceedings of the IAU 280th Symposium, 280, 207
15. On the behavior of the  $\text{NH}_3\text{N}_2\text{H}^+$  ratio in high-mass star forming regions, Busquet, G., Estalella, R., Palau, A., et al. 2011, *The Molecular Universe*, the proceedings of the IAU 280th Symposium, 280, 108
16. A THz FTS for Site Testing at Dome A, Shi, S.-C., Paine, S., Xiao, Q. J., et al. 2010, *Twenty-First International Symposium on Space Terahertz Technology*, 103
17. Highly Excited HCN in the Massive Star Forming Region G10.47+0.03 , Rolffs, R., Schilke, P., Zhang, Q., Wyrowski, F., Menten, K., Zapata, L., in *Submillimeter Astrophysics and Technology: a Symposium Honoring Thomas G. Phillips*, ASPC, 2009, p215
18. The initial conditions of star formation in intermediate- to high-mass protoclusters , Fontani, F., Zhang, Q., Caselli, P., Bourke, T. L., in *SF2A-2009: Proceedings of the Annual meeting of the French Society of Astronomy and Astrophysics*, 2009, p2329
19. Infrared Dark Clouds, Jackson, J. M., Chambers, E. T., Rathborne, J. M., Simon, R., & Zhang, Q. 2008, *Massive Star Formation: Observations Confront Theory*, 387, 44
20. SMA CO J = 3 - 2 Observations of the Antennae (NGC 4038/39), Petitpas, G., Iono, D., Peck, A., et al. 2007, *From Z-Machines to ALMA: (Sub)Millimeter Spectroscopy of Galaxies*, 375, 267
21. SMA Imaging of Massive Star Formation in NGC6334I and I(N), Hunter, T. R., Megeath, S. T., Beuther, H., et al. 2005, *Protostars and Planets V Posters*, 1286, 8504
22. Submillimeter Array 650 GHz Study of Massive Star-forming Regions, G240.31+0.07 and IRAS 20126+4104, Chen, H.-R., Liu, S.-Y., Su, Y.-N., et al. 2005, *Protostars and Planets V Posters*, 1286, 8455
23. Warm Gas and Temperature Gradients in the Giant Molecular Associations of the Antennae (NGC 4038/9), Petitpas, G., Iono, D., Peck, A., et al. 2005, *Protostars and Planets V Posters*, 1286, 8317
24. Jet-like Molecular Outflows in Massive Young Stars, Qiu, K. P., Zhang, Q., & Beuther, H. 2005, *Protostars and Planets V Posters*, 1286, 8108

25. Early Phases of Massive Star Formation in the Infrared Dark Cloud G28.34+0.06, Wang, Y., Zhang, Q., Thushara, G. S., et al. 2005, Protostars and Planets V Posters, 1286, 8095
26. SMA Observations of the Massive Star-forming Regions NGC 6334 I & I(N), Hunter, T. R., Beuther, H., Megeath, T., et al. 2005, IAU Symposium, 235, 292
27. Massive Star Disks (Invited Review), Zhang, Q., in proceedings for IAU Symposium 227, Massive star birth: A crossroads of Astrophysics, 2005, p135.
28. Early Results from the SMA (Invited Review), Zhang, Q., in proceedings for IAU Symposium 221, Star Formation at High Angular Resolution, 2003.
29. Search for Disks and Outflows in High-Mass Protostellar Candidates: Implication for Formation Mechanism, Zhang, Q., in The Earliest Phases of Massive Star Birth, ASP Conf. Proc., Ed. P. A. Crowther, 2001.
30. Bipolar Molecular Outflows from High-Mass Protostars, Su, Y. N., Zhang, Q., and Lim, J., in the Earliest Phases of Massive Star Birth, ASP Conf. Proc., Ed. P. A. Crowther, 2001.
31. New Observations of W51 in  $\text{H}^{13}\text{CO}^+$  (J=1-0): Evidence of a New Outflow, Sollins, P. K., Zhang, Q., Ho, P. T. P., in the Earliest Phases of Massive Star Birth, ASP Conf. Proc., Ed. P. A. Crowther, 2001.
32. A Disk/Outflow System around the High-mass Young Star IRAS 20126+4104, Zhang, Q., Hunter, T. R., Sridharan, T. K. and J. H. Kawamura, in Science with the Atacama Large Millimeter Array, ASP Conf. Proc., Ed. A. Wootten, 1999.
33. Proper Motion of Water Masers in IRAS 21391+5802: Bipolar Outflow and a Dusty Circumstellar Shell, Patel, N. A., Greenhill, L. J., Herrnstein, J., Zhang, Q., Moran, J. M., Ho, P. T. P. and Goldsmith, P. F., in Science with the Atacama Large Millimeter Array, ASP Conf. Proc., Ed. A. Wootten, 1999.
34. A Disk/Outflow System around A High-mass Young Star, Zhang, Q., Hunter, T. R., and Sridharan, T. K., in Star Formation 1999, Ed. T. Nakamoto, 1999, 225.
35. Proper Motion of Water Masers Associated with IRAS 21391+5802, Patel, N. A., Greenhill, L. J., Herrnstein, J., Zhang, Q., Moran, J. M., Ho, P. T. P. and Goldsmith, P. F., in Star Formation 1999, Ed. T. Nakamoto, 1999, 300.
36. A CO J=2-1 Mapping Study for Molecular Outflows near Massive Young Stellar Objects, Wu, Y., Zhang, Q., Chen, H., Yang, C., and Ho, P. T. P., in Imaging through Radio to submillimeter Wavelengths, ASP Conf. Proc., Ed. J. Mangum, 1999.
37. A Peculiar Jet-like Molecular Outflow toward L1157, Zhang, Q., Ho, P. T. P., Wright, M. C. H. and Wilner, D. J., in Low Mass Star Formation from Infall to Outflow, IAU 182, Ed. F. Malbet and A. Castets, 1997, 195.
38. Star Formation at Intermediate Distances: Gravitational Collapse in Massive Cores, Zhang, Q. and Ho, P. T. P., in Star Formation Near and Far, AIP Conf. Proc. 393, Ed. S. Holt and L. G. Mundy, 1996, 453.



39. A technique for estimating long-term variations of solar total irradiance : Preliminary estimates based on observations of the Sun and solar-type stars, Soon, W. H., Baliunas, S. L., & Zhang, Q. 1994, *The Solar Engine and its Influence on Terrestrial Atmosphere and Climate*, 133
40. Ammonia Masers Associated with Massive Star Formation toward W51, Zhang, Q. and Ho, P. T. P., in *Cloud, Cores, and Low Mass Stars*, A.S.P. Conf. Ser. 65, Ed. D. P. Clements and R. Barvainis, 1994, 304.
41. Semiempirical Models for a Quiescent Prominence, Fang, C., Zhang, Q., Yin, S., and Livingston, W. C., in *Dynamics of Quiescent Prominences*, IAU Coll 117, Eds V. Ruzdjak and E. Tandberg-Hanssen, 1990, 284.