

# Chuan-Peng Zhang (张传朋)

National Astronomical Observatories, CAS  
20A Datun Road, Chaoyang District  
Beijing 100101, China

Tel: +86 159\*\*\*\*8911  
Email: [cpzhang@nao.cas.cn](mailto:cpzhang@nao.cas.cn)



## EDUCATION & WORK:

### Associate Professor

National Astronomical Observatories, CAS, Beijing, China July 2015 – Now

### Postdoctoral Researcher

Max-Planck-Institut für Astronomie, Heidelberg, Germany Sep. 2017 – Aug. 2019  
*Supervisor:* Dr. Ralf Launhardt, & Prof. Dr. Thomas Henning

### Ph.D. Programme

Max-Planck-Institut für Radioastronomie, Bonn, Germany Sep. 2013 – Aug. 2015  
*Supervisor:* Prof. Dr. Friedrich Wyrowski, & Prof. Dr. Karl M. Menten

### Ph.D. Programme

National Astronomical Observatories, CAS, Beijing, China July 2011 – June 2015  
*Supervisor:* Prof. Dr. Jun-Jie Wang

### Master of Science in Astrophysics

Xinjiang Astronomical Observatory, CAS, Xinjiang, China Aug. 2008 – June 2011  
*Supervisor:* Prof. Dr. Jarken Esimbek

## RESEARCH INTEREST:

Giant Molecular Cloud, Infrared Dust Bubble and Dark Cloud,  
Hypercompact HII Region, Fragmentation and Deuteration in High-mass Star Formation  
Protoplanetary disk

## Pre-PUBLICATIONS:

- [1]. **Zhang, Chuan-Peng**; Li, Guang-Xing “A mean density of  $1000 \text{ M}_{\odot} \text{ pc}^{-3}$  for Central Molecular Zone clumps — Evidences of shear-regulated pressure equilibrium” [2019.5, submitted](#)
- [2]. **Zhang, Chuan-Peng**; Csengeri, Timea; Wyrowski, Friedrich; Li, Guang-Xing; Pillai, Thushara; Menten, Karl M.; Hatchell, Jennifer; Thompson, Mark A.; Pestalozz, Michele R. “Probing the initial conditions of high-mass star formation IV. Gas dynamics and  $\text{NH}_2\text{D}$  chemistry in high-mass pre/protocluster clumps” [2019.6, submitted](#)
- [3]. **Zhang, Chuan-Peng**; Li, Guang-Xing; Zhou, Chenlin; Yuan, Lixia; Zhu, Ming “Using CO line ratios to trace the compressed areas in bubble N131” [2019.6, submitted](#)
- [4]. **Zhang, Chuan-Peng**; Launhardt, Ralf; Liu, Yao; Tobin, John; Henning, Thomas “Millimetre observations and modelling of the dust disk and envelope in CB26” [2019.6, prep.](#)
- [5]. **Zhang, Chuan-Peng**; et al. “Probing the initial conditions of high-mass star formation V. Possible habitats for  $\text{NH}_3$ ,  $\text{NH}_2\text{D}$ ,  $\text{H}^{13}\text{CN}$ ,  $\text{HC}^{15}\text{N}$ , SO, and  $\text{C}^{18}\text{O}$ ” [2019.6, prep.](#)

## PUBLICATIONS:

- [1]. **Zhang, Chuan-Peng**; Csengeri, Timea; Wyrowski, Friedrich; Li, Guang-Xing; Pillai, Thushara; Menten, Karl M.; Hatchell, Jennifer; Thompson, Mark A.; Pestalozz, Michele R. “Probing the initial conditions of high-mass star formation III. Fragmentation and triggered star formation” [2019arXiv190603216Z](#); Accepted for publication in [A&A](#)
- [2]. Xu, Jin-Long; Zavagno, Annie; ...; **Zhang, Chuan-Peng**; ... “The effects of ionization feedback on star formation: A case study of the M16 H II region” [2019arXiv190508030X](#)
- [3]. Park, Geumsook; Kim, Kee-Tae; ...; **Zhang, Chuan-Peng**; ... “Submillimeter continuum variability in Planck Galactic cold clumps” [2019arXiv190512147P](#)
- [4]. Coudé Simon; Bastien, Pierre; ...; **Zhang, Chuan-Peng**; ... “The JCMT BISTRO Survey: The Magnetic Field of the Barnard 1 Star-forming Region” [2019ApJ...877...88C](#)
- [5]. Liu, Junhao; Qiu, Keping; ...; **Zhang, Chuan-Peng**; ... “The JCMT BISTRO Survey: The Magnetic Field in the Starless Core  $\rho$  Ophiuchus C” [2019ApJ...877...43L](#)
- [6]. Eden, D. J.; Liu, Tie; ...; **Zhang, Chuan-Peng**; ... “SCOPE: SCUBA-2 Continuum Observations of Pre-protostellar Evolution - Survey Description and Compact Source Catalogue” [2019MNRAS.485.2895E](#)
- [7]. Wang, Jia-Wei; Lai, Shih-Ping; ...; **Zhang, Chuan-Peng**; ... “JCMT BISTRO Survey: Magnetic Fields within the Hub-filament Structure in IC 5146” [2019ApJ...876...42W](#)
- [8]. Zhang, Guo-Yin; Xu, Jin-Long; Vasyunin, A. I.; ...; **Zhang, Chuan-Peng**; ... “Physical properties and chemical composition of the cores in California molecular cloud” [2018A&A...620A.163Z](#)
- [9]. Juvela, Mika; Guillet, Vincent; Liu, Tie; ...; **Zhang, Chuan-Peng**; ... “Dust spectrum and polarisation at 850  $\mu$ m in the massive IRDC G035.39-00.33” [2018A&A...620A..26J](#)
- [10]. Soam, Archana; Pattle, Kate; ...; **Zhang, Chuan-Peng**; ... “Magnetic fields towards Ophiuchus-B derived from SCUBA-2 polarization measurements” [2018ApJ...861...65S](#)
- [11]. **Zhang, Chuan-Peng**; Liu, Tie; Yuan, Jing-Hua; Sanhueza, Patricio; ... “The TOP-SCOPE survey of PGCCs: PMO and SCUBA-2 observations of 64 PGCCs in the 2nd Galactic Quadrant” [2018ApJS..236...49Z](#); Supplementary figures can be downloaded [here](#).
- [12]. Kwon, Jungmi; Doi, Yasuo; ...; **Zhang, Chuan-Peng**; ... “A First Look at BISTRO Observations of The  $\rho$  Oph-A core” [2018ApJ...859...4K](#)
- [13]. Liu, Tie; Li, Pak Shing; ...; **Zhang, Chuan-Peng**; ... “A holistic perspective on the dynamics of G035.39-00.33: the interplay between gas and magnetic fields” [2018ApJ...859..151L](#)
- [14]. Tang, Mengyao; Liu, Tie; ...; **Zhang, Chuan-Peng**; ... “The properties of Planck Galactic cold clumps in the L1495 dark cloud” [2018ApJ...856..141T](#)
- [15]. Liu, Tie; Kim, Kee-Tae; ...; **Zhang, Chuan-Peng**; ... “The TOP-SCOPE survey of Planck Galactic Cold Clumps: Survey overview and results of an exemplar source, PGCC G26.53+0.17” [2018ApJS..234...28L](#)
- [16]. Xu, Jin-Long; Xu, Ye; **Zhang, Chuan-Peng**; Liu, Xiao-Lan; Yu, Naiping; Ning, Chang-Chun; Ju, Bing-Gang “Gas kinematics and star formation in the filamentary molecular cloud G47.06+0.26” [2018A&A...609A..43X](#)
- [17]. Liu, Xiao-Lan; Xu, Jin-Long; Ning, Chang-Chun; **Zhang, Chuan-Peng**; Liu, Xiao-Tao “A statistical study towards the high-mass BGPS clumps with the MALT90 survey” [2018RAA....18....4L](#)
- [18]. Xu, Jin-Long; Xu, Ye; Yu, Naiping; **Zhang, Chuan-Peng**; Liu, Xiao-Lan; Wang, Jun-Jie; Ning, Chang-chun; Ju, Bing-Gang; Zhang, Guo-Yin “Two-dimensional Molecular Gas and Ongoing Star Formation around H II Region Sh2-104” [2017ApJ...849..140X](#)

- [19]. Xu, Jin-Long; Yu, Naiping; **Zhang, Chuan-Peng**; Liu, Xiao-Lan “Gas structure and dynamics towards bipolar infrared bubble” [2017Ap&SS.362..175X](#)
- [20]. **Zhang, Chuan-Peng**; Li, Guang-Xing “Mass-size scaling  $M \sim r^{1.67}$  of massive star-forming clumps - evidences of turbulence-regulated gravitational collapse” [2017MNRAS.469.2286Z](#)
- [21]. **Zhang C P**, Wang J J. “Progresses and methods in research of infrared dust bubble (in Chinese)” [2017Sci Sin-Phys Mech Astron.47..9](#)
- [22]. **ZHANG Chuan-peng** “High-mass Star Formation and Its Initial Conditions (大质量恒星形成及其初始条件)” [2017AcASn..58...62Z](#)
- [23]. Ward-Thompson, Derek; Pattle, Kate; ...; **Zhang, Chuan-Peng**; ... “First Results from BISTRO: A SCUBA-2 Polarimeter Survey of the Gould Belt” [2017ApJ...842...66W](#)
- [24]. **Zhang, Chuan-Peng**; Yuan, Jing-Hua; Xu, Jin-Long; Liu, Xiao-Lan; Yu, Nai-Ping; Li, Nan; He, Li-Ping; Zhang, Guo-Yin; Wang, Jun-Jie “Searching for initial stage of massive star formation around the H II region G18.2-0.3” [2017RAA....17...57Z](#)
- [25]. Liu, Xiao-Lan; Wang, Jun-Jie; Xu, Jin-Long; **Zhang, Chuan-Peng** “Gas emission and dynamics in the infrared dark cloud G31.23+0.05” [2017RAA....17...35L](#)
- [26]. **Zhang, Chuan-Peng**; Yuan, Jing-Hua; Li, Guang-Xing; Zhou, Jian-Jun; Wang, Jun-Jie “A multiwavelength observation and investigation of six infrared dark clouds” [2017A&A...598A..76Z](#)
- [27]. Wang, Song; Bai, Yu; **Zhang, Chuan-Peng**; Liu, Ji-Feng “An investigation of a magnetic cataclysmic variable with a period of 14.1 ks” [2017RAA....17...10W](#)
- [28]. Xu, Jin-Long; Li, Di; **Zhang, Chuan-Peng**; Liu, Xiao-Lan; Wang, Jun-Jie; Ning, Chang-Chun; Ju, Bing-Gang “Gas Kinematics and Star Formation in the Filamentary IRDC G34.43+0.24” [2016ApJ...819..117X](#)
- [29]. **Zhang, Chuan-Peng**; Li, Guang-Xing; Wyrowski, Friedrich; Wang, Jun-Jie; Yuan, Jing-Hua; Xu, Jin-Long; Gong, Yan; Yeh, Cosmos C.; Menten, Karl M. “N131: A dust bubble born from the disruption of a gas filament” [2016A&A...585A.117Z](#)
- [30]. **Zhang, Chuan-Peng**; Wang, Jun-Jie; Xu, Jin-Long; Wyrowski, Friedrich; Menten, Karl M. “Submillimeter Array and Very Large Array Observations in the Hypercompact H II Region G35.58-0.03” [2014ApJ...784..107Z](#)
- [31]. Xu, Jin-Long; Wang, Jun-Jie; Ning, Chang-Chun; **Zhang, Chuan-Peng** “Multi-wavelength study of triggered star formation around 25 H II regions” [2014RAA....14...47X](#)
- [32]. **Zhang, C.-P.**; Wang, J.-J.; Xu, J.-L. “Molecular clumps and star formation associated with the infrared dust bubble N131” [2013A&A...550A.117Z](#)
- [33]. **Zhang, Chuan-Peng**; Wang, Jun-Jie “Star formation associated with the infrared dust bubble N68” [2013RAA....13...47Z](#)
- [34]. **Zhang, C. P.**; Wang, J. J. “Multiwavelength study of the infrared dust bubble S51” [2012A&A...544A..11Z](#)
- [35]. **Zhang, Chuan Peng**; Esimbek, Jarken; Zhou, Jian Jun; Wu, Gang; Du, Zhi Mao “Exploring morphological correlations among H<sub>2</sub>CO, <sup>12</sup>CO, MSX and continuum mappings” [2012Ap&SS.337..283Z](#)
- [36]. Du, Z. M.; Zhou, J. J.; Esimbek, J.; Han, X. H.; **Zhang, C. P.** “A H<sub>2</sub>CO and H110 $\alpha$  survey of H ii regions with the 25-m radio telescope of Nanshan Station” [2011A&A...532A.127D](#)

## POSTERS & ORALS:

- [1]. **Zhang, C.-P.**, et al. 2015, MPIfR, talk  
<The origin of the infrared dust bubble N131>
- [2]. **Zhang, C.-P.**, & Wang, J.-J. 2013, IAUS, 292, 65, poster  
<[Triggered Star Formation from Bubbles S51, N68, and N131](#)>
- [3]. **Zhang, C.-P.**, Esimbek, J., Zhou, J.-J., Wu, G., & Du, Z.-M. 2009, Chinese Astronomical Annual Meeting, talk  
<H<sub>2</sub>CO and H110 $\alpha$  observations toward giant molecular clouds>
- [4]. **Zhang, C.-P.**, Esimbek, J., Zhou, J.-J., Wu, G., & Du, Z.-M. 2010, Chinese Astronomical Annual Meeting, talk  
<Large Area Mappings of Formaldehyde at 6-cm toward Giant Molecular Clouds>

## OBSERVATIONAL PROJECTS & EXPERIENCE:

- [1]. Li, G.-X.; **Zhang, C.-P.**, JCMT 15m, #M19BP047, 10.0h  
“Mapping a cometary globule with a conical shape using CO isotopes”
- [2]. PI: **Zhang, C.-P.**, IRAM 30m, #022-19, 30.0h  
“Dynamics and magnetic field of a starless core with an extremely narrow linewidth”
- [3]. Li, G.-X.; **Zhang, C.-P.**; Qin, S.-L.; Shi, X., IRAM 30m, #006-19, 15.2h  
“Mapping a cometary globule with a conical shape using CO isotopes”
- [4]. PI: **Zhang, C.-P.**, IRAM 30m, #118-18, 25.2h  
“Dynamics and magnetic field of a prestellar core with an extremely narrow linewidth”
- [5]. PI: **Zhang, C.-P.**, IRAM 30m, #154-18, 19.0h  
“The feedback from H II region Sh2-82 onto a filamentary molecular cloud”
- [6]. PI: **Zhang, C.-P.**, IRAM 30m, #024-18, 20.0h  
“How to explain the extremely narrow linewidth in G157.25?”
- [7]. Zhou, C.-L.; **Zhang, C.-P.**; Yuan, L.-X., JCMT 15m, #M18BP069, 3.0h  
“Warm gas observation in bubble N131”
- [8]. Zhou, C.-L.; Yuan, L.-X.; **Zhang, C.-P.**; Zhu, M., JCMT 15m, #M17BP077, 10.5h  
“Warm gas observation in bubble N131”
- [9]. PI: **Zhang, C.-P.**, JCMT 15m, #M16BP024, 75.0h  
“The depletion of different species in dark and dense clumps”
- [10]. PI: **Zhang, C.-P.**, JCMT 15m, #M16AP009, 75.0h  
“The depletion of different species in dark and dense clumps”
- [11]. PI: **Zhang, C.-P.**, Effelsberg 100m, #7-15, 26.7h  
“Probing a hierarchical temperature structure of the bubble N131”
- [12]. PI: **Zhang, C.-P.**, JCMT 15m, #M15BI021, 16.0h  
“H<sub>2</sub>D<sup>+</sup> in Massive Infrared Quiet Cores”
- [13]. PI: **Zhang, C.-P.**, JCMT 15m, #M15AI79, 3.0h  
“N131: A dust bubble born from the disruption of a filament?”

- [14].PI: **Zhang, C.-P.**, JCMT 15m, #M15AI69, 24.0h  
 “H<sub>2</sub>D<sup>+</sup> in Massive Infrared Quiet Cores”
- [15].PI: **Zhang, C.-P.**, TAP-CSO 10.4m, 2015, 2 full nights  
 “H<sub>2</sub>D<sup>+</sup> in massive infrared quiet cores”
- [16].Astronomer On Duty (AoD) of Effelsberg 100m, June 2014 in Effelsberg  
 “IDV observations”
- [17].PI: **Zhang, C.-P.**, IRAM 30m, #167-13, 25.5h  
 “Molecular clumps triggered by the infrared dust bubble N131”
- [18].PI: **Zhang, C.-P.**, Delingha 13.7m #12A007, 15h  
 “Multiwavelength observations of infrared dust bubbles”
- [19].PI and AoD of Urumqi 25m, Sep. 2009 - June 2011 in Xinjiang China  
 “A H<sub>2</sub>CO and H110 $\alpha$  survey of H II regions with the 25m radio telescope”

## **AWARDS:**

- [1]. Excellent Student ( $\leq 15\%$ ) in 2012-2013, University of Chinese Academy of Sciences
  - [2]. Excellent Student ( $\leq 1\%$ ) in 2013-2014, University of Chinese Academy of Sciences
  - [3]. National Scholarship for Graduate Students ( $\leq 1\%$ ) in 2013-2014, in China
  - [4]. Outstanding Graduate ( $\leq 1\%$ ) in University of Chinese Academy of Sciences
  - [5]. Excellent Doctoral Dissertation ( $\leq 1\%$ ) in University of Chinese Academy of Sciences
- ...

## **SKILLS & ABILITIES:**

- [1]. Language: Chinese, English
  - [2]. Data reduction: **GILDAS** (single dish and interferometer), **MIRIAD**, **AIPS**, **STARLINK**, and **Python**
  - [3]. Simulation: [RADMC-3D](#)
  - [4]. Sport: Table Tennis, Basketball, Volleyball, Running, and photography
- ...

*Last update: 23-06-2019*