Jinghua Yuan

Curriculum Vitae (December 13, 2017)

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APPOINTMENTS

Assistant Research Fellow 2014-
National Astronomical Observatories, Chinese Academy of Sciences

EDUCATION

PhD Astrophysics 2009-2014
University of Chinese Academy of Sciences
"Multi-wavelength investigations on feedback of massive star formation"
Thesis advisor: Dr. Jinzeng Li (NAOC) / Prof. Yuefang Wu (PKU)

BS Physics 2005-2009
University of Jinan
"Applications of MATLAB in the Electrodynamics Teaching".
Academic/Research advisors: Prof. Yi Jin

RESEARCH INTERESTS

- Star formation
- Astrochemistry
- Protoplanetary disks

RESEARCH SKILLS

- Python: image processing, data visualization, data analysis, table manipulation
- GILDAS: reduction and analysis of molecular line data collected using single dishes
- MIRIAD: reduction and analysis of data collected using the SMA interferometer
- CASA: reduction and analysis of data collected using the JVLA and ALMA interferometers
- STARLINK: reduction of both heterodyne and continuum data of JCMT

- LaTeX: typesetting in both English and Chinese

FUNDING

- National Natural Science Foundation (NSFC), "Identification and pilot investigations of massive starless clumps", RMB 260,000 (PI, 2016 - 2018).
- NSFC, "Clustered and Triggered Star Formation under the Influence of HII Regions", RMB 812,000 (co-I, 1/16 - 12/19).
- NSFC, "Selection and classification of young stellar objects and multiwavelength investigation of embedded clusters", RMB 300,000 (co-I, 1/15 - 12/17).
- Beijing Natural Science Foundation, "Source selection criteria and multiwavelength investigations of embedded clusters", RMB 60,000 (co-I, 1/14 - 12/15).
- National Astronomical Observatory of China, "High Resolution Study of an Extended Green Object: G22.04+0.22", RMB 30,000 (PI, 6/14 - 5/16).
- Ministry of Science and Technology of the P.R.China, "Building a 40-m antenna in San Juan for collaborative VLBI observations and research", RMB 74,190,000 (co-I, 1/11 - 12/15).
- NSFC, "Multiwavelength investigations of the formation and early evolutions of open clusters", RMB 550,000 (co-I, 1/11 - 12/13).

PEER-REVIEWED JOURNAL PAPERS [ADS Link][arXiv]

First Author Papers

6. **Yuan, Jinghua**; Li, Jin-Zeng; Wu, Yuefang; Ellingsen, Simon P.; Henkel, Christian; Wang, Ke; Liu, Tie; Liu, Hong-Li; Zavagno, Annie; Ren, Zhiyuan; Huang, Ya-Fang, "High-mass Star Formation through Filamentary Collapse and Clump-fed Accretion in G22", *ApJ,* in press, arXiv:1711.08951 (2017).
5. **Yuan, Jinghua**; Wu, Yuefang; Ellingsen, Simon P.; Evans, Neal J., II; Henkel, Christian; Wang, Ke; Liu, Hong-Li; Liu, Tie; Li, Jin-Zeng; Zavagno, Annie, "High-mass Starless Clumps in the inner Galactic Plane: the Sample and Dust Properties", *ApJS,* 231, 11 (2017).
4. **Yuan, Jinghua**; Wu, Yuefang; Liu, Tie; Zhang, Tianwei; Zeng Li, Jin; Liu, Hong-Li; Meng, Fanyi; Chen, Ping; Hu, Runjie; Wang, Ke, "Dense Gas in Molecular Cores Associated with Planck Galactic Cold Clumps", *ApJ,* 820, 37 (2016).
3. **Yuan, Jing-Hua**; Wu, Yuefang; Li, Jin Zeng; Liu, Hongli, "Expanding Shell and Star Formation in the Infrared Dust Bubble N6", *ApJ,* 797, 40 (2014).
2. **Yuan, Jing-Hua**; Wu, Yuefang; Li, Jin Zeng; Yu, Wentao; Miller, Martin, "A mapping study of L1174 with 13CO J=2-1 and 12CO J=3-2: star formation triggered by a Herbig Ae/Be star", *MNRAS,* 429, 954 (2013).
1. **Yuan, Jing-Hua**; Li, Jin Zeng; Huang, Ya Fang; Hsia, Chih-Hao; Miao, Jingqi, "The discovery based on GLIMPSE data of a protostar driving a bipolar outflow", *A&A,* 540, A95 (2012).

Co-authored Papers

11. Ward-Thompson, Derek; Pattle, Kate; ... **Yuan, Jinghua**; Zhang, Chuan-Peng; Zhang, Guoyin; et al., "First Results from BISTRO: A SCUBA-2 Polarimeter Survey of the Gould Belt", *ApJ,* 842, 66 (2017).

10. Liu, Hong-Li; Figueira, Miguel; Zavagno, Annie; Hill, Tracey; Schneider, Nicola; Men'shchikov, Alexander; Russeil, Delphine; Motte, Frédérique; Tigé, Jérémy; Deharveng, Lise; Anderson, Loren D.; Li, Jin-Zeng; Wu, Yuefang; **Yuan, Jing-Hua**; Huang, Maohai, "Herschel observations of the Galactic H II region RCW 79", *A&A,* 602, A95 (2017).

9. 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", *RAA,* 17, 057 (2017).

8. Zhang, Chuan-Peng; **Yuan, Jing-Hua**; Li, Guang-Xing; Zhou, Jian-Jun; Wang, Jun-Jie, "A multi-wavelength observation and investigation towards six infrared dark clouds", *A&A,* 598, A76 (2017).

7. Gama, D. R. G.; Lepine, J. R. D.; Mendoza, E.; Wu, Y.; **Yuan, J.**, "CO observations and investigation of triggered star formation towards N10 infrared bubble and surroundings", *ApJ,* 830, 57 (2016).

6. Zhang, Si-Ju; Wu, Yuefang; Li, Jin Zeng; **Yuan, Jing-Hua**; Liu, Hong-Li; Dong, Xiaoyi; Huang, Ya-Fang, "Feedback of the HBe star IL Cep on nearby molecular cloud and star formation", *MNRAS,* 458, 4222 (2016).

5. Liu, Hong-Li; Li, Jin-Zeng; Wu, Yuefang; **Yuan, Jing-Hua**; Liu, Tie; Dubner, G.; Paron, S.; Ortega, M. E.; Molinari, Sergio; Huang, Maohai; and 4 coauthors, "Interactions of the Infrared Bubble N4 with Its Surroundings", *ApJ,* 818, 95 (2016).

4. Liu, Tie; Zhang, Qizhou; Kim, Kee-Tae; Wu, Yuefang; Lee, Chang Won; ...; **Yuan, Jinghua**; Li, Di; et al., "Planck Cold Clumps in the λ 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", *ApJS,* 222, 7 (2016).

3. 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", *A&A,* 585, A117 (2016).

2. Paron, S.; Ortega, M. E.; Dubner, G.; **Yuan, Jing-Hua**; Petriella, A.; Giacani, E.; Li, Jin Zeng; Wu, Yuefang; Liu, Hongli; Huang, Ya Fang; Zhang, Si-Ju, "H II Region G46.5-0.2: The Interplay between Ionizing Radiation, Molecular Gas, and Star Formation", *AJ,* 149, 193 (2015).

1. Liu, Hong-Li; Wu, Yuefang; Li, JinZeng; **Yuan, Jing-Hua**; Liu, Tie; Dong, Xiaoyi, "A Feedback-driven Bubble G24.136+00.436: A Possible Site of Triggered Star Formation", *ApJ,* 798, 30 (2015).

CONFERENCE PAPERS

5. Wu, Y.; Liu, T.; Meng, F.; **Yuan, J.**; Zhang, T.; Chen, P.; Hu, R.; Li, D.; Qin, S.; Ju, B., "Physical properties of Planck Cold Dust Clumps", *EAS Publications Series,* Volume 75-76, pp.277-280 (2016).

4. Zhang, Chengpeng; Wu, Yuefang; **Yuan, Jing-Hua,**; Liu Tie, "The feedback of Herbig Ae/Be stars", *Proceedings of the International Astronomical Union,* Volume 11, Issue S315 (2015).

3. Li, Jinzeng; **Yuan, Jinghua**; Liu, Hongli; Wu, Yuefang; Huang, Yafang, "Drama of HII regions: Clustered and Triggered Star Formation", *IAU General Assembly,* Meeting #29, id.2256434 (2015).

2. Liu, Tie; Wu, Yuefang; Mardones, Diego; Kim, Kee-Tae; Menten, Karl M.; ...; **Yuan, Jinghua**; Belloche, Arnaud; Henkel, Christian; et al., "Follow-Up Observations Toward Planck Cold Clumps with Ground-Based Radio Telescopes", *APRIM proceeding,* PKAS, 30, 79 (2015).

1. Gama, D.; Lepine, J.; Wu, Y.; **Yuan, J.**, "The Bubble N10", *XIV Latin American Regional IAU Meeting,* Vol. 44, pp. 135-135 (2014).

APPROVED OBSERVING PROPOSALS

- **PI, 36 hours (six tracks), SMA # 2017B**
  Internal structures of high-mass starless clumps in different environments
- **PI, 90 hours, KVN in single dish mode # 2015B**
  Dense gas in high-mass starless clump candidates
- **PI, 13 hours, ASTE, # 2015A**
  Parsec-Scale Kinematics of Massive Outflow Candidates
- **PI, 15 hours, JCMT # 2015A**
  A study of outflows and infalls in EGOs with molecular lines at submillimeter
- **PI, 16 hours, CSO # 2014B**
  A study of outflows and infalls in EGOs with molecular lines at millimeter
- **co-I, 30 hours, JVLA, # 2018A (PI: Siyi Feng)**
  Temperature and density structure of high mass, low luminosity/mass ratio clumps
- **co-I, 17 hours, JCMT, # 2018A (PI: Lixia Yuan)**
  JCMT observations of the 'hub' filament of G181.84+0.31
- **co-I, 75 hours, IRAM 30-m, # 2017B (PI: Siyi Feng)**
  Initial star-forming activities towards the high-mass, low luminosity-to-mass ratio clumps
- **co-I, 26 hours, Nobeyama 45-m, # 2017B (PI: Lixia Yuan)**
  Follow-up observation of the filamentary flows in G181.84+0.31
- **co-I, 35 hours, Nobeyama 45-m, # 2017B (PI: Siyi Feng)**
  Initial star-forming activities towards the high-mass, low luminosity/mass ratio clumps

- **co-I, 30 hours, JCMT, # 2016B (PI: Chuan-Peng Zhang)**
  The depletion of different species in dark and dense clumps
- **co-I, >300 hours, TRAO, # from 2015 (PI: Tie Liu)**
  TRAO Observations of PGCCs
- **co-I, > 200 hours, JCMT, # from 2015 (PI: Tie Liu)**
  SCOPE: SCUBA-2 Continuum Observations of Pre-protostellar Evolution
- **co-I, > 200 hours, JCMT, # from 2015 (PI: Gregory Herczeg)**
  A Transient search for variable protostars – HOW DO STARS GAIN THEIR MASS?
- **co-I, > 200 hours, JCMT, # from 2015 (PI: D. Ward-Thompson)**
  BISTRO: B-fields In STar forming RegiOns
- **Co-I, 618 hours, SMT 10-m , # from 2015 (PI: Ke Wang)**
  SMT "All-sky" Mapping of PLanck Interstellar Nebulae in the Galaxy (SAMPLING)

MEETINGS AND CONFERENCES

- **Molecular Cloud and Star Formation Workshop 2017, Yichang, China, Oct. 2017**
  High-mass star formation through filamentary collapse and clump-fed accretion in G22 (**oral talk**)
- **IAUS336: Astrophysical Masers – Unlocking the Mysteries of the Universe, Cagliari, Italy, Sep. 2017**
  Filamentary Flows and Clump-fed High-mass Star Formation in G22 (**poster**)
- **The Chinese Annual Astronomy Meeting 2017**, **Urumqi, China**, **Aug. 2017**
  Filamentary Flows and Clump-fed High-mass Star Formation in G22 (**oral talk**)
- **2017 Asia-Pacific Regional IAU Meeting**, **Taipei, Taiwan**, **July 2017**
  Hunting for high-mass starless clumps in the inner Galactic Plane (**oral talk**)
  Dynamic massive star formation in G22.04+0.22: hot core, multipolar outflow, global infall, and millimeter methanol masers (**poster**)
- **Workshop for follow-up surveys of Planck Galactic Cold Clumps**, **Beijing, China**, **Dec. 2016**
  High-Mass Starless Clumps in the Galactic Plane (**oral talk**)
  A Demo on the Reduction of CO Data Collected using PMO 13.7-m (**oral talk**)
- **Star Formation Workshop**, **Dali, China**, **Sep. 2016**
  Identification of High-Mass Starless Clumps in the Galactic Plane (**oral talk**)
  Dramas of Hii Regions — regulating ISM and star formation (**oral talk**)
- **Chinese Radio Astronomy and Technology 2016**, **Urumqi, China**, **Aug. 2016**
- **The Chinese Annual Astronomy Meeting 2015**, **Beijing, China**, **Oct. 2015**
  Identification of High-Mass Starless Clumps in the Galactic Plane (**oral talk**)
- **The 3rd Chinese-German Workshop on Star and Planet Formation**, **Nanjing, China**, **Mar. 2015**
  Dramas of HII regions — clustered and triggered star formation (**oral talk**)

- **The 3rd Chinese Regional JCMT workshop**, **Beijing, China**, **Jan. 2015**
- **IAU 28th General Assembly**, **Beijing, China**, **Aug. 2012** (**poster**)
- **The 13th Synthesis Imaging Workshop**, **Socorro, NM, US**, **June 2012**
- **Chinese Radio Astronomy and Technology 2011**, **Kunming**, **July 2011**
- **Star formation and Galactic Structure Workshop**, **Yixing, China**, **Mar. 2011**

AWARDS

- 2014 Pacemaker to Merit Student, University of Chinese Academy of Sciences (UCAS)
- 2013 National Scholarship for Graduated Students (PhD level), Ministry of Education of the P.R. China
- 2013 UCAS-BHP Billiton Scholarship, UCAS and BHPB
- 2013 Merit Student, UCAS