Guang-Xing Li | Curriculum Vitae

South-Western Institute For Astronomy Research
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Research interests

I am a theoretical astrophysicist with close ties to observations. My research interests center on the dynamics of the interstellar medium and star formation, and my general interests include the evolution of galaxy disks, galaxy centers, and the evolution of protostellar and protoplanetary disks.

Academic Positions

- **South-Western Institute For Astronomy Research, Yunnan University** — **Kunming, Yunnan, China**
  Associate Professor — *Sept. 2018–Present*

- **Universitäts-Sternwarte München** — **München, Germany**
  DFG-Fellow — *Dec. 2014–Aug. 2018*

  I was awarded by a grant from the Deutsche Forschungsgemeinschaft (DFG), which allowed me to work independently on advanced methods describing the multi-scale structure of molecular clouds

Education

- **Max-Planck Institute for Radio Astronomy** — **Bonn, Germany**
  Ph.D. of Astrophysics, ***Title:*** *Mathesis of star formation – from pc to kpc scale* — *2010–2014*
  Advisors: Prof.Karl Menten, Dr. Friedrich Wyrowski, Prof. Pavel Kroupa

  Graduated with honors (magna cum laude).

- **University of Science and Technology** — **Hefei, China**
  M.Sc. of Astrophysics, ***Title:*** *Observational signature of relativistic accretion disks* — *2007–2010*
  Advisor: Prof. Ye-Fei Yuan

  Prize for outstanding thesis awarded by An-Hui province

- **Peking University** — **Beijing, China**
  Bachelor of Electronics, ***Title:*** *Hydrostatic solution of relativistic quark stars* — *2003–2007*
  Advisor: Prof. Ren-Xin Xu

Grants and Funding

As PI:

- Leader of Max-Planck Partner Group (**PI: Guang-Xing Li**, supported by Prof. Karl Menten, Director of MPIfR Bonn, 60 kEur) 2020-2024

- Overseas Young Talents Project of China (2019 -2023),
  Awarded by the State Council of People's Republic of China (3M CNY $\sim$ 400 kEUR)

- ISM-SPP funding for independent postdoc position (**PI: Guang-Xing Li**, $\sim$220 kEUR, 2014-2018),

Quantifying the structure of the molecular interstellar medium with the G-virial method,
Awarded by the Deutsche Forschungsgemeinschaft as part of Priority Program (SPP) 1573 Physics of the Interstellar Medium

As co-I:

- Physics and Chemistry of High-Mass Star forming Clumps, Priority Program of the National Science Foundation of China, PI: Sheng-Li Qin, co-I: **Guang-Xing Li**, Yue-Fang Wu, (2020 - 2024, 3M CNY $\sim$ 400 kEUR)

Student Supervision

- Mr. Zhen-Zhen He (2019-2022). Projects: (1) *Astrochemistry* (co-supervised with Prof. Sheng-Li Qin, publication: He, **Li** & Zhang, 2020, RAA, 8, 207) (2) *Gravitational accretion mapping* (He & Li in prep.) (3) *Identifying HI self-absorption features* (He & Li in prep.)

- Ms. Ji-Xuan Zhou (2019-2022). Projects: (1) Density structure of molecular clumps (**Li** & Zhou 2021 submitted). (2) Probing molecular cloud turbulence using Gaia (with Prof. B.-Q. Chen, publication: Zhou, **Li** & Chen 2021 submitted, arXiv: 2110.11595)

- Dr. Li-Xia Yuan (2019, with Prof. Ming Zhu from NAOC). Project: *Gravitational collapse of a filamentary cloud*. (Yuan, **Li**, Zhu, 2020, A&A, 637, A67)

- Ms. Xiu-Yu Cai (2020, with Dr. Lei Qian from NAOC). Project: *Probing density anisotropy using correlation functions*, (Cai, **Li** & Qian 2021, RAA, 211, 8)

- Mr. Mengke Zhao (2021, with Prof. Jian-Jun Zhou from XJO). Project: *Magnetic field of filamentary structures*, (Zhao, **Li** & Zhou 2021 in prep.)

Telescope Time & Observational Experiences

As PI:

- *Mapping a cometary globule with a conical shape using CO isotopes* at the IRAM 30m telescope (2019).

As co-I:

- *Molecular cloud in low-metallicity environment* (ALMA cycle 5-7 , PI: Rosie Chen, MPIfR, 2018-2021)
- *Fragmentation of high-mass clumps* (ALMA cycle 6, 7, PI: Si-Yi Feng, Xiamen University, 2019-2021)
- *Fragmentation of protostellar disk* (ALMA cycle 7, PI: Xing Lu, NAOJ, 2021)

Observer at *Effelsberg 100-m Radio Telescope* (2017)

Observer at *Atacama Pathfinder Experiment (APEX) telescope* (2016)

Professional Services

- External reviewer for the *James Clerk Maxwell Telescope* (2021)
- Reviewer for ALMA Cycle 8 proposals (2021)
- TAC (Time Allocation Committee) member of *Telescope Access Program (TAP)* (2019)
- Reviewer for *Astronomy & Astrophysics*, *Astrophysical Journal*, and *Research for Astronomy and Astrophysics*

Teaching, Organization Work and Outreach

- Guest Lecturer for *Graduate Astrophysics*, Yunnan University, (2020)
- Organizer of Faculty Journal Club, Yunnan University, Yunnan, China (2018-2019)
- Lecturer for *Summer School on Observational Astronomy*, Yunnan, (2018)
- Author of science population articles (in Chinese), *From atomic physics to compact stars* and *Black holes shadows, what are we looking at*.
- Head of observation department, Youth Astronomical Society, Peking University (2004-2005)
- Head of Astronomy Club at No. 2 Middle School, Hohhot, Inner Mongolia (2001-2002)

Recent Presentations

- *Anisotropic diffusion and multi-scale image analysis*, Guo-Shou Jing Conference of Galaxy Evolution and Cosmology, Hang Zhou, Zhejiang, China, 2021
- *Molecular clouds in different environments* (**Invited**), Youth Promotion Society, Chinese academy of Science, National Observatory of China, Beijing, 2020
- *Gas dynamics at the Galaxy Center – Evidence for shear-enabled pressure equilibrium*, Sciences of Atacama Pathfinder EXperiment, Ringberg Castle, Barvaria, Germany, 2020
- *Molecular clouds in different environments* **(Invited)**, Annual Meeting of Chinese Astronomical Society, 2020
- *Different paths of molecular cloud evolution*, Cosmology Seminar at the Max-Planck Institute for Astrophysics, Garching, Germany, 2020
- *Gas dynamics at the Galactic Center*, Astrodynamics Conference, T.D. Lee Institute, Shanghai, China, 2019
- *Molecular cloud evolution in the Galactic disk* **(Invited)**, Annual Meeting of Chinese Submillimeter Astronomers, Altai Region, Xinjiang, China, 2019
- Colloquium Speaker at:

2021: Peking University (**Invited**), Shanghai Observatory (**Invited**)

2020: Max-Planck Institute for Radioastronomie (**Invited**), University of Science and Technology, China (**Invited**), Zhejiang University (**Invited**), Nanjing University (**Invited**), Shanghai Jiaotong University (**Invited**)

2019 Purple Mountain Observatory (**Invited**)