Simin Tong

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EDUCATIONAL BACKGROUND

University of Leicester — **Leicester, the United Kingdom**
Ph.D., Astrophysics — *Sept. 2022-*
Supervisor: Prof. Richard Alexander

Leiden University — **Leiden, the Netherlands**
M.Sc. (cum laude), Astronomy — *Sept. 2019- Aug.2022*
with 1-year Pre-Master, Astronomy

Jilin University — **Jilin, China**
B.Sc., Physics and LL.B., Law — *Sept. 2015 -Jun. 2019*

PUBLICATIONS

1. **Tong, S.**, Alexander, R. et al. (2023). Evolution of viscous and MHD wind protoplanetary discs in the presence of dead zones. (*in prep.*)
2. **Tong, S.**, van der Marel, N. et al. (2023). High-resolution Dust Disk Survey towards Serpens Star-forming Region. (*in prep.*)
3. Anderson, A. R., Williams, J. P., van der Marel, N., Law, C. J., Ricci, L., Tobin, J. J., & **Tong, S.** (2022). Protostellar and Protoplanetary Disk Masses in the Serpens Region. The Astrophysical Journal, 938(1), 55.

RESEARCH EXPERIENCES

Dispersal of Protoplanetary Disks by Viscosity, MHD winds and Photoevaporation *Sept. 2022-Present*
University of Leicester, UK
Supervisor: Prof. Richard Alexander

- Built a 1D grid-based viscosity + MHD wind + photoevaporation disk code.
- Modelled transition profiles for the strengths of turbulence (dead zone + MRI-active region) and α-description MHD winds.
- Exploring parameters in the transition profiles and hyper-parameters in the disk model.

Protoplanetary Disk Survey in Serpens Star-forming Region *Sept. 2021-Present*
Leiden Observatory, the Netherlands
Supervisor: Dr. Nienke van der Marel

- Performed individual data reduction on ALMA continuum and line observations for $>$ 300 young stellar objects from Serpens star-forming region using `CASA` and self-written `Python` script.
- Analysed dust disk mass distribution for targets in Serpens.
- Modelled visibility curves of transition disk candidates observed in Serpens with `Markov Chain Monte Carlo`.
- Concatenated low- and high-resolution data to characterize the morphology of outflows.

ALMA Archive Mining of High-mass Star Formation *Sept. 2020-Aug. 2021*
Leiden Observatory, the Netherlands
Supervisor: Prof. Michiel Hogerheijde, Dr. Aida Ahmadi, Prof. Serena Viti

- Constructed inventories of ALMA projects on broad topics of high-mass star formation by mining ALMA science archive with a `Python` package `ALminer`.
- Performed individual data reduction on ALMA observations towards a high-mass star using `CASA` and identified potential molecular species with `CASSIS`.

ADDITIONAL ACADEMIC ACTIVITIES

- Summer student at Institute of Astronomy and Astrophysics, Academia Sinica (Taipei) *Jul.-Aug. 2019*

- Internship at Institute of Physics, Chinese Academy of Sciences (Beijing, China) *Jan. 2018*
- Summer student at Shanghai Astronomical Observatory (Shanghai, China) *Jul. 2017*

SCHOLARSHIPS & AWARDS

- Leicester Future 100 Studentship (international tuition fee + maintenance) *2022-*
- Leiden International Tuition Fee Wavier *2020-2022*
- Leiden Science China Scholarship (declined) *2019*
  - 25% waiver of the non-EU/EEA tuition fee
- Outstanding Undergraduate Thesis Award *2019*
- Dean's Scholarship *2019*
  - the highest honour for undergraduate students at the Department of Physics, JLU
- Outstanding Graduate in Jilin University *2019*
- Chinese Academy of Sciences Undergraduate Scholarship *2017*
- University Scholarship *2016-2019*

SKILLS& LANGUAGES

- `Python`, LaTeX, `CASA`, `Fortran`(basic), `C`(basic), `HTML&CSS`(basic)
- Mandarin (Native Proficiency); English (Professional Proficiency); Japanese(Elementary Proficiency)