Simin Tong

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EDUCATION BACKGROUND

Leiden University   **Leiden, the Netherlands**
M.Sc., Astronomy Research   *Sept. 2020- Aug.2022 (expected)*
GPA: 8.0/10.0 (Dutch scale); 3.95/4.00 (US scale)

Leiden University   **Leiden, the Netherlands**
Pre-Master, Astronomy   *Sept. 2019- Aug. 2020*

Jilin University   **Jilin, China**
B.Sc., Physics and LL.B., Law   *Sept. 2015 -Jun. 2019*
Physics: GPA: 90.28/100, Top 5%

RESEARCH EXPERIENCES

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

- Constructed an inventory of ALMA projects on topics, including disks around high-mass stars, outflows from high-mass stars and high-mass star formation by mining ALMA science archive with a query tool `ALminer`. Identified several data sets from the inventory for a case study.
- Performed individual data reduction on ALMA observations of dust continuum and molecular lines using `CASA`.
- Identified possible species and working on the spectral modelling using `CASSIS`.

Institute of Astronomy and Astrophysics, Academia Sinica   **Taipei**
Dusty Gaps in 2.5-dimensional Protoplanetary Disks   *Jul. 2019-Aug. 2019, Jun. 2020-Sept. 2020*
Supervisor: Dr. (Min-Kai) Lin

- Simulated the evolution of 2.5-dimensional disks with dust density bumps via `Fargo3D`.
- Analysed the output data by scripts written in `Python`.

Center for Theoretical Physics, Jilin University   **Jilin, China**
Investigation into the Effect of Protostar Irradiation on the Evolution of Protoplanetary Disks   *Jan. 2019-Jun. 2019*
Supervisor: Prof. Dr. (Liping) Jin

- Improved a closed source code for the evolution of the protoplanetary disk written in `Fortran` by modifying the relation between the stellar luminosity and stellar mass.
- Comparatively studied the outcome given by numerical simulations before and after modifications.

ADDITIONAL PROJECTS

Theoretical Projects
- In a graduate-level course *Stellar Structure and Evolution*: Studied the evolution of a $2M_\odot$ star of solar composition from pre-main sequence to white dwarf by running numerical simulations via `MESA`.
- In a graduate-level course: *Exoplanets: Atmospheres and Interiors*: Studied effects of irradiation from central stars on the interiors and evolution of low-mass planets with an envelope made by H and He by running numerical simulations via `MESA`.

Observational projects

The GPA conversion is made using https://www.scholaro.com/gpa-calculator/, recommended by University of Michigan.

- In an undergraduate-level course: *Astronomy Laboratory and Observing Project*: Wrote observing proposal, did proposal rating, planned for observations (which were finally cancelled due to the pandemic), conducted data reduction (collaborated with 5 other group members).
  - Analysed and modelled the light curve of an exoplanet candidate with a `Python` package `BATMAN` for the data reduction part .

ADDITIONAL ACADEMIC ACTIVITIES

- Summer School on the ISM of Galaxies (virtually at France)   *Jul. 2021*
- The 4th SKA Summer School (Shanghai, China)   *Jul. 2018*
- Intern at Institute of Physics, Chinese Academy of Sciences (Beijing, China)   *Jan. 2018*
- Summer student at Shanghai Astronomical Observatory (Shanghai, China)   *Jul. 2017*

AWARDS

- 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 honor for undergraduate students at the Department of Physics, JLU
- Outstanding Graduate in Jilin University   *2019*
- College Excellent Student Leader   *2018*
- College Excellent Student   *2018, 2017 and 2016*
- University Second Class Scholarship   *2018 and 2016*
- Chinese Academy of Sciences Undergraduate Scholarship   *2017*
- University Excellent Student Leader   *2017*
- University First Class Scholarship   *2017*

SKILLS

- `Python`, LaTeX, `Fortran`(basic), `HTML&CSS`(basic)

LANGUAGES

- Native Proficiency: Mandarin
- Professional Proficiency: English
- Elementary proficiency: Japanese, Dutch and German