Yisheng Tu

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EDUCATION

University of Virginia, Charlottesville, VA, USA — Sep 2020 – current
- Master in Astronomy
- Ph.D. Candidate in Astronomy

University of Rochester, Rochester, NY, USA — Sep 2016 – May 2020
- Bachelor of Science double major: Physics and Astronomy & Mathematics
- Minor in Music

RESEARCH EXPERIENCE

Research Assistant, University of Virginia
- Supervisors: Prof. Zhi-Yun Li, Prof. Zhaohuan Zhu (UNLV)
- Thesis Committee Members: Prof. Phil Arras, Prof. Shane Davis

Research Assistant, University of Rochester — Feb 2018 – May 2020
- Supervisors: Prof. Adam Frank, Prof. Eric G. Blackman, Dr. Luke Chamandy

Lee Teng Internship, Fermi National Accelerator Laboratory — Jun 2019 –Aug 2019
- Mentor: Dr. Tanaji Sen, Dr. Jean-Francois Ostiguy

FELLOWSHIPS

Interdisciplinary Fellowship, UVA — 2020-2025

AWARDS

Chambliss Astronomy Achievement Award (AAS 244) — 2024
Deans List, College of arts and sciences — 2016 – 2019
Research Presentation Awards, University of Rochester — Mar 2019

TALKS AND POSTERS

Journal Club (Ann Arbor, MI) — 2024
Star & Planet Formation Group (Las Vegas, Nevada) — 2024
Origins Seminar (Tuscon, AZ) — 2024
Monday Science Seminar (Madison, WI) — 2024
244th Americal Astronomy Society Meeting (Madison, WI) — 2024
Gordon Research Conference (South Hadley, MA) — 2023
Athena ++ meeting (New York City, NY) — 2023
Fermi National Accerelator Labortory (Batavia, IL) — 2019
Space Telescope Science Institute (Baltimore, MD) — 2019

REFERRING

Astrophysical Journal

STUDENT PROJECTS

Xiaoyuan Yang (Synthetic observation of protostellar systems) — Summer 2024 - current
Samuel Crowe (Radiation MHD Simulations of HII Regions) — Summer 2024 - current
Neha Bagalkot (Disk Formation Line Radiative Transfer) — Spring 2022
Dylan Jones (Centrifugal Barrier in Disk Formation) — 2021 - 2022

COURSE INSTRUCTED

ASTR 1220: Introduction to stars, galaxies and the universe, Univerisity of Virginia Summer 2023

OTHER WORK EXPERIENCE

Teaching Assistant, University of Virginia — Spring 2021
Student Summer Tour Guide, C. E. K. Mees Observatory — Summer 2018, Summer 2019

Teaching Intern, University of Rochester Fall 2017 - Spring 2020

SKILLS Python, C++, Bash, Fortran, Unity Engine, HTML, VisIt, Java

PUBLICATIONS

[1] **Yisheng Tu**, Zhi-Yun Li, Zhaohuan Zhu, Xiao Hu, Chun-Yen Hsu, "YSO Jets Magnetocentrifugally Driven by Reconnecting Atmospheric Avalanche Accretion Streams Above Inner Circumstellar Disks", Accepted by ApJ

[2] Chun-Yen Hsu, Zhi-Yun Li, **Yisheng Tu**, Xiao Hu; Min-Kai Lin, "Rossby Wave Instability and Substructure Formation in 3D Non-Ideal MHD Wind-Launching Disks". In: ,mnras 533.3 (Sept. 2024), pp. 2980–2996

[3] **Yisheng Tu**, Zhi-Yun Li, Zhaohuan Zhu, Chun-Yen Hsu, "Fragmentation of Dense Rotation-Dominated Structures Fed by Collapsing Gravomagneto-Sheetlets and Origin of Misaligned 100 au-Scale Binaries and Multiple Systems". In: mnras 532.3 (Aug. 2024), pp. 3135–3150

[4] **Yisheng Tu**, Zhi-Yun Li, Ka Ho Lam, Kengo Tomida, Chun-Yen Hsu, "Protostellar discs fed by dense collapsing gravo-magneto sheetlets". In: mnras 527.4 (Feb. 2024), pp. 10131–10150

[5] Renato Mazzei, Zhi-Yun Li, Che-Yu Chen, **Yisheng Tu**, Laura Fissel, Richard I. Klein, "Modelling CN Zeeman effect observations of the envelopes of a low-mass protostellar disc and a massive protostar". In: mnras 527.3 (Jan. 2024), pp. 8618–8632.

[6] Luke Chamandy, Jonathan Carroll-Nellenback, Eric G. Blackman, Adam Frank, **Yisheng Tu**, Baowei Liu, Yangyuxin Zou, Jason Nordhaus, "How negative feedback and the ambient environment limit the influence of recombination in common envelope evolution". In: mnras 528.1 (Feb. 2024), pp. 234–254.

[7] **Yisheng Tu**, Zhi-Yun Li, Ka Ho Lam "Grain Growth During Protostellar Disk Formation". In: mnras 515.4 (Oct. 2022), pp. 4780–4796.

[8] Dylan Jones, Ka Ho Lam, Zhi-Yun Li, **Yisheng Tu** "Centrifugal Barrier and Super-Keplerian Rotation in Protostellar Disk Formation". In: mnras 517.1 (Nov. 2022), pp. 213–221.

[9] Luke Chamandy, Eric G. Blackman, Adam Frank, Jonathan Carroll-Nellenback and **Yisheng Tu** "Common envelope evolution on the asymptotic giant branch: unbinding within a decade?". In: mnras 495.4 (July 2020), pp. 4028–4039.

[10] T. Sen, **Y. Tu**, J.-F. Ostiguy "Fields and Characteristic Impedances of Dipole and Quadrupole Cylindrical Stripline Kickers". In: Physical Review Accelerators and Beams 23.1, 012801 (Jan. 2020), p. 012801.

[11] Luke Chamandy, Eric G. Blackman, Adam Frank, Jonathan Carroll-Nellenback, Yangyuxin Zou and **Yisheng Tu** "How Drag Force Evolves in Global Common Envelope Simulations". In: mnras 490.3 (Dec. 2019), pp. 3727–3739.

[12] Luke Chamandy, **Yisheng Tu**, Eric G. Blackman, Jonathan Carroll-Nellenback, Adam Frank, Baowei Liu and Jason Nordhaus. "Energy Budget and Core-Envelope Motion in Common Envelope Evolution". In: mnras 486.1 (June 2019), pp. 1070–1085.

[13] Luke Chamandy, Adam Frank, Eric G. Blackman, Jonathan Carroll-Nellenback, Baowei Liu, **Yisheng Tu**, Jason Nordhaus, Zhuo Chen, Bo Peng. "Accretion in common envelope evolution". In: mnras 480.2 (Oct. 2018), pp. 1898–1911.