

## YI-XIAN CHEN (陈逸贤)

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### EDUCATION

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Department of Astrophysical Sciences, [Princeton University](#)

Princeton, NJ

PhD in Astrophysical Sciences

Sep 2021 – Expected June 2026

- **Research Interests:**

*Topics in planet formation:* Core-accretion theory of super-Earths and gas giants; Planet migration; Observable signatures of planet-disk interactions; Dust evolution in protoplanetary disks

*General application of accretion disk theory:* Tidally distorted accretion disks; Gravitational instability and measurement of turbulence in accretion disks; Evolution of Stellar-mass Black Holes embedded in AGN disks

Department of Physics, [Tsinghua University](#)

Beijing

Bachelor in Physics

Sep 2017 - Jun 2021

- **GPA:** 3.90/4.00

- **Awards & Honors:**

Chi-sun Yeh (叶企孙) Scholarship (Highest Honor for Physics Major), 2021

[Tsinghua University Prestigious \(特等\) Scholarship](#) (Highest Honor for Undergraduates, 10 per year), 2020

Lin-bridge Scholarship (Awarded for Excellent Astrophysical Research), 2020

Tsinghua University Jiang Nan-xiang (蒋南翔) Scholarship (Highest Honor for Juniors), 2019

Tsinghua University Dec. 9<sup>th</sup> (一二九) Scholarship (Highest Honor for Sophomores), 2018

Tsinghua University Scholarship for Outstanding Overall Performance, 2018&2019

Tsinghua University Scholarship for Outstanding Scientific Research, 2018&2019

Tsinghua University Scholarship for Outstanding Art Performance, 2019

- **Programs:**

Member of Tsinghua University Spark (星火) project, research scholar cultivation program

Member of Chi-sun Yeh Physics class, part of Tsinghua University talent cultivation program (学堂计划)

University of California, Berkeley

Berkeley

Semester Exchange Program (Fall 2019)

Aug 2019 - Dec 2019

- **GPA:** 4.00/4.00

- Department sponsored program for taking relevant courses and research

### PUBLICATIONS

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1. **Chen Y.X.\***, Li Y.P., Li H., Lin D.N.C., [The Preservation of Super Earths and the Emergence of Gas Giants after Their Progenitor Cores Have Entered the Pebble Isolation Phase](#), The Astrophysical Journal, 896, 135
2. **Chen Y.X.\***, Zhang X., Li Y.P., Li H., Lin D.N.C., [Retention of Long-Period Gas Giant Planets: Type II Migration Revisited](#), The Astrophysical Journal, 900, 44
3. Li Y.P.\*, **Chen Y.X.\***, Lin D.N.C., Zhang X., [Accretion of Gas Giants Constrained by the Tidal Barrier](#), The Astrophysical Journal, 906, 52
4. **Chen Y.X.\***, Wang Z., Li Y.P., Baruteau C., Lin D.N.C., [Wide Dust Gaps in Protoplanetary Disks Induced by Eccentric Planets: A Mass-Eccentricity Degeneracy](#), The Astrophysical Journal, 922, 184

5. Li R.\*, **Chen Y.X.**, Lin D.N.C., [\*Dust-Accumulation near the Magnetosphere Truncation of Protoplanetary Discs around T Tauri Stars\*](#), MNRAS, 510, 4
6. Li Y.P.\*, **Chen Y.X.\***, Lin D.N.C., Wang Z., *Spin Evolution of Stellar-mass Black Holes Embedded in AGN disks: Orbital Eccentricity Produces Retrograde Circumstellar Flows*, re-submitted after revision for ApJL

(\* indicates corresponding author)

## SELECTED SCIENTIFIC TALKS

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- [Accretion of Gas Giants Constrained by the Tidal Barrier](#) **Tucson, Arizona (Virtual)**  
*Online Talk, invited by UArizona Planet Group* Dec 2020
- [The Lense-Thirring Precession and Warped Accretion Disks](#) **Beijing**  
*Course project for General Relativity II* Dec 2020
- [Understanding Migration of Gas Giants](#) **Beijing**  
*Summary of research project* Aug 2020
- [The Preservation of Hot Super Earths and Cold Gas Giants](#) **Tucson, Arizona (Virtual)**  
*Online Talk, invited by UArizona Planet Group* Jun 2020
- **Introduction to Planetary Astrophysics** **Tucson, Arizona (Virtual)**  
*Chi-sun Yeh Academic Lectures, Tsinghua University* Jun 2020
- [Formation of Close-in Planets \(sub-Neptunes/super-Earths\)](#) **Beijing**  
*Department of Astronomy (DoA) seminar on theoretical astrophysics, Tsinghua University* Apr 2020
- [Galactic Center Microlensing](#) **Berkeley, California**  
*Summary of research project* Dec 2019
- [Dust Diffusion in Protoplanetary Disks and Formation of super Earths](#) **Urumqi, Xinjiang**  
*Summary of research project, Formation and Evolution of Planetary System Conference* Jul 2019
- [Linear Magneto-Rotational Instability](#) **Beijing**  
*DoA seminar on theoretical astrophysics, Tsinghua University* Apr 2019

## CONFERENCES & WORKSHOPS

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- **IMPRS Summer School on “Planet Formation in Protoplanetary Disks”, Heidelberg (Virtual)** August 2020
- **Exoplanets III, Heidelberg (Virtual)** July 2020
- **Sagan Workshop on Extreme Precision Radial Velocity, Pasadena, California (Virtual)** July 2020
- **Formation and Evolution of Planetary System Seminar, Urumqi, Xinjiang** July 2019
- **Astrophysical Dynamics Conference, Shanghai** July 2019

## SKILLS AND INTERESTS

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### Language Abilities:

- Native in Mandarin Chinese
- Fluent in English, renowned oral speaker, representing China in international speech contests
- **Awards & Honors:**  
*China Daily English Speaking Competition (College Group) [National Championship](#), 2019*

*English Speaking Union International Public Speech Contest ([IPSC](#)) [Finalist/Third Place](#), 2019*

*China Daily English Speaking Competition (High School Group) National Championship, 2017*

- Invited to star in and dub an official English Promotion Video for Tsinghua University: [Beyond the Pages](#)

**Programming Languages:** Mathematica, Matlab, python, C++, HTML, LaTeX

**Professional Softwares:** FARGO3D, RADMC-3D, Athena++

**Music and Vocal performance:**

- Member of Tsinghua University chorus and Berkeley Chinese Acappella, performed in various concerts and competitions, Award-winning campus singer, Guest performer on Student Gala
- Selected Live Vocal Performances: [My Way](#), [Wandering Earth Theme \(流浪地球\)](#), [Keep me by your Side \(让我留在你身边\)](#)

**Film production:**

- Wrote screenplays for and produced short play *Ode to Guitar* (2018) and sci-fi film [A Wicked Letter Through Time \(2019\)](#), well-received by audiences in department Student Gala
- Taken screenwriting courses at Berkeley Extension