

He-Feng Hsieh

Curriculum Vitae

Institute of Astronomy
National Tsing Hua University
Hsinchu 30013, Taiwan

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EDUCATION

- Ph.D. in Astronomy** 09/2013 - 07/2019
National Tsing Hua University, Taiwan
Thesis Title: Dynamics of Planetesimals Trapped in Mean Motion Resonances in Protoplanetary Disks
Advisor: Ing-Guey Jiang
- M.S. in Astrophysics** 09/2007 - 06/2009
National Taiwan University, Taiwan
Thesis Title: On the Thermal Bulges of Exoplanets
Supervisor: Pin-Gao Gu
- B.S. in Mathematics** 09/2003 - 06/2007
National Tsing Hua University, Taiwan

RESEARCH EXPERIENCES

- Visiting Postdoctoral Researcher** 09/2019 - Present
Academia Sinica Institute of Astronomy and Astrophysics, Taiwan
Topic: Planet migration in dusty protoplanetary disks
Advisor: Min-Kai Lin
- Postdoctoral Researcher** 09/2019 - Present
National Tsing Hua University, Taiwan
Topic: Core-collapse supernova simulations and gravitational wave emissions
Advisor: Kuo-Chuan Pan
- Visiting Student** 03/2017 - 05/2017
Nanjing Institute of Astronomical Optics and Technology, China
Topic: Characterizing the direct imaging exoplanets and optimizing the apodized coronagraph
Advisor: Jiangpei Dou
- Research Assistant** 08/2012 - 05/2013
Academia Sinica Research Center for Environmental Changes, Taiwan
Topic: The vertical distribution of tholin on Titan
Supervisor: Mao-Chang Liang
- Research Assistant** 03/2011 - 02/2012
Academia Sinica Institute of Astronomy and Astrophysics, Taiwan
Topic: The dust behavior under aerodynamic drag in protoplanetary disks
Supervisor: Pin-Gao Gu

RESEARCH INTERESTS

Computational astrophysics, planet formation and evolution, and dust dynamics in protoplanetary disks

PROGRAMMING LANGUAGES & SOFTWARES

Programming Language

- C, Fortran, IDL, Matlab, Python, High-performance computing (OpenMP, MPI, and CUDA), Shell scripting

Software

- FARGO/FARGO3D, GAMER, Git/GitHub, HPC workload manager (OpenPBS and Slurm), IRAF/PyRAF, REBOUND, SPHYNX, TAP (Transit Analysis Package)

TEACHING EXPERIENCES

Teaching Assistant

- Astrophysical Radiative Process Spring 2019
- Stellar Astrophysics Fall 2017
- Galactic Astronomy Spring 2015

Lecturer

- *Introduction to Python*, Pre-master program for new graduate students in Institute of Astronomy, National Tsing Hua University 2014, 2015, 2016, 2018
- *Introduction to Python*, Summer student training camp, the University Consortium of ALMA-Taiwan 2017, 2019, 2020
- *Introduction to Linux and Shell Scripting*, Summer student training camp, the University Consortium of ALMA-Taiwan 2016, 2019, 2020

HONORS & AWARDS

- The Phi Tau Phi Scholastic Honor Society of the Republic of China 2019

MISCELLANEOUS

- Co-organizer of student seminar 09/2015 - 07/2019
- System administrator of public computers for astronomical data processing in Institute of Astronomy, National Tsing Hua University 08/2015 - 07/2019

PRESENTATIONS

Invited Talks, Seminars, and Colloquia

- TIARA Theory Group Workshop, Taipei, Taiwan 08/2020
- National Tsing Hua University Colloquium, Hsinchu, Taiwan 06/2017
- Nanjing Institute of Astronomical Optics and Technology Colloquium, Nanjing, China 04/2017

Contributed Conference Talks

- 2019 Annual Meeting of the Astronomical Society of the Republic of China, Taichung, Taiwan 05/2019
- 5th East Asia Numerical Astrophysics Meeting, Kyoto, Japan 10/2012

Posters

- 2020 Annual Meeting of the Physical Society of the Republic of China, Taipei, Taiwan 09/2020
- Exoplanets III, online conference 07/2020
- 2020 Annual Meeting of the Physical Society of the Republic of China, Pingtung, Taiwan 02/2020
- 2019 Planet Formation Workshop, Tokyo, Japan 11/2019

- 8th East Asia Numerical Astrophysics Meeting, Tainan, Taiwan 10/2018
- 2017 Asia-Pacific Regional IAU Meeting, Taipei, Taiwan 07/2017
- 2017 Annual Meeting of the Physical Society of the Republic of China, Taipei, Taiwan 01/2017
- 2016 Annual Meeting of the Astronomical Society of the Republic of China, Tainan, Taiwan 05/2016
- 2016 Annual Meeting of the Physical Society of the Republic of China, Kaohsiung, Taiwan 01/2016
- 2009 Annual Meeting of the Astronomical Society of the Republic of China, Pingtung, Taiwan 05/2009

PUBLICATIONS

First Author

1. **Hsieh, H.-F.** & Lin, M.-K. 2020, *Migrating Low-Mass Planets in Inviscid Dusty Protoplanetary Discs*, MNRAS, 497, 2425 [\[ADS\]](#)
2. **Hsieh, H.-F.** & Jiang, I.-G. 2019, *Long-term Hydrodynamic Simulations on the Planetesimals Trapped in the First-order Mean Motion Resonances*, ApJ, 877, 34 [\[ADS\]](#)
3. **Hsieh, H.-F.** & Gu, P.-G. 2012, *On the Secular Behavior of Dust Particles in An Eccentric Protoplanetary Disk with An Embedded Massive Gas Giant Planet*, ApJ, 760, 119 [\[ADS\]](#)

Co-Author

1. Jiang, I.-G., Lai, C.-Y., Savushkin, A., et al. 2016, *The Possible Orbital Decay and Transit Timing Variations of the Planet WASP-43b*, AJ, 151, 17 [\[ADS\]](#)