

Yukun Huang 黄宇坤

Dept. Physics & Astronomy, UBC
Vancouver, BC V6T 1Z1 Canada

yukunhuang.com
yhuang.astro@gmail.com

EDUCATION	Ph.D. in Astronomy, University of British Columbia, Canada M.S. in Aerospace Science, Tsinghua University, China	2019 - 2023 2016 - 2019
RESEARCH POSITIONS	Graduate Research Associate, University of British Columbia <i>Advisor: Prof. Brett Gladman</i> <ul style="list-style-type: none">• Dynamics of Transneptunian Objects under the Influence of a Rogue Planet Research Associate, Tsinghua University <i>Advisors: Prof. Junfeng Li</i> <ul style="list-style-type: none">• CRTBP trajectory design using invariant manifolds (Senior thesis)• Dynamics of retrograde resonances (Master's thesis)	2019 - 2023 2015 - 2019
FELLOWSHIPS	Edwin S.H. Leong Fellow	2020 - 2023
REFEREED PUBLICATIONS	As first author: <ol style="list-style-type: none">1. Primordial Orbital Alignment of Sednoids Huang, & Gladman. submitted to ApJL (2023)2. A Rogue Planet Helps Populate the Distant Kuiper Belt Huang, Gladman, Beaudoin, & Zhang. ApJL, 938, L23 (2022)3. Free Inclinations for Transneptunian Objects in the Main Kuiper Belt Huang, Gladman, & Volk. ApJS, 259, 54 (2022)4. Four-billion year stability of the Earth–Mars belt Huang, & Gladman. MNRAS, 500, 1151 (2021)5. On the Instability of Saturn's Hypothetical Retrograde Co-orbitals Huang, Li, Li, & Gong. MNRAS, 488, 2543 (2019)6. Kozai-Lidov Mechanism inside Retrograde Mean Motion Resonances Huang, Li, Li, & Gong. MNRAS, 481, 5401 (2018)7. Dynamic Portrait of the Retrograde 1:1 Mean Motion Resonance Huang, Li, Li, & Gong. AJ, 155, 262 (2018) As contributing author: <ol style="list-style-type: none">8. Asteroid (469219) Kamo'oalewa's Intriguing Journey from Lunar Crater Giordano Bruno to Earth 1:1 Resonance Jiao, Cheng, Huang, et al. submitted to Nature Astronomy (2023)9. OSSOS. XXIX. The Population and Perihelion Distribution of the Detached Kuiper Belt Beaudoin, Gladman, Huang, et al. PSJ, 4, 145 (2023)10. Flip mechanism of Jupiter-crossing orbits in the non-hierarchical triple system Li, Lei, Huang, & Gong. MNRAS, 502, 5584 (2021)11. Dynamics of retrograde 1/n mean motion resonances: the 1/-2, 1/-3 cases Li, Huang, & Gong. Astrophysics and Space Science, 365, 165 (2020)12. A semi-analytic model for the study of 1/1 resonant dynamics of the planar elliptic restricted co-orbital problem Li, Huang, & Gong. Research in Astronomy and Astrophysics (2020)13. Assess the Risk of Potentially Hazardous Asteroids through Mean Motion Resonance Li, Huang, & Gong. Astrophysics and Space Science, 364, 78 (2019)	

14. [Survey of asteroids in retrograde mean motion resonances with planets](#)
Li, **Huang**, & Gong. A&A, 630, A60 (2019)
15. [Centaur Potentially in Retrograde Co-orbit Resonance with Saturn](#)
Li, **Huang**, & Gong. A&A, 617, A114 (2018)

SCIENCE TEAMS CLASSY: Classical and Large-A Solar System Survey 2022 - Now
 • Dynamical classification & modelling of discovered TNOs

PROFESSIONAL SERVICE Referee for AJ, MNRAS, Icarus

PRESS COVERAGE

Sky & Telescope : “Planet X” May Have Left Our Solar System Billions of Years Ago	2023
Astrobites : Sednoids: Echoes of a Rogue Planet in the Early Solar System?	2023
MacMillan Space Centre : Ask An Astronomer - Lunar New Year of the Rabbit	2023
New Scientist : A long-lost planet could explain unexpectedly distant asteroids	2022

CONFERENCES As the speaker:

1. Primordial Orbital Clustering of Sednoids | [Video](#)
Huang, & Gladman. DPS #55, San Antonio, TX, US (2023)
2. “The Base of the Iceberg”: A Gigantic Icy Body Reservoir Produced by an Early Rogue Planet | [Abstract](#)
Huang, & Gladman. ACM 2023, Flagstaff, AZ, US (2023)
3. Steady State of a Planet-scattering Debris Disk
Huang, & Gladman. DDA #54, East Lansing, MI, US (2023)
4. Effect of a Rogue Planet on the Early Solar System | [Video](#)
Huang, & Gladman. DPS #54, London, ON, Canada (2022)
5. A Clearer View of the Primordial Kuiper Belt’s inclination structure
Huang, Gladman, & Volk. COSPAR #44, Athens, Greece (2022)
6. A Rogue Planet Populated the Distant Kuiper Belt | [Video](#)
Huang, Gladman, & Beaudoin. DDA #53, Manhattan, NY, USA (2022)
7. Dynamics of the Retrograde Co-orbital resonance
Huang, Li, Li, & Gong. COOMOT, Milan, Italy (2022)
8. Four Billion Year Stability of the Earth–Mars Belt
Huang, & Gladman. DDA #51, virtual meeting (2020)
9. Four Billion Year Stability of the Earth–Mars Belt
Huang, & Gladman. DPS #52, virtual meeting (2020)
10. Primordial Stability of the Earth–Mars Belt
Huang, & Gladman. 14th EPSC, virtual meeting (2020)
11. Dynamics of the Retrograde 1/1 Mean Motion Resonance
Huang, Li, Li, & Gong. DDA #49, San Jose, CA, USA (2018)

As contributing author:

12. The Classical and Large-*a* Solar System
Fraser, Lawler, ..., **Huang**, et al. ACM 2023, Flagstaff, AZ, US (2023)
13. Exploring Asteroid (469219) Kamo’oalewa’s Possible Origin from Lunar Crater Gior-dano Bruno
Jiao, Cheng, **Huang**, et al. ACM 2023, Flagstaff, AZ, US (2023)
14. Sednoid Creation by Scattered Rogue Planets
Gladman, & **Huang**. DDA #54, East Lansing, MI, US (2023)
15. The Classical and Large-*a* Distant Solar System (CLASSY) Survey
Fraser, Lawler, ..., **Huang**, et al. DPS #54, London, ON, Canada (2022)

16. The Population and Perihelion Distribution of the Detached Kuiper Belt | [Video](#)
Beaudoin, Gladman, & **Huang**. DPS #54, London, ON, Canada (2022)
17. Secular Free Inclinations in the Main Kuiper Belt | [Video](#)
Gladman, **Huang**, & Volk. DDA #53, Manhattan, NY, USA (2022)

SEMINARS AND INVITED TALKS “Dynamics of Transneptunian Objects under the Influence of a Rogue Planet”
Invited Talk, Tsinghua University August 2023

AWARDS AND SCHOLARSHIPS

Outstanding Graduate of Beijing	2019
Scholarship of Takada for Excellent Students of Tsinghua	2018
Second Prize in the 10th National Zhou Peiyuan Mechanics Competition	2015
Second Place in the 2nd “Space Innovative Cup” Spacecraft Design Competition	2014
Heilongjiang Province, Student of Distinction	2014
Yu Menglun Scholarship	2014
Yu Menglun Award for Science & Innovation	2014
HIT Student of Distinction	2013
China National Scholarship	2013

TEACHING

T.A. for Astro 310, UBC	2021
T.A. for Astro 310 & 311, UBC	2020
T.A. for Astro 101, UBC	2019
T.A. for Vibration theory, Tsinghua University	2017
T.A. for Theoretical mechanics, Tsinghua University	2016

REFERENCES

Brett Gladman
University of British Columbia
Vancouver, BC, Canada
gladman@astro.ubc.ca

Kat Volk
Planetary Science Institute
Tucson, Arizona, USA
kat.volk@gmail.com

Aaron Boley
University of British Columbia
Vancouver, BC, Canada
acboley@phas.ubc.ca

Junfeng Li
Tsinghua University
Beijing, China
lijunf@mail.tsinghua.edu.cn