

IAN WONG

51 PEG B POSTDOCTORAL FELLOW
PLANETARY SCIENCE RESEARCHER

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Massachusetts Institute of Technology
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EDUCATION

PhD	Caltech Planetary Science <u>Thesis advisor</u> : Michael E. Brown	2013-2018
B.A.	Princeton University Independent concentration (<i>Linguistics; Major GPA: 4.00</i>) Graduated Summa Cum Laude (<i>GPA: 3.98</i>)	2008-2012

RESEARCH AND WORK EXPERIENCE

51 Pegasi b Postdoctoral Fellow Department of Earth, Atmospheric, and Planetary Sciences, MIT	June 2018-present
Research mentor <i>Undergraduate Research Opportunities Program</i> , MIT <i>Research in Science & Engineering</i> , Boston University <i>Summer Undergraduate Research Fellowship</i> , Caltech	2019-present Summer 2018 Summers 2015 & 2017
Referee , <i>Astronomical Journal</i> , <i>Icarus</i>	2016-present
Graduate research assistant , Caltech	2013-2018
Teaching assistant , Caltech - Ge 103: Introduction to the Solar System - Ge 108: Applications of Physics to the Earth Sciences	2014-2018
Work intern , NASA Marshall Space Flight Center <i>Advanced Propulsion Laboratory</i>	Fall 2012
Research intern <i>Undergraduate Student Research Program</i> , Princeton University <i>Program in plasma Science and Technology</i> , PPPL	Summer 2012 Summers 20110 & 2011

OBSERVING EXPERIENCE

(PI programs, unless otherwise indicated)

Cerro Tololo Inter-American Observatory (CTIO)

2019A

“Exploring the desert: Precise radial velocity confirmation of TESS sub-Saturn candidates”

(20 hours, CHIRON)

Hubble Space Telescope (HST)

Cycle 25 GO-15249

“An observational test of the dynamical instability hypothesis in the Solar System”

(7 orbits; STIS)

NASA Infrared Telescope Facility (IRTF)

2016A & 2016B

“Near-infrared spectra of bright Hilda asteroids: Probing the Hilda-Trojan connection”

(7 nights; SpeX)

Palomar 200-inch Hale Telescope

2017A & 2017B

“Colors and activity of Centaurs”

(4 nights; LFC)

2018A

“Photometric observations of mutual events of the Trojan binary Patroclus-Menoetius”

(2 nights; WASP)

Co-I programs and other observing experience:

4 nights at Palomar 200-inch Hale Telescope (LFC)

3 nights at Subaru Telescope (SuprimeCam, Hyper SuprimeCam)

5 nights at Keck Observatory (NIRSPEC)

PUBLICATIONS

First- and second-author papers (17)

1. Wong I, Mishra A, & Brown M E “Photometry of Centaurs: Colors of dormant active Centaur nuclei” AJ submitted (2019).
2. Wong I, Shporer A, Becker J C, et al. “The full *Kepler* phase curve of the eclipsing hot white dwarf binary system KOI-964” ApJ in prep (2019).
3. Shporer A, Wong I, Huang C X, et al. “*TESS* full orbital phase curve of the WASP-18b system” ApJ in revision (2019).
4. Wong I, Brown M E, Blacksborg J, Ehlmann B L, & Mahjoub A. “*Hubble* ultraviolet spectroscopy of Jupiter Trojans”. AJ accepted (2019).
5. Wong I & Brown M E. “Multiband observations of a Patroclus-Meneotius mutual event: Constraints on surface inhomogeneity”. AJ accepted (2019).

6. Wong I, Benneke B, Knutson H A, et al. “*HST+Spitzer* transmission spectra of two cool exoplanets: WASP-29b and WASP-80b”. ApJ in prep (2019).
7. Wong I, Benneke B, Knutson H A, et al. “Optical to near-infrared transmission spectrum of the warm sub-Saturn HAT-P-12b”. ApJ submitted (2019).
8. Wong I, Brown M E, & Emery J P. “0.7-2.5 μm spectra of Hilda asteroids”. AJ **154** 104 (2017).
9. Wong I & Brown M E. “The bimodal color distribution of small Kuiper Belt objects”. AJ **153** 145 (2017).
10. Wong I & Brown M E. “The color-magnitude distribution of Hilda asteroids: Comparison with Jupiter Trojans”. AJ **153** 69 (2017).
11. Wong I & Brown M E. “A hypothesis for the color bimodality of Jupiter Trojans”. AJ **152** 90 (2016).
12. Wong I, Knutson H A, Kataria T, et al. “3.6 and 4.5 μm *Spitzer* phase curves of the highly irradiated hot Jupiters WASP-19b and HAT-P-7b”. ApJ **823** 122 (2016).
13. Wong I & Brown M E. “The color-magnitude distribution of small Jupiter Trojans”. AJ **150** 174 (2015).
14. Wong I, Knutson H A, Lewis, N K, et al. “3.6 and 4.5 μm phase curves of the highly irradiated eccentric hot Jupiter WASP-14b”. ApJ **811** 122 (2015).
15. Wong I, Brown M E, & Emery J P. “The differing magnitude distributions of the two Jupiter Trojan color populations”. AJ **148** 112 (2014).
16. Wong I, Knutson H A, Cowan N B, et al. “Constraints on the atmospheric circulation and variability of the eccentric hot Jupiter XO-3b”. ApJ **794** 134 (2014).
17. Wong I, Grigoriu A, Roslund J, Ho T S, & Rabitz H. “Laser-driven direct quantum control of nuclear excitations”. Phys. Rev. A **84** 053429 (2011).

Other co-author papers (7)

1. Chachan Y, Knutson H A, Gao P, et al. [IW: author 4/16] “A panchromatic study of HAT-P-11b’s atmosphere” ApJ in prep (2019).
2. Benneke B, Knutson H A, Lothringer J, et al. [IW: author 10/18] “A Sub-Neptune Atmosphere with Solar Water Abundance, Strong Methane Depletion, and Mie-Scattering Aerosols”. Nature Astronomy in revision (2019).
3. Poston M J, Mahjoub A, Ehlmann B L, et al. [IW: author 10/10] “Visible near-infrared spectral evolution of irradiated mixed ices and application to Kuiper Belt objects and Jupiter Trojans”. ApJ **856** 124 (2018).
4. Ingalls J G, Krick J E, Carey S J, et al. [IW: author 13/18] “Repeatability and accuracy of exoplanet eclipse depths measured with post-cryogenic *Spitzer*”. AJ **152** 44 (2016).
5. Krick J E, Ingalls J, Carey S, et al. [IW: author 8/9] “*Spitzer* IRAC sparsely sampled phase curve of the exoplanet WASP-14b”. ApJ **824** 27 (2016).
6. Beichman, C, Livingston, J, Werner W, et al. [IW: author 8/17] “*Spitzer* observations of exoplanets discovered with the *Kepler* K2 mission”. ApJ **822** 39 (2016).
7. Buhler, P B, Knutson H A, Batygin, K, et al. [IW: author 7/7] “Dynamical constraints on the core mass of hot Jupiter HAT-P-13b”. ApJ **821** 26 (2016)

CONFERENCE TALKS

1. “UV Spectroscopy of Jupiter Trojans”, *50th DPS Meeting, 2018, Knoxville, Tennessee.*
2. “The Trojan-Hilda-KBO connection: An observational test of solar system evolution models”, *The Transneptunian Solar System, 2018, Coimbra, Portugal.* [invited talk]
3. “The Trojan-Hilda-KBO connection: An observational test of solar system evolution models”, *AGU Fall Meeting, 2017, New Orleans, Louisiana.*
4. “The Trojan-Hilda-KBO connection: An observational test of solar system evolution models”, *49th DPS Meeting, 2017, Provo, Utah.*
5. “Near-infrared transmission spectra of three cool giant gas exoplanets”, *ExSoCal 2016, Pasadena, California.*
6. “Multiband *Spitzer* phase curves of three highly-irradiated hot Jupiters”, *AAS Meeting #227, 2016, Kissimmee, Florida.* [invited talk]
7. “The color-magnitude distribution of small Kuiper Belt objects”, *47th DPS Meeting, 2015, National Harbor, Maryland.*
8. “Multiband *Spitzer* phase curves of three highly-irradiated hot Jupiters”, *11th Rencontres du Vietnam, Planetary Systems: A Synergistic View, 2015, Quy Nhon, Vietnam.*
9. “Sub-populations among the Jupiter Trojans”, *Asteroids, Comets, and Meteors, 2014, Helsinki, Finland.*

CONFERENCE POSTERS

1. “A comparison of Hildas and Jupiter Trojans using photometry, spectroscopy, and size distributions”, *48th DPS Meeting, 2016, Pasadena, California.*
2. “Near-infrared transmission spectra of three cool giant gas exoplanets”, *ExoClimes 2016, Squamish, Canada.*
3. “The color-magnitude distribution of small Jupiter Trojans”, *46th DPS Meeting, 2014, Tucson, Arizona.*

WORKSHOPS

2nd La Serena School for Data Science, 15-22 August 2014, La Serena, Chile.

COMPUTER AND OTHER SKILLS

Programming: Python, IDL, MATLAB, FORTRAN

Applications: GitHub, ArcGIS, Mathematica, Maple, LaTeX, LyX, Microsoft Office, LabVIEW

Laboratory skills: basic machine shop skills, laboratory electronics, lasers

LANGUAGES

English: Native language

Russian: Highly proficient (all aspects)

Mandarin: Fluent (speaking and listening); Proficient (reading and writing)

Japanese: Proficient (reading, writing, and listening); Intermediate (speaking)

Spanish: Proficient (reading); Intermediate (writing, listening, and speaking)