

# Yifan Zhou

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Harlan J. Smith McDonald Observatory Postdoc Fellow

## Employment

2019- **Harlan J. Smith McDonald Observatory Postdoc Fellow.**  
McDonald Observatory, The University of Texas at Austin

## Education

2014-2019 **Ph.D. in astronomy and astrophysics.**  
Department of Astronomy/Steward Observatory, The University of Arizona

2010-2014 **B.Sc in astronomy.**  
Department of Astronomy, Peking University

## Accepted Proposals:

- **Co-I**, HST Cycle 28 (GO16302), *Accretion Rates as a Diagnostic Tool for the Origin of Planetary-mass Companions*
- **PI**, HST Cycle 27 (GO16036), *Mapping Clouds on a Variable Planetary-Mass Companion*
- **PI**, HST Cycle 27 (GO15830), *A Planet is Born: Investigating the Accretion Process of PDS70b with WFC3/UVIS Direct Imaging Observations*
- **PI**, Spitzer DDT program (14312), *Rotational modulations of a highly variable planetary-mass companion*
- **Co-I**, HST Cycle 27 (GO15947), *Dancing with the Dwarfs: Very High Quality Spatial and Spectral Maps of Hot Jupiters Proxies*
- **PI**, HST Cycle 25 (AR15060), *Unleashing the Charges: An Improved Reduction of Key Exoplanet Datasets and a Tool for Ramp Effect Correction*
- **Co-I** (PI: L. Carone), HST Cycle 25 (GO15301), *Now You See Me – the WASP-117b Version*
- **Co-I** (PI: D. Apai), HST Cycle 23 (GO14241), *Cloud Atlas: Vertical Cloud Structure and Gravity in Exoplanet and Brown Dwarf Atmospheres*

## Service and Committees

- 2020 NASA FINESST Fellowship Reviewer
- HST Cycle 27 Mid-Cycle Proposal Reviewer
- Referee for AAS Journals, A&A

- 2018 Steward Observatory graduate admission committee member

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## Awards

- 2015–2018 **NESSF fellowship** (NASA Earth and Space Science Fellowship)
- 2015–2016 **TRIF Fellowship**
- 09/2013 **First Lin-Qiao Prize** for Excellent Undergraduate Research Projects in Astronomy and Astrophysics, Peking University & KIAA

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## Teaching Experience

- Teaching Assistant for Dr. Laird Close, course name: *Life in the Universe*  
Gave three 50 min Lectures.
- Teaching Assistant for Dr. Serena Kim, course name: *Life in the Universe*  
Organized in-class activities; Gave two 75 min Lectures; Built course website.
- Guest Lecture for Dr. Laird Close

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## Conferences and Presentations

- 2/2020 Seminar talk, University of Texas, Austin, TX, USA
- 11/2018 Seminar talk, Jet Propulsion Laboratory, Pasadena, CA, USA
- 11/2018 Seminar talk, University of Texas, Austin, TX, USA
- 10/2018 Multi-Dimensional Characterization of Distant Worlds, University of Michigan, Ann Arbor, MI, USA
- 09/2018 Seminar talk, University of Bern, Bern, Switzerland
- 09/2018 Cloud Academy, Les Houches, France
- 09/2018 Seminar talk, IPAC lunch talk, Pasadena, CA, USA
- 07/2018 Contributed talk, Exoplanet II, Cambridge, UK
- 04/2018 Seminar talk, Origin Seminar, Tucson, AZ, USA
- 03/2018 Contributed talk, Star and Planet Formation in the Southwest II, Oracle, AZ, USA
- 02/2018 Seminar talk, CPSX Lunch Forum at Western University, London, ON, Canada
- 01/2018 Seminar talk, KIAA Lunch Talk, Beijing, China
- 12/2017 Seminar talk, PSF coffee, MPIA, Heidelberg, Germany
- 10/2017 Contributed talk, BDEXOCON conference, Newark, DE, USA
- 05/2017 Seminar talk, Origin Seminar, Tucson, AZ, USA
- 03/2017 Poster, Les Houches Winter School, Les Houches, France
- 08/2016 Contributed talk, Exoclimate II, Squamish, Canada
- 03/2016 NExSS Winter School, Oracle, AZ, USA

## Publications



**ADS link**

### First authored papers:

1. Yifan Zhou, Brendan Bowler, et al.  
*Spectral Variability of VHS J1256–1257b from 1 to 5  $\mu$ m*,  
*AJ*, 160:77, jul 2020.
2. Yifan Zhou, Dániel Apai, et al.  
*Cloud Atlas: High-precision HST/WFC3/IR Time-resolved Observations of Directly Imaged Exoplanet HD 106906b*,  
*AJ*, 159:140, mar 2020.
3. Yifan Zhou, Dániel Apai, et al.  
*Cloud Atlas: High-Contrast Time-Resolved Observations of Planetary-Mass Companions*,  
*AJ*, 157:128, jan 2019
4. Yifan Zhou, Dániel Apai, Stanimir Metchev, Ben W. P. Lew, et al.  
*Cloud Atlas: Rotational Modulations in the L/T Transition Brown Dwarf Companion HN Peg B*,  
*AJ*, 155(3):132, jan 2018.
5. Yifan Zhou, Dániel Apai, Ben W. P. Lew, and Glenn H Schneider.  
*A Physical Model-based Correction for Charge Traps in the Hubble Space Telescope's Wide Field Camera 3 Near-IR Detector and Applications to Transiting Exoplanets and Brown Dwarfs*,  
*AJ*, 153(6):243, mar 2017.
6. Yifan Zhou, Dániel Apai, Glenn H Schneider, Mark S Marley, and Adam P. Showman.  
*Discovery Of Rotational Modulations in the Planetary-Mass Companion 2M1207b: Intermediate Rotation Period and Heterogeneous Clouds in a Low Gravity Atmosphere*,  
*ApJ*, 818(2):176, feb 2016.
7. Yifan Zhou, Gregory J Herczeg, Adam L Kraus, Stanimir Metchev, and Kelle L Cruz.  
*Accretion onto Planetary Mass Companions of Low-Mass Young Stars*,  
*ApJ*, 783(1):L17, feb 2014.

### Co-authored papers:

8. Brendan P. Bowler, Yifan Zhou et al.  
*Strong Near-infrared Spectral Variability of the Young Cloudy L Dwarf Companion VHS J1256-1257 b*  
*ApJL*, 893L:30, apr 2020
9. Ben W.P. Lew, Dániel Apai, Yifan Zhou et al.  
*Cloud Atlas: Weak Color Modulations Due to Rotation in the Planetary-mass Companion GUPsc b and 11 Other Brown Dwarfs*  
*AJ*, 159:125, feb 2020
10. Paulo A. Miles-Páez, Dániel Apai, Stanimir Metchev, Yifan Zhou et al.  
*Cloud Atlas: Variability in and out of the Water Band in the Planetary-mass HD 203030B Points to Cloud Sedimentation in Low-gravity L Dwarfs*  
*ApJ*, 883:181, oct 2019
11. Elena Manjavacas, Dániel Apai, Ben W.P. Lew, Yifan Zhou et al.

*Cloud Atlas: Rotational Spectral Modulations and Potential Sulfide Clouds in the Planetary-mass, Late T-type Companion Ross 458C*  
*ApJL*, 875:L15, apr 2019

12. Elena Manjavacas, Dániel Apai, Yifan Zhou, et al.  
*Cloud Atlas: Hubble Space Telescope Near-Infrared Spectral Library of Brown Dwarfs, Planetary-Mass Companions, And Hot Jupiters*  
*AJ*, 157:101, feb 2019
13. Zhanbo Zhang, Yifan Zhou, Ben Rackham, and Dániel Apai.  
*The near-infrared transmission spectra of trappist-1 planets b, c, d, e, f, and g and stellar contamination in multi-epoch transit spectra.*  
*AJ*, 156, 178, oct 2018.
14. J. Spake *et al.* (incl. Y. Zhou).  
*Helium in the eroding atmosphere of an exoplanet.*  
*Nature*, 557:68–70, May 2018.
15. Elena Manjavacas, Dániel Apai, Yifan Zhou, Theodora Karalidi, Ben W. P. Lew, et al.  
*Cloud Atlas: Discovery of Rotational Spectral Modulations in a Low-mass, L-type Brown Dwarf Companion to a Star.*  
*AJ*, 155(1):11, dec 2017.
16. Ben W P Lew, Dániel Apai, Yifan Zhou, Glenn H Schneider, et al.  
*Cloud Atlas: Discovery of Patchy Clouds and High-Amplitude Rotational Modulations in a Young, Extremely Red L-Type Brown Dwarf.*  
*ApJ*, 829(2):L32, sep 2016.