Haochuan Yu / 于皓川

Email: haochuan.yu@physics.ox.ac.uk
Personal website: haochuanyu.com
ORCID: 0000-0002-0971-6078

Education

2021 – 2025 (expected)	**University of Oxford**, Oxford, United Kingdom DPhil (Ph.D.) in Astrophysics (supervisor: Prof. Suzanne Aigrain)
2017 - 2021	**Beijing Normal University**, Beijing, China B.S. in Astronomy

Key awards

2021 - 2025	European Research Council Studentship, University of Oxford
2021 - 2024	St Cross College Scholarship, University of Oxford
2021	Graduate with distinguished honor, Beijing (top 3%)

Successful telescope proposals

As **Principal Investigator (PI)**:

2. ESO-Very Large Telescope / ESPRESSO, **1.6 nights**, 111.24VF

    Probing the dynamical history of a very young transiting Neptune with Rossiter-McLaughlin effect

1. ESO-3.6m / HARPS, **7.5 nights**, 110.241K

    Precise masses of very young transiting planets with HARPS

As **Co-Investigator (Co-I)**:

10 hours with ALMA, **5.6 nights** with ESPRESSO, **4.5 nights** with HARPS

Publications

Major contributions

5. **Yu, H.**, Garai, Z., Cretignier, M., Szabó, Gy. M., Aigrain, S., Gandolfi, D., et al., submitted to MNRAS

    Possible misaligned orbits in the young planetary system AU Mic

4. **Yu, H.**, Aigrain, S., Klein, B., Cretignier, M., Lienhard, F., Roberts, S. J., accepted to MNRAS

    A Gaussian process model for stellar activity in 2-D line profile time-series

3. Barragán, O., **Yu, H.**, Freckelton, A. V., Meech, A., Cretignier, M., Mortier, A., Aigrain, S., et al., 2024, MNRAS, 531, 4275B.

    TOI-837 b is a young Saturn-sized exoplanet with a massive 70 $M_\oplus$ core.

2. **Yu, H.**, Aigrain, S., Klein, B., Barragán, O., Mortier, A., O'Sullivan, N. K., Cretignier, M., 2024, MNRAS, 528, 5511Y

    Modelling stellar variability in archival HARPS data: I - Rotation and activity properties with multi-dimensional Gaussian Processes

1. **Yu, H.**, Teague, R., Bae, J., Öberg, K., 2021, ApJL, 920 (2), L33

   Mapping the 3D Kinematical Structure of the Gas Disk of HD 169142

Minor contributions

3. Klein, B., Aigrain, S., Cretignier, M., Al Moulla, K., Dumusque, X., Barragán, O., **Yu, H.**, et al., 2024, MNRAS, 531, 4238K

   Investigating stellar activity through eight years of Sun-as-a-star observations

2. Barragán, O., Gillen, E., Aigrain, S., Meech, A., Klein, B., Nielsen, L. D., **Yu, H.**, et al., 2023, MNRAS 522, 3458B

   Revisiting K2-233 spectroscopic time-series with multidimensional Gaussian processes

1. He, J., Diamant, S., Wang, S., **Yu, H.**, Rocha, W., Rachid, M., Linnartz, H., 2022, ApJ, 925 (2), 179

   Refractive Index and Extinction Coefficient of Vapor-deposited Water Ice in the UV–vis Range

Talks

9. MIT Stellar Contamination Workshop, contributed talk, September 2024

   A Gaussian process model for stellar activity in 2-D line profile time-series

8. Exoplanets V, contributed talk, June 2024

   Is the young Neptune AU Mic c misaligned?

7. Towards Other Earths III, contributed talk, July 2023

   A Gaussian process model for stellar activity in 2-D CCF time-series

6. National Astronomy Meeting 2023, contributed talk, July 2023

   Multi-dimensional GP models for stellar activity: lessons from HARPS-South

5. National Astronomy Meeting 2023, contributed talk, July 2023

   Capturing planet-formation in action: mapping the 3-D kinematical structure of HD 169142's gas disk

4. HARPS3 science meeting, May 2023

   A Gaussian process model for stellar activity in 2-D CCF time-series

3. UKEXOM 2022 conference, highlighted talk, September 2022

   Multi-dimensional GP models for stellar activity: lessons from HARPS-South

2. HARPS3 science meeting, May 2022

   Multi-dimensional GP models for stellar activity: lessons from HARPS-South

1. Battcock mini-seminar, University of Cambridge, March 2022

   Screening the effectiveness of mitigating stellar activity with Gaussian Processes in RV planet surveys

Professional services

Invited as reviewer for AAS Journals, MNRAS (x2)
ESO Distributed Peer Reviewer