CURRICULUM VITAE

Thomas Baycroft

Personal

Name:	Thomas Baycroft
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Main Research Interests

- Exoplanet detection and characterisation
- Circumbinary planets
- Combined analysis of multiple datatypes
- Statistical methods
- Orbital dynamics

Education

2021 - 2025	University of Birmingham PhD Astronomy and Astrophysics Thesis title: Developing analysis tools for the detection and characterisation of circumbinary exoplanets.
2020 - 2021	University of Cambridge MSci in Astrophysics Thesis title: Dynamics of Dust and Gas in Debris Discs.
2017 - 2020	University of Cambridge BA Maths with Astrophysics

Papers in refereed journals

14 refereed papers published in major research journals with 89 citations in total.
As a first author, I have published 2 refereed papers, with 8 citations in total.
The full list of publications is appended.

Organising

2024 UK Exoplanet meeting, University of Birmingham, LOC member

References

PhD supervisor:	Amaury Triaud (University of Birmingham) a.triaud@bham.ac.uk

FULL PUBLICATION LIST

Thomas Baycroft

Refereed papers

14 in total, 2 as first author

First author publications

- *'New evidence about HW Vir's circumbinary planets from Hipparcos-Gaia astrometry and a reanalysis of the eclipse timing variations using nested sampling'*
  Baycroft, T.A., et al., 2023, MNRAS, 10.1093/mnras/stad2794
- *'Improving circumbinary planet detections by fitting their binary's apsidal precession'*
  Baycroft, T.A., et al., 2023, MNRAS, 10.1093/mnras/stad607

Co-author publications (Significant contribution)

- *'New methods for radial-velocity measurements of double-lined binaries, and detection of a circumbinary planet orbiting TIC 172900988'*
  Sairam, L, Triaud, A.H.M.J, Baycroft, T.A. et al., 2024, MNRAS, 10.1093/mnras/stad3136
- *'Radial-velocity discovery of a second planet in the TOI-1338/BEBOP-1 circumbinary system'*
  Standing, M.R. et al. including **Baycroft, T.A.**, 2023, Nature Astronomy, 10.1038/s41550-023-01948-4

Co-author publications

- *'CHEOPS in-flight performance: A comprehensive look at the first 3.5 years of operation'*
  Fortier, A et al. including **Baycroft, T**, 2024, submitted to A&A, 10.48550/arXiv.2406.01716
- *'BEBOP V. Homogeneous Stellar Analysis of Potential Circumbinary Planet Hosts'*
  Freckelton, A et al. including **Baycroft, T.A.**, 2024, MNRAS, 10.1093/mnras/stae1405
- *'Detection of an Earth-sized exoplanet orbiting the nearby ultracool dwarf star SPECULOOS-3'*
  Gillon, M et al. including **Baycroft, T.A.**, 2024, Nature-Astronomy, 10.1038/s41550-024-02271-2
- *'The EBLM project – XIII. The absolute dynamical masses of the circumbinary planet host TOI-1338/BEBOP-1, and applications to the study of exoplanet atmospheres.'*
  Sebastian, D et al. including **Baycroft, T.A.**, 2024, MNRAS, 10.1093/mnras/stae459
- *'The EBLM Project XII. An eccentric, long-period eclipsing binary with a companion near the hydrogen-burning limit'*
  Davies, Y et al. including **Baycroft, T.A.**, 2024 - MNRAS, 10.1093/mnras/stae842
- *'A long-period transiting substellar companion in the super-Jupiters to brown dwarfs mass regime and a prototypical warm-Jupiter detected by TESS .'*
  Jones, M.I et al. including **Baycroft, T**, 2024 - A&A, 10.1051/0004-6361/202348147
- *'The EBLM Project XI. Mass, radius and effective temperature measurements for 23 M-dwarf companions to solar-type stars observed with CHEOPS'*
  Swayne, M et al. including **Baycroft, T.A.**, 2024 - MNRAS, 10.1093/mnras/stad3866
- *'ESPRESSO observations of Gaia BH1: High-precision Orbital Constraints and no Evidence for an Inner Binary'*
  Nagarajan, P et al. including **Baycroft, T.A.**, 2024, PASP, 10.1088/1538-3873/ad1ba7
- *'An M dwarf accompanied by a close-in giant orbiter with SPECULOOS author '*
  Triaud, A.H.M.J. et al. including **Baycroft, T.A.**, 2023, MNRASL, 10.1093/mnrasl/slad097
- *'Two temperate super-Earths transiting a nearby late-type M dwarf'*
  Delrez, L. et al. including **Baycroft, T.A.**, 2022, A&A, 10.1051/0004-6361/202244041

Non-refereed papers & Conference Proceedings

- *'GJ 9404 b: A Confirmed Eccentric Planet, and not a Candidate'*
  Baycroft, T.A. 2023, Research notes of the AAS, 10.3847/2515-5172/acefc5

Submitted papers

- *'BEBOP VI. Enabling the detection of circumbinary planets orbiting double-lined binaries with the* `DOLBY` *method of radial-velocity extraction'*
  Sairam, L, Baycroft, T.A. et al., submitted to MNRAS May 2024 -