Ben Lakeland

PhD Student · Astrophysics

University of Exeter, Exeter, U.K., EX4 4QL

+44 7873983788 | bsl204@exeter.ac.uk | BSLakeland

Astrophysics PhD student at the University of Exeter. My research primarily focuses on using data-driven techniques to analyse stellar and solar variability. I have also worked on using machine-learning techniques to identify young stellar objects using public data catalogues.

Education

University of Exeter *Exeter, U.K.*

PhD Astrophysics *Sep 2020 - present*

- Supervisor: Prof. Tim Naylor

Oxford University *Oxford, U.K.*

MPhys Physics (integrated) *Oct 2016 - Jul 2020*

- MPhys Supervisors: Prof. Suzanne Aigrain, Dr. Oscar Barragán, Dr. Nora Eisner
- Outcome: First Class

Publications

Published

Lakeland, B.S. & Naylor, T., *(2022)* Towards an understanding of YSO variability: a multi-wavelength analysis of bursting, dipping, and symmetrically varying light curves of disc-bearing YSOs. *Monthly Notices of the Royal Astronomical Society*, Volume 514, Issue 2, 2736-2755.

Wilson, A.J., **Lakeland, B.S** et al., *(2023)* A naive Bayes classifier for identifying Class II YSOs. *Monthly Notices of the Royal Astronomical Society*, Volume 521, Issue 1, 354-388

Eisner, N.L. et al. (incl. **Lakeland, B.S.**) *(2021)* Planet Hunters TESS II: findings from the first two years of TESS. *Monthly Notices of the Royal Astronomical Society*, Volume 501, Issue 4, 4669-4690

In Prep

Lakeland, B.S. et al. Magnetically inactive regions can dominate solar RVs

Elsender, D., Bate, M.R., **Lakeland, B.S.**, et al. On the frequency of circumbinary discs

Dalal, S. et al. (including **Lakeland, B.S.**) HARPS-N Rocky Planet Search - Detection and mass determination of two super-Earths orbiting HD48948.

Presentations

Talks

November 2022. *Comparing SDO and HARPS-N data with structure functions*. Invited to present at the HARPS-N Solar meeting.

November 2022 *Comparing SDO and HARPS-N data*. Presentation given at the Terra Hunting Experiment Late Autumn Science meeting.

April 2022. *Exploring the variability of disc-bearing young stars*. Exeter conference for second year STEM engineering, maths, and physics students.

Posters

March 2023. *Magnetically inactive regions can dominate solar RVs.* EPRV 5 - Santa Barbara, CA, U.S.A.

July 2022. *A measurement of YSO accretion with structure functions* Cool Stars 21 - Toulouse, France

January 2021. *Identifying TESS exoplanets with Citizen Science and Machine Learning* STFC introductory summer school - Remote

Teaching Experience

2022/23	**Stage 1 Problem set classes**, Senior Demonstrator
	First year Mathematics for Physicists, Demonstrator
2021/22	**Stage 1 Problem set classes**, Demonstrator
202/21	**Stage 1 Problem set classes**, Demonstrator
	First year Mathematics for Physicists, Demonstrator
	First year communication skills, Demonstrator
May 2020 - Nov 2021	**Physics and Maths**, Private Tutor

Technical skills

Programming, Python (incl. machine learning with scikit-learn)
Development skills, VSCode, LaTeX, git, familiarity with linux command line