

refereed: 110 / first author: 9 / citations: 28,054 / h-index: 51 (2025-11-01)

## Refereed publications

- 110 Chance, Quadry; **Foreman-Mackey, Daniel**; Ballard, Sarah; Casey, Andrew R.; *et al.*, 2025, *paired: A Statistical Framework for Detecting Stellar Binarity with Gaia RVs. I. Sensitivity to Unresolved Binaries*, The Astrophysical Journal, **992**, 131 (arXiv:2206.11275) [8 citations]
- 109 Hattori, Soichiro; Angus, Ruth; **Foreman-Mackey, Daniel**; Lu, Yuxi (Lucy); & Colman, Isabel, 2025, *Measuring Long Stellar Rotation Periods (>10 days) from TESS FFI Light Curves is Possible: An Investigation Using TESS and ZTF*, The Astronomical Journal, **170**, 15 (arXiv:2505.10376) [4 citations]
- 108 Evans-Soma, Thomas M.; Sing, David K.; Barstow, Joanna K.; Piette, Anjali A. A.; *et al.* (incl. **DFM**), 2025, *SiO and a super-stellar C/O ratio in the atmosphere of the giant exoplanet WASP-121 b*, Nature Astronomy, **9**, 845 (arXiv:2506.01771) [5 citations]
- 107 Sayeed, Maryum; Angus, Ruth; Berger, Travis A.; Lu, Yuxi(Lucy); *et al.* (incl. **DFM**), 2025, *Exoplanet Occurrence Rate with Age for FGK Stars in Kepler*, The Astronomical Journal, **169**, 112 (arXiv:2501.13809) [4 citations]
- 106 Garrison, Lehman H.; **Foreman-Mackey, Daniel**; Shih, Yu-hsuan; & Barnett, Alex, 2024, *NIFTY-LS: Fast and Accurate Lomb–Scargle Periodograms Using a Non-uniform FFT*, Research Notes of the American Astronomical Society, **8**, 250 (arXiv:2409.08090) [4 citations]
- 105 Edwards, Thomas D. P.; Wong, Kaze W. K.; Lam, Kelvin K. H.; Coogan, Adam; *et al.* (incl. **DFM**), 2024, *Differentiable and hardware-accelerated waveforms for gravitational wave data analysis*, Physical Review D, **110**, 64028 (arXiv:2302.05329) [36 citations]
- 104 Dharmawardena, T. E.; Bailer-Jones, C. A. L.; Fouesneau, M.; **Foreman-Mackey, Daniel**; *et al.*, 2024, *All-sky three-dimensional dust density and extinction Maps of the Milky Way out to 2.8 kpc*, Monthly Notices of the Royal Astronomical Society, **532**, 3480 (arXiv:2406.06740) [18 citations]
- 103 Garcia, Lionel J.; **Foreman-Mackey, Daniel**; Murray, Catriona A.; Aigrain, Suzanne; *et al.*, 2024, *nuance: Efficient Detection of Planets Transiting Active Stars*, The Astronomical Journal, **167**, 284 (arXiv:2402.06835) [4 citations]
- 102 Fortune, Mark; Gibson, Neale P.; **Foreman-Mackey, Daniel**; Evans-Soma, Thomas M.; *et al.*, 2024, *How do wavelength correlations affect transmission spectra? Application of a new fast and flexible 2D Gaussian process framework to transiting exoplanet spectroscopy*, Astronomy and Astrophysics, **686** (arXiv:2402.15204) [6 citations]
- 101 Lu, Yuxi(Lucy); Angus, Ruth; **Foreman-Mackey, Daniel**; & Hattori, Soichiro, 2024, *In This Day and Age: An Empirical Gyrochronology Relation for Partially and Fully Convective Single Field Stars*, The Astronomical Journal, **167**, 159 (arXiv:2310.14990) [26 citations]
- 100 Yahalomi, Daniel A.; Angus, Ruth; Spergel, David N.; & **Foreman-Mackey, Daniel**, 2023, *Detecting Solar System Analogs through Joint Radial Velocity/Astrometric Surveys*, The Astronomical Journal, **166**, 258 (arXiv:2302.05064) [6 citations]
- 99 Dong, Jiayin; & **Foreman-Mackey, Daniel**, 2023, *A Hierarchical Bayesian Framework for Inferring the Stellar Obliquity Distribution*, The Astronomical Journal, **166**, 112 (arXiv:2305.14220) [39 citations]
- 98 Gagliano, Alexander; Contardo, Gabriella; **Foreman-Mackey, Daniel**; Malz, Alex I.; & Aleo,

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- 97 Aigrain, Suzanne; & **Foreman-Mackey, Daniel**, 2023, *Gaussian Process Regression for Astronomical Time Series*, Annual Review of Astronomy and Astrophysics, **61**, 329 (arXiv:2209.08940) [107 citations]
- 96 Blunt, Sarah; Carvalho, Adolfo; David, Trevor J.; Beichman, Charles; *et al.* (incl. **DFM**), 2023, *Overfitting Affects the Reliability of Radial Velocity Mass Estimates of the V1298 Tau Planets*, The Astronomical Journal, **166**, 62 (arXiv:2306.08145) [39 citations]
- 95 Tran, Quang H.; Bedell, Megan; **Foreman-Mackey, Daniel**; & Luger, Rodrigo, 2023, *Joint Modeling of Radial Velocities and Photometry with a Gaussian Process Framework*, The Astrophysical Journal, **950**, 162 (arXiv:2305.00988) [11 citations]
- 94 Wong, Kaze W. K.; Gabri  , Marylou; & **Foreman-Mackey, Daniel**, 2023, *flowMC: Normalizing flow enhanced sampling package for probabilistic inference in JAX*, The Journal of Open Source Software, **8**, 5021 (arXiv:2211.06397) [35 citations]
- 93 Alderson, Lili; Wakeford, Hannah R.; Alam, Munazza K.; Batalha, Natasha E.; *et al.* (incl. **DFM**), 2023, *Early Release Science of the exoplanet WASP-39b with JWST NIRSpec G395H*, Nature, **614**, 664 (arXiv:2211.10488) [228 citations]
- 92 Mikal-Evans, Thomas; Sing, David K.; Dong, Jiayin; **Foreman-Mackey, Daniel**; *et al.*, 2023, *A JWST NIRSpec Phase Curve for WASP-121b: Dayside Emission Strongest Eastward of the Substellar Point and Nightside Conditions Conducive to Cloud Formation*, The Astrophysical Journal, **943** (arXiv:2301.03209) [37 citations]
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- 89 Brande, Jonathan; Crossfield, Ian J. M.; Kreidberg, Laura; Oklop    , Antonija; *et al.* (incl. **DFM**), 2022, *A Mirage or an Oasis? Water Vapor in the Atmosphere of the Warm Neptune TOI-674 b*, The Astronomical Journal, **164**, 197 (arXiv:2201.04197) [17 citations]
- 88 Nagaraj, Gautam; Forbes, John C.; Leja, Joel; **Foreman-Mackey, Daniel**; & Hayward, Christopher C., 2022, *Empirical Dust Attenuation Model Leads to More Realistic UVJ Diagram for TNG100 Galaxies*, The Astrophysical Journal, **939**, 29 (arXiv:2204.06449) [7 citations]
- 87 Eilers, Anna-Christina; Hogg, David W.; Sch  lkopf, Bernhard; **Foreman-Mackey, Daniel**; *et al.*, 2022, *A Generative Model for Quasar Spectra*, The Astrophysical Journal, **938**, 17 (arXiv:2209.02725) [9 citations]
- 86 Farrell, Eoin; Jermyn, Adam S.; Cantiello, Matteo; & **Foreman-Mackey, Daniel**, 2022, *The Initial Magnetic Field Distribution in AB Stars*, The Astrophysical Journal, **938**, 10 (arXiv:2210.11180) [5 citations]
- 85 Astropy Collaboration; Price-Whelan, Adrian M.; Lim, Pey Lian; Earl, Nicholas; *et al.* (incl. **DFM**), 2022, *The Astropy Project: Sustaining and Growing a Community-oriented*

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- 84 Luger, Rodrigo; Agol, Eric; Bartolić, Fran; & **Foreman-Mackey, Daniel**, 2022, *Analytic Light Curves in Reflected Light: Phase Curves, Occultations, and Non-Lambertian Scattering for Spherical Planets and Moons*, The Astronomical Journal, **164**, 4 (arXiv:2103.06275) [13 citations]
- 83 Angus, Ruth; Price-Whelan, Adrian M.; Zinn, Joel C.; Bedell, Megan; et al. (incl. **DFM**), 2022, *The 3D Galactocentric Velocities of Kepler Stars: Marginalizing Over Missing Radial Velocities*, The Astronomical Journal, **164**, 25 (arXiv:2205.08901) [4 citations]
- 82 Hattori, Soichiro; **Foreman-Mackey, Daniel**; Hogg, David W.; Montet, Benjamin T.; et al., 2022, *The unpopular Package: A Data-driven Approach to Detrending TESS Full-frame Image Light Curves*, The Astronomical Journal, **163**, 284 (arXiv:2106.15063) [50 citations]
- 81 Powell, Brian P.; Kruse, Ethan; Montet, Benjamin T.; Feinstein, Adina D.; et al. (incl. **DFM**), 2022, *The NASA GSFC TESS Full Frame Image Light Curve Data Set*, Research Notes of the American Astronomical Society, **6**, 111 [23 citations]
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- 76 Dharmawardena, T. E.; Bailer-Jones, C. A. L.; Fouesneau, M.; & **Foreman-Mackey, Daniel**, 2022, *Three-dimensional dust density structure of the Orion, Cygnus X, Taurus, and Perseus star-forming regions*, Astronomy and Astrophysics, **658** (arXiv:2111.06672) [27 citations]
- 75 Feinstein, Adina D.; David, Trevor J.; Montet, Benjamin T.; **Foreman-Mackey, Daniel**; et al., 2022, *V1298 Tau with TESS: Updated Ephemerides, Radii, and Period Constraints from a Second Transit of V1298 Tau e*, The Astrophysical Journal, **925** (arXiv:2111.08660) [23 citations]
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- 73 Van Eylen, V.; Astudillo-Defru, N.; Bonfils, X.; Livingston, J.; et al. (incl. **DFM**), 2021, *Masses and compositions of three small planets orbiting the nearby M dwarf L231-32 (TOI-270) and the M dwarf radius valley*, Monthly Notices of the Royal Astronomical Society, **507**, 2154 (arXiv:2101.01593) [120 citations]
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- 70 Luger, Rodrigo; **Foreman-Mackey, Daniel**; Hedges, Christina; & Hogg, David W., 2021, *Mapping Stellar Surfaces. I. Degeneracies in the Rotational Light-curve Problem*, The Astronomical Journal, **162**, 123 (arXiv:2102.00007) [50 citations]
- 69 Dong, Jiayin; Huang, Chelsea X.; Dawson, Rebekah I.; **Foreman-Mackey, Daniel**; et al., 2021, *Warm Jupiters in TESS Full-frame Images: A Catalog and Observed Eccentricity Distribution for Year 1*, The Astrophysical Journal Supplement Series, **255**, 6 (arXiv:2104.01970) [35 citations]
- 68 Luger, Rodrigo; **Foreman-Mackey, Daniel**; & Hedges, Christina, 2021, *starry\_process: Interpretable Gaussian processes for stellar light curves*, The Journal of Open Source Software, **6**, 3071 (arXiv:2102.01774) [5 citations]
- 67 Hitchcock, James A.; Hundertmark, Markus; **Foreman-Mackey, Daniel**; Bachelet, Etienne; et al., 2021, *PyTorchDIA: a flexible, GPU-accelerated numerical approach to Difference Image Analysis*, Monthly Notices of the Royal Astronomical Society, **504**, 3561 (arXiv:2104.13715) [7 citations]
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- 64 Gordon, Tyler A.; Davenport, James R. A.; Angus, Ruth; **Foreman-Mackey, Daniel**; et al., 2021, *Stellar Rotation in the K2 Sample: Evidence for Modified Spin-down*, The Astrophysical Journal, **913**, 70 (arXiv:2101.07886) [50 citations]
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- 62 Agol, Eric; Dorn, Caroline; Grimm, Simon L.; Turbet, Martin; et al. (incl. **DFM**), 2021, *Refining the Transit-timing and Photometric Analysis of TRAPPIST-1: Masses, Radii, Densities, Dynamics, and Ephemerides*, The Planetary Science Journal, **2**, 1 (arXiv:2010.01074) [301 citations]
- 61 Hedges, Christina; Luger, Rodrigo; Dotson, Jessie; **Foreman-Mackey, Daniel**; & Barentsen, Geert, 2021, *Multiwavelength Photometry Derived from Monochromatic Kepler Data*, The Astronomical Journal, **161**, 95 (arXiv:2102.00044) [7 citations]
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- 48 Bedell, Megan; Hogg, David W.; **Foreman-Mackey, Daniel**; Montet, Benjamin T.; & Luger, Rodrigo, 2019, *WOBBLE: A Data-driven Analysis Technique for Time-series Stellar Spectra*, The Astronomical Journal, **158**, 164 (arXiv:1901.00503) [55 citations]
- 47 Feinstein, Adina D.; Montet, Benjamin T.; **Foreman-Mackey, Daniel**; Bedell, Megan E.; *et al.*, 2019, *eleonor: An Open-source Tool for Extracting Light Curves from the TESS Full-frame Images*, Publications of the Astronomical Society of the Pacific, **131**, 94502 (arXiv:1903.09152) [239 citations]
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