

refereed: 111 / first author: 9 / citations: 29,883 / h-index: 53 (2026-02-22)

## Refereed publications

- 111 Hapitas, Timothy; Widrow, Lawrence M.; Dharmawardena, Thavisha E.; & **Foreman-Mackey, Daniel**, 2025, *Gaussian Process Methods for Very Large Astrometric Data Sets*, The Astrophysical Journal, **995**, 35 (arXiv:2507.10317)
- 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) [11 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) [7 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) [12 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) [5 citations]
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- 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) [21 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) [5 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) [31 citations]
- 100 Yahalom, 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) [8 citations]
- 99 Dong, Jiayin; & **Foreman-Mackey, Daniel**, 2023, *A Hierarchical Bayesian Framework for*

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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) [137 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) [46 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) [14 citations]
- 94 Wong, Kaze W. K.; Gabrié, 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) [42 citations]
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- 91 Dharmawardena, T. E.; Bailer-Jones, C. A. L.; Fouesneau, M.; **Foreman-Mackey, Daniel**; *et al.*, 2023, *The three-dimensional structure of galactic molecular cloud complexes out to 2.5 kpc*, Monthly Notices of the Royal Astronomical Society, **519**, 228 (arXiv:2210.03615) [17 citations]
- 90 Jo, Yongseok; Genel, Shy; Wandelt, Benjamin; Somerville, Rachel S.; *et al.* (incl. **DFM**), 2023, *Calibrating Cosmological Simulations with Implicit Likelihood Inference Using Galaxy Growth Observables*, The Astrophysical Journal, **944**, 67 (arXiv:2211.16461) [19 citations]
- 89 Brande, Jonathan; Crossfield, Ian J. M.; Kreidberg, Laura; Oklopčić, 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) [19 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]
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- 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 Open-source Project and the Latest Major Release (v5.0) of the Core Package*, The Astrophysical Journal, **935**, 167 (arXiv:2206.14220) [4628 citations]
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  - 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) [54 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 [25 citations]
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  - 78 Hitchcock, J. A.; Bramich, D. M.; **Foreman-Mackey, Daniel**; Hogg, David W.; & Hundertmark, M., 2022, *The Thresher: Lucky imaging without the waste*, Monthly Notices of the Royal Astronomical Society, **511**, 5372 (arXiv:2202.04686)
  - 77 Bartolić, Fran; Luger, Rodrigo; **Foreman-Mackey, Daniel**; Howell, Robert R.; & Rathbun, Julie A., 2022, *Occultation Mapping of Io's Surface in the Near-infrared. I. Inferring Static Maps*, The Planetary Science Journal, **3**, 67 (arXiv:2103.03758) [5 citations]
  - 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]
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- <sup>71</sup> Luger, Rodrigo; **Foreman-Mackey, Daniel**; & Hedges, Christina, 2021, *Mapping Stellar Surfaces. II. An Interpretable Gaussian Process Model for Light Curves*, The Astronomical Journal, **162**, 124 (arXiv:2102.01697) [41 citations]
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- <sup>69</sup> 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]
- <sup>68</sup> 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]
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- <sup>65</sup> David, Trevor J.; Contardo, Gabriella; Sandoval, Angeli; Angus, Ruth; *et al.* (incl. **DFM**), 2021, *Evolution of the Exoplanet Size Distribution: Forming Large Super-Earths Over Billions of Years*, The Astronomical Journal, **161**, 265 (arXiv:2011.09894) [54 citations]
- <sup>64</sup> 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) [53 citations]
- <sup>63</sup> Tamayo, Daniel; Gilbertson, Christian; & **Foreman-Mackey, Daniel**, 2021, *Stability constrained characterization of multiplanet systems*, Monthly Notices of the Royal Astronomical Society, **501**, 4798 (arXiv:2009.11831) [14 citations]
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- <sup>61</sup> 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]
- <sup>60</sup> Gordon, Tyler A.; Agol, Eric; & **Foreman-Mackey, Daniel**, 2020, *A Fast, Two-dimensional Gaussian Process Method Based on Celerite: Applications to Transiting Exoplanet Discovery and Characterization*, The Astronomical Journal, **160**, 240 (arXiv:2007.05799) [27 citations]
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