

refereed: 68 / first author: 9 / citations: 9279 / h-index: 33 (2021-07-12)

Refereed publications

- 68 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)
- 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*, MNRAS, **504**, 3561 (arXiv:2104.13715)
- 66 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*, AJ, **161**, 265 (arXiv:2011.09894) [8 citations]
- 65 **Foreman-Mackey, Daniel**; Luger, Rodrigo; Agol, Eric; Barclay, Thomas; *et al.*, 2021, *exoplanet: Gradient-based probabilistic inference for exoplanet data & other astronomical time series*, The Journal of Open Source Software, **6**, 3285 (arXiv:2105.01994)
- 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*, ApJ, **913**, 70 (arXiv:2101.07886) [2 citations]
- 63 Tamayo, Daniel; Gilbertson, Christian; & **Foreman-Mackey, Daniel**, 2021, *Stability constrained characterization of multiplanet systems*, MNRAS, **501**, 4798 (arXiv:2009.11831) [2 citations]
- 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) [22 citations]
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- 60 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*, AJ, **160**, 240 (arXiv:2007.05799) [4 citations]
- 59 Villaume, Alexa; **Foreman-Mackey, Daniel**; Romanowsky, Aaron J.; Brodie, Jean; & Strader, Jay, 2020, *The Assembly History of M87 through Radial Variations in Chemical Abundances of Its Field Star and Globular Cluster Populations*, ApJ, **900**, 95 (arXiv:2006.16280) [3 citations]
- 58 Angus, Ruth; Beane, Angus; Price-Whelan, Adrian M.; Newton, Elisabeth; *et al.* (incl. **DFM**), 2020, *Exploring the Evolution of Stellar Rotation Using Galactic Kinematics*, AJ, **160**, 90 (arXiv:2005.09387) [14 citations]
- 57 Hey, Daniel; Murphy, Simon; **Foreman-Mackey, Daniel**; Bedding, Timothy; *et al.*, 2020, *Maelstrom: A Python package for identifying companions to pulsating stars from their light travel time variations*, The Journal of Open Source Software, **5**, 2125 [2 citations]

- 56 Plavchan, Peter; Barclay, Thomas; Gagné, Jonathan; Gao, Peter; *et al.* (incl. **DFM**), 2020, *Publisher Correction: A planet within the debris disk around the pre-main-sequence star AU Microscopii*, *Nature*, **583**
- 55 Plavchan, Peter; Barclay, Thomas; Gagné, Jonathan; Gao, Peter; *et al.* (incl. **DFM**), 2020, *A planet within the debris disk around the pre-main-sequence star AU Microscopii*, *Nature*, **582**, 497 (arXiv:2006.13248) [39 citations]
- 54 Hey, Daniel R.; Murphy, Simon J.; **Foreman-Mackey, Daniel**; Bedding, Timothy R.; *et al.*, 2020, *Forward Modeling the Orbits of Companions to Pulsating Stars from Their Light Travel Time Variations*, *AJ*, **159**, 202 (arXiv:2003.02379) [6 citations]
- 53 Agol, Eric; Luger, Rodrigo; & **Foreman-Mackey, Daniel**, 2020, *Analytic Planetary Transit Light Curves and Derivatives for Stars with Polynomial Limb Darkening*, *AJ*, **159**, 123 (arXiv:1908.03222) [30 citations]
- 52 Gillen, Edward; Briegal, Joshua T.; Hodgkin, Simon T.; **Foreman-Mackey, Daniel**; *et al.*, 2020, *NGTS clusters survey - I. Rotation in the young benchmark open cluster Blanco 1*, *MNRAS*, **492**, 1008 (arXiv:1911.09705) [11 citations]
- 51 **Foreman-Mackey, Daniel**; Farr, Will; Sinha, Manodeep; Archibald, Anne; *et al.*, 2019, *emcee v3: A Python ensemble sampling toolkit for affine-invariant MCMC*, *The Journal of Open Source Software*, **4**, 1864 (arXiv:1911.07688) [45 citations]
- 50 Angus, Ruth; Morton, Timothy D.; **Foreman-Mackey, Daniel**; van Saders, Jennifer; *et al.*, 2019, *Toward Precise Stellar Ages: Combining Isochrone Fitting with Empirical Gyrochronology*, *AJ*, **158**, 173 (arXiv:1908.07528) [32 citations]
- 49 David, Trevor J.; Petigura, Erik A.; Luger, Rodrigo; **Foreman-Mackey, Daniel**; *et al.*, 2019, *Four Newborn Planets Transiting the Young Solar Analog V1298 Tau*, *ApJ*, **885** (arXiv:1910.04563) [32 citations]
- 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*, *AJ*, **158**, 164 (arXiv:1901.00503) [17 citations]
- 47 Feinstein, Adina D.; Montet, Benjamin T.; **Foreman-Mackey, Daniel**; Bedell, Megan E.; *et al.*, 2019, *eleanor: An Open-source Tool for Extracting Light Curves from the TESS Full-frame Images*, *PASP*, **131**, 94502 (arXiv:1903.09152) [61 citations]
- 46 Kruse, Ethan; Agol, Eric; Luger, Rodrigo; & **Foreman-Mackey, Daniel**, 2019, *Detection of Hundreds of New Planet Candidates and Eclipsing Binaries in K2 Campaigns 0-8*, *The Astrophysical Journal Supplement Series*, **244**, 11 (arXiv:1907.10806) [19 citations]
- 45 Angus, Ruth; Morton, Timothy; & **Foreman-Mackey, Daniel**, 2019, *stardate: Combining dating methods for better stellar ages*, *The Journal of Open Source Software*, **4**, 1469 [9 citations]
- 44 Kostov, Veselin B.; Schlieder, Joshua E.; Barclay, Thomas; Quintana, Elisa V.; *et al.* (incl. **DFM**), 2019, *The L 98-59 System: Three Transiting, Terrestrial-size Planets Orbiting a Nearby M Dwarf*, *AJ*, **158**, 32 (arXiv:1903.08017) [45 citations]
- 43 Siemiginowska, Aneta; Eadie, Gwendolyn; Czekala, Ian; Feigelson, Eric; *et al.* (incl. **DFM**), 2019, *The Next Decade of Astrometrics and Astrometrics*, *Bulletin of the American Astronomical Society*, **51**, 355 (arXiv:1903.06796) [2 citations]
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- 41 Luger, Rodrigo; Agol, Eric; **Foreman-Mackey, Daniel**; Fleming, David P.; *et al.*, 2019, *starry: Analytic Occultation Light Curves*, AJ, **157**, 64 (arXiv:1810.06559) [69 citations]
 - 40 Brewer, John M.; Wang, Songhu; Fischer, Debra A.; & **Foreman-Mackey, Daniel**, 2018, *Compact Multi-planet Systems are more Common around Metal-poor Hosts*, ApJ, **867** (arXiv:1810.10009) [21 citations]
 - 39 Ness, Melissa K.; Silva Aguirre, Victor; Lund, Mikkel N.; Cantiello, Matteo; *et al.* (incl. **DFM**), 2018, *Inference of Stellar Parameters from Brightness Variations*, ApJ, **866**, 15 (arXiv:1805.04519) [5 citations]
 - 38 Brewer, Brendon; & **Foreman-Mackey, Daniel**, 2018, *DNest4: Diffusive Nested Sampling in C++ and Python*, Journal of Statistical Software, **86**, 1 (arXiv:1606.03757) [25 citations]
 - 37 Luger, Rodrigo; Kruse, Ethan; **Foreman-Mackey, Daniel**; Agol, Eric; & Saunders, Nicholas, 2018, *An Update to the EVEREST K2 Pipeline: Short Cadence, Saturated Stars, and Kepler-like Photometry Down to $K_p = 15$* , AJ, **156**, 99 (arXiv:1702.05488) [88 citations]
 - 36 Teague, Richard; & **Foreman-Mackey, Daniel**, 2018, *A Robust Method to Measure Centroids of Spectral Lines*, Research Notes of the American Astronomical Society, **2**, 173 (arXiv:1809.10295) [29 citations]
 - 35 Teague, Richard; Bae, Jaehan; Bergin, Edwin A.; Birnstiel, Tilman; & **Foreman-Mackey, Daniel**, 2018, *A Kinematical Detection of Two Embedded Jupiter-mass Planets in HD 163296*, ApJ, **860** (arXiv:1805.10290) [124 citations]
 - 34 Hogg, David W.; & **Foreman-Mackey, Daniel**, 2018, *Data Analysis Recipes: Using Markov Chain Monte Carlo*, The Astrophysical Journal Supplement Series, **236**, 11 (arXiv:1710.06068) [68 citations]
 - 33 Angus, Ruth; Morton, Timothy; Aigrain, Suzanne; **Foreman-Mackey, Daniel**; & Rajpaul, Vinesh, 2018, *Inferring probabilistic stellar rotation periods using Gaussian processes*, MNRAS, **474**, 2094 (arXiv:1706.05459) [88 citations]
 - 32 **Foreman-Mackey, Daniel**, 2018, *Scalable Backpropagation for Gaussian Processes using Celerite*, Research Notes of the American Astronomical Society, **2**, 31 (arXiv:1801.10156) [25 citations]
 - 31 **Foreman-Mackey, Daniel**; Agol, Eric; Ambikasaran, Sivaram; & Angus, Ruth, 2017, *Fast and Scalable Gaussian Process Modeling with Applications to Astronomical Time Series*, AJ, **154**, 220 (arXiv:1703.09710) [249 citations]
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 - 29 Montet, Benjamin T.; Tovar, Guadalupe; & **Foreman-Mackey, Daniel**, 2017, *Long-term Photometric Variability in Kepler Full-frame Images: Magnetic Cycles of Sun-like Stars*, ApJ, **851**, 116 (arXiv:1705.07928) [46 citations]
 - 28 Luger, Rodrigo; **Foreman-Mackey, Daniel**; & Hogg, David W., 2017, *Linear Models for Systematics and Nuisances*, Research Notes of the American Astronomical Society, **1**, 7 (arXiv:1710.11136) [10 citations]
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- ²⁵ Price-Whelan, Adrian M.; Hogg, David W.; **Foreman-Mackey, Daniel**; & Rix, Hans-Walter, 2017, *The Joker: A Custom Monte Carlo Sampler for Binary-star and Exoplanet Radial Velocity Data*, ApJ, **837**, 20 (arXiv:1610.07602) [47 citations]
- ²⁴ Henderson, Calen B.; Poleski, Radosław; Penny, Matthew; Street, Rachel A.; *et al.* (incl. **DFM**), 2016, *Campaign 9 of the K2 Mission: Observational Parameters, Scientific Drivers, and Community Involvement for a Simultaneous Space- and Ground-based Microlensing Survey*, PASP, **128**, 124401 (arXiv:1512.09142) [58 citations]
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- ²² Hogg, David W.; Casey, Andrew R.; Ness, Melissa; Rix, Hans-Walter; *et al.* (incl. **DFM**), 2016, *Chemical Tagging Can Work: Identification of Stellar Phase-space Structures Purely by Chemical-abundance Similarity*, ApJ, **833**, 262 (arXiv:1601.05413) [55 citations]
- ²¹ Luger, Rodrigo; Agol, Eric; Kruse, Ethan; Barnes, Rory; *et al.* (incl. **DFM**), 2016, *EVEREST: Pixel Level Decorrelation of K2 Light Curves*, AJ, **152**, 100 (arXiv:1607.00524) [169 citations]
- ²⁰ Angus, Ruth; Aigrain, Suzanne; & **Foreman-Mackey, Daniel**, 2016, *Stellar rotation period inference with Gaussian processes*, IAU Focus Meeting, **29A**, 191
- ¹⁹ Wang, Dun; Hogg, David W.; **Foreman-Mackey, Daniel**; & Schölkopf, Bernhard, 2016, *A Causal, Data-driven Approach to Modeling the Kepler Data*, PASP, **128**, 94503 (arXiv:1508.01853) [18 citations]
- ¹⁸ Fischer, Debra A.; Anglada-Escude, Guillem; Arriagada, Pamela; Baluev, Roman V.; *et al.* (incl. **DFM**), 2016, *State of the Field: Extreme Precision Radial Velocities*, PASP, **128**, 66001 (arXiv:1602.07939) [169 citations]
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- ¹⁴ Ambikasaran, Sivaram; **Foreman-Mackey, Daniel**; Greengard, Leslie; Hogg, David W.; & O’Neil, Michael, 2016, *Fast Direct Methods for Gaussian Processes*, IEEE Transactions on Pattern Analysis and Machine Intelligence, **38**, 252 (arXiv:1403.6015) [375 citations]
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- 9 Weisz, Daniel R.; Johnson, L. Clifton; **Foreman-Mackey, Daniel**; Dolphin, Andrew E.; *et al.*, 2015, *The High-mass Stellar Initial Mass Function in M31 Clusters*, ApJ, **806**, 198 (arXiv:1502.06621) [36 citations]
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- 7 Barclay, Thomas; Endl, Michael; Huber, Daniel; **Foreman-Mackey, Daniel**; *et al.*, 2015, *Radial Velocity Observations and Light Curve Noise Modeling Confirm that Kepler-91b is a Giant Planet Orbiting a Giant Star*, ApJ, **800**, 46 (arXiv:1408.3149) [53 citations]
- 6 **Foreman-Mackey, Daniel**; Hogg, David W.; & Morton, Timothy D., 2014, *Exoplanet Population Inference and the Abundance of Earth Analogs from Noisy, Incomplete Catalogs*, ApJ, **795**, 64 (arXiv:1406.3020) [180 citations]
- 5 Dawson, Rebekah I.; Johnson, John Asher; Fabrycky, Daniel C.; **Foreman-Mackey, Daniel**; *et al.*, 2014, *Large Eccentricity, Low Mutual Inclination: The Three-dimensional Architecture of a Hierarchical System of Giant Planets*, ApJ, **791**, 89 (arXiv:1405.5229) [56 citations]
- 4 Dorman, Claire E.; Widrow, Lawrence M.; Guhathakurta, Puragra; Seth, Anil C.; *et al.* (incl. **DFM**), 2013, *A New Approach to Detailed Structural Decomposition from the SPLASH and PHAT Surveys: Kicked-up Disk Stars in the Andromeda Galaxy?*, ApJ, **779**, 103 (arXiv:1310.4179) [45 citations]
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- 12 Hattori, Soichiro; **Foreman-Mackey, Daniel**; Hogg, David W.; Montet, Benjamin T.; *et al.*, 2021, The unpopular Package: a Data-driven Approach to De-trend TESS Full Frame Image Light Curves, arXiv e-prints (arXiv:2106.15063)
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 - 2 Montet, Benjamin T.; Angus, Ruth; Barclay, Tom; Dawson, Rebekah; *et al.* (incl. **DFM**), 2013, Maximizing Kepler science return per telemetered pixel: Searching the habitable zones of the brightest stars, arXiv e-prints ([arXiv:1309.0654](#))
 - 1 Hogg, David W.; Angus, Ruth; Barclay, Tom; Dawson, Rebekah; *et al.* (incl. **DFM**), 2013, Maximizing Kepler science return per telemetered pixel: Detailed models of the focal plane in the two-wheel era, arXiv e-prints ([arXiv:1309.0653](#))