

Jason A. Dittmann

51 Pegasi b Postdoctoral Fellow

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EDUCATION	Harvard University , Cambridge, MA PhD, Astronomy and Astrophysics, May 2016 • Advisor: David Charbonneau, PhD University of Arizona , Tucson, AZ BS, Astronomy, Physics, May 2010 • Advisor: Laird Close, PhD	
RECENT RESEARCH POSITIONS	51 Pegasi b Postdoctoral Fellow Earth and Planetary Science Department, MIT Faculty Contact: Sara Seager	July 2017 – Present
	Postdoctoral Researcher Kavli Institute, MIT Supervisor: Sarah Ballard	Feb 2017 – June 2017
	Postdoctoral Researcher Center for Astrophysics, Harvard University Supervisor: David Charbonneau	July 2016 – Jan 2017
	Research Assistant Center for Astrophysics, Harvard University Advisors: David Charbonneau	Sep 2010 – May 2016
PUBLICATION SUMMARY	10 first-authored publications 16 co-authored publications 1 first-authored publication in <i>Nature</i> 1 co-authored publication in <i>Nature</i>	
AWARDS AND HONORS	51 Pegasi b Postdoctoral Fellowship Pierce Fellowship Certificate of Distinction in Teaching Best Project Award, Physics Ugrd. Research Symp. Best Undergraduate Research (Steward Observatory) Galileo Circle Arizona Excellence Award	2017 – Present 2010 – 2013 2012 2009 2009 – 2010 2007 – 2010 2006 – 2010
GRANTS AWARDED	Principal Investigator , <i>Hubble Space Telescope</i> “Initial Reconnaissance of a Transiting Rocky Planet in a Nearby M-Dwarf’s Habitable Zone” Principal Investigator , <i>Spitzer Space Telescope</i> “A Search for Sub-Earth Sized Transiting Planets 12 parsecs from the Sun”	2017, 10 orbits (maximum award) 100 hr. (2015) (maximum award)

COMPETITIVELY **Principal Investigator**

AWARDED	• <i>Hubble Space Telescope</i>	
OBSERVING	“Initial Reconnaissance of a Transiting Rocky Planet in a Nearby M-Dwarf’s Habitable Zone”	Mid-cycle 24, 10 orbits (maximum award)
TIME	• <i>Spitzer Space Telescope</i>	
	“A Search for Exomoons and TTVs from LHS 1140b, a nearby super-Earth orbiting in the habitable-zone of an M dwarf”	39 hr. (2017)
	“A Search for Sub-Earth Sized Transiting Planets 12 parsecs from the Sun”	100 hr. (2015) (maximum award)
	• <i>XMM-Newton</i>	
	“Assessing the high-energy environment of the habitable zone planet LHS 1140b”	63 kiloseconds (2017)
	• Schmidt 48-inch at Mt. Hopkins	
	“Absolute Sloan photometry for the MEarth M dwarfs”	21 nights (2015-2017)
	• Tillinghast 60-inch at Mt. Hopkins	
	“High Resolution Reconnaissance Spectroscopy of MEarth Targets”	20 nights (2014-2016)
	• 6.5 meter MMT at Mt. Hopkins	
	“Uncovering close M dwarf binaries with AO imaging”	1 night (2012)

Co-Investigator

	• <i>Hubble Space Telescope</i>	
	“The M Dwarf UV Spectra Irradiating Nearby Transiting Terrestrial Planets”	Cycle 25, 20 orbits
	• <i>Chandra X-ray Telescope</i>	
	“Direct Observation of Accretion onto a Hypernova’s Newly Formed Black Hole”	15 kiloseconds (2017)
	• Tillinghast 60-inch at Mt. Hopkins	
	“High Resolution Reconnaissance Spectroscopy of MEarth Targets”	16 nights (2012-2014)
	“Activity, metallicity, and rotation in mid-to-late M dwarfs”	15 nights (2015)
TEACHING AND ADVISING	• Methods of Observational Astronomy Instructor: Alicia Soderberg Astronomy Department, Harvard University	Spring 2012
	• Galactic and Extragalactic Astronomy Instructor: Christopher Stubbs Physics Department, Harvard University	Fall 2011
	• Stellar and Planetary Astronomy Instructor: Douglas Finkbeiner Astronomy Department, Harvard University	Spring 2011
COLLOQUIA AND SEMINARS	• Discovery of LHS 1140b by the MEarth Project: a super-Earth orbiting in the habitable-zone of a nearby M dwarf Invited talk , American Museum of Natural History	April 2017
	• M dwarfs in the MEarth Planet Survey	Oct 2014

	Louisiana State University	
	• Trigonometric parallaxes from the MEarth survey Invited talk, Boston University	March 2013
CONFERENCE TALKS	• LHS 1140b: A temperate super-Earth around a nearby M dwarf <i>The 2nd Rencontres du Vietnam on Exoplanetary Science</i> • The MEarth Project - Searching for Small Planets around the Smallest, Closest Stars to the Sun Keynote talk Hartness House Workshop <i>Stellafane Convention</i> Stellafane, VT • M dwarf Metallicities from Photometry and Parallaxes <i>Opportunity M</i> Cambridge, MA • Priming the solar neighborhood M dwarfs for future planet searches <i>AAS #227</i> Kissimmee, FL • Calibrated optical photometry and a photometric metallicity relation for the nearby cool stars from the MEarth Project <i>AAS #225</i> Seattle, WA • Trigonometric parallaxes and the inferred properties for 1507 mid-to-late M-dwarfs from the MEarth planet survey <i>Cool Stars 18</i> Flagstaff, AZ • Recovery of SN 1970G with the Jansky Very Large Array <i>Fifty-one Ergs</i> Raleigh, NC	Feb 2018 July 2017 Aug 2016 January 2016 January 2015 June 2014 May 2013
SUMMER SCHOOLS AND WORKSHOPS	• Machine Learning Online Course <i>Stanford University</i> • CASA Data Workshop <i>Socorro, NM</i> • Astrobiology Summer School <i>Santander, Spain</i>	Fall 2011 September 2011 June 2010
PROFESSIONAL SERVICE	• Grant review panelist National Science Foundation • Referee for <i>Nature Astronomy</i> and IOP journals • Telescope Allocation Committee member NASA	2017-2018 2017-Present 2017-2019
PUBLIC TALKS AND PRESS	• The MEarth Project - Searching for Small Planets around the Smallest, Closest Stars to the Sun Keynote talk Hartness House Workshop <i>Stellafane Star Convention</i> Stellafane, VT • Innovation Showcase TV Segment (link) The Discovery of habitable-zone super-Earth LHS 1140b • The Starspot Podcast (link) The Best Candidate for Life, with Jason Dittmann • News coverage of the discovery of LHS 1140b featured in over 400 news organizations, including: ABC News, AFP News, Astronomy Magazine,, The Atlantic, The Australian, BBC, CNN, El Mundo, Fox News, Gizmodo, IB Times UK, National Geographic, The New York Times, Scientific American, Sky and Telescope Magazine, Space.com, Tra Scienza & Coscienza, USA Today, and Voice of America	July 2017 June 2017 May 2017

FIRST AND
SECOND
AUTHORED
REFEREED
PUBLICATIONS

1. **Dittmann, J.A.**, Irwin, J.M., Charbonneau, D., Bonfils, X., Astudillo-Defru, N., Haywood, R., Berta-Thompson, Z.K., Newton, E.R., Rodriguez, J.E., Winters, J.G., Tan, T.G., Almenara, J-M., Bouchy, F., Delfosse, X., Forveille, T., Lovis, C., Murgas, F., Pepe, F., Santos, N.C., Udry, S., Wünsche, A., Esquerdo, G.A., Latham, D.W., and Dressing, C.D.
“A temperate rocky super-Earth transiting a nearby cool star”
Nature, 544, 333, 2017.
2. **Dittmann, J.A.**, Irwin, J.M., Charbonneau, D., Berta-Thompson, Z.K., Newton, E.R.
“A Search for Additional Bodies in the GJ 1132 Planetary System from 21 Ground-based Transits and a 100 Hour Spitzer Campaign”
ApJ, 154, 142, 2017.
3. **Dittmann, J.A.**, Irwin, J.M., Charbonneau, D., Berta-Thompson, Z.K., Newton, E.R., Latham, D.W., Latham, C.A., Esquerdo, G., Berlind, P., and Calkins, M.
“Discovery and Precise Characterization by the MEarth Project of LP 661-13, an Eclipsing Binary Consisting of Two Fully Convective Low-mass Stars”
ApJ, 836, 124, 2017.
4. **Dittmann, J.A.**, Irwin, J.M., Charbonneau, D., and Newton, E.
“Calibration of the MEarth Photometric System: Optical Magnitudes and Photometric Metallicity Estimates for 1802 Nearby M-dwarfs”
ApJ, 818, 153, 2016.
5. **Dittmann, J. A.**; Soderberg, A. M.; Chomiuk, L.; Margutti, R.; Goss, W. M.; Milisavljevic, D.; Chevalier, R. A.
“A Mid-life Crisis? Sudden Changes in Radio and X-Ray Emission from Supernova 1970G”
ApJ, 788, 38, 2014.
6. **Dittmann, J. A.**; Irwin, Jonathan M.; Charbonneau, David; Berta-Thompson, Zachory K.
“Trigonometric Parallaxes for 1507 Nearby Mid-to-late M Dwarfs”
ApJ, 784, 156, 2014.
7. **Dittmann, J. A.**; Close, L. M.; Scuderi, L. J.; Turner, J.; Stephenson, P. C.
“A revised orbital ephemeris for HAT-P-9b”
New Ast, 17, 438, 2012.
8. **Dittmann, J. A.**; Close, L. M.; Scuderi, L. J.; Morris, M. D.
“Transit Observations of the WASP-10 System”
ApJ, 717, 235, 2010.
9. Scuderi, Louis J.; **Dittmann, J. A.**; Males, J. R.; Green, E. M.; Close, L. M.
“On the Apparent Orbital Inclination Change of the Extrasolar Transiting Planet TrES-2b”
ApJ, 714, 462, 2010.

10. **Dittmann, J. A.**; Close, L. M.; Green, E. M.; Fenwick, M.
 “A Tentative Detection of a Starspot During Consecutive Transits of an Extrasolar Planet from the Ground: No Evidence of a Double Transiting Planet System Around TrES-1”
ApJ, 701, 756, 2009.
11. **Dittmann, J. A.**; Close, L. M.; Green, E. M.; Scuderi, L. J.; Males, J. R.
 “Follow-up Observations of the Neptune Mass Transiting Extrasolar Planet HAT-P-11b”
ApJL, 699, 48, 2009.

ADDITIONAL
PUBLICATIONS

1. Newton, Elisabeth R.; Irwin, Jonathan; Charbonneau, David; Berta-Thompson, Zachory K.; **Dittmann, Jason A.**
 “The Impact of Stellar Rotation on the Detectability of Habitable Planets around M Dwarfs” *ApJ*, 821L, 19, 2016
2. Newton, Elisabeth R.; Irwin, Jonathan; Charbonneau, David; Berta-Thompson, Zachory K.; **Dittmann, Jason A.**; West, Andrew A.
 “The Rotation and Galactic Kinematics of Mid M Dwarfs in the Solar Neighborhood” *ApJ*, 821, 93, 2016
3. Berta-Thompson, Zachory K.; Irwin, Jonathan; Charbonneau, David; Newton, Elisabeth R.; **Dittmann, Jason A.**; Astudillo-Defru, Nicola; Bonfils, Xavier; Gillon, Michael; Jehin, Emmanuel; Stark, Antony A.; Stalder, Brian; Bouchy, Francois; Delfosse, Xavier; Forveille, Thierry; Lovis, Christophe; Mayor, Michel; Neves, Vasco; Pepe, Francesco; Santos, Nuno C.; Udry, Stephane; Wunsche, Anael
 “A rocky planet transiting a nearby low-mass star” *Nature*, 527, 204, 2015
4. West, Andrew A.; Weisenburger, Kolby L.; Irwin, Jonathan; Berta-Thompson, Zachory K.; Charbonneau, David; **Dittmann, Jason A.**; Pineda, J. Sebastian.
 “An Activity-Rotation Relationship and Kinematic Analysis of Nearby Mid-to-Late M Dwarfs” *ApJ*, 812, 3, 2015
5. Chakraborti, Sayan; Soderberg, Alicia; Chomiuk, Laura; Kamble, Atish; Yadav, Naveen; Ray, Alak; Hurley, Kevin; Margutti, Raffaella; Milisavljevic, Dan; Bietenholz, Michael; Brunthaler, Andreas; Pignata, Giuliano; Pian, Elena; Mazzali, Paolo; Fransson, Claes; Bartel, Norbert; Hamuy, Mario; Levesque, Emily; MacFadyen, Andrew; **Dittmann, Jason**; and 33 coauthors.
 “A Missing-link in the Supernova?GRB Connection: The Case of SN 2012ap” *ApJ*, 805, 187, 2014
6. Kamble, Atish; Soderberg, Alicia M.; Chomiuk, Laura; Margutti, Raffaella; Medvedev, Mikhail; Milisavljevic, Dan; Chakraborti, Sayan; Chevalier, Roger; Chugai, Nikolai; **Dittmann, Jason**; Drout, Maria; Fransson, Claes; Nakar, Ehud; Sanders, Nathan
 “Radio Observations Reveal a Smooth Circumstellar Environment Around the Extraordinary Type Ib Supernova 2012au” *ApJ*, 797, 2, 2014

7. Chornock, R.; Berger, E.; Gezari, S.; Zauderer, B. A.; Rest, A.; Chomiuk, L.; Kamble, A.; Soderberg, A. M.; Czekala, I.; **Dittmann, J.**; Drout, M.; Foley, R. J.; Fong, W.; Huber, M. E.; Kirshner, R. P.; and 22 coauthors.
“The Ultraviolet-bright, Slowly Declining Transient PS1-11af as a Partial Tidal Disruption Event” *ApJ*, 780, 44, 2014.
8. Milisavljevic, Dan; Soderberg, Alicia M.; Margutti, Raffaella; Drout, Maria R.; Howie Marion, G.; Sanders, Nathan E.; Hsiao, Eric Y.; Lunnan, Ragnhild; Chornock, Ryan; Fesen, Robert A.; Parrent, Jerod T.; Levesque, Emily M.; Berger, Edo; Foley, Ryan J.; Challis, Pete; Kirshner, Robert P.; **Dittmann, Jason**; and 11 coauthors
“SN 2012au: A Golden Link between Superluminous Supernovae and Their Lower-luminosity Counterparts” *ApJL*, 770, L38, 2013.
9. Mancini, L., Southworth, J., Ciceri, S., Fortney, J.J., Morley, C.V., **Dittmann, J. A.**, Tregloan-Reed, J.; Bruni, I.; Barbieri, M.; Evans, D. F.; D’Ago, G.; Nikolov, N.; Henning, Th.
“A Lower Radius and Mass for the Transiting Extrasolar Planet HAT-P-8b” *A&A*, 551:A11, 2013.
10. Sanders, N. E.; Soderberg, A. M.; Levesque, E. M.; Foley, R. J.; Chornock, R.; Milisavljevic, D.; Margutti, R.; Berger, E.; Drout, M. R.; Czekala, I.; **Dittmann, J. A.**
“A Spectroscopic Study of Type Ibc Supernova Host Galaxies from Untargeted Surveys” *ApJ*, 758, 132, 2012.
11. Soderberg, A. M.; Margutti, R.; Zauderer, B. A.; Krauss, M.; Katz, B.; Chomiuk, L.; **Dittmann, J. A.**; Nakar, E.; Sakamoto, T.; Kawai, N.; and 25 coauthors
“Panchromatic Observations of SN 2011dh Point to a Compact Progenitor Star” *ApJ*, 752, 78, 2012.
12. Chomiuk, L.; Soderberg, A. M.; Moe, M.; Chevalier, R. A.; Rupen, M.P.; Badenes, C.; Margutti, R.; Fransson, C.; Fong, W.; **Dittmann, J.A.**
“EVLA Observations Constrain the Environment and Progenitor System of Type Ia Supernova 2011fe” *ApJ*, 750, 164, 2012.
13. Irwin, J. M.; Quinn, S. N.; Berta, Z. K.; Latham, D. W.; Torres, G.; Burke, C. J.; Charbonneau, D.; **Dittmann, J. A.**; Esquerdo, G. A.; Stefanik, R. P.; and 6 coauthors
“LSPM J1112+7626: Detection of a 41 Day M-dwarf Eclipsing Binary from the MEarth Transit Survey” *ApJ*, 742, 123, 2011.
14. For, B.-Q.; Green, E. M.; Fontaine, G.; Drechsel, H.; Shaw, J. S.; **Dittmann, J. A.**; Fay, A. G.; Francoeur, M.; Laird, J.; Moriyama, E.; and 10 coauthors.
“Modeling the System Parameters of 2M 1533+3759: A New Longer Period Low-Mass Eclipsing sdB+dM Binary” *ApJ*, 708, 253, 2010.
15. Kurtze, D.A.; Restrepo, J.M., **Dittmann, J.A.**
“Convective Adjustment in Box Models” *Ocean Modelling*, 34, 92, 2010.