

Benjamin M. Tofflemire
Postdoctoral Fellow

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RESEARCH INTERESTS	T Tauri stars, formation and evolution of binary stars, accretion diagnostics, magnetic reconnection, structure and evolution of protoplanetary disks, time-domain astrophysics	
EDUCATION	Ph.D. Astronomy University of Wisconsin-Madison • Advisor: Professor Robert D. Mathieu • Thesis: <i>Accretion Dynamics in Pre-Main Sequence Binary Stars</i> B.S. Astronomy & Physics University of Washington	July 2018 Madison, WI, USA June 2011 Seattle, WA, USA
RESEARCH	Graduate Research Assistant Advisor: Prof. Robert D. Mathieu • Measured the accretion rate for a sample of 9 pre-main sequence binaries as a function of orbital phase to test numerical models of binary accretion • Characterized the kinematics and spatial distribution of accretion streams feeding young binary star systems with time-series, high-resolution spectroscopy from the SALT telescope • Determined membership and binary population of evolved stars in the open cluster NGC 6791, as part of the WIYN Open Cluster Study, through multi-epoch, radial-velocity measurements Advisor: Dr. Marina Orio • Modeled <i>Chandra</i> and <i>XMM-Newton</i> X-ray grating spectra of recurrent novae to determine white dwarf photospheric temperatures and the physical characteristics of ejected material NSF Research Experiences for Undergraduates Advisor Prof. Alex Lazarian • Analyzed MHD simulations of ISM turbulence in search of statistical relationships between observable quantities (column density distributions) and magnetic field strength	University of Wisconsin-Madison June 2012 - present August 2011 - December 2013 University of Wisconsin-Madison June 2010 - January 2011
PEER-REVIEWED PUBLICATIONS	First Author Publications 6. Tofflemire , B. M., Mathieu, R. D., Herczeg, G. J., Akeson, R. L., & Ciardi, D. R. 2017b, ApJL, 842, L12 – <i>Pulsed Accretion in the Classical T Tauri Binary TWA 3A</i> 5. Tofflemire , B. M., Mathieu, R. D., Ardila, D. R., Akeson, R. L., Ciardi, D. R., Johns-Krull, C., Herczeg, G. J., & Quijano-Vodniza, A. 2017a, ApJ, 835, 8 – <i>Accretion and Magnetic Reconnection in the Classical T Tauri Binary DQ Tau</i> 4. Tofflemire , B. M., Gosnell, N. M., Mathieu, R. D., & Platais, I. 2014, AJ, 148, 61 – <i>WIYN Open Cluster Study. LIX. Radial Velocity Membership of the Evolved Population of the Old Open Cluster NGC 6791</i> 3. Tofflemire , B. M., Orio, M., Page, K. L., Osborne, J. P., Ciroi, S., Cracco, V., Di Mille, F., & Maxwell, M. 2013, ApJ, 779, 22 – <i>X-Ray Grating Observations of Recurrent Nova T Pyxidis during the 2011 Outburst</i> 2. Tofflemire , B. M., Wisniewski, J. P., Kowalski, A. F., Schmidt, S. J., Kundurthy, P., Hilton, E. J., Holtzman, J. A., & Hawley, S. L. 2012, AJ, 143, 12 – <i>The Implications of M Dwarf Flares on the Detection and Characterization of Exoplanets at Infrared Wavelengths</i> 1. Tofflemire , B. M., Burkhart, B., & Lazarian, A. 2011, ApJ, 736, 60 – <i>Interstellar Sonic and Alfvénic Mach Numbers and the Tsallis Distribution</i>	

AWARDS	University of Wisconsin Jansky Award for Outstanding Research	2017
	UW-Madison Graduate School Conference Presentation Award (\$2,400)	2015, 2016, 2017
	Sigma Xi Grants in Aid of Research (\$2,500)	2015
	University of Wisconsin Vilas Research Travel Grant (\$600)	2015
	University of Wisconsin Bautz Travel Fellowship (\$1200)	2015
	AAS 225 Chambliss Student Prize Honorable Mention	2015
	University of Wisconsin – University Housing Honored Instructor	2012
	University of Washington’s Astronomy Bear Prize Recipient	2011
	University of Washington Mary Gates Research Scholarship (\$4,000)	2010, 2011
OBSERVING PROPOSALS & EXPERIENCE	Southern African Large Telescope	
	• PI: Time-Series Spectroscopy of Pre-Main Sequence Binaries (42.5 hrs of P0/P1)	
	WIYN 3.5-m Telescope	
	• PI: Radial velocity survey of accreting stars in NGC 2264 (2 nights)	
	• PI: Time-series spectroscopy of flare stars in Pleiades star cluster (3 nights)	
	• Co-I: WIYN Open Cluster Study radial-velocity survey (~ 90 nights over 8 semesters)	
	Las Cumbres Observatories Global Telescope Network	
	• Co-I: Time-series photometry of Pre-Main Sequence Binaries (980 hours over 5 semesters)	
	SMARTS 1.3m	
	• PI: Time-series photometry of Pre-Main Sequence Binaries (107 hours over 4 semesters)	
TALKS	• PI: Time-series spectroscopy of Pre-Main Sequence Binary V4046 Sgr (42 hours)	
	WIYN 0.9-m Telescope	
	• PI: High Cadence Photometry of Pre-Main Sequence Binary DQ Tau (16 nights)	
	APO: ARCSAT 0.5m	
	• PI: High Cadence Photometry of Pre-Main Sequence Binary DQ Tau (16 nights)	
	Cool Stars 20	August 2018
	Plenary Talk	Boston, MA
	AAS 231	January 2018
	Dissertation Talk	National Harbor, MD
	Vanderbilt University	November 2017
SERVICE	Astrophysics Lunch	Nashville, TN
	Institute for Theory and Computation (Harvard-CfA)	March 2017
	Stars and Planets Seminar (Invited)	Cambridge, MA
	American Museum of Natural History	March 2017
	Astronomy Seminar	New York, NY
	Space Telescope Science Institute	March 2017
	Exoplanets, Star and Planet Formation Seminar	Baltimore, MD
	University of Texas-Austin	October 2016
	Stars Seminar (Invited)	Austin, TX
	Cool Stars 19	June 2016
OUTREACH	Contributed Talk	Uppsala, Sweden
	Graduate Admissions Committee	2015 - 2016
	NASA ROSES Review Panel Secretary	2015
	Graduate Student-Faculty Liaison (Elected)	2014 - 2015
	Undergraduate Liaison to the Univ. of Washington Astronomy Department	2010 - 2011
OUTREACH	Universe in the Park	2011-present
	• Visit Wisconsin state parks to host public observing and astronomy presentations (>15 events hosted)	
	Washburn Public Observing Nights	2011-present
	• Host public observing nights at the historic Washburn observatory (>10 events hosted)	