

Benjamin M. Tofflemire

CONTACT INFORMATION	Department of Astronomy University of Wisconsin-Madison 475 N. Charter Street Madison, WI 53706	tofflemi@astro.wisc.edu phone: (503) 805-0214
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. Candidate Astronomy University of Wisconsin-Madison <ul style="list-style-type: none">• Advisor: Professor Robert D. Mathieu• Thesis: <i>Accretion Dynamics in Pre-Main Sequence Binary Stars</i>• Expected Graduation: Spring 2018 B.S. Astronomy & Physics University of Washington	August 2011 - present Madison, WI, USA June 2011 Seattle, WA, USA
RESEARCH EXPERIENCE	Graduate Research Assistant Advisor: Prof. Robert D. Mathieu <ul style="list-style-type: none">• 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	University of Wisconsin-Madison June 2012 - present August 2011 - December 2013 <ul style="list-style-type: none">• 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 June 2010 - January 2011 <ul style="list-style-type: none">• Analyzed MHD simulations of ISM turbulence in search of statistical relationships between observable quantities (column density distributions) and magnetic field strength
PEER-REVIEWED PUBLICATIONS	First Author Publications <ol style="list-style-type: none">6. <i>Pulsed Accretion in the Classical T Tauri Binary TWA 3A</i> – Tofflemire, B. M., Mathieu, R. D., Herczeg, G. J., Akeson, R. L., & Ciardi, D. R. 2017b, ApJL, 842, L125. <i>Accretion and Magnetic Reconnection in the Classical T Tauri Binary DQ Tau</i> – 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, 84. <i>WIYN Open Cluster Study. LIX. Radial Velocity Membership of the Evolved Population of the Old Open Cluster NGC 6791</i> – Tofflemire, B. M., Gosnell, N. M., Mathieu, R. D., & Platais, I. 2014, AJ, 148, 613. <i>X-Ray Grating Observations of Recurrent Nova T Pyxidis during the 2011 Outburst</i> – Tofflemire, B. M., Orio, M., Page, K. L., Osborne, J. P., Ciroi, S., Cracco, V., Di Mille, F., & Maxwell, M. 2013, ApJ, 779, 222. <i>The Implications of M Dwarf Flares on the Detection and Characterization of Exoplanets at Infrared Wavelengths</i> – 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, 121. <i>Interstellar Sonic and Alfvénic Mach Numbers and the Tsallis Distribution</i> – Tofflemire, B. M., Burkhart, B., & Lazarian, A. 2011, ApJ, 736, 60	

AWARDS	University of Wisconsin Graduate School Conference Presentation Award (\$1,800)	2016, 2017
	Sigma Xi Grants in Aid of Research	(\$2,500) 2015
	University of Wisconsin Vilas Conference Presentation Award	(\$600) 2015
	University of Wisconsin Vilas Research Travel Grant	(\$600) 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	(\$2,000) 2011
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OBSERVING PROPOSALS & EXPERIENCE	Southern African Large Telescope (PI and Co-I)	
	• Time-Series Spectroscopy of Pre-Main Sequence Binaries (153ks of P0/P1 time over 5 semesters)	
	WIYN 3.5-m Telescope (PI and Co-I)	
	• WIYN Open Cluster Study RV Survey (~ 90 nights over 8 semesters)	
	• Time-series spectroscopy of flare stars in Pleiades star cluster (3 nights)	
	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)	
	• Time-series spectroscopy of Pre-Main Sequence Binary V4046 Sgr (42 hours)	
TALKS	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)	
	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
SERVICE	Contributed Talk	Uppsala, Sweden
	Science with SALT	June 2015
	Contributed Talk	Stellenbosch, South Africa
	X-ray Binaries - 50 Years Since the Discovery of Sco X-1	July 2012
	Contributed Talk	Chandra X-ray Center, Boston, MA
OUTREACH	Graduate Admissions Committee	2015 - 2016
	NASA ROSES Review Panel Secretary	2015
	Graduate Student Czar (Elected Student-Faculty Liaison)	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	
	Washburn Public Observing Nights	2011-present
	• Host public observing nights at the historic Washburn observatory	