

## Benjamin M. Tofflemire

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CONTACT INFORMATION	Department of Astronomy University of Wisconsin-Madison 475 N. Charter Street Madison, WI 53706	tofflemi@astro.wisc.edu phone: (503) 805-0214 website: tofflemire.github.io
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	<b>Ph.D. Candidate Astronomy</b> University of Wisconsin-Madison <ul style="list-style-type: none"><li>• Advisor: Professor Robert D. Mathieu</li><li>• Thesis: <i>Accretion Dynamics in Pre-Main Sequence Binary Stars</i></li><li>• Expected Graduation: Spring 2018</li></ul> <b>B.S. Astronomy &amp; Physics</b> University of Washington	<b>August 2011 - present</b> Madison, WI, USA  <b>June 2011</b> Seattle, WA, USA
RESEARCH EXPERIENCE	<b>Graduate Research Assistant</b> Advisor: Prof. Robert D. Mathieu <ul style="list-style-type: none"><li>• 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</li><li>• Characterized the kinematics and spatial distribution of accretion streams feeding young binary star systems with time-series, high-resolution spectroscopy from the SALT telescope</li><li>• 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</li></ul> Advisor: Dr. Marina Orio	University of Wisconsin-Madison <b>June 2012 - present</b>  <b>August 2011 - December 2013</b> <ul style="list-style-type: none"><li>• 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</li></ul> <b>NSF Research Experiences for Undergraduates</b> Advisor Prof. Alex Lazarian <b>June 2010 - January 2011</b> <ul style="list-style-type: none"><li>• Analyzed MHD simulations of ISM turbulence in search of statistical relationships between observable quantities (column density distributions) and magnetic field strength</li></ul>
PEER-REVIEWED PUBLICATIONS	<b>First Author Publications</b> <ol style="list-style-type: none"><li>6. <b>Tofflemire</b>, B. M., Mathieu, R. D., Herczeg, G. J., Akeson, R. L., &amp; Ciardi, D. R. 2017b, ApJL, 842, L12 – <i>Pulsed Accretion in the Classical T Tauri Binary TWA 3A</i></li><li>5. <b>Tofflemire</b>, B. M., Mathieu, R. D., Ardila, D. R., Akeson, R. L., Ciardi, D. R., Johns-Krull, C., Herczeg, G. J., &amp; Quijano-Vodniza, A. 2017a, ApJ, 835, 8 – <i>Accretion and Magnetic Reconnection in the Classical T Tauri Binary DQ Tau</i></li><li>4. <b>Tofflemire</b>, B. M., Gosnell, N. M., Mathieu, R. D., &amp; 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></li><li>3. <b>Tofflemire</b>, B. M., Orio, M., Page, K. L., Osborne, J. P., Ciroi, S., Cracco, V., Di Mille, F., &amp; Maxwell, M. 2013, ApJ, 779, 22 – <i>X-Ray Grating Observations of Recurrent Nova T Pyxidis during the 2011 Outburst</i></li><li>2. <b>Tofflemire</b>, B. M., Wisniewski, J. P., Kowalski, A. F., Schmidt, S. J., Kundurthy, P., Hilton, E. J., Holtzman, J. A., &amp; 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></li><li>1. <b>Tofflemire</b>, B. M., Burkhart, B., &amp; Lazarian, A. 2011, ApJ, 736, 60 – <i>Interstellar Sonic and Alfvénic Mach Numbers and the Tsallis Distribution</i></li></ol>	

AWARDS	University of Wisconsin Jansky Award for Outstanding Research	<b>2017</b>
	UW-Madison Graduate School Conference Presentation Award (\$2,400)	<b>2015, 2016, 2017</b>
	Sigma Xi Grants in Aid of Research (\$2,500)	<b>2015</b>
	University of Wisconsin Vilas Research Travel Grant (\$600)	<b>2015</b>
	University of Wisconsin Bautz Travel Fellowship (\$1200)	<b>2015</b>
	AAS 225 Chambliss Student Prize Honorable Mention	<b>2015</b>
	University of Wisconsin – University Housing Honored Instructor	<b>2012</b>
	University of Washington’s Astronomy Bear Prize Recipient	<b>2011</b>
	University of Washington Mary Gates Research Scholarship (\$4,000)	<b>2010, 2011</b>
OBSERVING PROPOSALS & EXPERIENCE	<b>Southern African Large Telescope</b>	
	• <b>PI:</b> Time-Series Spectroscopy of Pre-Main Sequence Binaries (42.5 hrs of P0/P1)	
	<b>WIYN 3.5-m Telescope</b>	
	• <b>PI:</b> Radial velocity survey of accreting stars in NGC 2264 (2 nights)	
	• <b>PI:</b> Time-series spectroscopy of flare stars in Pleiades star cluster (3 nights)	
	• <b>Co-I:</b> WIYN Open Cluster Study radial-velocity survey (~ 90 nights over 8 semesters)	
	<b>Las Cumbres Observatories Global Telescope Network</b>	
	• <b>Co-I:</b> Time-series photometry of Pre-Main Sequence Binaries (980 hours over 5 semesters)	
	<b>SMARTS 1.3m</b>	
	• <b>PI:</b> Time-series photometry of Pre-Main Sequence Binaries (107 hours over 4 semesters)	
	• <b>PI:</b> Time-series spectroscopy of Pre-Main Sequence Binary V4046 Sgr (42 hours)	
	<b>WIYN 0.9-m Telescope</b>	
	• <b>PI:</b> High Cadence Photometry of Pre-Main Sequence Binary DQ Tau (16 nights)	
	<b>APO: ARCSAT 0.5m</b>	
	• <b>PI:</b> High Cadence Photometry of Pre-Main Sequence Binary DQ Tau (16 nights)	
TALKS	<b>Institute for Theory and Computation (Harvard-CfA)</b>	<b>March 2017</b>
	Stars and Planets Seminar (Invited)	Cambridge, MA
	<b>American Museum of Natural History</b>	<b>March 2017</b>
	Astronomy Seminar	New York, NY
	<b>Space Telescope Science Institute</b>	<b>March 2017</b>
	Exoplanets, Star and Planet Formation Seminar	Baltimore, MD
	<b>University of Texas-Austin</b>	<b>October 2016</b>
	Stars Seminar (Invited)	Austin, TX
	<b>Cool Stars 19</b>	<b>June 2016</b>
	Contributed Talk	Uppsala, Sweden
	<b>Science with SALT</b>	<b>June 2015</b>
	Contributed Talk	Stellenbosch, South Africa
	<b>X-ray Binaries - 50 Years Since the Discovery of Sco X-1</b>	<b>July 2012</b>
	Contributed Talk	Chandra X-ray Center, Boston, MA
SERVICE	Graduate Admissions Committee	<b>2015 - 2016</b>
	NASA ROSES Review Panel Secretary	<b>2015</b>
	Graduate Student-Faculty Liaison (Elected)	<b>2014 - 2015</b>
	Undergraduate Liaison to the Univ. of Washington Astronomy Department	<b>2010 - 2011</b>
OUTREACH	<b>Universe in the Park</b>	<b>2011-present</b>
	• Visit Wisconsin state parks to host public observing and astronomy presentations (>15 events hosted)	
	<b>Washburn Public Observing Nights</b>	<b>2011-present</b>
	• Host public observing nights at the historic Washburn observatory (>10 events hosted)	