

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 |
| 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: Summer 2017 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 stars 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 the temperature of the white dwarf photosphere and the physical characteristics of ejected material NSF Research Experiences for Undergraduates Advisor Prof. Alex Lazarian June - August 2010 <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 |
| FIRST-AUTHOR PUBLICATIONS | Tofflemire, B. , Mathieu, R., Ardila, D., Akeson, R., Ciardi, D., Herczeg, G., Johns-Krull, C. 2016, in prep. <i>Pulsed Accretion in the Classical T Tauri Binary TWA 3A</i> Tofflemire, B. , Mathieu, R., Ardila, D., Akeson, R., Ciardi, D., Herczeg, G., Johns-Krull, C., & Quijano-Vodniza, A. 2016, ApJ, 835, 8, <i>Accretion and Magnetic Reconnection in the Classical T Tauri Binary DQ Tau</i> Tofflemire, B. , Gosnell, N., Mathieu, R., & 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> Tofflemire, B. , Orio, M., Page, K., Osborne, J., 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> Tofflemire, B. , Wisniewski, J., Kowalski, A., Schmidt, S., Kundurthy, P., Hilton, E., Holtzman, J., & Hawley, S. 2012, AJ, 143, 12, <i>The Implications of M Dwarf Flares on the Detection and Characterization of Exoplanets at Infrared Wavelengths</i> Tofflemire, B. , Burkhart, B., & Lazarian, A. 2011, ApJ, 736, 60, <i>Interstellar Sonic and Alfvénic Mach Numbers and the Tsallis Distribution</i> | |

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| AWARDS | University of Wisconsin Graduate School Conference Presentation Award | (\$1,200) 2016 |
| | 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 |
| | University of Washington Mary Gates Research Scholarship | (\$2,000) 2010 |
| 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 (~ 80 nights over 6 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 |
| | Invited Seminar | Cambridge, MA |
| | 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 |
| SERVICE | Cool Stars 19 | June 2016 |
| | 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 | Space Place | November 2016 |
| | • Invited lecture to amateur astronomy community | |
| | Senior Summer School | July 2014 |
| | • Invited lecture to the Senior Summer School educational, retiree vacation program | |
| | 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 on campus | |