

CV - Thomas Kupfer

Kavli Institute for Theoretical Physics, Kohn Hall
University of California
Santa Barbara, CA 93106, USA
Email: tkupfer@ucsb.edu
<http://www.astro.caltech.edu/~tkupfer/>
Office: (+1)805-893-6326

Current position Postdoctoral Scholar at the Kavli Institute for Theoretical Physics, UC Santa Barbara
Communication coordinator for the Zwicky Transient Facility (ZTF)

University education

2011 – 2015 Radboud University Nijmegen, The Netherlands
Ph.D in Physics Topic: *The population of ultracompact binaries and their progenitors*
Advisor: Prof. Dr. Paul Groot and Prof. Dr. Gijs Nelemans

2005 – 2010 Friedrich Alexander University Erlangen-Nuremberg, Germany
Diploma in Physics (equivalent to Master) Topic: *Extreme Helium Stars: Model atmospheres and a NLTE abundance analysis of BD+10°2179*
Advisor: Prof. Dr. Ulrich Heber and Prof. Dr. Norbert Przybilla
Major subject: Astro-, Particle- and Nuclear physics
Minor subject: Material science

Research interests

Time Domain Astronomy and big data: mining time-domain datasets and crossmatching across different surveys to discover and characterize rare events and populations of different stellar types

Post common envelope binaries: population study and evolutionary links to different types of short period binaries with periods less than a few hours

Compact pulsators: population study and evolutionary links to different types compact pulsators with pulsation periods of minutes

Professional experience

05/2018 – present Postdoctoral Scholar at the Kavli Institute for Theoretical Physics, University of California at Santa Barbara, USA

09/2016 - 04/2018 Calibration Scientist for the Zwicky Transient Facility
Responsible to develop and evaluate tests to confirm that the survey requirements are achieved, including data processing, astrometry, photometric precision as well as flatfield screen requirements and ZTF crycooler tests

09/2015 – 04/2018 Postdoctoral Scholar at the California Institute of Technology, USA
Member of the PTF/iPTF/ZTF collaboration

05/2011 – 07/2015 PhD student at the Radboud University Nijmegen, the Netherlands
Analysis of spectroscopic and photometric data on AM CVn and hot subdwarf binaries

10/2010 – 04/2011 Research assistant at the Dr. Remeis observatory Bamberg, Germany
Quantitative spectral analysis of high resolution spectra of extreme helium stars

09/2008 – 12/2008 ERASMUS student at Armagh observatory, Northern Ireland
Quantitative spectral analysis of high resolution spectra of extreme helium stars

01/2009 – 10/2009 Research assistant at the Dr. Remeis observatory Bamberg, Germany

04/2007 – 09/2008 Data reduction of high resolution spectra of main sequence and hot subdwarf stars; measuring rotational velocities of the hot subdwarf stars

Grants

2014 Radboud Internationalisation Fund for outgoing PhD candidates for a work travel to the US (€ 1500)

2011 – 2014 Several successful grant applications for international conferences and work travels at the Leids Kerkhoven-Bosscha Fonds (€ 3130)

2009 European Union Erasmus grant for a research project at Armagh observatory, Northern Ireland (€ 1800)

2015 – present Co-author of successful applications to NASA ATP, LISA Preparatory Science projects and the German Academic Exchange Service (\approx \$ 150k)

Academic Activities

09/2017 – present	Communication coordinator for the Zwicky Transient Facility
07/2018 – present	Member of the NASA Multimessenger Astrophysics Science Analysis Group
07/2018 – present	Member of the European Astronomical Society
09/2017 – present	Member of the German Astronomical Society
04/2016 – present	Member of the <i>LISA</i> consortium Member of the <i>LISA</i> early career scientists working group
09/2015 – present	Regular referee for MNRAS, A&A, AJ
09/2016 – present	Regular reviewer for the Gemini Fast Turnaround program
03/2016	Member of the Scientific Organizing Committee for the 4 th and 5 th International workshop on AM CVn Stars
10/2015	Member of the Caltech Time Allocation Committee for observing time on Keck and Palomar
07/2010	Member of the Local Organizing Committee for Planetary Systems beyond the Main Sequence, Bamberg, Germany

Professional collaboration

09/2015 – present	ZTF : Calibration scientist, responsible for quality assurance and calibration Lead of the Galactic/M31 science working group (until 02/19) Scientific lead of the ZTF high-cadence Galactic Plane survey
09/2015 – present	EM-GW LIGO-Virgo : Discovery of the optical counterpart to compact object mergers triggered by <i>LIGO-Virgo</i>
09/2015 – 09/2018	GROWTH : Jointly operation of 17 observatories in the Northern hemisphere to respond quickly to <i>LIGO</i> triggers
05/2011 – present	iPTF/PTF : Discovery and follow-up of variable and outbursting Galactic sources
03/2016 – present	OmegaWhite : Discovery and follow-up studies of ultracompact systems
09/2015 – present	EREBOS : Follow-up studies of eclipsing compact helium stars with brown dwarf/M-dwarf companions found by the OGLE survey
04/2007 – present	MUCHFUSS : Follow-up studies of compact helium stars with potential massive compact companions

Outreach activities

09/2015 – present	Press releases for several articles which attracted international media attention including a radio interview on German national radio
12/2016	Public lecture as part of the Greenway Talk Series at Palomar observatory
09/2009 – 08/2015	Regular guided tours at the Remis Observatory Bamberg and at Radboud University Nijmegen
09/2014 – 02/2015	Lecturer for the course astronomy for beginners at the community college in Altdorf b. Nürnberg, Germany
09/2009 – 04/2011	Lecturer for the course astronomy for beginners at the community college in Bamberg, Germany

Observing time granted (time as PI worth \approx \$2.5 Mio)

2019	PI for 8 nights at the Lick 3m telescope
2018	PI for 15 hours at the 64-metre Parkes radio telescope
2017 – 2019	PI for 60 nights at the LCO telescope network (1m and 2m class telescopes)
2015 – 2018	PI for 10 nights at the Keck telescopes
2015 – 2018	PI for 20 nights at the Palomar 200-inch telescope
2016 – 2019	PI for 20 hours at Gemini-South as part of the Fast turnaround program
2015 – 2018	PI for <i>Kepler</i> K2 programs campaign 3,4,5,12,13,14
2012 – 2015	PI for >50 nights at the William Herschel and Isaac Newton telescope
2010 – present	Significant time as Co-I on different telescopes including Keck, ESO-VLT, Gemini, ESO-NTT, SALT, GranTeCan, Calar Alto 3.5m

Observing experience

2009 – present	> 60 nights with Keck/LRIS, Keck/ESI, WHT/ISIS, Hale 200-inch/DBSP, ESO-NTT/EFOSC2, Calar Alto 3.5m/TWIN Medium/low resolution spectroscopy, Echelle spectroscopy
2011 – present	> 60 nights with WHT/Ultracam, Shane/KAST, Hale 200-inch/Chimera, INT/WFC Wide field and high speed photometry

Student mentoring

- 03/2019 – present Co-promoter undergraduate project of Siddhant Solanki (UCSB)
Topic: *The K2 lightcurve of HP Lib*
- 11/2016 – 05/2018 Co-mentor PhD project of Kevin Burdge (Caltech)
Topic: *LISA verification binaries*
- 04/2016 – 09/2018 Co-mentor PhD project of Jan van Roestel (RU Nijmegen, now Postdoc at Caltech)
Topic: *The rates of fast Galactic transients in the Palomar Transient Factory*
- 07/2016 – 06/2018 Work-study and senior thesis of Alison Dugas (Caltech, now graduate student at IfA Hawaii)
Topic: *The iPTF high cadence fields*
- 06/2016 – 02/2018 Summer Undergraduate Research Fellowships (SURF) and research project of Enia Xhakaj (now graduate student at UC Santa Cruz)
Topic: *Nova shells around cataclysmic variable stars in the PTF H α data*
- 06/2017 – 09/2017 SURF project of Brodi Elwood (MIT)
Topic: *The iPFT Galactic Plane survey*
- 06/2016 – 08/2016 SURF project of Sara Anjum (Princeton University)
Topic: *Searching for compact binaries in the Galactic disc*

Teaching experience

- 09/2015 – 03/2017 Guest lecturer for the freshman seminar: Automated Discovery of the Universe
- 02/2012 – 04/2014 Teaching assistant of the astronomy lab course with about 50 students separated in several groups each year; Coordinating and conduction of training sessions for the 35 cm telescope and the usage of the CCD; taught introduction to astronomical analysis programs (e.g. IRAF)
- 09/2013 – 01/2014 Teaching assistant of the course Programmeren 1 (programming course for C); taught tutorials and grading assignments
- 03/2012 – 06/2012 Teaching assistant of the course Interstellar medium; taught tutorials and grading assignments
- 09/2011 – 01/2012 Teaching assistant of the course Kaleidoscoop Sterrenkunde (1st year astronomy course); taught tutorials and grading assignments
- 01/2009 – 04/2011 Teaching assistant of the astronomy lab course of 80 students each year; supporting the students for the stellar spectroscopy part

Invited talks and invited colloquia

Summary: 45 talks at international conferences and department seminars (11 invited)

- 09/2019 Invited colloquium at the University of Washington, Seattle
Treasures from the Zwicky Transient Facility Galactic Plane observations
- 07/2019 Invited review at the conference The Beginning and Ends of Double White Dwarfs, Copenhagen
Double white dwarfs as LISA sources
- 07/2019 Invited talk at the European Week of Astronomy, Lyon
Galactic Science with the Zwicky Transient Facility
- 04/2019 Invited talk at the meeting of the American Physical Society, Denver
Multi-messenger and multi-wavelength opportunities for compact (Galactic) binaries
- 04/2019 Invited talk at the conference Large surveys with small telescopes: Past, Present, and Future (Astroplate III) meeting, Bamberg
The Zwicky Transient Facility
- 10/2018 Invited talk at the 2nd COFI Workshop on Gravitational Waves, San Juan
LISA verification binaries
- 09/2018 Invited talk at the conference Hydrogen Deficient Stars 2018, Armagh
AM CVn stars: an overview
- 03/2018 Invited colloquium at Las Cumbres Observatories, Santa Barbara
he systematic search for ultracompact binaries using optical time domain surveys
- 01/2018 Invited colloquium at Yunnan Observatories, Kunming
The population of (compact) hot subdwarf binaries
- 09/2017 Invited highlight talk at the German Astronomical Society meeting, Göttingen
The systematic search for gravitational wave sources using synoptic surveys
- 05/2017 Invited colloquium at the university of Würzburg
The beginning of a new era - The systematic search for gravitational wave sources using synoptic surveys

Most important publications - Thomas Kupfer

I have published papers on ultracompact binaries, their mergers and their progenitors as well as other short period variables. Below are the four most important papers with me as first author.

1. A New Class of Large-amplitude Radial-mode Hot Subdwarf Pulsators

Kupfer, T., Bauer, E., Burdge, K., et al. 2019, ApJL, 878,2

This paper presents the discovery of a new class of compact blue large amplitude radial-mode pulsators. We measured masses and radii from the pulsation modes and spectroscopic properties. The objects were discovered in the ZTF Galactic Plane high-cadence survey. I lead the survey, discovered the objects in the survey data, coordinated the paper and conducted the full analysis of the data of the objects.

2. *LISA* verification binaries with updated distances from Gaia Data Release 2

Kupfer, T., Korol, V., Shah, S. et al. 2018, MNRAS, 480, 302

This paper presents for the first time the expected gravitational wave strength and signal to noise ratio (SNR) for *LISA* using distance estimations from Gaia Data Release 2 parallaxes. We found that only 11 systems will reach a $\text{SNR} > 5$ in *LISA* after 4 years of operations. I coordinated and wrote the paper from the beginning to the end including the distance estimation, SNR calculations and the conclusions of the paper.

3. The OmegaWhite survey for short-period variable stars - V. Discovery of an ultracompact hot subdwarf binary with a compact companion in a 44 minute orbit

Kupfer, T., Ramsay, G., van Roestel, J. et al. 2017, ApJ, 85, 27

This paper describes the discovery of the most compact low mass He-star with a high mass white dwarf companion. I led the paper from the beginning to the end. This includes writing the observing proposals, taking data, reducing and analyzing the data and the interpretation of the results

4. Hot subdwarf binaries from the MUCHFUSS project - Analysis of 12 new systems and a study of the short period binary population

Kupfer, T., Geier, S., Heber, U. et al. 2015, A&A, 576, 44

This paper presents the discovery of a dozen new compact low mass He-star systems from the MUCHFUSS survey as well as a population study of the known sample (≈ 150 systems) of short period low-mass He-star systems, a fraction of them with merger times of less than a 1 Gyr. For the newly discovered systems, I conducted the data analysis and derived system properties. For the population study, I collected all the information for each system, analyzed and discussed different population properties including period and companion mass distributions and draw conclusions from that.

List of publications - Thomas Kupfer

Record: My research has been published in 86 refereed publications (9 as first author, 9 as ZTF builder) including 3 Science and 2 Nature papers as well as 6 white papers for the 2020 decadal survey (1 as first author). In addition I have published 22 non-refereed papers (3 as first author) and 9 Atels (3 as first author). All refereed publications combined result in 3173 total citations and a Hirsch h-index of 25. The library of my accepted publications can be accessed here: <https://ui.adsabs.harvard.edu/public-libraries/QbGVMyDXTK2tatBp9r10SA>

Refereed publications

Refereed publications as first author and with significant contributions:

1. A New Class of Large-amplitude Radial-mode Hot Subdwarf Pulsators
Kupfer, T., Bauer, E., Burdge, K., et al. 2019, ApJL, 878,2
2. LISA verification binaries with updated distances from Gaia Data Release 2
Kupfer, T., Korol, V., Shah, S. et al. 2018, MNRAS, 480, 302
3. The OmegaWhite survey for short-period variable stars - V. Discovery of an ultracompact hot subdwarf binary with a compact companion in a 44 minute orbit
Kupfer, T., Ramsay, G., van Roestel, J. et al. 2017, ApJ, 85, 27
4. Quantitative spectroscopy of extreme helium stars - Model atmospheres and a non-LTE abundance analysis of BD+10°2179
Kupfer, T., Przybilla, N., Heber, U. et al. 2017, MNRAS, 471, 877
5. PTF1 J082340.04+081936.5: A hot subdwarf B star with a low mass white dwarf companion in an 87 min orbit
Kupfer, T., van Roestel, J., Brooks, J. et al. 2017, ApJ, 835, 131
6. UVES and X-Shooter spectroscopy of the emission line AM CVn systems GP Com and V396 Hya
Kupfer, T., Steeghs, D., Groot, P. J. et al. 2016, MNRAS, 457, 1828
7. Phased resolved spectroscopy and *Kepler* photometry of the ultracompact AM CVn system SDSS J190817.07+394036.4
Kupfer, T., Groot, P. J., Levitan, D. et al. 2015, MNRAS, 453, 483
8. Hot subdwarf binaries from the MUCHFUSS project - Analysis of 12 new systems and a study of the short period binary population
Kupfer, T., Geier, S., Heber, U. et al. 2015, A&A, 576, 44
9. Orbital periods and accretion disc structure of four AM CVn systems
Kupfer, T., Groot, P. J., Levitan, D. et al. 2013, MNRAS, 432, 2048
10. EVR-CB-001: An Evolving, Progenitor, White Dwarf Compact Binary Discovered with the Evryscope
Ratzloff, J. K., Barlow, B. N., **Kupfer, T.** et al. 2019, ApJ, 883, 51
11. General relativistic orbital decay in a seven-minute-orbital-period eclipsing binary system
Burdge, K., Coughlin, M. W., Fuller, J., **Kupfer, T.** et al. 2019, Nature, 571, 528
12. The Palomar Transient Factory Sky2Night programme
van Roestel, J., Groot, P. J., **Kupfer, T.** et al. 2019, MNRAS, 484, 4507
13. Exposure-time Correction for the ZTF Camera
Giomi, M., Smith, R. M., **Kupfer, T.**, Nordin, J. 2019, PASP, 131, 8001
14. The physical properties of AM CVn stars: new insights from Gaia DR2
Ramsay, G., Green, M. J., Marsh, T., **Kupfer, T.** et al. 2018, A&A, 620, 141
15. Spectroscopic and Photometric Analysis of the HW Vir Star PTF1 J011339.09+225739.1
Wolz, M., **Kupfer, T.**, Drechsel, H. et al. 2018, Open Astronomy, 27, 80
16. Detection of a 23.6 min periodic modulation in the optical counterpart of 3XMMJ051034.6–670353
Ramsay, G., Marsh, T., **Kupfer, T.** et al. 2018, A&A, 617, 88

17. A multi-wavelength approach to classifying transient events in the direction of M31
Soraisam, M. D., Gilfanov, M., **Kupfer, T.** et al. 2018, A&A , 615, 152
18. The Binary Dwarf Carbon Star SDSS J125017.90+252427.6
Margon, B., **Kupfer, T.**, Burdge, K. et al. 2018, ApJ, 856, 2
19. Discovery of 36 eclipsing EL CVn binaries found by the Palomar Transient Factory
van Roestel, J., **Kupfer, T.**, Ruiz-Carmona, R. et al. 2018, MNRAS, 475, 2560
20. High-speed photometry of Gaia14aae: an eclipsing AM CVn that challenges formation models
Green, M. J., Marsh, T. R., Steeghs, D. T. H., **Kupfer, T.**, et al. 2018, MNRAS, 476, 1663
21. Spectral models for binary products: Unifying Subdwarfs and Wolf-Rayet stars as a sequence of stripped-envelope stars
Götberg, Y., de Mink, S. E., Groh, J. H., **Kupfer, T.** et al. 2018, A&A, 615, 78
22. HD 49798: Its History of Binary Interaction and Future Evolution
Brooks, J., **Kupfer, T.**, Bildsten, L., 2017, ApJ, 847, 78
23. A novel method for transient detection in high-cadence optical surveys. Its application for a systematic search for novae in M 31
Soraisam, M. D., Gilfanov, M., **Kupfer, T.** et al. 2017, A&A, 599,48
24. PSR J1024-0719: A Millisecond Pulsar in an Unusual Long-period Orbit
Kaplan, D. L., **Kupfer, T.**, Nice, D. J. et al. 2016, ApJ, 826, 86
25. Radial velocity variable, hot post-AGB stars from the MUCHFUSS project. Classification, atmospheric parameters, formation scenarios
Reindl, N., Geier, S., **Kupfer, T.** et al. 2016, A&A, 587, 101
26. The catalogue of radial velocity variable hot subluminoous stars from the MUCHFUSS project
Geier, S., **Kupfer, T.**, Heber, U. et al. 2015, A&A, 577, 26
27. The fastest unbound star in our Galaxy - Ejected by a thermonuclear supernova
Geier, S., Fürst, F., Ziegerer, E., **Kupfer, T.** et al. 2014, Science, 347, 1126
28. PTF1 J191905.19+481506.2 - A Partially Eclipsing AM CVn System Discovered in the Palomar Transient Factory
Levitan, D., **Kupfer, T.**, Groot, P. J. et al. 2014, ApJ, 785, 114
29. Five New Outbursting AM CVn systems discovered by the Palomar Transient Factory
Levitan, D., **Kupfer, T.**, Groot, P. J. et al. 2013, MNRAS, 430, 996

Refereed publications as Co-Author:

1. Orbital Decay in a 20 Minute Orbital Period Detached Binary with a Hydrogen Poor Low Mass White Dwarf
Burdge, K. B., Fuller, J., Phinney, E. S. ...**Kupfer, T.** ... et al. 2019, ApJ, 886, 12
2. Predicting the LISA white dwarf binary population in the Milky Way with cosmological simulations
Lamberts, A., Blunt, S., Littenberg, T. B., ...**Kupfer, T.** ... et al. 2019, accepted for MNRAS, (arXiv:1907.00014)
3. The EREBOS project – Investigating the effect of substellar and low-mass stellar companions on late stellar evolution
Schaffenroth, V., Barlow, B. N., Geier, S., ...**Kupfer, T.** ... et al. 2019, A&A, 630, 80
4. PG 1610+062: a runaway B star challenging classical ejection mechanisms
Irrgang, A., Geier, S., Heber, U., **Kupfer, T.**, Fürst, F. 2019, A&A, 628L, 5
5. Census of the Local Universe (CLU) Narrowband Survey. I. Galaxy Catalogs from Preliminary Fields
Cook, D. O., Kasliwal, M. M., Van Sistine, A., ...**Kupfer, T.** ... et al. 2019, ApJ, 880, 7
6. The Zwicky Transient Facility: Science Objectives
Graham, M. J., Kulkarni, S. R., Bellm, E. C., ...**Kupfer, T.** ... et al. 2019, PASP, 131, 8001

7. The Zwicky Transient Facility: Surveys and Scheduler
Bellm, E. C., Kulkarni, S. R., Barlow, T., ...**Kupfer, T.** ... et al. 2019, PASP, 131, 8003
8. Machine Learning for the Zwicky Transient Facility
Mahabal, A., Rebbapragada, U., Walters, R., ...**Kupfer, T.** ... et al. 2019, PASP, 131, 8002
9. The Zwicky Transient Facility: Data Processing, Products, and Archive
Masci, F. J., Laher, R. R., Rusholme, B., ...**Kupfer, T.** ... et al. 2019, PASP, 131, 8003
10. The Zwicky Transient Facility: System Overview, Performance, and First Results
Bellm, E. C., Kulkarni, S. R., Graham, M. J., ...**Kupfer, T.** ... et al. 2019, PASP, 131, 8002
11. Phase-resolved spectroscopy of Gaia14aae: line emission from near the white dwarf surface
Green, M. J., Marsh, T. R., Steeghs, D., Breedt, E., **Kupfer, T.**, et al. 2019, MNRAS, 485, 1947
12. Processing Images from the Zwicky Transient Facility
Laher, R. R., Masci, F. J., Groom, S., ...**Kupfer, T.** ... et al. 2018, RTSRE, 1, 329
13. Massive stars in the hinterland of the young cluster, Westerlund 2
Drew, J. E., Herrero, A., Mohr-Smith, M., ...**Kupfer, T.** ... et al. 2018, MNRAS, 480, 2109
14. Variability of Red Supergiants in M31 from the Palomar Transient Factory
Soraisam, M. D., Bildsten, L., Drout, M. R., ...**Kupfer, T.** ... et al. 2018, ApJ, 859, 73
15. iPTF Survey for Cool Transients
Adams, S. M., Blagorodnova, N., Kasliwal, M. M., ...**Kupfer, T.** ... et al. 2018, PASP, 130, 4202
16. Sifting for Sapphires: Systematic Selection of Tidal Disruption Events in iPTF
Hung, T., Gezari, S., Cenko, S. B., ...**Kupfer, T.** ... et al. 2017, ApJS, 238, 15
17. Multi-messenger observations of a binary neutron star merger
Abbott, B. P., Abbott, R., Abbott, T. D., ...**Kupfer, T.** ... et al. 2017, ApJL, 848, 12
18. Illuminating Gravitational Waves: A Concordant Picture of Photons from a Neutron Star Merger
Kasliwal, M. M., Nakar, E., L. P. Singer, L. P., ...**Kupfer, T.** ... et al. 2017, Science, 358, 1559
19. iPTF17cw: An engine-driven supernova candidate discovered independent of a gamma-ray trigger
Corsi, A., Cenko, S. B., Kasliwal, M. M., ...**Kupfer, T.** ... et al. 2017, ApJ, 847, 54
20. A tale of two transients: GW170104 and GRB170105A
Bhalerao, V., Kasliwal, M. M., Bhattacharya, D., ...**Kupfer, T.** ... et al. 2017, ApJ, 845, 143
21. The OmegaWhite Survey for Short-Period Variable Stars IV: Discovery of the warm DQ white dwarf OW J175358.85-310728.9
Macfarlane, S. A., Woudt, P. A., Dufour, P., ...**Kupfer, T.** ... et al. 2017, 470, 732
22. Confirmation of Large Super-Fast Rotator (144977) 2005 EC₁₂₇
Chang, C., Lin, H., Ip, W., ...**Kupfer, T.** ... et al. 2017, ApJL, 840, 22
23. The discovery of the strongly lensed SN Ia iPTF16geu
Goobar, A., Amanullah, R., Kulkarni, S. R., ...**Kupfer, T.** ... et al. 2017, Science, 356, 291
24. Spectroscopic twin to the hypervelocity sdO star US 708 and three fast sdB stars from the Hyper-MUCHFUSS project
Ziegerer, E., Heber, U., Geier, S., ...**Kupfer, T.** ... et al. 2017, A&A, 601, 58
25. Two New Calcium-rich Gap Transients in Group and Cluster Environments
Lunnan, R., Kasliwal, M. M., Cao, Y., ...**Kupfer, T.** ... et al. 2017, ApJ, 836, 60
26. A radio pulsing white dwarf binary star
Marsh, T. R., Gänsicke, B. T., Hümmelich, S., ...**Kupfer, T.** ... et al. 2016, Nature, 573, 374
27. Localization and Broadband Follow-up of the Gravitational-wave Transient GW150914
Abbott, B. P., Abbott, R., Abbott, T. D., ...**Kupfer, T.** ... et al. 2016, ApJ, 826, 13

28. SDSS J1152+0248: an eclipsing double white dwarf from the Kepler K2 campaign
Hallakoun, N., Maoz, D., Kilic, M., ...**Kupfer, T.** ... et al. 2016, MNRAS, 458, 845
29. An Extremely Fast Halo Hot Subdwarf Star in a Wide Binary System
Nemeth, P., Ziegerer, E., Irrgang, A., ...**Kupfer, T.** ... et al. 2016, ApJ, 821, 13
30. Pan-STARRS and PESSTO search for an optical counterpart to the LIGO gravitational wave source GW150914
Smartt, S. J., Chambers, K. C., Smith, K. W., ...**Kupfer, T.** ... et al. 2016, MNRAS, 462, 4094
31. A new HW Vir binary from the Palomar Transient Factory. PTF1 J072455.75+125300.3: An eclipsing subdwarf B binary with a M-star companion
Schindewolf, M., Levitan, D., Heber, U., ...**Kupfer, T.** ... et al. 2015, A&A, 580, 117
32. KIC7668647: a 14 day beaming sdB+WD binary with a pulsating subdwarf
Telting, J. H., Baran, A. S., Nemeth, P., Østensen, R. H., **Kupfer, T.** et al. 2014, A&A, 570, 129
33. The Second Data Release of the INT Photometric Halpha Survey of the Northern Galactic Plane (IPHAS DR2)
Barentsen, G., Farnhill, H. J., Drew, J. E., ...**Kupfer, T.** ... et al. 2014, MNRAS, 444, 3230
34. Two new AM Canum Venaticorum binaries from the Sloan Digital Sky Survey III
Carter, P. J., Gänsicke, B. T., Steeghs, D., ...**Kupfer, T.**... et al. 2014, MNRAS, 439, 2848
35. The AM CVn binary SDSS J173047.59+554518.5
Carter, P. J., Steeghs, D., Marsh, T. R., **Kupfer, T.** et al. 2014, MNRAS, 437, 2894
36. Binaries discovered by the MUCHFUSS project. SDSS J162256.66+473051.1: An eclipsing subdwarf B binary with a brown dwarf companion
Schaffenroth, V., Geier, S., Heber, U., **Kupfer, T.** et al. 2014, A&A, 564, 98
37. Orbital solutions of eight close sdB binaries and constraints on the nature of the unseen companions
Geier, S., Østensen, R. H., Heber, U., **Kupfer, T.** et al. 2014, A&A, 562, 95
38. A progenitor binary and an ejected mass donor remnant of faint type Ia supernovae
Geier, S., Marsh, T. R., Wang, B., ...**Kupfer, T.** ... et al. 2013, A&A, 554, 54
39. The helium-rich cataclysmic variable SBSS 1108+574
Carter, P. J., Steeghs, D., de Miguel, E., ...**Kupfer, T.** ... et al. 2013, MNRAS, 431, 372
40. A search for the hidden population of AM CVn binaries in the Sloan Digital Sky Survey
Carter, P. J., Marsh, T. R., Steeghs, D., ...**Kupfer, T.** ... et al. 2013, MNRAS, 429, 2143
41. Discovery of a stripped red giant core in a bright eclipsing binary system
Maxted, P. F. L., Anderson, D. R., Burleigh, M. R., ...**Kupfer, T.** ... et al. 2011, MNRAS, 418, 1156
42. Binaries Discovered by the MUCHFUSS project: SDSS J08205+0008-An Eclipsing Subdwarf B Binary with a Brown Dwarf companion
Geier, S., Schaffenroth, V., Drechsel, H., ...**Kupfer, T.** ... et al. 2011, ApJ, 731, 22
43. Massive unseen companions to hot faint underluminous stars from SDSS (MUCHFUSS). Analysis of seven close subdwarf B binaries
Geier, S., Maxted, P. F. L., Napiwotzki, R., ...**Kupfer, T.** ... et al. 2011, A&A, 526, A39+
44. Hot subdwarfs in binary systems and the nature of their unseen companions
Geier, S., Heber, U., Tillich, A., ...**Kupfer, T.** ... et al. 2010a, Ap&SS, 329, 91
45. Hot subdwarf stars in close-up view. I. Rotational properties of subdwarf B stars in close binary systems and nature of their unseen companions
Geier, S., Heber, U., Podsiadlowski, P., ...**Kupfer, T.** ... et al. 2010c, A&A, 519, A25+
46. Binaries discovered by the SPY project. V. GD 687 – a massive double degenerate binary progenitor that will merge within a Hubble time
Geier, S., Heber, U., **Kupfer, T.**, & Napiwotzki, R. 2010b, A&A, 515, A37+

Refereed publications as ZTF builder:

1. Comet 240P/NEAT is Stirring
Kelley, M. S. P., Bodewits, D. Ye, Q., ...**Kupfer, T.** ... et al. 2019, accepted for ApJL (arXiv: 1911.02383)
2. GROWTH on S190425z: Searching Thousands of Square Degrees to Identify an Optical or Infrared Counterpart to a Binary Neutron Star Merger with the Zwicky Transient Facility and Palomar Gattini-IR
Coughlin, M. W., Ahumada, T., Anand, S., ...**Kupfer, T.** ... et al. 2019, ApJ, 885, 19
3. ZTF Early Observations of Type Ia Supernovae I: Properties of the 2018 Sample
Yao, Y., Miller, A. A., Kulkarni, S. R., ...**Kupfer, T.** ... et al. 2019, accepted for ApJ, arXiv: 1910.02967
4. Toward Efficient Detection of Small Near-Earth Asteroids Using the Zwicky Transient Facility (ZTF)
Ye, Q., Masci, F. J., Lin, H. W., ...**Kupfer, T.** ... et al. 2019, PASP, 131, 8002
5. ZTF18aalrxas: A Type IIb Supernova from a Very Extended Low-mass Progenitor
Fremling, C., Ko, H., Dugas, A., ...**Kupfer, T.** ... et al. 2019, ApJ, 878, 5
6. 2900 Square Degree Search for the Optical Counterpart of Short Gamma-Ray Burst GRB 180523B with the Zwicky Transient Facility
Coughlin, M. W., Ahumada, T., Cenko, S. B., ...**Kupfer, T.** ... et al. 2019, PASP, 131, 8001
7. A New Class of Changing-Look LINERs
Frederick, S.; Gezari, S.; Graham, M. J., ...**Kupfer, T.** ... et al. 2019, ApJ, 883, 31
8. The Death Throes of a Stripped Massive Star: An Eruptive Mass-Loss History Encoded in Pre-Explosion Emission, a Rapidly Rising Luminous Transient, and a Broad-Lined Ic Supernova SN2018gep
Ho, A. Y. Q., Goldstein, D. A.; Schulze, S., ...**Kupfer, T.** ... et al. 2019, ApJ accepted, arXiv:1904.11009
9. Multiple Outbursts of Asteroid (6478) Gault
Ye, Q.; Kelley, M. S. P.; Bodewits, D., ...**Kupfer, T.** ... et al. 2019, ApJ, 874, 16
10. Discovery of Highly Blueshifted Broad Balmer and Metastable Helium Absorption Lines in a Tidal Disruption Event
Hung, T.; Cenko, S. B.; Roth, N., ...**Kupfer, T.** ... et al. 2019, ApJ, 879, 119
11. The First Tidal Disruption Flare in ZTF: From Photometric Selection to Multi-wavelength Characterization
van Velzen, S., Gezari, S., Cenko, S. B., ...**Kupfer, T.** ... et al. 2019, ApJ, 872, 198

2020 decadal survey white papers:

1. A Summary of Multimessenger Science with Galactic Binaries
Kupfer, T., Kilic, M., Maccarone, T., et al. 2019, BAAS, 51, 188
2. Opportunities for Multimessenger Astronomy in the 2020s
Burns, E., Tohuvavohu, A., Bellovary, J. M., ...**Kupfer, T.** ... et al. 2019, BAAS, 51, 250
3. Understanding the evolution of close white dwarf binaries
Tolosa, O., Breedt, E., De Martino, D., ...**Kupfer, T.** ... et al. 2019, BAAS, 51, 168
4. Multimessenger science opportunities with mHz gravitational waves
Baker, J.; Haiman, Z.; Rossi, E. M., ...**Kupfer, T.** ... et al. 2019, BAAS, 51, 123
5. Binaries Matter Everywhere: from Precision Calibrations to Re-Ionization and Gravitational Waves
Rix, H.-W. Ting, Y.-S.; Sippel, A., ...**Kupfer, T.** ... et al. 2019, BAAS, 51, 104
6. Gravitational wave survey of galactic ultra compact binaries
Littenberg, T. Breivik, K. Brown, W. R., ...**Kupfer, T.** ... et al. 2019, BAAS, 51, 34