

# Curriculum Vitae

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## Maayane Tamar Soumagnac

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Lawrence Berkeley National Laboratory  
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### PERSONAL DETAILS

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Date and country of birth: 13 March 1987 in Paris, France  
Date of immigration: 9 November 2014  
Nationality: French & Israeli  
Family Status: Married with two children (born in January 2020)  
[Webpage](#) ; [Google Scholar page](#)

### HIGHER EDUCATION

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- 2019-present **POST-DOCTORAL RESEARCHER** Computational research Division, Lawrence Berkeley National Laboratory, USA.  
Host: Peter Nugent.  
**RESEARCH ASSOCIATE IN ASTROPHYSICS** Weizmann Institute of Science, Israel.
- 2015-2019 **POST-DOCTORAL FELLOW IN ASTROPHYSICS** Weizmann Institute of Science, Israel.  
Host: Avishay Gal-Yam.
- 2010-2015 **PHD IN PHYSICS AND ASTRONOMY** University College London, UK.  
Date of award: 28 January 2015; Supervisors: Ofer Lahav, Filipe Abdalla.
- 2008-2010 **MASTER DEGREE IN THEORETICAL PHYSICS**  
Ecole Normale Supérieure (ENS) de Lyon, France (2<sup>nd</sup> year);  
Ecole Normale Supérieure Cachan, France (1<sup>st</sup> year).
- 2005-2008 **BACHELOR OF SCIENCE IN PHYSICS** Ecole Normale Supérieure Cachan, France.  
« CLASSES PRÉPARATOIRES SCIENTIFIQUES », Lycée Henri IV, France [Intense and highly selective program to prepare the “concours”, a national exam for entry to the French “Grandes Ecoles”. This program counts as 2 years of BSc in all three disciplines: Physics, Maths and Chemistry].
- 2005 **FRENCH “BACCALAURÉAT” IN SCIENCE**, “Mention Très Bien”, Suma Cum Laude.

### Non-academic Programs

- 2016 summer **INTERNATIONAL SPACE UNIVERSITY (ISU)** Space Studies Program (SSP), Technion, Israel.

### UNDERGRADUATE AND GRADUATE RESEARCH EXPERIENCE

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#### Graduate Research Experience

- 2010-2014 **University College London**, London, United Kingdom.  
UCL ASTROPHYSICS GROUP  
**PhD Thesis:** “*Tipping scales in galaxy surveys: Star/Galaxy separation and scale-dependent bias*”.
- 2010 **University of Oxford**, Oxford, United Kingdom.  
THE BEECROFT INSTITUTE OF PARTICLE PHYSICS AND COSMOLOGY (BIPAC)  
*Research Student, “Studying the formation of galactic winds”.*
- 2009 **MIT (Massachusetts Institute of Technology)**, Cambridge, USA.  
PLASMA SCIENCE AND FUSION CENTER (PSFC): Alcator C-mod project,  
*Research Student, “Bolometry for the Alcator C-mod Tokamak”.*

## Undergraduate Research Experience

2008 **OMP (Observatoire Midi Pyrénées)**, Toulouse, France.  
DEPARTMENT OF TERRESTRIAL AND PLANETARY DYNAMICS.  
*Research Student, "seismic modeling of an epicenter with the difference method".*

## LANGUAGES

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**French:** native speaker; **Hebrew:** native speaker; **English:** fluent; **Italian:** Good skills; **French Sign language:** Basic skills.

## SERVICE

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2020-present **Chair of the Dark Energy Spectroscopic Instrument (DESI) Time-Domain Working Group.**  
2020-present **Member of the Dark Energy Spectroscopic Instrument (DESI) secondary targeting committee**, in charge of selecting impactful pilot studies to be performed by the collaboration during the "Science Verification" (SV) early phase.  
2016-present **Referee**, Monthly Notices of the Royal Astronomical Society (MNRAS).  
2017-2019 **Zwicky Transient Facility (ZTF) communication coordinator.**  
2015-2019 **Assistant Project Scientist of the ULTRASAT satellite mission**, a collaboration between the Weizmann Institute, the Israeli Space Agency, the German DESY Research Center, the Israeli Aerospace Industries Ltd and ELOP.

## RESEARCH GRANTS & FELLOWSHIPS

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2016-2018 **Ilan Ramon Post-doctoral fellowship – Israeli Ministry of Science**  
Two years post-doctoral fellowship.  
2016 **CNES** scholarship for participation to the **International Space University (ISU).**  
**European Space Agency** scholarship for participation to the ISU.  
2015-2017 **"Volontariat International" Post-doctoral fellowship – French Embassy in Israel**  
Two years postdoctoral fellowship.  
2013 **Award from the Dark Energy Survey Collaboration**, Fermilab, USA.  
Travel support awarded to four International participants to the Lawrence Berkeley National Laboratory Collaboration meeting.  
2010-2013 **Royal Astronomical Society**, UK.  
Fellow.  
2007-2012 **Four years Ecole Normale Supérieure Scholarship**, France.  
Scholarship from the French State, for acceptance to one of the three highly competitive and top ranked French "Grandes Ecoles".

## TEACHING AND SUPERVISION EXPERIENCE

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2016-2019 **Geometrical and Wave Optics and Electromagnetism, Weizmann Institute of Science.** Lectures of the Master-level course "Experimental Astrophysics" by Prof. Avishay Gal-Yam.  
2017 **Dr. Bessie F. Lawrence International Summer Science Institute (ISSI), Weizmann Institute of Science.** Supervision of the summer research project of two students.  
2015-2017 **Supervision** of UCL fellow, to improve the star/galaxy separation UCL tool.  
2016 **MSc research project supervision, Weizmann Institute of Science.** Ten weeks project, co-supervised with Pr. Avishay Gal-Yam and Pr. Oded Aharonson.

## OBSERVING EXPERIENCE & OBSERVING TIME

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2019-2020 **Lick Observatory**, San Jose, California.  
2018-2019 **Palomar 60-inch telescope (P60) "SED Machine" spectrograph**, Palomar Mountain, California.  
P.I. of a 10 hours program to compute a survey of "interacting" Supernovae (SNe IIn).  
2016-present **The Swift NASA space telescope**, successful applications to observing time in Target Of Opportunity (TOO) mode.  
2016 **Kraar Observatory**, Rehovot, Israel.  
2013 **Blanco 4m telescope, Cerro Tololo Inter-American Observatory**, Chile. DECam observations.

## MEMBERSHIP IN INTERNATIONAL COLLABORATIONS

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2019-present	<b>Dark Energy Spectroscopic Instrument (DESI).</b>
2017-present	<b>Zwicky Transient Facility (ZTF).</b>
2010-2015	<b>Dark Energy Survey (DES).</b> Data rights granted beyond 2015 for substantial infrastructure work.

## SELECTED TALKS & SEMINARS

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2019	<b>Zwicky Transient Facility (ZTF) Collaboration Meeting</b> , Seattle, USA. <i>"Computing a catalog of ZTF transients hosts observed with DESI"</i> .
2019	<b>UC Berkeley and UC Santa Cruz Seminars day</b> , Berkeley, USA. <i>"Computing a catalog of ZTF transients hosts observed with DESI; Hunting X-ray outbursts in archival data"</i> .
2018	<b>UC Berkeley Astrophysics Seminar</b> , Berkeley, USA. <i>"PTF 12glz: a possible shock driven through an aspherical wind"</i> .
2018	<b>Shocking Supernovae Conference</b> , Stockholm, Sweden. <i>"PTF12glz and supernovae shocks driven through aspherical winds"</i> .
2018	<b>Technion Astrophysics group Seminar</b> , Haifa, Israel. <i>"Supernova PTF 12glz: a possible shock driven through an aspherical wind"</i> .
2017	<b>Israeli Physics Society (IPS) Conference</b> , Haifa, Israel. <i>"A glimpse at the IIn Supernovae"</i> .
2017	<b>Ultraviolet sky surveys meeting</b> , Tel Aviv, Israel. <i>"Unveiling the stellar environment with SNe explosions and eclipses"</i> .
2016	<b>Tel Aviv University Astronomy Club Conference</b> , Tel Aviv, Israel. <i>"Unveiling the UV transient sky with the ULTRASAT satellite"</i> .
2015	<b>66<sup>th</sup> International Astronautical Congress (IAC) - Symposium on Technological Requirements for Future Space Astronomy and Solar System Science Mission</b> , Jerusalem, Israel. <i>"A Survey of Eclipsing Binaries with the ULTRASAT Satellite"</i> .
2015	<b>Weizmann Institute Physics department lunch seminars</b> , Rehovot, Israel. <i>"The inflated Hot Jupiters puzzle"</i> .
2015	<b>Dark Energy Survey collaboration meeting</b> , Michigan, USA. <i>"Star/Galaxy Separation on the Science Verification data and Year one data"</i> .
2013	<b>Dark Energy Survey collaboration meeting</b> , Barcelona, Spain. <i>"Spotlight talk: Star/Galaxy Separation on the Science Verification data"</i> .
2013	<b>Dark Energy Survey collaboration meeting</b> , Berkeley, USA. <i>"Spotlight talk: presenting the Star/Galaxy Separation paper"</i> .
2013	<b>Weizmann Institute Astrophysics Seminar</b> , Rehovot, Israel. <i>"Machine learning methods applied to the Dark Energy Survey"</i> .
2013	<b>Tel Aviv University Astrophysics Seminar</b> , Tel Aviv, Israel. <i>"Machine learning methods applied to the Dark Energy Survey"</i> .
2012	<b>Dark Energy Survey collaboration meeting</b> , Garching, Germany. <i>"Star/Galaxy Separation, Last Updates"</i> .
2011	<b>Cosmic Flows Conference</b> , Haifa, Israel. <i>"Machine learning methods applied to the Dark Energy Survey"</i> .
2011	<b>London Cosmology Discussion Meeting (LCDM)</b> , London, UK. <i>"Machine learning methods applied to the Dark Energy Survey"</i> .
2011	<b>Dark Energy Survey collaboration meeting</b> , Philadelphia, USA. <i>"Star/Galaxy Separation, a multi-parameter approach"</i> .
2011	<b>Dark Energy Survey collaboration meeting</b> , Portsmouth, UK.
2011	<b>DES-UCL Meeting</b> , London, UK. <i>"Star/Galaxy Separation, Last Updates"</i> .

## PUBLIC OUTREACH (SELECTED TALKS)

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2019	<b>Lecture at the "Beit Chinuch" high school</b> in Jerusalem.
2019	<b>Evening Astronomy classes at the Davidson Institute.</b> As part of a program for precocious children.
2018	<b>Lecture at the Blue Hall Pub</b> , as part of the "International Space Week".
2018	<b>Lecture at the Christ Church high school of Nazareth</b> , as part of the Weizmann Institute "Rishonot Ba Mada" program for linking female students in the STEM fields with various schools in Israel.

2017	<b>Invited speaker at “Taasieda”</b> , a year-long program bringing space industries to Israeli high schools.
2017	<b>Lecture at the “Shekulo tov” group</b> , for people with psychiatric disabilities.
2016	<b>Lecture to the “Science sparks”</b> , a program to promote science education within the Israeli Ethiopian community (Rehovot, Israel).
2016	<b>Lecture to soldiers and officers of the Air Force Intelligence Branch</b> (Rehovot, Israel).
2015	<b>Astronomy at the Tel Aviv French school</b> , lecture to children of ages 6 to 16 at the Marc Chagall French school (Tel Aviv, Israel).
2015	<b>Astronomy with holocaust survivors</b> AMCHA center (Rehovot, Israel)
2015	<b>Astronomy in the “Gaza envelope”</b> , Israel. Lecture in several communities affected by shelling during the 2014 conflict (Talmey Yosef, Israel).
2015	<b>Lecture at the women prison Neve Tirza</b> , Lecture to the prisoners (Ramle, Israel).
2014	<b>Stargazing at Middlebury Language school</b> , Middlebury College. Design of a program of stargazing nights and guided visits at the Middlebury observatory (Vermont, USA).
2013	<b>University of London Observatory in Mill Hill</b> , University of London, a guide for the 2012/2013 season of public tours, (London, UK).
2013	<b>WOW talk at London Apple Store</b> , Public talk: “Why become an Astrophysicist?” (London, UK).
2013	<b>Israel Space week and Space Education Conference</b> , Herzliya, Israel. Guide for School visits.

# Maayane T. Soumagnac

## List of Publications

October 2020

- Total of 39 papers published in refereed journals (including 2 in *Physical Review Letters*, 1 in *Nature*, 1 in *Nature Physics*, 1 in *Nature Astronomy*)
- 1380+ citations
- 13 papers still in reviewing process (including 1 submitted to *Nature Astronomy* and 1 submitted to *Science*)
- H-index: 16
- Citation counts are taken from [ADS](#), the Astrophysics standard digital library

[1] Lin Yan et al. “Helium-rich Superluminous Supernovae From the Zwicky Transient Facility”. In *ApJL* 902 (Oct. 2020), p. L8. [Number of citations: 2]

[2] Anna Y. Q. Ho et al. “SN 2020bvc: A Broad-line Type Ic Supernova with a Double-peaked Optical Light Curve and a Luminous X-Ray and Radio Counterpart”. In *ApJ* 902 (Oct. 2020), p. 86 [Number of citations: 5]

[3] **Maayane T. Soumagnac** et al. “SN2018fif: The explosion of a large red supergiant discovered in its infancy by the Zwicky Transient Facility”. In: *ApJ* 902 (Oct. 2020), p. 6. [Number of citations: 4]

[4] Shreya Anand et al. “Optical follow-up of the neutron star-black hole mergers S200105ae and S200115j”. In: *Nature Astronomy* (Sept. 2020). [Number of citations: 4]

[5] R. Lunnan et al. “Four (Super)luminous Supernovae from the First Months of the ZTF Survey”. In: *ApJ* 901.1 (Sept. 2020), p. 61. [Number of citations: 12]

[6] Bryce T. Bolin et al. “Characterization of Temporarily Captured Minimoons 2020 CD3 by Keck Time-resolved Spectrophotometry”. In: *ApJL* 900.2 (Sept. 2020), p. L45. [Number of citations: 0]

[7] Yuhao Yao et al. “SN2019dgc: A Helium-rich Ultra-stripped Envelope Supernova”. In: *ApJ* 900.1 (Sept. 2020), p. 46. [Number of citations: 3]

[8] **Maayane T. Soumagnac** et al. “Early Ultraviolet Observations of Type II<sub>n</sub> Supernovae Constrain the Asphericity of Their Circumstellar Material”. In: *ApJ* 899.1 (Aug. 2020), p. 51. [Number of citations: 4]

[9] Thomas Kupfer et al. “A New Class of Roche Lobe-filling Hot Subdwarf Binaries”. In: *ApJL* 898.1 (July 2020), p. L25. [Number of citations: 2]

[10] A. A. Miller et al. “The Spectacular Ultraviolet Flash from the Peculiar Type Ia Supernova 2019yvq”. In: *ApJ* 898.1 (July 2020), p. 56. [Number of citations: 5]

[11] Bryce T. Bolin et al. “Characterization of the Nucleus, Morphology, and Activity of Interstellar Comet 2I/Borisov by Optical and Near-infrared GROWTH, Apache Point, IRTF, ZTF, and Keck Observations”. In: *AJ* 160.1 (July 2020), p. 26. [Number of citations: 17]

[12] M. J. Graham et al. “Candidate Electromagnetic Counterpart to the Binary Black Hole Merger Gravitational-Wave Event S190521g\*<sup>\*</sup>”. In: *Phys. Rev. Lett.* 124.25 (June 2020), p. 251102. [Number of citations: 40]

[13] Anna Y. Q. Ho et al. “The Koala: A Fast Blue Optical Transient with Luminous Radio Emission from a Starburst Dwarf Galaxy at  $z = 0.27$ ”. In: *ApJ* 895.1 (May 2020), p. 49. [Number of citations: 13]

[14] Paula Szkody et al. “Cataclysmic Variables in the First Year of the Zwicky Transient Facility”. In: *AJ* 159.5 (May 2020), p. 198. [Number of citations: 1]

- [15] Anna Y. Q. Ho et al. “The Broad-lined Ic Supernova ZTF18aaqjovh (SN 2018bvw): An Optically Discovered Engine-driven Supernova Candidate with Luminous Radio Emission”. In: ApJ 893.2 (Apr. 2020), p. 132. [Number of citations: 2]
- [16] Thomas Kupfer et al. “The First Ultracompact Roche Lobe-Filling Hot Subdwarf Binary”. In: ApJ 891.1 (Mar. 2020), p. 45. [Number of citations: 6]
- [17] Quanzhi Ye et al. “A Twilight Search for Atras, Vairas, and Co-orbital Asteroids: Preliminary Results”. In: AJ 159.2 (Feb. 2020), p. 70. [Number of citations: 7]
- [18] Anna Y. Q. Ho et al. “Evidence for Late-stage Eruptive Mass Loss in the Progenitor to SN2018gep, a Broad-lined Ic Supernova: Pre-explosion Emission and a Rapidly Rising Luminous Transient”. In: ApJ 887.2 (Dec. 2019), p. 169. [Number of citations: 24]
- [19] Yuhan Yao et al. “ZTF Early Observations of Type Ia Supernovae. I. Properties of the 2018 Sample”. In: ApJ 886.2 (Dec. 2019), p. 152. [Number of citations: 25]
- [20] Michael S. P. Kelley et al. “Comet 240P/NEAT Is Stirring”. In: ApJL 886.1 (Nov. 2019), p. L16. [Number of citations: 1]
- [21] Jacob E. Jencson et al. “Discovery of an Intermediate-luminosity Red Transient in M51 and Its Likely Dust-obscured, Infrared-variable Progenitor”. In: ApJL 880.2 (Aug. 2019), p. L20. [Number of citations: 12]
- [22] Matthew J. Graham et al. “The Zwicky Transient Facility: Science Objectives”. In: PASP 131.1001 (July 2019), p. 078001. [Number of citations: 143]
- [23] Kevin B. Burdge et al. “General relativistic orbital decay in a seven-minute-orbital-period eclipsing binary system”. In: Nature 571.7766 (July 2019), pp. 528–531. [Number of citations: 36]
- [24] Dmitry A. Duev et al. “DeepStreaks: identifying fast-moving objects in the Zwicky Transient Facility data with deep learning”. In: MNRAS 486.3 (July 2019), pp. 4158–4165. [Number of citations: 7]
- [25] T. Hung et al. “Discovery of Highly Blueshifted Broad Balmer and Metastable Helium Absorption Lines in a Tidal Disruption Event”. In: ApJ 879.2 (July 2019), p. 119. [Number of citations: 16]
- [26] Thomas Kupfer et al. “A New Class of Large-amplitude Radial-mode Hot Subdwarf Pulsators”. In: ApJL 878.2 (June 2019), p. L35. [Number of citations: 6]
- [27] **Maayane T. Soumagnac** et al. “Large-scale distribution of mass versus light from baryon acoustic oscillations: measurement in the final SDSS-III BOSS Data Release 12”. In: MNRAS 485.1 (May 2019), pp. 1248–1261. [Number of citations: 7]
- [28] Quanzhi Ye et al. “Multiple Outbursts of Asteroid (6478) Gault”. In: ApJL 874.2 (Apr. 2019), p. L16. [Number of citations: 16]
- [29] Ashish Mahabal et al. “Machine Learning for the Zwicky Transient Facility”. In: PASP 131.997 (Mar. 2019), p. 038002. [Number of citations: 38]
- [30] Sjoert van Velzen et al. “The First Tidal Disruption Flare in ZTF: From Photometric Selection to Multi-wavelength Characterization”. In: ApJ 872.2 (Feb. 2019), p. 198. [Number of citations: 38]
- [31] **Maayane T. Soumagnac** et al. “Supernova PTF 12glz: A Possible Shock Breakout Driven through an Aspherical Wind”. In: ApJ 872.2 (Feb. 2019), p. 141. [Number of citations: 13]
- [32] Eric C. Bellm et al. “The Zwicky Transient Facility: System Overview, Performance, and First Results”. In: PASP 131.995 (Jan. 2019), p. 018002. [Number of citations: 262]
- [33] I. Sevilla-Noarbe et al. “Star-galaxy classification in the Dark Energy Survey Y1 data set”. In: MNRAS 481.4 (Dec. 2018), pp. 5451–5469. [Number of citations: 15]
- [34] **Maayane T. Soumagnac** and Eran O. Ofek. “catsHTM: A Tool for Fast Accessing and Cross-matching Large Astronomical Catalogs”. In: PASP 130.989 (July 2018), p. 075002. [Number of citations: 16]

[35] Icecube Collaboration et al. “Multiwavelength follow-up of a rare IceCube neutrino multiplet”. In: AAP 607 (Nov. 2017), p. A115. [Number of citations: 30]

[36] Ofer Yaron et al. “Confined dense circumstellar material surrounding a regular type II supernova”. In: Nature Physics 13.5 (Feb. 2017), pp. 510–517. [Number of citations: 100]

[37] Dark Energy Survey Collaboration et al. “The Dark Energy Survey: more than dark energy - an overview”. In: MNRAS 460.2 (Aug. 2016), pp. 1270–1299. [Number of citations: 397]

[38] **Maayane T. Soumagnac** et al. “Large-Scale Distribution of Total Mass versus Luminous Matter from Baryon Acoustic Oscillations: First Search in the Sloan Digital Sky Survey III Baryon Oscillation Spectroscopic Survey Data Release 10”. In: Phys. Rev. Lett. 116.20 (May 2016), p. 201302. [Number of citations: 12]

[39] **Maayane T. Soumagnac** et al. “Star/galaxy separation at faint magnitudes: application to a simulated Dark Energy Survey”. In: MNRAS 450.1 (June 2015), pp. 666–680. [Number of citations: 47]

**Doctoral dissertation:** “Tipping scales in galaxy surveys: Star/Galaxy separation and scale-dependent bias”; Supervisors: Ofer Lahav and Filipe Abdalla. Degree awarded in January 2015. Papers #35, #36 and #37 from the general list resulted from this dissertation.

#### **Papers submitted and still in reviewing process:**

[40] Nora L. Strotjohann et al. “Bright, months-long stellar outbursts announce the explosion of interaction-powered supernovae”. arXiv:2010.11196. [Number of citations: 0; submitted to ApJ]

[41] Kevin B. Burdge et al. “An 8.8 minute orbital period eclipsing detached double white dwarf binary”. arXiv:2010.03555. [Number of citations: 0; submitted to ApJL]

[42] W. H.-. Ip et al. “A kilometer-scale asteroid inside Venus's orbit”. arXiv:2009.04125. [Number of citations: 0; submitted to Science]

[43] L. Tartaglia et al. “SN 2018ijp: the explosion of a stripped-envelope star within a dense H-rich shell?”. arXiv:2009.03331. [Number of citations: 1; submitted to A&A]

[44] Kevin B. Burdge et al. “A systematic search of Zwicky Transient Facility data for ultracompact binary LISA-detectable gravitational-wave sources”. arXiv:2009.02567. [Number of citations: 2; submitted to ApJ]

[45] Daniel A. Perley et al. “The Zwicky Transient Facility Bright Transient Survey. II. A Public Statistical Sample for Exploring Supernova Demographics”. arXiv:2009.01242. [Number of citations: 3; submitted to ApJ]

[46] Rachel J. Bruch et al. “A large fraction of hydrogen-rich supernova progenitors experience elevated mass loss shortly prior to explosion”. arXiv:2008.09986. [Number of citations: 6; submitted to ApJ]

[47] E. C. Kool et al. “SN 2020bqj: a Type Ibn supernova with a long lasting peak plateau”. arXiv:2008.04056. [Number of citations: 1; submitted to A&A]

[48] Eran O. Ofek, **Maayane T. Soumagnac** et al. “A catalog of over ten million variable source candidates in ZTF data release 1”. arXiv:2007.01537. [Number of citations: 0; submitted to MNRAS]

[49] Mansi M. Kasliwal et al. “Kilonova Luminosity Function Constraints based on Zwicky Transient Facility Searches for 13 Neutron Star Mergers”. arXiv:2006.11306. [Number of citations: 10; submitted to ApJ]

[50] Robert Stein et al. “A high-energy neutrino coincident with a tidal disruption event”. arXiv:2005.05340. [Number of citations: 13; submitted to Nature Astronomy]

[51] Sjoert Van Valezen et al. “Seventeen Tidal Disruption Events from the First Half of ZTF Survey Observations: Entering a New Era of Population Studies”. arXiv:2001.01409. [Number of citations: 35; submitted to ApJ]

[52] E. Karamahmetoglu et al. “The luminous and rapidly evolving SN 2018bcc: Clues toward the origin of Type Ibn SNe from the Zwicky Transient Facility”. arXiv:1910.06016. [Number of citations: ; submitted to A&A]