

CURRICULUM VITAE

PERSONAL DETAILS

Name & Surname Tim Dietrich
Address University of Potsdam
Institute for Physics and Astronomy
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Telephone +49/331977230160
Birth date 23th of April 1988
Nationality German
Marital Status Married; 1 child



EDUCATION

2016 PhD ("summa cum laude"–excellent 1.0)
Faculty of Physics and Astronomy, Friedrich-Schiller-University Jena, Germany
2012 Master of Science in Physics (1.0)
Faculty of Physics and Astronomy, Friedrich-Schiller-University Jena, Germany
2010 Bachelor of Science in Physics (1.0)
Institute of Physics, Martin-Luther-University Halle-Wittenberg, Germany
2007 High school diploma (1.0) – Gymnasium Philanthropinum Dessau

PROFESSIONAL EXPERIENCE

since 2020 Professor for Theoretical Astrophysics (W1) at the University of Potsdam
since 2020 Adjunct Researcher at Max Planck Institute for Gravitational Physics Potsdam
2018-2020 Marie Skłodowska-Curie Fellow at Nikhef, Amsterdam
2015-2018 Postdoc at the Max Planck Institute for Gravitational Physics Potsdam
2015 Research assistant at the Friedrich-Schiller-University Jena
2011-2014 Research assistant for the CRC/TR-7 Gravitational Wave Astronomy
2008-2010 Research assistant at the Martin-Luther-University Halle-Wittenberg

Fellowships and Awards

Scholarships:

2013-2015 Scholarship of the Landesgraduiertenstipendium Thuringia
2010 Gustav-Mie Scholarship of Martin-Luther-University [declined]
2009-2012 Scholarship of the German National Academic Foundation

Grants:

2017 Individual Marie-Curie Fellowship

Awards/Prizes:

2019 Heinz Billing Prize for the Advancement of Computational Science
2017 PhD thesis prize of the German Physical Society of the sections
"Gravitation and Relativity", "Hadrons and Nucleons", and "Particle physics"
2017 PhD thesis prize of the Friedrich Schiller University Jena
2010 Gustav-Mie-Bachelor-Prize

Host for Fellowships

2021 Host for the Humboldt Fellowship of Dr. Samajdar [granted]
2021 Host for the CAPES/PRINT Grant for Prof. Tonino [granted]
2020 Co-advisor for the FAPESP Fellowship of Henrique Leonhard Gieg
2017 Host of the FAPESP Grant for Prof. Tonino

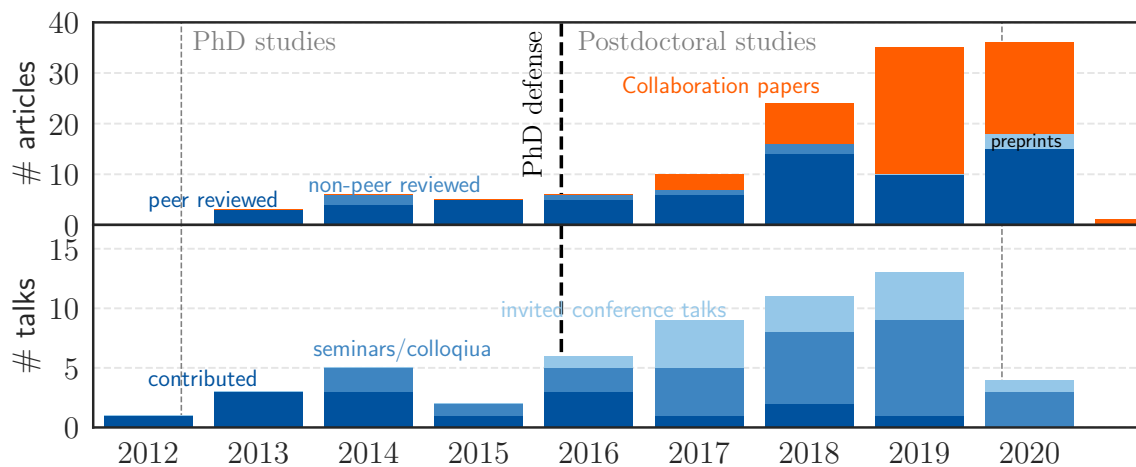
PI/Co-PI of computer time allocations (selected)

2018-2021 Gauss project at SuperMUC – project pn56zo (132.5 Mio CPUh)
2019-2020 NWO funded project 2019.021 (18.5 Mio CPUh)
2015-2018 Gauss project at SuperMUC – project pr48pu (139.2 Mio CPUh)
2016-2017 Jureca at NIC Juelich – project HPO21 (4.5 Mio CPUh)
2014-2015 SuperMUC at LRZ Munich – project pr87nu (25 Mio CPUh)

SUMMARY OF SCIENTIFIC OUTPUT

Track record (21/01/21)

Short authorlist articles	71
Peer reviewed articles:	59
Peer reviewed proceedings:	3
Non-peer reviewed proceedings:	6
Preprints/journal submissions:	3
Collaboration articles	56
LIGO/Virgo publications:	51
GRANDMA collaboration publication:	3
White Paper:	2
Additional measures:	
Number of first author articles:	21
Number of citations (Hep-inspire):	12,887
Average number of citations per paper (Hep-inspire):	105.5
h-index (HEP-SPIRES):	45
h-index – short author lists (HEP-SPIRES):	27
Number of invited conference talks:	13
Number of invited seminar/colloquia:	26
Number of contributed talks:	15
Total external acquired funding (in kEuro):	~780
Total acquired computational resources as PI/Co-PI (in Mio. CPUhs):	~349



Supervision

<i>currently</i>	primary supervisor: 1 PhD student (Federico Schianchi), 3 Master students (Nina Kunert, Michele Mattei, Pouyan Salehi)
	secondary supervisor: 2 PhD students at AEI Potsdam (Ludovica Crosato, Nikolas Wittek); 1 PhD student at ABC University Sao Paulo (Henrique Gieg)
	daily supervisor: 2 PhD student at University Jena (Francesco Fabri, Maximilian Kölsch), 1 PhD student at Nikhef (Tsung Ho Pang)
<i>previously</i>	daily supervisor of 3 PhD, 3 Master, and 2 Bachelor students

Teaching activities

University of Potsdam

- Winter Semester 2020/2021: Numerical Relativity, Research Seminar Theoretical Astrophysics, Introductory Project Astrophysics, Research Training Astrophysics, Seminar zur Theoretischen Physik
- Summer Semester 2020: Multi-messenger Astronomy

One-day lectures

- 17.04.2018 - (Amsterdam - Netherlands) Lecture on Gravitational Waves: *Numerical Relativity*
- 05.07.2017 - (Potsdam - Germany) Lecture in Parallel Programming: *Numerical Relativity: Numerical Methods and Implementation*
- 23.06.2016 - (Munich - Germany) Teacher Training Gravitational Waves: *Simulations of colliding black holes* (in German)

Seminars/Tutorials

- Seminar *Theoretical Electrodynamics* (Uni Jena, summer semester 2013)
- Seminar *Mathematical Methods III* (Uni Jena, winter semester 2012/2013)
- Tutorial *Mathematical Physics* (Uni Halle, summer semester 2010)
- Tutorial *Mathematical Basics for Quantum Physics* (Uni Halle, summer semester 2010)
- Tutorial *Theoretical Mechanics* (Uni Halle, winter semester 2009/2010)
- Online Tutorial for *Theoretical Physics* (Uni Halle, winter semester 2009/2010)
- Tutorial *Introduction to Theoretical mechanics* (Uni Halle, summer semester 2009)

Institutional Responsibilities

since 2020 co-chair of the ‘extreme matter’ group of the IVC
2012-2015 cluster administrator of the *quadler* cluster of the University of Jena (880 cores)
2011-2013 organizer/coordinator of the videoseminar “CRC/TR7 – Gravitational Wave Astronomy”

Reviewing Activities

Reviewer for journals: Physical Review Letters/D/C, Astrophysical Journal (Letters), Astrophysical Journal, Astronomy & Astrophysics, Annalen der Physik, Monthly Notices of the Royal Astronomical Society (Letters), Particles, Galaxies, Symmetry, General Relativity and Gravitation, European Physics Journal
Reviewer for HPC center: Leibniz Supercomputing Centre
Reviewer for Funding Agencies: The Velux Foundations (Denmark), ERC Advanced Grants

Membership of scientific societies and Major Collaborations

since May 2020 Senior Member of the LIGO Scientific Collaboration
since July 2019 Member of the GRANDMA collaboration
since May 2018 Member of the Collaboration for Computational Relativity (CoRe)
Jan. 2018-May 2020 Member of the Virgo Collaboration
since October. 2017 Member of the GWIC [Gravitational Wave International Committee]-3G
Dec. 2015-Jan. 2018 Member of the LIGO Scientific Collaboration
Oct. 2015- Jan. 2018 Member of the Simulating Extreme Spacetime (SXS) Collaboration
since 2007 Member of German Physical Society

Top 5 publications

- T. Dietrich, M. W. Coughlin, P. T. H. Pang, M. Bulla, J. Heinzl, L. Issa, I. Tews, S. Antier, Multi-messenger constraints on the neutron-star equation of state and the Hubble constant, **Science** **370**, 1450 (2020);
- T. Dietrich, S. Bernuzzi, W. Tichy, Closed-form tidal approximants for binary neutron star gravitational waveforms constructed from high-resolution numerical relativity simulations, **Phys. Rev. D** **96**, 121501 **Rap. Com.** (2017);
- T. Dietrich, S. Khan, R. Dudi, S. J. Kapadia, P. Kumar, A. Nagar, F. Ohme, F. Pannarale, A. Samajdar, S. Bernuzzi, G. Carullo, W. Del Pozzo, M. Haney, C. Markakis, M. Puerrer, G. Riemenschneider, Y. E. Setyawati, K. W. Tsang, C. Van Den Broeck, Matter imprints in waveform models for neutron star binaries: tidal and self-spin effects, **Phys.Rev. D** **99** (2019) no.2, 024029;

- T. Dietrich, M. Ujevic, W. Tichy, S. Bernuzzi, B. Brügmann (2016), Gravitational waves and mass ejecta from binary neutron star mergers: Effect of the mass-ratio, **Phys.Rev. D95 (2017) 024029**;
- LIGO Scientific and Virgo Collaborations, GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral, **Phys.Rev.Lett. 119 (2017) 161101**;

Recent invited planary talks/colloquia [selected]

- 24.10.2019 - (Symposium of the Chemical-Physical-Technical division of the Max Planck Society, Berlin - Germany) Heinz-Billing Award talk: *Numerical Relativity Simulations of Binary Neutron Star Mergers: Applications in the Multi-Messenger Astronomy Era*
- 20.08.2019 - (University of Oxford- United Kingdom) Astrophysics Seminar: *The multi-messenger picture of merging neutron stars*
- 20.03.2019 - (Munich - Germany) DPG-Spring Meeting: Symposium Extreme matter meets extreme gravity – review talk: *Modelling and analyzing a binary neutron-star merger: Interpreting a multi-messenger picture*
- 09.05.2018 - (Palma de Mallorca - Spain) 8th Iberian Gravitational Waves Meeting – review talk: *Modeling the GW signal of Binary Neutron Star Systems*
- 16.03.2018 - (Cambridge - UK) Relativity Seminar: *Simulating Binary Neutron Stars*

Important Outreach Activities

- Visualizations of the neutron star mergers GW170817 and GW190425 used by more than 50 newspapers, the German Federal Ministry for Research, and German television shows and watched about 100000 times on youtube
- Binary black hole visualizations for GW151226, GW170104, GW170814 used by *The New York Times*, *The Guardian*, *Frankfurter Allgemeine Zeitung* and a few hundred other newspapers, watched about 100000 times on youtube
- 7 highlighted papers by PRD Kaleidoscope and Cover image for Phys.Rev.Lett.119, issue 16
- Binary neutron star visualizations used in the *Warped Spacetime* performance of K. Thorne and the academy award winners P. Franklin and H. Zimmer
- Interviews and animations for the Advanced LIGO Documentary Project and the Japanese NHK documentary about GW170817

FULL PRESENTATION/TALK LIST

INVITED CONFERENCE TALKS

- 26.02.2020 - (Tbilis, GRANDMA workshop (online presentation)) *Constraining binary properties from kilonova observations*
- 12.11.2019 - (Amsterdam, EuCAPT workshop: Gravitational Waves for Fundamental Physics) Invited panelist for Numerical Relativity: *Challenges in Numerical relativity: GRHD, GRMHD, and ECOs*
- 24.10.2019 - (Berlin, Symposium of the Chemical-Physical-Technical division of the Max Planck Society) Heinz-Billing Award talk: *Numerical Relativity Simulations of Binary Neutron Star Mergers: Applications in the Multi-Messenger Astronomy Era*
- 26.06.2019 - (University Park campus of Penn State- US) IGC25: Multimessenger Universe: Invited panelist for Theory and Simulations of Binary Neutron Stars: *The status of General Relativistic Hydrodynamics Simulations*
- 20.03.2019 - (Munich- Germany) DPG-Spring Meeting: Symposium Extreme matter meets extreme gravity: *Modelling and analyzing a binary neutron-star merger: Interpreting a multi-messenger picture*
- 29.08.2018 - (Berlin- Germany) 2018 TeV Particle Astrophysics conference: *A Multimessenger Picture of Binary Neutron Star Mergers*
- 09.05.2018 - (Palma de Mallorca- Spain) 8th Iberian Gravitational Waves Meeting: *Modeling the GW signal of Binary Neutron Star Systems*
- 19.02.2018 - (Bremen - Germany) Workshop of the Research Training Group “Models of Gravity: *The Multimessenger Picture of Binary Neutron Star Mergers*
- 12.12.2017 - (Bonn - Germany) 11th Bonn workshop on Formation and Evolution of Neutron Stars: *The Multimessenger Picture of Binary Neutron Star Mergers*
- 17.07.2017 - (Lansing - US) MICRA 2017 [Microphysics in Computational Relativistic Astrophysics]: *Gravitational Waves and Electromagnetic Signals of Generic Binary Neutron Star Mergers*
- 27.06.2017 - (Lugano - Switzerland) PASC 2017: *Simulating Generic Binary Neutron Star Mergers*
- 27.03.2017 - (Münster - Germany) DPG-Spring Meeting (PhD thesis finalists’ talk): *Simulating Binary Neutron Star Mergers*
- 23.09.2016 - (Erlangen - Germany) HAP Workshop, The Non-Thermal Universe: *Gravitational waves and the prospects for multi-messenger astronomy*

INVITED SEMINARS/COLLOQUIA

- 14.12.2020 - (Potsdam - Germany) Astroparticle Physics Seminar [online]: *A multi-messenger interpretation of merging neutron stars*
- 28.09.2020 - (US, University of Minnesota) Cosmology Seminar [online]: *A multi-messenger interpretation of merging neutron stars*
- 18.03.2020 - (Potsdam - Germany) Seminar at Max Planck Institute for Gravitational Physics [online]: *A multi-messenger interpretation of merging neutron stars*
- 05.11.2019 - (Heidelberg - Germany) Colliding Pizza Seminar: *Modeling, Detecting, Analyzing, and Interpreting Gravitational Waves*
- 04.10.2019 - (Stockholm - Sweden) Astrophysics Seminar: *The multi-messenger picture of merging neutron stars*
- 20.08.2019 - (Oxford - United Kingdom) Astrophysics Seminar: *The multi-messenger picture of merging neutron stars*
- 24.05.2019 - (Berlin Zeuthen - Germany) Astroparticle Seminar of DESY: *Merging Neutron Stars: Interpreting the multi-messenger picture*

- 25.03.2019 - (Jena - Germany) Seminar of the Institute: *Constraining supranuclear baryonic and ultra-light axionic matter in the multi-messenger astronomy era*
- 06.02.2019 - (Urbana/Champaign- US) Astrophysics, Gravitation and Cosmology Seminar: *Binary neutron stars and their mimickers: Interpreting the multi-messenger picture*
- 30.01.2019 - (Frankfurt- Germany) Mini-Symposium on the connections of Gravitational Wave Physics and QCD: *Binary neutron stars and their mimickers: Interpreting the multi-messenger picture*
- 18.01.2019 - (Potsdam- Germany) Seminar at University of Potsdam: *Binary neutron stars and their mimickers: Interpreting the multi-messenger picture*
- 22.11.2018 - (Hanover - Germany) Seminar at Albert Einstein Institute: *When neutron star (mimicker) merge: a multi-messenger picture*
- 01.10.2018 - (Amsterdam - Netherlands) Cosmology Seminar: *When neutron star (mimicker) merge: a multi-messenger picture*
- 15.05.2018 - (Frankfurt - Germany) Astro Coffee Seminar: *Gravitational Waves and Electromagnetic Counterparts for Generic Binary Neutron Star Systems*
- 05.04.2018 - (Göttingen - Germany) Colloquium of Astrophysical Department: *A Multimessenger Picture of GW170817*
- 16.03.2018 - (Cambridge - United Kingdom) Relativity Seminar: *Simulating Binary Neutron Stars*
- 23.02.2018 - (Amsterdam - Netherlands) Seminar of Gravitational Wave Data-analysis Group: *Gravitational Waves and Electromagnetic Counterparts for Generic Binary Neutron Star Systems*
- 25.04.2017 - (Jena - Germany) Seminar for Research Training Group "Quantum and Gravitational Fields": *Simulating Neutron Star Mergers*
- 08.03.2017 - (Potsdam - Germany) Seminar at Albert Einstein Institute: *Simulating Generic Binary Neutron Star Mergers*
- 09.02.2017 - (Trento - Italy) INFN Seminar: *Simulating generic binary neutron star mergers*
- 31.01.2017 - (Parma - Italy) INFN Seminar : *Simulating generic binary neutron star mergers*
- 25.11.2016 - (Berlin - Germany) Public Talk at Bruno H.-Bürgel Observatory Berlin: *Gravitational Wave Astronomy (in German)*
- 21.06.2016 - (Magdeburg - Germany) Colloquium of Physics Department: *Gravitational Waves*
- 19.01.2015 - (Potsdam - Germany) Seminar at Albert Einstein Institute: *Recent progress in numerical relativity simulations of neutron star spacetimes*
- 28.10.2014 - (Frankfurt - Germany) Astro Coffee Seminar: *Realistic spins and quasiuniversal relations in binary neutron star mergers*
- 20.01.2014 - (Jena - Germany) SFB/TR7-Videoseminar: *Can spin be ignored in binary neutron star mergers?*

CONTRIBUTED TALKS

- 10.07.2019 - (Valencia - Spain) GR22/Amaldi: *A Multi-Messenger Analysis of Neutron Star Mergers with Numerical Relativity Simulations*
- 29.05.2018 - (Groningen - Netherlands) 7th Belgian-Dutch Gravitational Waves Meeting: *A multi-messenger picture of binary neutron star mergers*
- 22.03.2018 - (Cambridge - UK) 26th Euromicro International Conference on Parallel, Distributed and Network-based Processing: *High-resolution numerical relativity simulations of spinning binary neutron star mergers*
- 14.03.2017 - (Bremen - Germany) DPG-Spring Meeting: *Simulating Generic Binary Neutron Star Mergers*
- 14.12.2016 - (Valencia - Spain) CoCoNut meeting: *Simulating Generic Binary Neutron Star Mergers*

- 11.07.2016 - (New York - US) GR21: *Generic Binary Neutron Star Systems*
- 03.03.2016 - (Hamburg - Germany) DPG-Spring Meeting: *Binary Neutron Stars with Generic Spin and Mass ratio*
- 19.03.2015 - (Berlin - Germany) DPG-Spring Meeting: *Dynamical simulations of neutron star spacetimes with conservative mesh refinement*
- 05.12.2014 - (Jena - Germany) Conclusion Workshop of SFB/TR7: *Gravitational Wave Astronomy: Quasiuniversal properties of binary neutron star mergers*
- 20.03.2014 - (Berlin - Germany) DPG-Spring Meeting: *Mergers of binary neutron stars with realistic spin*
- 27.02.2014 - (Tübingen - Germany) SFB/TR7 semiannual meeting: *Mergers of binary neutron stars with realistic spin*
- 04.09.2013 - (Prague - Czech Republic) International Conference on Mathematical Modeling in Physical Sciences: *Spinning black hole in the puncture method*
- 12.07.2013 - (Warsaw - Poland) GR20/Amaldi 10: *Black Hole Spin within the moving puncture method*
- 27.02.2013 - (Jena - Germany) DPG-Spring Meeting: *1+log-Trumpet Initial Data in Numerical Relativity*
- 16.10.2012 - (Munich - Germany) SFB/TR7 semiannual meeting: *1+log puncture data*

FULL PUBLICATION LIST

REGULAR ARTICLES, LETTERS, RAPID COMMUNICATIONS

- (1) J. Heinzel, M.W. Coughlin, T. Dietrich, M. Bulla, S. Antier, N. Christensen, D.A. Coulter, R.J. Foley, L. Issa, N. Khetan, *Comparing inclination dependent analyses of kilonova transients*, arXiv:2010.10746 [astro-ph.HE], accepted in MNRAS.
- (2) I. Tews, P. T. H. Pang, T. Dietrich, M. W. Coughlin, S. Antier, M. Bulla, J. Heinzel, L. Issa, *On the nature of GW190814 and its impact on the understanding of supranuclear matter*, arXiv:2007.06057 [astro-ph.HE], accepted in Astrophysical Journal Letters.
- (3) T. Dietrich, M. W. Coughlin, P. T. H. Pang, M. Bulla, J. Heinzel, L. Issa, I. Tews, S. Antier, *Multi-messenger constraints on the neutron-star equation of state and the Hubble constant*, Science 370, 1450 (2020), arxiv:2002.11355 [gr-qc].
- (4) A. Poudel, W. Tichy, B. Brügmann, T. Dietrich, *Increasing the Accuracy of Binary Neutron Star Simulations with an improved Vacuum Treatment*, Phys.Rev.D 102 (2020) 10, 104014, arXiv:2009.06617 [gr-qc].
- (5) P. T. H. Pang, T. Dietrich, I. Tews, C. Van Den Broeck, *Parameter estimation for strong phase transitions in supranuclear matter using gravitational-wave astronomy*, Phys.Rev.Res. 2 (2020) 033514, arXiv: 2006.14936 [astro-ph.HE].
- (6) M. W. Coughlin, S. Antier, T. Dietrich, R. J. Foley, J. Heinzel, M. Bulla, N. Christensen, D. A. Coulter, L. Issa, and N. Khetan, *Measuring the Hubble Constant with a sample of kilonovae*, Nature Commun. 11 (2020) 1, 4129, arXiv: 2008.07420 [astro-ph.HE].
- (7) T. Dietrich, T. Hinderer, A. Samajdar, *Interpreting Binary Neutron Star Mergers: Describing the Binary Neutron Star Dynamics, Modelling Gravitational Waveforms, and Analyzing Detections*, accepted in General Relativity and Gravitation, arXiv:2004.02527[gr-qc].
- (8) S. V. Chaurasia, T. Dietrich, M. Ujevic, K. Hendriks, R. Dudi, F. M. Fabbri, W. Tichy, B. Brügmann, *Gravitational waves and mass ejecta from binary neutron star mergers: Effect of the spin orientation*, Phys.Rev.D 102 (2020) 2, 024087, arXiv:2003.11901[gr-qc].
- (9) A. Matas, T. Dietrich, A. Buonanno, T. Hinderer, M. Pürrer, F. Foucart, M. Boyle, M. D. Duez, L. E. Kidder, H. P. Pfeiffer, M. A. Scheel, *An aligned-spin neutron-star–black-hole waveform model based on the effective-one-body approach and numerical-relativity simulations*, Phys.Rev.D 102 (2020) 4, 043023, arXiv: 2004.10001 [gr-qc].
- (10) S. Ossokine, A. Buonanno, S. Marsat, R. Cotesta, S. Babak, T. Dietrich, R. Haas, I. Hinder, H. P. Pfeiffer, M. Pürrer, C. J. Woodford, M. Boyle, L. Kidder, M. A. Scheel, B. Szilagyi, *Multipolar Effective-One-Body Waveforms for Precessing Binary Black Holes: Construction and Validation*, Phys.Rev.D 102 (2020) 4, 044055, arXiv:2004.09442 [gr-qc].
- (11) M. W. Coughlin, T. Dietrich, S. Antier, M. Almualla, S. Anand, M. Bulla, F. Foucart, N. Guessoum, K. Hotokezaka, V. Kumar, G. Raaijmakers, Samaya Nissanke, *Implications of the search for optical counterparts during the second part of the Advanced LIGO's and Advanced Virgo's third observing run: lessons learned for future follow-up observation*, MNRAS 497 (2020) 1, 1181-1196, 2006.14756 [astro-ph.HE].
- (12) J. E. Thompson, E. Fauchon-Jones, S. Khan, E. Nitoglia, F. Pannarale, T. Dietrich, and M. Hannam, *Modeling the gravitational wave signature of neutron star black hole coalescences: PhenomNSBH*, Phys.Rev.D 101 (2020) 12, 124059, arXiv:2002.08383 [gr-qc].
- (13) A. Samajdar, T. Dietrich, *Constructing Love-Q-Relations with Gravitational Wave Detections*, Phys. Rev.D 101 (2020) 12, 124014, arXiv:2002.07918 [gr-qc].
- (14) P. T. H. Pang, O. A. Hannuksela, T. Dietrich, G. Pagano, I. W. Harry, *Lensed or not lensed: Determining lensing magnifications for binary neutron star mergers from a single*

- detection, Mon.Not.Roy.Astron.Soc. Volume 495(4), p.3740-3750, arXiv:2002.04893 [astro-ph.HE].
- (15) A. Chen, N. K. Johnson-McDaniel, T. Dietrich, R. Dudi, *Distinguishing high-mass binary neutron stars from binary black holes with second- and third-generation gravitational wave observatories*, Phys.Rev.D 101 (2020) 10, 103008, arXiv:2001.11470 [astro-ph.HE].
 - (16) M. W. Coughlin, T. Dietrich, J. Heinzel, N. Khetan, S. Antier, N. Christensen, D. A. Coulter, R. J. Foley, *Using kilonovae as standard candles to measure the Hubble Constant*, Phys. Rev. Research 2, 022006(R), arXiv:1908.00889 [astro-ph.HE].
 - (17) M. W. Coughlin, T. Dietrich, S. Antier, M. Bulla, F. Foucart, K. Hotokezaka, G. Raaijmakers, T. Hinderer, S. Nissanke, *Implications of the search for optical counterparts during the first six months of the Advanced LIGO's and Advanced Virgo's third observing run: possible limits on the ejecta mass and binary properties*, MNRAS, Volume 492(1), p.863-876, arXiv:1910.11246 [astro-ph.HE]. (Highlighted in Nature Astronomy)
 - (18) W. Tichy, A. Rashti, T. Dietrich, R. Dudi, B. Brügmann, *Constructing Binary Neutron Star Initial Data with High Spins, High Compactness, and High Mass-Ratios*, Phys.Rev. D100 (2019) no.12, 124046, arXiv:1910.09690 [gr-qc].
 - (19) G. Camelió, T. Dietrich, M. Marques, S. Rosswog, *Rotating neutron stars with non-barotropic thermal profile*, Phys.Rev. D100 (2019) 123001 (**editor suggestion**), arXiv:1908.11258 [gr-qc].
 - (20) Tim Dietrich, Katy Clough, *Cooling binary neutron star remnants via nucleon-nucleon-axion bremsstrahlung*, Phys.Rev. D100 (2019) no.8, 083005, arXiv:1909.01278 [gr-qc].
 - (21) H. Gieg, T. Dietrich, M. Ujevic, *Simulating Binary Neutron Stars with Hybrid Equation of States: Gravitational Waves, Electromagnetic Signatures, and Challenges for Numerical Relativity*, Particles 2019, 2(3), 365-384, arXiv:1908.03135 [gr-qc].
 - (22) K. W. Tsang, T. Dietrich, C. Van Den Broeck, *Modeling the postmerger gravitational wave signal and extracting binary properties from future binary neutron star detections*, Phys.Rev. D100 (2019) no.4, 044047, arXiv:1907.02424 [gr-qc].
 - (23) T. Dietrich, A. Samajdar, S. Khan, N. K. Johnson-McDaniel, R. Dudi, W. Tichy, *Improving the NRTidal model for binary neutron star systems*, Phys.Rev. D100 (2019) no.4, 044003, arXiv:1905.06011 [gr-qc].
 - (24) A. Samajdar, T. Dietrich, *Waveform systematics for binary neutron star gravitational wave signals: Effects of spin, precession, and the observation of electromagnetic counterparts*, Phys.Rev. D100 (2019) no.2, 024046, arXiv:1905.03118 [gr-qc].
 - (25) M. W. Coughlin, T. Dietrich, *Can a black hole-neutron star merger explain GW170817, AT2017gfo, GRB170817A?*, Phys.Rev. D100 (2019) no.4, 043011, arXiv:1901.06052 [astro-ph.HE].
 - (26) M. W. Coughlin, T. Dietrich, B. Margalit, B. D. Metzger, *Multi-messenger Bayesian parameter inference of a binary neutron-star merger*, MNRAS: Letters, V. 489 (1) (2019), p. L91L96, arXiv:1812.04803.
 - (27) S. Ascenzi, M. W. Coughlin, T. Dietrich, R. J. Foley, E. Ramirez-Ruiz, S. Piranomonte, B. Mockler, A. Murguia-Berthier, C. L. Fryer, N. M. Lloyd-Ronning, S. Rosswog *A luminosity distribution for kilonovae based on short gamma-ray burst afterglows*, Mon.Not.Roy.Astron.Soc. 486 (2019) no.1, 672-690, arXiv:1811.05506 [astro-ph.HE].
 - (28) A. Samajdar, T. Dietrich, *Waveform systematics for binary neutron star gravitational wave signals: effects of the point-particle baseline and tidal descriptions*, Phys.Rev. D98 (2018) no.12, 124030, arXiv:1810.03936 [gr-qc].

- (29) T. Dietrich, F. Day, K. Clough, M. Coughlin, J. Niemeyer, *Neutron star – axion star collisions in the light of multi-messenger astronomy*, Mon.Not.Roy.Astron.Soc. 483 (2019) no.1, 908-914, arXiv:1808.04746 [astro-ph.HE].
- (30) K. Clough, T. Dietrich, J. Niemeyer, *Axion star collisions with black holes and neutron stars in full 3D numerical relativity*, Phys.Rev. D98 (2018) no.8, 083020, arXiv:1808.04668 [gr-qc].
- (31) R. Dudi, F. Pannarale, T. Dietrich, M. Hannam, S. Bernuzzi, F. Ohme, B. Brügmann, *Relevance of tidal effects and post-merger dynamics for binary neutron star parameter estimation*, Phys. Rev. D98 (2018) no.8, 084061, arXiv:1808.09749[gr-qc].
- (32) T. Dietrich, S. Ossokine, K. Clough, *Full 3D Numerical Relativity Simulations of Neutron Star – Boson Star Collisions with BAM*, Class.Quant.Grav. 36 (2019) no.2, 025002, arXiv:1807.06959 [gr-qc].
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