John T. Whelan – Curriculum Vitæ

School of Mathematical Sciences, Center for Computational Relativity & Gravitation
Rochester Institute of Technology, 85 Lomb Memorial Drive, Rochester, NY 14623 USA
john.whelan@ligo.org, http://ccrg.rit.edu/∼whelan/

CURRENT POSITION

Professor — *School of Mathematical Sciences*
Rochester Institute of Technology — *Assoc. 2008 – 2019; Full 2019 – pres*

PRIOR EXPERIENCE

Gastrofessor — *Institute for Theoretical Physics*
Goethe University Frankfurt — *2019 August – 2021 August*

Visiting Scientist — *Gravitational Waves Group*
Albert Einstein Institute (Hannover) — *2014 June – 2015 August*

Senior Scientist — *Gravitational Waves Group*
Albert Einstein Institute (Potsdam) — *2006 June – 2008 December*

Assistant Professor — *Department of Physics*
Loyola University New Orleans — *2002 August – 2006 June*

Senior Lecturer/Faculty Associate — *Relativity Group*
Univ. of Texas at Brownsville — *2000 September – 2002 August*

Postdoktorand — *Institut für theoretische Physik*
Universität Bern — *1998 September – 2000 August*

Postdoctoral Researcher — *Relativity Group*
University of Utah — *1996 September – 1998 September*

PH.D DISSERTATION

Addressing the Issues of Quantum Gravity in Generalized Quantum Mechanics
1996 Fall; Supervising Professor: James B. Hartle

EDUCATION

University of California, Santa Barbara, Santa Barbara, CA, USA *1991 – 1996*
Ph.D. in Physics, 1996 December

Cornell University, Ithaca, NY, USA *1987 – 1991*
B.A. *summa cum laude* in Astronomy & w/distinction in all subjects, 1991 May

EXTERNAL FUNDING AS PI

NSF Grant PHY-2110460: **WoU-MMA: New Frontiers in the Search for Continuous Gravitational Waves from the Low-Mass X-Ray Binary Scorpius X-1** (PI) *RIT*, 2021–2024, $270,000

NSF Grant PHY-1806824: **Extending the Reach of Continuous Gravitational Wave Searches** (PI) *RIT*, 2018–2022, $240,000

NSF Grant PHY-1505629: **Gravitational Wave Observation and Inference in the Advanced Detector Era** (PI) *RIT*, 2015–2017, $70,000

NSF Grant PHY-1207010: **Data Analysis Techniques for Advanced Gravitational Wave Detectors** (PI) *RIT*, 2012–2016, $210,000

NSF Grant PHY-0855494: **RUI - Gravitational Wave Modelling and Detection** (PI) *RIT*, 2009–2013, $210,000

NSF Grant PHY-0300609: **RUI: Coherent And Coincident Gravitational Wave Searches With LIGO And Other Detectors** (PI) *Loyola*, 2003–2006, $197,278

Courses Taught

* indicates a course developed by me; †=graduate; ‡=online

STAT 345: Nonparametric Statistics — School of Mathematical Sciences
Rochester Institute of Technology — *2018 Fall*, *2023 Spring*

ASTP 711*,†: Adv Stat Meth for Astrophys — Astrophysical Sciences and Technology
Rochester Institute of Technology — *2022 Fall*

STAT 753†,‡: Nonparam Stats & Bootstrapping — School of Mathematical Sciences
Rochester Institute of Technology — *2019 Fa*, *2020 Fa*, *2021 Fa*, *2022 Fa*

MATH 251: Probability & Statistics I — School of Mathematical Sciences
Rochester Institute of Technology — *2022 Spring*

MATH 381: Complex Variables — School of Mathematical Sciences
Rochester Institute of Technology — *2022 Spring*

STAT 789*,†,‡: Found. of Bayesian Data Analysis — School of Mathematical Sciences
Rochester Institute of Technology — *2020 Spring*, *2021 Spring*

MATH 252: Probability & Statistics II — School of Mathematical Sciences
Rochester Institute of Technology — *2016 Fall*, *2018 Spring*, *2019 Spring*

STAT 489*: Bayesian Meth of Data Analysis — School of Mathematical Sciences
Rochester Institute of Technology — *2017 Spring*, *2019 Spring*

ASTP 611*,†: Stat Meth for Astrophys — Astrophysical Sciences and Technology
Rochester Institute of Technology — *2014 Spring*, *2017 Fall*

STAT 406: Mathematical Statistics II — School of Mathematical Sciences
Rochester Institute of Technology — *2016 Spring*

STAT 405: Mathematical Statistics I — School of Mathematical Sciences
Rochester Institute of Technology — *2013 Fall*, *2015 Fall*

1016-345: Prob & Stat for Engineers — School of Mathematical Sciences
Rochester Institute of Technology — *2011 Wi*, *2012 Fa*, *2013 Sp*

1016-420: Complex Variables — School of Mathematical Sciences
Rochester Institute of Technology — *2011 Fa*, *2013 Wi*

1016-351: Probability — School of Mathematical Sciences
Rochester Institute of Technology — *2010 Wi*, *2010 Sp*, *2011 Fa*, *2012 Wi*

1060-710*,†: Math/Stat Meth Astrophys — Astrophysical Sciences and Technology
Rochester Institute of Technology — *2009 Fa*, *2010 Fa*

PHYS A301: Classical Mechanics II — Department of Physics
Loyola Univ. New Orleans — *2003 Sp*, *2004 Sp*, *2005 Sp*, *2006 Su*

PHYS A300: Classical Mechanics I — Department of Physics
Loyola Univ. New Orleans — *2002 Fa*, *2003 Fa*, *2004 Fa*, *2006 Sp*

PHYS Z134*: Astronomy — Department of Physics
Loyola Univ. New Orleans — *2003 Fa*, *2004 Fa*, *2005 Sp*, *2006 Sp*

PHYS A410: Thermal Physics — Department of Physics
Loyola Univ. New Orleans — *2003 Sp*, *2004 Sp*

PHYS 1411: Intro to Astronomy — Department of Physical Sciences
Univ. of Texas at Brownsville — *2001 Spring*

PHYS 724*: Quantum Theory — Department of Physics
University of Utah — *1997 Spring*

Service Record

Co-Chair, Continuous Waves Group *LIGO Scientific Collaboration*	*Obs Science Division* *2022–present*
Elections and Membership Committee *LIGO Scientific Collaboration*	*2012–present* **chair/co-chair** *2019–present*
LSC Management Team *LIGO Scientific Collaboration*	*2022–present*
MOU Review Committee *LIGO Scientific Collaboration*	*2023–present*
Admissions Committee *Rochester Institute of Technology*	*Astrophysical Sci & Tech PhD* *2022-present;* **chair** *2015-2017*
Executive Committee *Rochester Institute of Technology*	*Ctr for Computational Relativity & Grav* *2008–present*
Council Representative *LIGO Scientific Collaboration*	*Loyola/RIT* *2004–2006; 2008–present*
Co-Chair, Internal Review Committee *LIGO Scientific Collaboration*	*MBTA low-latency search* *2015–2022*
Faculty Search Committee *Rochester Institute of Technology*	*School of Mathematical Sciences* *2012–2014; 2017–2018; 2021–2022*
Program Improvement Committee *Rochester Institute of Technology*	*Programs of Applied Statistical Science* *2020–2021*
Curriculum Committee *Rochester Institute of Technology*	*Astrophysical Sci & Tech PhD* *2010–2012; 2019–2021*
Graduate Program Coordinator *Rochester Institute of Technology*	*Astrophysical Sciences & Technology* *2015–2019*
Publications & Presentations Cmte *LIGO Scientific Collaboration*	*Astrophysical Sciences & Technology* *2012–2018*
Innovative Curricula Task Force *Rochester Institute of Technology*	*Statistics Program* *2016–2018*
Statistics Committee *Rochester Institute of Technology*	*School of Mathematical Sciences* *2013–2016*
Department Head Search Committee *Rochester Institute of Technology*	*School of Mathematical Sciences* *2012–2013*
Strategic Planning Group *Rochester Institute of Technology*	*Astrophysical Sci & Tech PhD* *2011–2014*
Internal Review Committee *LIGO Scientific Collaboration*	*Compact Binary Coalescence Searches* *2003–2012;* **chair** *2007–2011*
Undergraduate Research Council *Rochester Institute of Technology*	*College of Science* *2011–2012*
Qualifying Exam Committee *Rochester Institute of Technology*	*Astrophysical Sci & Tech PhD* *2010–2014*
Seminar Organizer *Rochester Institute of Technology*	*Ctr for Computational Relativity & Grav* *2009–2010*

Chair, Organizing Committee *Rochester Institute of Technology*	*12th Eastern Gravity Meeting* *2009*
Data Analysis Software Committee *LIGO Scientific Collaboration*	*Data Analysis Software Working Group* *2006–2015*
Groupware Taskforce *Albert Einstein Institute*	*Max Planck Inst for Grav Phys* *2008*
Local Organizing Committee *Albert Einstein Institute*	*11th GW Data Analysis Workshop* *2006*
Scientific Organizing Committee *Univ. of Texas at Brownsville*	*10th GW Data Analysis Workshop* *2005*
Strategic Planning Committee *Loyola Univ. New Orleans*	*College of Arts and Sciences* *2005–2006*
Student Affairs and Policy Committee *Loyola Univ. New Orleans*	*University Senate* *2004–2006*
Faculty Search Committee *Loyola Univ. New Orleans*	*Dept. of Physics* *2002–2003*
ASIS Secretary *LIGO Scientific Collaboration*	*ASIS Subgroup* *2001–2002*

RESEARCH SUPERVISION AT RIT

- Jared Wofford (PhD student, 2016-present)
- Katelyn Wagner (REU 2019; Master's student, 2020-2022)
- Jacob Klein (undergraduate student, 2021)
- John J. Bero (Master's student, 2016-2018)
- Yuanhao Zhang (PhD student, 2014-2017)
- Gabriel Phelan (undergraduate student, 2016-2017)
- Andrew Williamson (postdoctoral reaearcher, 2016-2017)
- Jackson Henry (undergraduate student, 2013-2014)
- Satya Mohapatra (postdoctoral reaearcher, 2012-2013)
- Santosh Sundaresan (visiting undergraduate student, 2012)
- Alex Weinstock-Collins (undergraduate student, 2011-2013)
- Melissa Frei (postdoctoral researcher, 2011-2012)
- Anthony Castiglia (undergraduate student, 2010-2012)
- Prabath Peiris (Master's student, 2010-2012)
- Benjamin Farr (undergraduate student, 2009)

RESEARCH SUPERVISION AT LOYOLA

- Bryan McCaulley (undergraduate student, 2005-2006)
- Marc Cenac (undergraduate student, 2004-2005)
- Jennifer Barré (undergraduate student, 2003-2004)

LSC PUBLICATIONS COORDINATED

Model-based Cross-correlation Search for Gravitational Waves from the Low-mass X-Ray Binary Scorpius X-1 in LIGO O3 Data (Abbott et al [LSC, Virgo & KAGRA])
Astrophys. J. Lett. **941,** L30 (2022); arXiv:2209.02863

Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-based Cross-correlation Search in Advanced LIGO Data (Abbott et al [LSC & Virgo], Steeghs and Wang)
Astrophys. J. **847,** 47 (2017); arXiv:1706.03119

First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds (Abbott et al [LSC and ALLEGRO])
Phys. Rev. D **76,** 022001 (2007); gr-qc/0703068

REFEREED NON-LSC PUBLICATIONS

Search for Gravitational Waves from Scorpius X-1 in LIGO O3 Data With Corrected Orbital Ephemeris (JTW et al)
Astrophys. J. **949,** 117 (2023); arXiv:2302.10338

Precision Ephemerides for Gravitational-wave Searches – IV: Corrected and refined ephemeris for Scorpius X-1 (Killestein et al)
Mon. Not. R. Astron. Soc. **520**, 5317 (2023); arXiv:2302.00018

Template Lattices for a Cross-Correlation Search for Gravitational Waves from Scorpius X-1 (Wagner, JTW, Wofford & Wette)
Classical Quant. Grav. **39,** 075013 (2022); arXiv:2106.16142

Bradley-Terry Modeling with Multiple Game Outcomes with Applications to College Hockey (JTW and Klein)
Mathematics for Applications **10,** 157 (2021); arXiv:2112.01267

Prediction and Evaluation in College Hockey using the Bradley-Terry-Zermelo Model (JTW and Wodon)
Mathematics for Applications **8,** 131 (2019); arXiv:2001.04226

An analytic approximation to the Bayesian detection statistic for continuous gravitational waves (Bero and JTW)
Classical Quant. Grav. **36,** 015013 (2019); arXiv:1808.05453

OctApps: a library of Octave functions for continuous gravitational-wave data analysis (Wette et al)
J. of Open Source Software **3,** 707 (2018); arXiv:1806.07442

Resampling to accelerate cross-correlation searches for continuous gravitational waves from binary systems (Meadors, Krishnan, Papa, JTW & Zhang)
Phys. Rev. D **97,** 044017 (2018); arXiv:1712.06515

Hierarchical Bayesian Bradley-Terry for Applications in Major League Baseball (Phelan and JTW)
Mathematics for Applications **7,** 71 (2018); arXiv:1712.05879

The challenging task of determining star formation rates: the case of a massive stellar burst in the brightest cluster galaxy of Phoenix galaxy cluster (Mittal, McDonald, JTW & Bruzual)
Mon. Not. R. Astron. Soc. **465**, 3143 (2017); arXiv:1611.02562

Gravitational waves from Sco X-1: A comparison of search methods and prospects for detection with advanced detectors (Messenger et al)
Phys. Rev. D **92,** 023006 (2015); arXiv:1504.05889

Model-Based Cross-Correlation Search for Gravitational Waves from Scorpius X-1 (JTW, Sundaresan, Zhang and Peiris)
Phys. Rev. D **91,** 102005 (2015); arXiv:1504.05890

Constraining star formation rates in cool-core brightest cluster galaxies (Mittal, JTW and Combes)
Mon. Not. R. Astron. Soc. **450**, 2564 (2015); arXiv:1208.1730

Treatment of Calibration Uncertainty in Multi-Baseline Cross-Correlation Searches for Gravitational Waves (JTW, Robinson, Romano and Thrane)
J. Phys. Conf. Ser. **484,** 012027 (2014); arXiv:1205.3112

New Coordinates for the Amplitude Parameter Space of Continuous Gravitational Waves (JTW, Prix, Cutler and Willis)
Classical Quant. Grav. **31,** 065002 (2014); arXiv:1311.0065

Improving the sensitivity of a search for coalescing binary black holes with non-precessing spins in gravitational wave data (Privitera, Mohapatra et al)
Phys. Rev. D **89,** 024003 (2014); arXiv:1310.5633

Herschel observations of extended atomic gas in the core of the Perseus cluster (Mittal et al)
Mon. Not. R. Astron. Soc. **426**, 2957 (2012); arXiv:1208.1730

Designing a cross-correlation search for continuous-wave gravitational radiation from a neutron star in the supernova remnant SNR 1987A (Chung, Melatos, Krishnan & JTW)
Mon. Not. R. Astron. Soc. **414**, 2650 (2011); arXiv:1102.4654

Current status of gravitational wave observations (Fairhurst, Guidi, Hello, JTW & Woan)
Gen. Relativ. Gravit. **43**, 387 (2011); arXiv:0908.4006

The Mock LISA Data Challenges: from Challenge 3 to Challenge 4 (Babak et al [MLDC Task Force], Adams et al [Challenge 3 Participants])
Classical Quant. Grav. **27,** 084009 (2010); arXiv:0912.0548

Searching for Galactic White Dwarf Binaries in the Second Mock LISA Data Challenge using an $\mathcal{F}$-Statistic Template Bank (JTW, Prix & Khurana)
Classical Quant. Grav. **27,** 055010 (2010); arXiv:0908.3766

Testing gravitational-wave searches with numerical relativity waveforms: results from the first NINJA project (Aylott et al)
Classical Quant. Grav. **26,** 165008 (2009); arXiv:0901.4399

Searching for numerically simulated signals from black-hole binaries with a phenomenological template family (Santamaría, Krishnan & JTW)
Classical Quant. Grav. **26,** 114010 (2009); arXiv:0901.4696

Status of NINJA: the Numerical INJection Analysis project (Cadonati et al)
Classical Quant. Grav. **26,** 114008 (2009); arXiv:0905.4227

Searching for gravitational waves from Cassiopeia A with LIGO (Wette et al)
Classical Quant. Grav. **25,** 235011 (2008); arXiv:0802.3332

Improved search for galactic white-dwarf binaries in Mock LISA Data Challenge 1B using an $\mathcal{F}$-statistic template bank (JTW, Prix & Khurana)
Classical Quant. Grav. **25,** 184029 (2008); arXiv:0805.1972

The Mock LISA Data Challenges: from Challenge 1B to Challenge 3 (Babak et al [MLDC Task Force], Arnaud et al [Challenge-1B Participants])
Classical Quant. Grav. **25,** 184026 (2008); arXiv:0806.2110

High-frequency corrections to the detector response and their effect on searches for gravitational waves (Rakhmanov, Romano & JTW)
Classical Quant. Grav. **25,** 184017 (2008); arXiv:0808.3805

Report on the second Mock LISA data challenge (Babak et al [MLDC Task Force], Auger et al [Challenge-2 Participants])
Classical Quant. Grav. **25,** 114037 (2008); arXiv:0711.2667

Template bank for gravitational waveforms from coalescing binary black holes: Nonspinning binaries (Ajith et al)
Phys. Rev. D **77,** 104017 (2008); arXiv:0710.2335

Cross-correlation search for periodic gravitational waves (Dhurandhar, Krishnan, Mukhopadhyay & JTW)
Phys. Rev. D **77,** 082001 (2008); arXiv:0712.1578

A phenomenological template family for black-hole coalescence waveforms (Ajith et al)
Classical Quant. Grav. **24,** S689 (2007); arXiv:0704.3764

Prospects for stochastic background searches using Virgo and LSC interferometers (Cella et al [for LSC-Virgo working grp on stochastic backgrounds])
Classical Quant. Grav. **24,** S639 (2007); arXiv:0704.2983

$\mathcal{F}$-statistic search for white-dwarf binaries in the first Mock LISA Data Challenge (Prix and JTW)
Classical Quant. Grav. **24,** S565 (2007); arXiv:0707.0128

Report on the first round of the Mock LISA Data Challenges (Arnaud et al)
Classical Quant. Grav. **24,** S529 (2007); gr-qc/0701139

Stochastic gravitational wave measurements with bar detectors: dependence of response on detector orientation
Classical Quant. Grav. **23,** 1181 (2006); gr-qc/0509109

A data analysis technique for the LIGO-ALLEGRO stochastic background search (JTW et al)
Classical Quant. Grav. **22,** S1087 (2005); gr-qc/0506025

Optimal combination of signals from colocated gravitational wave interferometers for use in searches for a stochastic background (Lazzarini et al)
Phys. Rev. D **70,** 062001 (2004); gr-qc/0403093

First upper limit analysis and results from LIGO science data: stochastic background (JTW [for the LSC])
Classical Quant. Grav. **21,** S685 (2004); gr-qc/0412022

Stochastic background search correlating ALLEGRO with LIGO engineering data (JTW, Daw, Heng, McHugh & Lazzarini)
Classical Quant. Grav. **20,** S689 (2003); gr-qc/0308045

Towards the first search for a stochastic background in LIGO data: applications of signal simulations (Bose et al)
Classical Quant. Grav. **20,** S677 (2003);

Progress on stochastic background search codes for LIGO (JTW et al)
Classical Quant. Grav. **19,** 1521 (2002); gr-qc/0110019

Radiation-balanced simulations for binary inspiral (JTW, Beetle, Landry & Price)
Classical Quant. Grav. **19,** 1285 (2002); gr-qc/0110004 gr-qc/9909076

Tidal Interaction in Binary-Black-Hole Inspiral (Price and JTW)
Phys. Rev. Lett. **87,** 231101 (2001); gr-qc/0107029

Quasi-stationary binary inspiral: II. Radiation-balanced boundary conditions (JTW, Krivan & Price)
Classical Quant. Grav. **17,** 4895 (2000);

Quasistationary binary inspiral. I. Einstein equations for the two Killing vector spacetime (JTW and Romano)
Phys. Rev. D **60,** 084009 (1999); gr-qc/9812041

Modeling the decoherence of spacetime
Phys. Rev. D **57,** 768 (1998); gr-qc/9612028

Generalized quantum mechanics of non-Abelian gauge theories
Phys. Rev. D **53,** 3118 (1996); hep-th/9507107

Spacetime alternatives in the quantum mechanics of a relativistic particle
Phys. Rev. D **50,** 6344 (1994); gr-qc/9406029

SELECTED LSC PUBLICATIONS

A full list of my LSC and non-LSC publications is available at
http://ccrg.rit.edu/∼whelan/papers/
I contributed to the following publications as a member of the LSC's Continuous Waves, Compact Binary Coalescence, and Stochastic Background Search Groups:

Search for gravitational waves from Scorpius X-1 with a hidden Markov model in O3 LIGO data (Abbott et al [LSC, Virgo & KAGRA])
Phys. Rev. D **106,** 062002 (2022); arXiv:2201.10104

Searches for Gravitational Waves from Known Pulsars at Two Harmonics in the Second and Third LIGO-Virgo Observing Runs (Abbott et al [LSC, Virgo & KAGRA]; Antonopoulou et al)
Astrophys. J. **935,** 1 (2022); arXiv:2111.13106

Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data (Abbott et al [LSC, Virgo & KAGRA])
Phys. Rev. D **106,** 042003 (2022); arXiv:2204.04523

Narrowband searches for continuous and long-duration transient gravitational waves from known pulsars in the LIGO-Virgo third observing run (Abbott et al [LSC, Virgo & KAGRA]; Antonopoulou et al)
Astrophys. J. **932,** 133 (2022); arXiv:2112.10990

All-sky search for gravitational wave emission from scalar boson clouds around spinning black holes in LIGO O3 data (Abbott et al [LSC, Virgo & KAGRA])
Phys. Rev. D **105,** 102001 (2022); arXiv:2111.15507

Search of the early O3 LIGO data for continuous gravitational waves from the Cassiopeia A and Vela Jr. supernova remnants (Abbott et al [LSC & Virgo])
Phys. Rev. D **105,** 082005 (2022); arXiv:2111.15116

Search for continuous gravitational waves from 20 accreting millisecond x-ray pulsars in O3 LIGO data (Abbott et al [LSC, Virgo & KAGRA])
Phys. Rev. D **105,** 022002 (2022); arXiv:2109.09255

All-sky search for continuous gravitational waves from isolated neutron stars in the early O3 LIGO data (Abbott et al [LSC & Virgo])
Phys. Rev. D **104,** 082004 (2021); arXiv:2107.00600

Search for anisotropic gravitational-wave backgrounds using data from Advanced LIGO and Advanced Virgo's first three observing runs (Abbott et al [LSC, Virgo & KAGRA])
Phys. Rev. D **104,** 022005 (2021); arXiv:2103.08520

Observation of Gravitational Waves from Two Neutron Star-Black Hole Coalescences (Abbott et al [LSC & Virgo])
Astrophys. J. Lett. **915,** L5 (2021); arXiv:2106.15163

GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo during the First Half of the Third Observing Run (Abbott et al [LSC & Virgo])
Phys. Rev. X **11,** 021053 (2021); arXiv:2010.14527

Diving below the Spin-down Limit: Constraints on Gravitational Waves from the Energetic Young Pulsar PSR J0537-6910 (Abbott et al [LSC, Virgo & KAGRA], Antonopoulou et al.)
Astrophys. J. Lett. **913,** L27 (2021); arXiv:2012.12926

All-sky search in early O3 LIGO data for continuous gravitational-wave signals from unknown neutron stars in binary systems (Abbott et al [LSC & Virgo])
Phys. Rev. D **103,** 064017 (2021); arXiv:2012.12128

Open data from the first and second observing runs of Advanced LIGO and Advanced Virgo (Abbott et al [LSC & Virgo])
SoftwareX **13,** 100658 (2021); arXiv:1912.11716

Gravitational-wave Constraints on the Equatorial Ellipticity of Millisecond Pulsars (Abbott et al [LSC & Virgo], Keith et al.)
Astrophys. J. Lett. **902,** L21 (2020); arXiv:2007.14251

GW190425: Observation of a compact binary coalescence with total mass ~ 3.4 **Msun (Abbott et al [LSC & Virgo])**
Astrophys. J. Lett. **892,** L3 (2020); arXiv:2001.01761

Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model (Abbott et al [LSC & Virgo])
Phys. Rev. D **100,** 122002 (2019); arXiv:1906.12040

GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs (Abbott et al [LSC & Virgo])
Phys. Rev. X **9,** 031040 (2019); arXiv:1811.12907

Directional limits on persistent gravitational waves using data from Advanced LIGO's first two observing runs (Abbott et al [LSC & Virgo])
Phys. Rev. D **100,** 062001 (2019); arXiv:1903.08844

All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data (Abbott et al [LSC & Virgo])
Phys. Rev. D **100,** 024004 (2019); arXiv:1903.01901

Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run (Abbott et al [LSC & Virgo]); Keith et al
Phys. Rev. D **99,** 122002 (2019); arXiv:1902.08442

Searches for Gravitational Waves from Known Pulsars at Two Harmonics in 2015-2017 LIGO Data [LSC & Virgo]; Arzoumanian et al)
Astrophys. J. **879,** 10 (2019); arXiv:1902.08507

Low-latency Gravitational-wave Alerts for Multimessenger Astronomy during the Second Advanced LIGO and Virgo Observing Run (Abbott et al [LSC & Virgo])
Astrophys. J. **875,** 161 (2019); arXiv:1901.03310

Search for Gravitational Waves from a Long-lived Remnant of the Binary Neutron Star Merger GW170817 (Abbott et al [LSC & Virgo])
Astrophys. J. **875,** 160 (2019); arXiv:1810.02581

Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO (Abbott et al [LSC & Virgo])
Astrophys. J. **875,** 122 (2019); arXiv:1812.11656

Search for Subsolar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run (Abbott et al [LSC & Virgo]; Buchner et al)
Phys. Rev. Lett. **121,** 231103 (2018); arXiv:1808.04771

Full band all-sky search for periodic gravitational waves in the O1 LIGO data (Abbott et al [LSC & Virgo])
Phys. Rev. D **97,** 102003 (2018); arXiv:1710.02327

Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO, Advanced Virgo and KAGRA (Abbott et al [LSC & Virgo+KAGRA])
Living Rev. Relativity **21,** 3 (2018); arXiv:1304.0670

First Search for Nontensorial Gravitational Waves from Known Pulsars (Abbott et al [LSC & Virgo]; Buchner et al)
Phys. Rev. Lett. **120,** 031104 (2018); arXiv:1709.09203

First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data (Abbott et al [LSC & Virgo])
Phys. Rev. D **96,** 122006 (2017); arXiv:1710.02327

GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence (Abbott et al [LSC & Virgo])
Astrophys. J. Lett. **851,** L35 (2017); arXiv:1711.05578

Search for Post-merger Gravitational Waves from the Remnant of the Binary Neutron Star Merger GW170817 (Abbott et al [LSC & Virgo])
Astrophys. J. Lett. **851,** L16 (2017); arXiv:1710.09320

Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817 (Abbott et al [LSC & Virgo])
Astrophys. J. Lett. **850,** L39 (2017); arXiv:1710.05836

A gravitational-wave standard siren measurement of the Hubble constant (Abbott et al [LSC & Virgo])
Nature **551,** 85 (2017); arXiv:1710.05835

Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A (Abbott et al [LSC & Virgo]), Burns et al
Astrophys. J. Lett. **848,** L13 (2017); arXiv:1710.05834

GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral (Abbott et al [LSC & Virgo])
Phys. Rev. Lett. **119,** 161101 (2017); arXiv:1710.05832

GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence (Abbott et al [LSC & Virgo])
Phys. Rev. Lett. **119,** 141101 (2017); arXiv:1709.09660

All-sky search for periodic gravitational waves in the O1 LIGO data (Abbott et al [LSC & Virgo])
Phys. Rev. D **96,** 062002 (2017); arXiv:1707.02667

Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model (Abbott et al [LSC & Virgo]), Suvorova et al
Phys. Rev. D **95,** 122003 (2017); arXiv:1704.03719

Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B (Abbott et al [LSC & Virgo], Aptekar et al)
Astrophys. J. **841,** 89 (2017); arXiv:1611.07947

Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544 (Abbott et al [LSC & Virgo])
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