

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 POSITIONS | Professor <i>Rochester Institute of Technology</i> | <i>School of Mathematical Sciences</i> 2019 September – present |
| | Gastprofessor <i>Goethe University Frankfurt</i> | <i>Institute for Theoretical Physics</i> 2019 August – present |
| PRIOR EXPERIENCE | Associate Professor <i>Rochester Institute of Technology</i> | <i>School of Mathematical Sciences</i> 2008 December – 2019 August |
| | Visiting Scientist <i>Albert Einstein Institute (Hannover)</i> | <i>Gravitational Waves Group</i> 2014 June – 2015 August |
| | Senior Scientist <i>Albert Einstein Institute (Potsdam)</i> | <i>Gravitational Waves Group</i> 2006 June – 2008 December |
| | Assistant Professor <i>Loyola University New Orleans</i> | <i>Department of Physics</i> 2002 August – 2006 June |
| | Senior Lecturer/Faculty Associate <i>Univ. of Texas at Brownsville</i> | <i>Relativity Group</i> 2000 September – 2002 August |
| | Postdoktorand <i>Universität Bern</i> | <i>Institut für theoretische Physik</i> 1998 September – 2000 August |
| | Postdoctoral Researcher <i>University of Utah</i> | <i>Relativity Group</i> 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. <i>summa cum laude</i> in Astronomy & w/distinction in all subjects, 1991 May | |
| EXTERNAL FUNDING | NSF Grant PHY-1806824: Extending the Reach of Continuous Gravitational Wave Searches (PI) <i>RIT</i> , 2018–2021, \$240,000 NSF Grant PHY-1505629: Gravitational Wave Observation and Inference in the Advanced Detector Era (PI) <i>RIT</i> , 2015–2017, \$70,000 NSF Grant PHY-1207010: Data Analysis Techniques for Advanced Gravitational Wave Detectors (PI) <i>RIT</i> , 2012–2016, \$210,000 NSF Grant PHY-0855494: RUI - Gravitational Wave Modelling and Detection (PI) <i>RIT</i> , 2009–2013, \$210,000 NSF Grant PHY-0300609: RUI: Coherent And Coincident Gravitational Wave Searches With LIGO And Other Detectors (PI) <i>Loyola University New Orleans</i> , 2003–2006, \$197,278 | |

COURSES
TAUGHT

*=graduate; †=online

| | |
|---|---|
| STAT 789^{*,†}: Found. of Bayesian Data Analysis <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2020 Spring, 2021 Spring</i> |
| STAT 753^{*,†}: Nonparam Stats & Bootstrapping <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2019 Fall, 2020 Fall</i> |
| MATH 252: Probability & Statistics II <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2016 Fall, 2018 Spring, 2019 Spring</i> |
| STAT 489: Bayesian Meth of Data Analysis <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2017 Spring, 2019 Spring</i> |
| STAT 345: Nonparametric Statistics <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2018 Fall</i> |
| ASTP 611*: Stat Meth for Astrophys <i>Rochester Institute of Technology</i> | Astrophysical Sciences and Technology <i>2014 Spring, 2017 Fall</i> |
| STAT 406: Mathematical Statistics II <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2016 Spring</i> |
| STAT 405: Mathematical Statistics I <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2013 Fall, 2015 Fall</i> |
| 1016-345: Prob & Stat for Engineers <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2011 Wi, 2012 Fa, 2013 Sp</i> |
| 1016-420: Complex Variables <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2011 Fa, 2013 Wi</i> |
| 1016-351: Probability <i>Rochester Institute of Technology</i> | School of Mathematical Sciences <i>2010 Wi, 2010 Sp, 2011 Fa, 2012 Wi</i> |
| 1060-710*: Math/Stat Meth Astrophys <i>Rochester Institute of Technology</i> | Astrophysical Sciences and Technology <i>2009 Fa, 2010 Fa</i> |
| PHYS A301: Classical Mechanics II <i>Loyola Univ. New Orleans</i> | Department of Physics <i>2003 Sp, 2004 Sp, 2005 Sp, 2006 Su</i> |
| PHYS A300: Classical Mechanics I <i>Loyola Univ. New Orleans</i> | Department of Physics <i>2002 Fa, 2003 Fa, 2004 Fa, 2006 Sp</i> |
| PHYS Z134: Astronomy <i>Loyola Univ. New Orleans</i> | Department of Physics <i>2003 Fa, 2004 Fa, 2005 Sp, 2006 Sp</i> |
| PHYS A410: Thermal Physics <i>Loyola Univ. New Orleans</i> | Department of Physics <i>2003 Sp, 2004 Sp</i> |
| PHYS 1411: Intro to Astronomy <i>Univ. of Texas at Brownsville</i> | Department of Physical Sciences <i>2001 Spring</i> |
| PHYS 724*: Quantum Theory <i>University of Utah</i> | Department of Physics <i>1997 Spring</i> |

SERVICE
RECORD

| | |
|--|---|
| Co-Chair, Internal Review Committee <i>LIGO Scientific Collaboration</i> | <i>MBTA low-latency search</i> 2015–present |
| Elections and Membership Committee <i>LIGO Scientific Collaboration</i> | 2012–present; chair 2019–present |
| Program Improvement Committee <i>Rochester Institute of Technology</i> | <i>Programs of Applied Statistical Science</i> 2020–present |
| Curriculum Committee <i>Rochester Institute of Technology</i> | <i>Astrophysical Sci & Tech PhD</i> 2010–2012; 2019–present |
| Executive Committee <i>Rochester Institute of Technology</i> | <i>Ctr for Computational Relativity & Grav</i> 2008–present |
| Council Representative <i>LIGO Scientific Collaboration</i> | <i>Loyola/RIT</i> 2004–2006; 2008–present |
| Graduate Program Coordinator <i>Rochester Institute of Technology</i> | <i>Astrophysical Sciences & Technology</i> 2015–2019 |
| Faculty Search Committee <i>Rochester Institute of Technology</i> | <i>School of Mathematical Sciences</i> 2012–2014; 2017–2018 |
| Publications & Presentations Cmte <i>LIGO Scientific Collaboration</i> | <i>School of Mathematical Sciences</i> 2012–2018 |
| Innovative Curricula Task Force <i>Rochester Institute of Technology</i> | <i>Statistics Program</i> 2016–2018 |
| Chair, Admissions Committee <i>Rochester Institute of Technology</i> | <i>Astrophysical Sci & Tech PhD</i> 2015–2017 |
| Statistics Committee <i>Rochester Institute of Technology</i> | <i>School of Mathematical Sciences</i> 2013–2016 |
| Department Head Search Committee <i>Rochester Institute of Technology</i> | <i>School of Mathematical Sciences</i> 2012–2013 |
| Strategic Planning Group <i>Rochester Institute of Technology</i> | <i>Astrophysical Sci & Tech PhD</i> 2011–2014 |
| Internal Review Committee <i>LIGO Scientific Collaboration</i> | <i>Compact Binary Coalescence Searches</i> 2003–2012; chair 2007–2011 |
| Undergraduate Research Council <i>Rochester Institute of Technology</i> | <i>College of Science</i> 2011–2012 |
| Qualifying Exam Committee <i>Rochester Institute of Technology</i> | <i>Astrophysical Sci & Tech PhD</i> 2010–2014 |
| Seminar Organizer <i>Rochester Institute of Technology</i> | <i>Ctr for Computational Relativity & Grav</i> 2009–2010 |
| Chair, Organizing Committee <i>Rochester Institute of Technology</i> | <i>12th Eastern Gravity Meeting</i> 2009 |
| Data Analysis Software Committee <i>LIGO Scientific Collaboration</i> | <i>Data Analysis Software Working Group</i> 2006–2015 |
| Groupware Taskforce <i>Albert Einstein Institute</i> | <i>Max Planck Inst for Grav Phys</i> 2008 |

| | |
|--|--|
| Local Organizing Committee <i>Albert Einstein Institute</i> | <i>11th GW Data Analysis Workshop</i> 2006 |
| Scientific Organizing Committee <i>Univ. of Texas at Brownsville</i> | <i>10th GW Data Analysis Workshop</i> 2005 |
| Strategic Planning Committee <i>Loyola Univ. New Orleans</i> | <i>College of Arts and Sciences</i> 2005–2006 |
| Student Affairs and Policy Committee <i>Loyola Univ. New Orleans</i> | <i>University Senate</i> 2004–2006 |
| Faculty Search Committee <i>Loyola Univ. New Orleans</i> | <i>Dept. of Physics</i> 2002–2003 |
| ASIS Secretary <i>LIGO Scientific Collaboration</i> | <i>ASIS Subgroup</i> 2001–2002 |

REFEREED
NON-LSC
PUBLICATIONS

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, Sundaesan, 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](#)

LSC
PUBLICATIONS
COORDINATED

Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-based Cross-correlation Search in Advanced LIGO Data (Abbott et al [LVC], 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](#)

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:

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

Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model (Abbott et al [LVC])
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 [LVC])
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 [LVC])

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 [LVC])

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 [LVC]); 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 [LVC]; 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 [LVC])

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 [LVC])

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 [LVC])

Astrophys. J. **875**, 122 (2019); [arXiv:1812.11656](#)

Search for Substellar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run (Abbott et al [LVC]; 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 [LVC])

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 [LVC+KAGRA])

Living Rev. Relativity **21**, 3 (2018); [arXiv:1304.0670](#)

First Search for Nontensorial Gravitational Waves from Known Pulsars (Abbott et al [LVC]; 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 [LVC])

Phys. Rev. D **96**, 122006 (2017); [arXiv:1710.02327](#)

GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence (Abbott et al [LVC])

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 [LVC])

Astrophys. J. Lett. **851**, L16 (2017); [arXiv:1710.09320](#)

Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817 (Abbott et al [LVC])

Astrophys. J. Lett. **850**, L39 (2017); [arXiv:1710.05836](#)

A gravitational-wave standard siren measurement of the Hubble constant (Abbott et al [LVC])

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 [LVC]), 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 [LVC])

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 [LVC])

Phys. Rev. Lett. **119**, 141101 (2017); [arXiv:1709.09660](#)

All-sky search for periodic gravitational waves in the O1 LIGO data (Abbott et al [LVC])

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 [LVC]), 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 [LVC], 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 [LVC])

Phys. Rev. D **95**, 082005 (2017); [arXiv:1607.02216](#)

GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2 (Abbott et al [LVC])

Phys. Rev. Lett. **118**, 221101 (2017); [arXiv:1706.01812](#)

First Search for Gravitational Waves from Known Pulsars with Advanced LIGO (Abbott et al [LVC], Buchner et al)

Astrophys. J. **839**, 12 (2017); [arXiv:1701.07709](#)

Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run (Abbott et al [LVC])

Phys. Rev. Lett. **118**, 121102 (2017); [arXiv:1612.02030](#)

The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914 (Abbott et al [LVC])

[Astrophys. J. Lett. **833**, L1 \(2016\); arXiv:1602.03842](#)

Binary Black Hole Mergers in the First Advanced LIGO Observing Run (Abbott et al [LVC])

[Phys. Rev. X **6**, 041015 \(2016\); arXiv:1606.04856](#)

Directly comparing GW150914 with numerical solutions of Einstein's equations for binary black hole coalescence (Abbott et al [LVC]), Boyle et al

[Phys. Rev. D **94**, 064035 \(2016\); arXiv:1606.01262](#)

Comprehensive All-sky Search for Periodic Gravitational Waves in the Sixth Science Run LIGO Data (Abbott et al [LVC])

[Phys. Rev. D **94**, 042002 \(2016\); arXiv:1605.03233](#)

GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence (Abbott et al [LVC], Boyle et al)

[Phys. Rev. Lett. **116**, 061103 \(2016\); arXiv:1606.04855](#)

Properties of the Binary Black Hole Merger GW150914 (Abbott et al [LVC], Boyle et al)

[Phys. Rev. Lett. **116**, 061102 \(2016\); arXiv:1602.03840](#)

GW150914: First results from the search for binary black hole coalescence with Advanced LIGO (Abbott et al [LVC])

[Phys. Rev. D **93**, 122003 \(2016\); arXiv:1602.03839](#)

First low frequency all-sky search for continuous gravitational wave signals (Abbott et al [LVC])

[Phys. Rev. D **93**, 042007 \(2016\); arXiv:1510.03621](#)

Search of the Orion spur for continuous gravitational waves using a loosely coherent algorithm on data from LIGO interferometers (Abbott et al [LVC])

[Phys. Rev. D **93**, 042006 \(2016\); arXiv:1510.03474](#)

Astrophysical Implications of the Binary Black Hole Merger GW150914 (Abbott et al [LVC])

[Astrophys. J. Lett. **818**, L22 \(2016\); arXiv:1602.03846](#)

Observation of Gravitational Waves from a Binary Black Hole Merger (Abbott et al [LVC])

[Phys. Rev. Lett. **116**, 061102 \(2016\); arXiv:1602.03837](#)

Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo (Abbott et al [LVC])

[Living Rev. Relativity **19**, 1 \(2016\); arXiv:1304.0670v3](#)

Directed search for gravitational waves from Scorpius X-1 with initial LIGO data (Aasi et al [LVC])

[Phys. Rev. D **91**, 062008 \(2015\); arXiv:1412.0605](#)

Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data (Aasi et al [LVC])

[Phys. Rev. D **91**, 022004 \(2015\); arXiv:1410.8310](#)

Improved Upper Limits on the Stochastic Gravitational-Wave Background from 2009-2010 LIGO and Virgo Data (Aasi et al [LVC])

[Phys. Rev. Lett. **113**, 231101 \(2014\); arXiv:1406.4556](#)

First all-sky search for continuous gravitational waves from unknown sources in binary systems (Aasi et al [LVC])

[Phys. Rev. D **90**, 062010 \(2014\); arXiv:1405.7904](#)

Implementation of an F-statistic all-sky search for continuous gravitational waves in Virgo VSR1 data (Aasi et al [LVC])

[Classical Quant. Grav. **31**, 165014 \(2014\); arXiv:1402.4974](#)

The NINJA-2 project: detecting and characterizing gravitational waveforms modelled using numerical binary black hole simulations (Aasi et al [LSC], Boyle et al)

[Classical Quant. Grav. **31**, 115004 \(2014\); arXiv:1401.0939](#)

Application of a Hough search for continuous gravitational waves on data from the fifth LIGO science run (Aasi et al [LVC])

[Classical Quant. Grav. **31**, 085014 \(2014\); arXiv:1311.2409](#)

Gravitational-waves from known pulsars: results from the initial detector era (Aasi et al [LVC], Buchner et al)

[Astrophys. J. **785**, 119 \(2014\); arXiv:1309.4027](#)

Directed search for continuous gravitational waves from the Galactic center (Aasi et al [LVC])

[Phys. Rev. D **88**, 102002 \(2013\); arXiv:1309.6221](#)

Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network (Aasi et al [LVC])

[Phys. Rev. D **88**, 062001 \(2013\); arXiv:1304.1775](#)

Search for gravitational waves from binary black hole inspiral, merger, and ringdown in LIGO-Virgo data from 2009-2010 (Aasi et al [LVC])

[Phys. Rev. D **87**, 022002 \(2013\); arXiv:1209.6533](#)

Search for gravitational waves associated with gamma-ray bursts during LIGO science run 6 and Virgo science runs 2 and 3 (Abadie et al [LSC], Briggs et al)

[Astrophys. J. **760**, 12 \(2012\); arXiv:1205.2216](#)

Implications for the Origin of GRB 051103 from LIGO Observations (Abbott et al [LSC], Bizouard et al)

[Astrophys. J. **755**, 2 \(2012\); arXiv:1201.4413](#)

Upper limits on a stochastic gravitational-wave background using LIGO and Virgo interferometers at 600-1000 Hz (Abadie et al [LVC])

[Phys. Rev. D **85**, 122001 \(2012\); arXiv:1112.5004](#)

- Search for gravitational waves from low mass compact binary coalescence in LIGO's sixth science run and Virgo's science runs 2 and 3 (Abadie et al [LVC])**
[Phys. Rev. D **85**, 082002 \(2012\); arXiv:1111.7314](#)
- All-sky search for periodic gravitational waves in the full S5 LIGO data (Abadie et al [LVC])**
[Phys. Rev. D **85**, 022001 \(2012\); arXiv:1110.0208](#)
- Beating the spin-down limit on gravitational wave emission from the Vela pulsar (Abadie et al [LVC], Buchner, Hotan & Palfreyman)**
[Astrophys. J. **737**, 93 \(2011\); arXiv:1104.2712](#)
- Search for gravitational waves from binary black hole inspiral, merger, and ringdown (Abadie et al [LVC])**
[Phys. Rev. D **83**, 122005 \(2011\); arXiv:1102.3781](#)
- Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1 (Abadie et al [LVC])**
[Phys. Rev. D **82**, 102001 \(2010\); arXiv:1005.4655](#)
- First search for gravitational waves from the youngest known neutron star (Abadie et al [LSC])**
[Astrophys. J. **722**, 1504 \(2010\); arXiv:1006.2535](#)
- Predictions for the rates of compact binary coalescences observable by ground-based gravitational-wave detectors (Abadie et al [LVC] & Belczynski)**
[Classical Quant. Grav. **27**, 173001 \(2010\); arXiv:1003.2480](#)
- Search for gravitational-wave inspiral signals associated with short Gamma-Ray Bursts during LIGO's fifth and Virgo's first science run (Abadie et al [LVC])**
[Astrophys. J. **715**, 1453 \(2010\); arXiv:1001.0165](#)
- Searches for gravitational waves from known pulsars with S5 LIGO data (Abbott et al [LVC], Bégin et al)**
[Astrophys. J. **713**, 671 \(2010\); arXiv:0909.3583](#)
- Search for gravitational waves from low mass compact binary coalescence in 186 days of LIGO's fifth science run (Abbott et al [LSC])**
[Phys. Rev. D **80**, 047101 \(2009\); arXiv:0905.3710](#)
- An upper limit on the stochastic gravitational-wave background of cosmological origin (Abbott et al [LVC])**
[Nature **460**, 990 \(2009\); arXiv:0910.5772](#)
- Search for gravitational waves from low mass binary coalescences in the first year of LIGO's S5 data (Abbott et al [LSC])**
[Phys. Rev. D **79**, 122001 \(2009\); arXiv:0901.0302](#)
- All-Sky LIGO Search for Periodic Gravitational Waves in the Early Fifth-Science-Run Data (Abbott et al [LSC])**
[Phys. Rev. Lett. **102**, 111102 \(2009\); arXiv:0810.0283](#)

Search of S3 LIGO data for gravitational wave signals from spinning black hole and neutron star binary inspirals (Abbott et al [LSC])

[Phys. Rev. D **78**, 042002 \(2008\); arXiv:0712.2050](#)

Beating the Spin-Down Limit on Gravitational Wave Emission from the Crab Pulsar (Abbott et al [LSC], Santostasi)

[Astrophys. J. Lett. **683**, L45 \(2008\); arXiv:0805.4758](#)

Implications for the Origin of GRB 070201 from LIGO Observations (Abbott et al [LSC], Hurley)

[Astrophys. J. **681**, 1419 \(2008\); arXiv:0711.1163](#)

Astrophysically triggered searches for gravitational waves: status and prospects (Abbott et al [LSC], Acernese et al [Virgo])

[Classical Quant. Grav. **25**, 114051 \(2008\); arXiv:0802.4320](#)

Search for gravitational waves from binary inspirals in S3 and S4 LIGO data (Abbott et al [LSC])

[Phys. Rev. D **77**, 062002 \(2008\); arXiv:0704.3368](#)

Upper limit map of a background of gravitational waves (Abbott et al [LSC])

[Phys. Rev. D **76**, 082003 \(2007\); astro-ph/0703234](#)

Searching for a Stochastic Background of Gravitational Waves with the Laser Interferometer Gravitational-Wave Observatory (Abbott et al [LSC])

[Astrophys. J. **659**, 918 \(2007\); astro-ph/0608606](#)

Joint LIGO and TAMA300 search for gravitational waves from inspiralling neutron star binaries (Abbott et al [LSC], Akutsu et al [Tama])

[Phys. Rev. D **73**, 102002 \(2006\); gr-qc/0512078](#)

Search for gravitational waves from binary black hole inspirals in LIGO data (Abbott et al [LSC])

[Phys. Rev. D **73**, 062001 \(2006\); gr-qc/0509129](#)

Upper Limits on a Stochastic Background of Gravitational Waves (Abbott et al [LSC])

[Phys. Rev. Lett. **95**, 221101 \(2005\); astro-ph/0507254](#)

Search for gravitational waves from primordial black hole binary coalescences in the galactic halo (Abbott et al [LSC])

[Phys. Rev. D **72**, 082002 \(2005\); gr-qc/0505042](#)

Search for gravitational waves from galactic and extra-galactic binary neutron stars (Abbott et al [LSC])

[Phys. Rev. D **72**, 082001 \(2005\); gr-qc/0505041](#)

Analysis of first LIGO science data for stochastic gravitational waves (Abbott et al [LSC])

[Phys. Rev. D **69**, 122004 \(2004\); gr-qc/0312088](#)

Analysis of LIGO data for gravitational waves from binary neutron stars (Abbott et al [LSC])

[Phys. Rev. D **69**, 122001 \(2004\); gr-qc/0308069](#)

UNPUBLISHED **Prior Distributions for the Bradley-Terry Model of Paired Comparisons**
PREPRINTS [arXiv:1712.05311](https://arxiv.org/abs/1712.05311)

**The existence of maximum likelihood estimates in the Bradley-Terry model
and its extensions (Butler and JTW)**
[math.ST/0412232](https://arxiv.org/abs/math/0412232)

PRESENTATIONS I have given presentations at a variety of conferences and institutional seminars. A
AVAILABLE full list of presentations with materials available online is available at
ONLINE <http://ccrg.rit.edu/~whelan/talks/>

REFERENCES Available upon request.