Dr. Jessica McIver - List of Publications

Google scholar statistics: 19,456 total citations, h-index: 51

*Indicates refereed publications

1. *The impact of transient noise on the parameter estimation of gravitational waves from binary black holes.* J. McIver, T.J. Massinger, D. Davis, L. Nuttall, V. Raymond, R. Smith. In prep.
2. *New methods to diagnose the impact of seismic events on the LIGO detectors.* A. Biswas, J. McIver, A. Mahabal. In prep.
3. *Global strategies for gravitational wave astronomy.* J. McIver, editor. Report from the Dawn IV workshop; Amsterdam August 30-31 2018. In prep.
4. *Diagnostic Methods for gravitational-wave detectors.* J. McIver et al. Advanced Interferometric Gravitational-Wave Detectors - Volume 1: Essentials of gravitational-wave detectors. Editors: P. Saulson, D. Reitze, H. Grote. Final book proofs submitted - to be published soon.
5. * *GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral.* B.P. Abbott et al. *PRL 119, 161101* (2017) - LIGO-Virgo paper writing team member
6. * *Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914.* B. P. Abbott et al. Class. Quantum Grav. 33 134001 (2016) - Lead author
7. *Mitigation of the instrumental noise transient in gravitational-wave data surrounding GW170817.* C. Pankow, K. Chatziioannou, E.A. Chase, T. B. Littenberg, M. Evans, J. McIver, et al. Preprint: arXiv 1808.03619 (2018)
8. * *Effects of transients in LIGO suspensions on searches for gravitational waves.* M. Walker, T. D. Abbott, S. M. Aston, G. González, D. M. Macleod, J. McIver, et al. Review of Scientific Instruments 88,124501 (2017)
9. * *Effects of Data Quality Vetoes on a Search for Compact Binary Coalescences in Advanced LIGO's First Observing Run.* B.P. Abbott et al. Class. Quantum Grav. 35, 6 (2017)
10. * *Observation of Gravitational Waves from a Binary Black Hole Merger.* B. P. Abbott et al. Phys. Rev. Lett. 116, 061102 (2016)
11. * *GW170817: Measurements of neutron star radii and equation of state.* B.P. Abbott et al. Phys. Rev. Lett. 121, 161101 (2018)
12. *Properties of the binary neutron star merger GW170817.* B.P. Abbott et al. Submitted (2018). Preprint: arXiv:1805.11579
13. * *Multi-messenger Observations of a Binary Neutron Star Merger.* B.P. Abbott et al. Ap. J. Letters 848, 2. (2017)
14. * *Gravitational Waves and Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A.* B.P. Abbott et al. Ap. J. Letters 848, 2 (2017)
15. * *A gravitational-wave standard siren measurement of the Hubble constant.* B.P. Abbott et al. Nature 551, 85–88 (2017)
16. * *GW170608: Observation of a 19-solar-mass Binary Black Hole Coalescence.* B.P. Abbott et al. Ap. J. Letters 851, 2 (2017)

17. * *GW170814: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence*. B.P. Abbott et al. Phys. Rev. Lett. 119, 141101 (2017)

18. * *GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2*. B. P. Abbott et al. Phys. Rev. Lett. 118, 221101 (2017)

19. * *GW151226: Observation of Gravitational Waves from a 22 Solar-mass Binary Black Hole Coalescence*. B. P. Abbott et al. Phys. Rev. Lett. 116, 241103 (2016)

20. * *Binary Black Hole Mergers in the first Advanced LIGO Observing Run*. B.P. Abbott et al. Phys. Rev. X 6, 041015 (2016)

21. * *Upper limits on the rates of binary neutron star and neutron-star--black-hole mergers from Advanced LIGO's first observing run.* B.P. Abbott et al. Ap. J. Letters 832, 2 (2016)

22. * *All-sky search for short gravitational-wave bursts in the first Advanced LIGO run*. B.P. Abbott et al. Phys. Rev. D 95, 042003 (2017)

23. * *Observing gravitational-wave transient GW150914 with minimal assumptions*. B.P. Abbott et al. Phys. Rev. D 93, 122004 (2016)

24. * *GW150914: First results from the search for binary black hole coalescence with Advanced LIGO*. B.P. Abbott et al. Phys. Rev. D 93, 122003 (2016)

25. * Identification and mitigation of narrow spectral artifacts that degrade searches for persistent gravitational waves in the first two observing runs of Advanced LIGO. P. Covas et al. Phys. Rev. D 97, 082002 (2018)

26. * *Improving the data quality of Advanced LIGO based on early engineering run results*. L. Nuttall et al. Class. Quant. Grav. 32, 24 (2015)

27.* *Characterization of the LIGO detectors during their sixth science run*. J. Aasi, et. al. Class. Quant. Grav. 32 115012 (2015)

28.* *Seismic isolation of Advanced LIGO: Review of strategy, instrumentation and performance*. F. Matichard et al. Class. Quant. Grav. 32 185003 (2015)

29. * *Data Quality Studies of Enhanced Interferometric Gravitational Wave Detectors*. Jessica McIver. Class. Quantum Grav. 29 124010 (2012)

30. * *All-sky search for gravitational-wave bursts in the second joint LIGO-Virgo run*. J. Abadie et al. Phys. Rev. D 85, 122007 (2012)

31. * *Search for gravitational waves from binary black hole inspiral, merger, and ring-down in LIGO- Virgo data from 2009-2010*. J. Aasi et. al. Phys. Rev. D 87, 022002 (2012)

32. * *Search for gravitational waves from low mass compact binary coalescence in LIGO's sixth science run and Virgo's science runs 2 and 3*. J. Abadie et al. Phys. Rev. D 85, 082002 (2012)

33.* *A hierarchical method for vetoing noise transients in gravitational-wave detectors*. J.R. Smith, T. Abbott, E. Hirose, N. Leroy, D. Macleod, J. McIver, P. Saulson, P. Shawhan. Class. Quantum Grav. 28 235005 (2011)

34. *Generating Event Triggers Based on Hilbert-Huang Transform and Its Application to Gravitational-Wave Data*. E. Son, W. Kim, Y. Kim, J. McIver, J.J. Oh, S. Oh. Submitted to CQG (2018). Preprint: 1810.07555.

For the following publications, I am a listed author as a contributing member of the LIGO Scientific Collaboration. I have contributed to each through critical noise studies that have impacted all astrophysical analyses and results as well as the collaboration’s understanding of the LIGO detectors.

35. *Constraining the p-mode--g-mode tidal instability with GW170817*. B.P. Abbott et al. Submitted (2018). Preprint: 1808.08676

36. *A Fermi Gamma-ray Burst Monitor Search for Electromagnetic Signals Coincident with Gravitational-Wave Candidates in Advanced LIGO’s First Observing Run*. E. Burns et al. Submitted (2018). Preprint: 1810.02764

37. *Search for sub-solar mass ultracompact binaries in Advanced LIGO's first observing run*. B.P. Abbott et al. Submitted (2018). Preprint: 1808.04771

38. Improving astrophysical parameter estimation via offline noise subtraction for Advanced LIGO. J.C. Driggers et al. Submitted (2018). Preprint: 1806.00532

39. * *A Search for Tensor, Vector, and Scalar Polarizations in the Stochastic Gravitational-Wave Background*. B.P. Abbott et al. Phys. Rev. Lett. 120, 201102 (2018)

40. * *Search for post-merger gravitational waves from the remnant of the binary neutron star merger GW170817*. B.P. Abbott et al. Ap. J. Letters. 851, 1 (2017).

41. * *GW170817: Implications for the Stochastic Gravitational-Wave Background from Compact Binary Coalescences*. B.P. Abbott et al. Phys. Rev. Lett. 120, 091101 (2018)

42. * *First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data*. B.P. Abbott et al. Phys. Rev. D 96, 122006 (2017)

43. * *First search for nontensorial gravitational waves from known pulsars*. B.P. Abbott et al. Phys. Rev. Lett. 120, 031104 (2017)

44. * *First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data*. B.P. Abbott et al. Phys. Rev. D 96, 122004 (2017)

45. * *Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory*. Ap. J. Letters 850, 2 (2017)

46. * *On the Progenitor of Binary Neutron Star Merger GW170817*. B.P. Abbott et al. Ap. J. Letters 850, 2 (2017)

47. * *Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817*. B.P. Abbott et al. Ap. J. Letters 850, 2 (2017)

48. * *Full Band All-sky Search for Periodic Gravitational Waves in the O1 LIGO Data*. B.P. Abbott et al. Phys. Rev. D 96, 062002 (2017)

49. * *Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-Based Cross-Correlation Search in Advanced LIGO Data*. B.P. Abbott et al. Ap. J. 847, 1 (2017)

50. * *Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO*. B.P. Abbott et al. Phys. Rev. D 96, 022001 (2017)

51. * *Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model*. B.P. Abbott et al. Phys. Rev. D 95, 122003 (2017)

52. * *Quantum correlation measurements in interferometric gravitational wave detectors*. D. V. Martynov et al. Phys. Rev. A 95, 043831 (2017)

53. * *First search for gravitational waves from known pulsars with Advanced LIGO*. B.P. Abbott et al. Ap. J. 389, 1 (2017)

54. * *Directional limits on persistent gravitational waves from Advanced LIGO's first observing run*. B.P. Abbott et al. PRL 118, 121102 (2017)

55. * *Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run*. B.P. Abbott et al. PRL 118, 121101 (2017). Erratum PRL 119, 029901 (2017)

56. * *Search for Gravitational Waves Associated with Gamma-Ray Bursts During the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B*. B.P. Abbott et al. Ap. J. 841, 2 (2017)

57. * *Effects of waveform model systematics on the interpretation of GW150914*. B.P. Abbott et al. Class. Quantum Grav. 34, 10 (2017)

58. * *Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544*. B.P. Abbott et al. Phys. Rev. D 95, 082005 (2017)

59. * *The basic physics of the binary black hole merger GW150914*. B.P. Abbott et al. Annalen der Physik, Volume 529, Issue 1-2 (2017)

60. * *Exploring the Sensitivity of Next Generation Gravitational Wave Detectors*. B.P. Abbott et al. CQG 34, 4 (2017)

61. * *Directly comparing GW150914 with numerical solutions of Einstein's equations for binary black hole coalescence*. B.P. Abbott et al. Phys. Rev. D 94, 064035 (2016)

62. * *An improved analysis of GW150914 using a fully spin-precessing waveform model*. B.P. Abbott et al. Phys. Rev. X 6, 041014 (2016)

63. * *Comprehensive All-sky Search for Periodic Gravitational Waves in the Sixth Science Run LIGO Data*. B.P. Abbott et al. Phys. Rev. D 94, 042002 (2016)

64. * *A First Targeted Search for Gravitational-Wave Bursts from Core-Collapse Supernovae in Data of First-Generation Laser Interferometer Detectors*. B.P. Abbott et al. Phys. Rev. D 94, 102001 (2016)

65. * *Search for transient gravitational waves in coincidence with short duration radio transients during 2007-2013*. B.P. Abbott et al. Phys. Rev. D 93, 122008 (2016)

66. * *The Sensitivity of the Advanced LIGO Detectors at the Beginning of Gravitational Wave Astronomy*. D.V. Martynov et al. Phys. Rev. D 93, 112004 (2016)

67. * *Localization and broadband follow-up of the gravitational-wave transient GW150914*. B.P. Abbott et al. Ap. J. Letters 826, 13 (2016)

68. * *Supplement: Localization and broadband follow-up of the gravitational-wave transient GW150914*. B.P. Abbott et al. Ap. J. S. 225, 8 (2016)

69. * *High-energy Neutrino follow-up search of Gravitational Wave Event GW150914 with ANTARES and IceCube*. B.P. Abbott et al. Phys. Rev. D 93, 122010 (2016)

70. Calibration of the Advanced LIGO detectors for the discovery of the binary black-hole merger GW150914. B.P. Abbott et al. arXiv:1602.03845 (2016)

71. * *The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914*. B.P. Abbott et al. Ap. J. Letters 833, 1 (2016)

72. * *GW150914: Implications for the stochastic gravitational wave background from binary black holes*. B.P. Abbott et al. Phys. Rev. Lett. 116, 131102 (2016)

73. * *Astrophysical Implications of the Binary Black-Hole Merger GW150914*. B.P. Abbott et al. ApJL, 818, 22 (2016)

74. * *Tests of general relativity with GW150914*. B.P. Abbott et al. Phys. Rev. Lett. 116, 221101 (2016)

75. * *GW150914: The Advanced LIGO Detectors in the Era of First Discoveries*. B.P. Abbott et al. (The LIGO Scientific Collaboration and the Virgo Collaboration) Phys. Rev. Lett. 116, 131103 (2016)

76. * *Supplement: The Rate of Binary Black Hole Mergers Inferred from Advanced LIGO Observations Surrounding GW150914*. B.P. Abbott et al. Ap. J. S. 227, 14, 2016

77. * *Properties of the Binary Black Hole Merger GW150914*. B.P. Abbott et al. Phys. Rev. Lett. 116, 241102 (2016)

78. * *A search of the Orion spur for continuous gravitational waves using a "loosely coherent" algorithm on data from LIGO interferometers*. J Aasi et al. Phys. Rev. D 93, 042006 (2016)

79. * *First low frequency all-sky search for continuous gravitational wave signals*. J Aasi et al. Phys. Rev. D 93, 042007 (2016)

80. * *An all-sky search for long-duration gravitational wave transients with LIGO*. B. P. Abbott et al. Phys. Rev. D 93, 042005 (2016)

81. * *Results of the deepest all-sky survey for continuous gravitational waves on LIGO S6 data running on the Einstein@Home volunteer distributed computing project*. B. P. Abbott et al. Phys. Rev. D 93, 042005 (2016)

82. * *Searching for stochastic gravitational waves using data from the two colocated LIGO Hanford detectors*. J. Aasi et al. Phys. Rev. D 91, 022003 (2015)

83. * *Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data*. J. Aasi et al. Phys. Rev. D 91, 022004 (2015)

84. * *Directed search for gravitational waves from Scorpius X-1 with initial LIGO data*. J. Aasi et al. Phys. Rev. D 91, 062008 (2015)

85. * *Advanced LIGO*. J. Aasi et al. Class. Quant. Grav. 32, 7 (2015)

86. * *Searches for continuous gravitational waves from nine young supernova remnants*. J. Aasi et al. ApJ 813, 1 (2015)

87. * *The NINJA-2 project: Detecting and characterizing gravitational waveforms modelled using numerical binary black hole simulations*. J. Aasi *et al.* Class. Quantum Grav. 31, 115004 (2014)

88. * *Application of a Hough search for continuous gravitational waves on data from the fifth LIGO science run*. J. Aasi *et al.* Class. Quantum Grav. 31, 085014 (2014)

89. * *Constraints on cosmic strings from the LIGO-Virgo gravitational-wave detectors*. J. *Aasi et al.* Phys. Rev. Lett. 112, 131101 (2014)

90. * *First Searches for Optical Counterparts to Gravitational-wave Candidate Events*. J. Aasi *et al.* ApJS 211, 7 (2014)

91. * *Gravitational Waves from Known Pulsars: Results from the Initial Detector Era.* J. Aasi *et al.* ApJS 752, 2 (2014)

92. * *Multimessenger search for sources of gravitational waves and high-energy neutrinos: Initial results for LIGO-Virgo and IceCube*. M. G. Aartsen et al. Phys. Rev. D 90, 102002 (2014)

93. * *Improved upper limits on the stochastic gravitational-wave background from 2009--2010 LIGO and Virgo data*. J. Aasi et al. Phys. Rev. Letters. (October 2014)

94. * *First all-sky search for continuous gravitational waves from unknown sources in binary systems.* J. Aasi *et al.* Phys. Rev. D 90, 062010 (2014)

95. * *Methods and results of a search for gravitational waves associated with gamma-ray bursts using the GEO 600, LIGO, and Virgo detectors*. J. Aasi *et al.* Phys. Rev. D 89, 122004 (2014)

96. * *Search for gravitational radiation from intermediate mass black hole binaries in data from the second LIGO-Virgo joint science run*. J. Aasi *et al.* Phys. Rev. D 89, 122003 (2014)

97. * *Search for Gravitational Waves Associated with γ-ray Bursts Detected by the Interplanetary Network*. J. Aasi *et al.* Phys. Rev. Lett. 113, 011102 (2014)

98. * *Search for gravitational wave ringdowns from perturbed intermediate mass black holes in LIGO-Virgo data from 2005–2010*. J. Aasi *et al.* Phys. Rev. D 89, 102006 (2014)

99. * *Einstein@Home all-sky search for periodic gravitational waves in LIGO S5 data*. J. Aasi *et al.* Phys. Rev. D 87, 042001 (2013)

100. * *Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network.* J. Aasi *et al.* Phys. Rev. D 88, 062001 (2013)

101. * *Directed search for continuous gravitational waves from the Galactic Center.* J. Aasi *et al.* Phys. Rev. D 88, 062001 (2013)

102. * *A directed search for continuous Gravitational Waves from the Galactic Center.* J. Aasi *et al.* Phys. Rev. D 88, 102002 (2013)

103. * *Search for long-lived gravitational-wave transients coincident with long gamma-ray bursts*. J. Aasi *et al.* Phys. Rev. D 88, 122004 (2013)

104.* *Search for Gravitational Waves Associated with Gamma-Ray Bursts During LIGO Science Run 6 and Virgo Science Runs 2 and 3.* J. Abadie *et al.* ApJ 760, 12 (2012)

105.* *Implications for the Origin of GRB 051103 from LIGO Observations*. J. Abadie *et al.* ApJ 755 2 (2012)

106.* *The characterization of Virgo data and its impact on gravitational-wave searches.* J Aasi *et al.* Class. Quantum Grav. 29 155002 (2012)

107.* *Swift Follow-Up Observations of Candidate Gravitational-Wave Transient Events*. P. A. Evans *et al.* ApJ 203 28 (2012)

108.* *Search for gravitational waves from intermediate mass binary black holes.* J. Abadie *et al.* Phys. Rev. D 85, 102004 (2012)

109.* *Upper limits on a stochastic gravitational-wave background using LIGO and Virgo interferometers at 600–1000 Hz*. J. Abadie *et al.* Phys. Rev. D 85, 122001 (2012)