

## Appointments:

- ▷ **Current Position:** Professor of Physics and Astronomy, Louisiana State University, from August 2009.
- ▷ **Current Position:** Observatory Head, LIGO Livingston, California Institute of Technology, from November 2006.
  
- ▷ Associate Professor, Department of Physics and Astronomy, Louisiana State University, from 2005–2009
- ▷ Chief Scientist at LIGO Livingston, 2004–2006.
- ▷ Visiting Scholar, Ginzton Laboratory, Stanford University, 2003–2008.
- ▷ Assistant Professor, Department of Physics and Astronomy, Louisiana State University, 1999–2005.
- ▷ Research Scientist, MIT Center for Space Research, 1998–1999.
- ▷ Senior Research Associate, JILA, 1997-1998. (JILA is a joint institute of the University of Colorado at Boulder and the National Institute of Standards and Technology.)
- ▷ Research Associate, JILA. 1995-1997.
- ▷ Graduate Research Assistant, MIT Physics Department, 1987–1995.
- ▷ Technical Instructor, MIT Physics Department, 1986-1987.

## Education:

Massachusetts Institute of Technology  
Cambridge, MA

S.B. in Physics, June 1986  
Ph.D. in Physics, June 1995

JILA/University of Colorado  
Boulder, CO

Postdoctoral work in Physics, 1995–1997

## Scientific societies and awards:

- ▷ Fellow, American Physical Society, elected 2009.
- ▷ Member, The International Society on General Relativity & Gravitation.
- ▷ Special Breakthrough Prize in Fundamental Physics, awarded to Ronald W. P. Drever, Kip S. Thorne and Rainer Weiss and 1012 contributors to the discovery.
- ▷ Gruber Foundation, 2016 Cosmology Prize, awarded to Ronald Drever, Kip Thorne, and Rainer Weiss, along with the entire Laser Interferometer Gravitational-Wave Observatory (LIGO) discovery team for the first detection of gravitational waves.

## Activities:

- ▷ Research related to the observation of gravitational waves from astrophysical sources at the Laser Interferometer Gravitational-wave Observatory (LIGO); day-to-day management of LIGO Livingston.
- ▷ Chair of LIGO Science Education Center Partnership, which consists of collaborators at LIGO, Southern University, the Baton Rouge Area Foundation, and the San Francisco Exploratorium. The partnership carries out education and outreach activities in Louisiana relevant to LIGO science.
- ▷ Member of the LIGO Scientific Collaboration (LSC) Executive Committee; Past chair of the LSC's Suspension, Seismic Isolation and Thermal Noise Working Group.

## Publications:

- [1] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. *Classical and Quantum Gravity*, 33(13):134001, Jul 2016. ISSN 0264-9381. doi: 10.1088/0264-9381/33/13/134001.
- [2] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). GW150914: First results from the search for binary black hole coalescence with Advanced LIGO. *Physical Review D*, 93(12):122003, Jun 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.122003.
- [3] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). GW151226: Observation of gravitational waves from a 22-solar-mass binary black hole coalescence. *Physical Review Letters*, 116(24):241103, Jun 2016. ISSN 0031-9007. doi: 10.1103/PhysRevLett.116.241103.
- [4] S. Adrián-Martínez *et al.* (Antares Collaboration, IceCube Collaboration, LIGO Scientific Collaboration, and Virgo Collaboration). High-energy neutrino follow-up search of gravitational wave event GW150914 with antares and icecube. *Physical Review D*, 93(12):122010, Jun 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.122010.
- [5] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Observing gravitational-wave transient GW150914 with minimal assumptions. *Physical Review D*, 93(12):122004, Jun 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.122004.
- [6] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Properties of the binary black hole merger GW150914. *Physical Review Letters*, 116(24):241102, Jun 2016. ISSN 0031-9007. doi: 10.1103/PhysRevLett.116.241102.
- [7] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for transient gravitational waves in coincidence with short-duration radio transients during 2007-2013. *Physical Review D*, 93(12):122008, Jun 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.122008.
- [8] D. V. Martynov, E. D. Hall, B. P. Abbott, R. Abbott, T. D. Abbott, C. Adams, R. X. Adhikari, R. A. Anderson, S. B. Anderson, K. Arai, M. A. Arain, S. M. Aston, L. Austin, S. W. Ballmer, M. Barbet, D. Barker, B. Barr, L. Barsotti, J. Bartlett, M. A. Barton, I. Bartos, J. C. Batch, A. S. Bell, I. Belopolski, J. Bergman, J. Betzwieser, G. Billingsley, J. Birch, S. Biscans, C. Biwer, E. Black, C. D. Blair, C. Bogan, R. Bork, D. O. Bridges, A. F. Brooks, C. Celerier, G. Ciani, F. Clara, D. Cook, S. T. Countryman, M. J. Cowart, D. C. Coyne, A. Cumming, L. Cunningham, M. Damjanic, R. Dannenberg, K. Danzmann, C. F. D. S. Costa, E. J. Daw, D. DeBra, R. T. DeRosa, R. DeSalvo, K. L. Dooley, S. Doravari, J. C. Driggers, S. E. Dwyer, A. Effler, T. Etzel, M. Evans, T. M. Evans, M. Factourovich, H. Fair, D. Feldbaum, R. P. Fisher, S. Foley, M. Frede, P. Fritschel, V. V. Frolov, P. Fulda, M. Fyffe, V. Galdi, J. A. Giaime, K. D. Giardino, J. R. Gleason, R. Goetz, S. Gras, C. Gray, R. J. S. Greenhalgh, H. Grote, C. J. Guido, K. E. Gushwa, E. K. Gustafson, R. Gustafson, G. Hammond, J. Hanks, J. Hanson, T. Hardwick, G. M. Harry, J. Heefner, M. C. Heintze, A. W. Heptonstall, D. Hoak, J. Hough, A. Ivanov, K. Izumi, M. Jacobson, E. James, R. Jones, S. Kandhasamy, S. Karki, M. Kasprzack, S. Kaufer, K. Kawabe, W. Kells, N. Kijbunchoo, E. J. King, P. J. King, D. L. Kinzel, J. S. Kissel, K. Kokeyama, W. Z. Korth, G. Kuehn, P. Kwee, M. Landry, B. Lantz, A. Le Roux, B. M. Levine, J. B. Lewis, V. Lhuillier, N. A. Lockerbie, M. Lormand, M. J. Lubinski, A. P. Lundgren, T. MacDonald, M. MacInnis, D. M. Macleod, M. Mageswaran, K. Mailand, S. Marka, Z. Marka, A. S. Markosyan, E. Maros, I. W. Martin, R. M. Martin, J. N. Marx, K. Mason, T. J. Massinger, F. Matichard, N. Mavalvala, R. McCarthy, D. E. McClelland, S. McCormick, G. McIntyre, J. McIver, E. L. Merilh, M. S. Meyer, P. M. Meyers, J. Miller, R. Mittleman, G. Moreno, C. L. Mueller, G. Mueller, A. Mullavey, J. Munch, L. K. Nuttall, J. Oberling, J. O'Dell, P. Oppermann, R. J. Oram, B. O'Reilly, C. Osthelder, D. J. Ottaway, H. Overmier, J. R. Palamos, H. R. Paris, W. Parker, Z. Patrick, A. Pele, S. Penn, M. Phelps, M. Pickenpack, V. Pierro, I. Pinto, J. Poeld, M. Principe, L. Prokhorov, O. Puncken, V. Quetschke, E. A. Quintero, F. J. Raab, H. Radkins, P. Raffai, C. R. Ramet, C. M. Reed, S. Reid, D. H. Reitze, N. A. Robertson, J. G. Rollins, V. J. Roma, J. H. Romie, S. Rowan, K. Ryan,

- T. Sadecki, E. J. Sanchez, V. Sandberg, V. Sannibale, R. L. Savage, R. M. S. Schofield, B. Schultz, P. Schwinberg, D. Sellers, A. Seigny, D. A. Shaddock, Z. Shao, B. Shapiro, P. Shawhan, D. H. Shoemaker, D. Sigg, B. J. J. Slagmolen, J. R. Smith, M. R. Smith, N. D. Smith-Lefebvre, B. Sorazu, A. Staley, A. J. Stein, A. Stochino, K. A. Strain, R. Taylor, M. Thomas, P. Thomas, K. A. Thorne, E. Thrane, C. I. Torrie, G. Traylor, G. Vajente, G. Valdes, A. A. van Veggel, M. Vargas, A. Vecchio, P. J. Veitch, K. Venkateswara, T. Vo, C. Vorvick, S. J. Waldman, M. Walker, R. L. Ward, J. Warner, B. Weaver, R. Weiss, T. Welborn, P. Wessls, C. Wilkinson, P. A. Willems, L. Williams, B. Willke, L. Winkelmann, C. C. Wipf, J. Worden, G. Wu, H. Yamamoto, C. C. Yancey, H. Yu, L. Zhang, M. E. Zucker, and J. Zweizig. Sensitivity of the Advanced LIGO detectors at the beginning of gravitational wave astronomy. *Physical Review D*, 93(11):112004, Jun 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.112004.
- [9] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Tests of general relativity with GW150914. *Physical Review Letters*, 116(22):221101, May 2016. ISSN 0031-9007. doi: 10.1103/PhysRevLett.116.221101.
- [10] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). GW150914: Implications for the stochastic gravitational-wave background from binary black holes. *Physical Review Letters*, 116(13):131102, Mar 2016. ISSN 0031-9007. doi: 10.1103/PhysRevLett.116.131102.
- [11] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). GW150914: the Advanced LIGO detectors in the era of first discoveries. *Physical Review Letters*, 116(13):131103, Mar 2016. ISSN 0031-9007. doi: 10.1103/PhysRevLett.116.131103.
- [12] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). All-sky search for long-duration gravitational wave transients with initial LIGO. *Physical Review D*, 93(4):042005, Feb 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.042005.
- [13] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Astrophysical implications of the binary black hole merger GW150914. *Astrophysical Journal Letters*, 818(2):L22, Feb 2016. ISSN 2041-8205. doi: 10.3847/2041-8205/818/2/L22.
- [14] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). First low frequency all-sky search for continuous gravitational wave signals. *Physical Review D*, 93(4):042007, Feb 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.042007.
- [15] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Observation of gravitational waves from a binary black hole merger. *Physical Review Letters*, 116(6):061102, Feb 2016. ISSN 0031-9007. doi: 10.1103/PhysRevLett.116.061102.
- [16] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search of the Orion spur for continuous gravitational waves using a loosely coherent algorithm on data from LIGO interferometers. *Physical Review D*, 93(4):042006, Feb 2016. ISSN 2470-0010. doi: 10.1103/PhysRevD.93.042006.
- [17] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Prospects for observing and localizing gravitational-wave transients with Advanced LIGO and Advanced Virgo. *Living Reviews In Relativity*, 19:1–+, 2016. ISSN 1433-8351. doi: 10.1007/lrr-2016-1.
- [18] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Searches for continuous gravitational waves from nine young supernova remnants. *Astrophysical Journal*, 813(1):39, Nov 2015. ISSN 0004-637X. doi: 10.1088/0004-637X/813/1/39.
- [19] F. Matichard, B. Lantz, R. Mittleman, K. Mason, J. Kissel, B. Abbott, S. Biscans, J. McIver, R. Abbott, S. Abbott, E. Allwine, S. Barnum, J. Birch, C. Celerier, D. Clark, D. Coyne, D. Debra, R. DeRosa, M. Evans, S. Foley, P. Fritschel, J. A. Giaime, C. Gray, G. Grabeel, J. Hanson, C. Hardham, M. Hillard, W. Hua, C. Kucharczyk, M. Landry, A. Le Roux, V. L’huillier, D. Macleod, M. Macinnis, R. Mitchell, B. O’Reilly, D. Ottaway, H. Paris, A. Pele, M. Puma, H. Radkins, C. Ramet, M. Robinson, L. Ruet,

- P. Sarin, D. Shoemaker, A. Stein, J. Thomas, M. Vargas, K. Venkateswara, J. Warner, and S. Wen. Seismic isolation of Advanced LIGO: Review of strategy, instrumentation and performance. *Classical And Quantum Gravity*, 32(18):185003, Sep 2015. ISSN 0264-9381. doi: 10.1088/0264-9381/32/18/185003.
- [20] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Characterization of the LIGO detectors during their sixth science run. *Classical And Quantum Gravity*, 32(11):115012, Jun 2015. ISSN 0264-9381. doi: 10.1088/0264-9381/32/11/115012.
- [21] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Advanced LIGO. *Classical And Quantum Gravity*, 32(7):074001, Apr 2015. ISSN 0264-9381. doi: 10.1088/0264-9381/32/7/074001.
- [22] F. Matichard, B. Lantz, K. Mason, R. Mittleman, B. Abbott, S. Abbott, E. Allwine, S. Barnum, J. Birch, S. Biscans, D. Clark, D. Coyne, D. DeBra, R. DeRosa, S. Foley, P. Fritschel, J. A. Giaime, C. Gray, G. Grabeel, J. Hanson, M. Hillard, J. Kissel, C. Kucharczyk, A. Le Roux, V. L’huillier, M. Macinnis, B. O’Reilly, D. Ottaway, H. Paris, M. Puma, H. Radkins, C. Ramet, M. Robinson, L. Ruet, P. Sareen, D. Shoemaker, A. Stein, J. Thomas, M. Vargas, and J. Warner. Advanced LIGO two-stage twelve-axis vibration isolation and positioning platform. part 1: Design and production overview. *Precision Engineering—Journal Of The International Societies For Precision Engineering And Nanotechnology*, 40: 273–286, Apr 2015. ISSN 0141-6359. doi: 10.1016/j.precisioneng.2014.09.010.
- [23] F. Matichard, B. Lantz, K. Mason, R. Mittleman, B. Abbott, S. Abbott, E. Allwine, S. Barnum, J. Birch, S. Biscans, D. Clark, D. Coyne, D. DeBra, R. DeRosa, S. Foley, P. Fritschel, J. A. Giaime, C. Gray, G. Grabeel, J. Hanson, M. Hillard, J. Kissel, C. Kucharczyk, A. Le Roux, V. L’huillier, M. Macinnis, B. O’Reilly, D. Ottaway, H. Paris, M. Puma, H. Radkins, C. Ramet, M. Robinson, L. Ruet, P. Sareen, D. Shoemaker, A. Stein, J. Thomas, M. Vargas, and J. Warner. Advanced LIGO two-stage twelve-axis vibration isolation and positioning platform. part 2: Experimental investigation and tests results. *Precision Engineering—Journal Of The International Societies For Precision Engineering And Nanotechnology*, 40:287–297, Apr 2015. ISSN 0141-6359. doi: 10.1016/j.precisioneng.2014.11.010.
- [24] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Directed search for gravitational waves from scorpius X-1 with initial LIGO data. *Physical Review D*, 91(6):UNSP 062008, Mar 2015. ISSN 2470-0010. doi: 10.1103/PhysRevD.91.062008.
- [25] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Narrow-band search of continuous gravitational-wave signals from crab and vela pulsars in Virgo VSR4 data. *Physical Review D*, 91(2):022004, Jan 2015. ISSN 1550-7998. doi: 10.1103/PhysRevD.91.022004.
- [26] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Searching for stochastic gravitational waves using data from the two colocated LIGO Hanford detectors. *Physical Review D*, 91(2):UNSP 022003, Jan 2015. ISSN 1550-7998. doi: 10.1103/PhysRevD.91.022003.
- [27] S. Wen, R. Mittleman, K. Mason, J. Giaime, R. Abbott, J. Kern, B. O’Reilly, R. Bork, M. Hammond, C. Hardham, B. Lantz, W. Hua, D. Coyne, G. Traylor, H. Overmier, T. Evans, J. Hanson, O. Spjeld, M. Macinnis, K. Mailand, D. Ottaway, D. Sellers, K. Carter, and P. Sarin. Hydraulic external pre-isolator system for LIGO. *Classical And Quantum Gravity*, 31(23):235001, Dec 2014. ISSN 0264-9381. doi: 10.1088/0264-9381/31/23/235001.
- [28] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Improved upper limits on the stochastic gravitational-wave background from 2009-2010 LIGO and Virgo data. *Physical Review Letters*, 113(23):231101, Dec 2014. ISSN 0031-9007. doi: 10.1103/PhysRevLett.113.231101.
- [29] Aasi, J. *et al.* (IceCube Collaboration, LIGO Scientific Collaboration and Virgo Collaboration). Multimessenger search for sources of gravitational waves and high-energy neutrinos: Initial results for LIGO-Virgo and IceCube. *Physical Review D*, 90(10):UNSP 102002, Nov 2014. ISSN 1550-7998. doi: 10.1103/PhysRevD.90.102002.

- [30] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). First all-sky search for continuous gravitational waves from unknown sources in binary systems. *Physical Review D*, 90(6), Sep 2014. ISSN 2470-0010. doi: 10.1103/PhysRevD.90.062010.
- [31] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Implementation of an f-statistic all-sky search for continuous gravitational waves in Virgo VSR1 data. *Classical And Quantum Gravity*, 31(16):165014, Aug 2014. ISSN 0264-9381. doi: 10.1088/0264-9381/31/16/165014.
- [32] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Methods and results of a search for gravitational waves associated with gamma-ray bursts using the GEO 600, LIGO, and Virgo detectors. *Physical Review D*, 89(12):122004, Jun 2014. ISSN 2470-0010. doi: 10.1103/PhysRevD.89.122004.
- [33] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational radiation from intermediate mass black hole binaries in data from the second LIGO-Virgo joint science run. *Physical Review D*, 89(12):122003, Jun 2014. ISSN 1550-7998. doi: 10.1103/PhysRevD.89.122003.
- [34] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves associated with gamma-ray bursts detected by the interplanetary network. *Physical Review Letters*, 113(1):011102, Jun 2014. ISSN 0031-9007. doi: 10.1103/PhysRevLett.113.011102.
- [35] Aasi, J. *et al.* (Numerical INjection Analysis (NINJA) project, LIGO Scientific Collaboration and Virgo Collaboration). The NINJA-2 project: detecting and characterizing gravitational waveforms modelled using numerical binary black hole simulations. *Classical And Quantum Gravity*, 31(11): 115004, Jun 2014. ISSN 0264-9381. doi: 10.1088/0264-9381/31/11/115004.
- [36] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational wave ringdowns from perturbed intermediate mass black holes in LIGO-Virgo data from 2005-2010. *Physical Review D*, 89(10):102006, May 2014. ISSN 1550-7998. doi: 10.1103/PhysRevD.89.102006.
- [37] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Application of a Hough search for continuous gravitational waves on data from the fifth LIGO science run. *Classical And Quantum Gravity*, 31(8):085014, Apr 2014. ISSN 0264-9381. doi: 10.1088/0264-9381/31/8/085014.
- [38] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Constraints on cosmic strings from the LIGO-Virgo gravitational-wave detectors. *Physical Review Letters*, 112(13):131101, Apr 2014. ISSN 0031-9007. doi: 10.1103/PhysRevLett.112.131101.
- [39] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Gravitational waves from known pulsars: Results from the initial detector era. *Astrophysical Journal*, 785(2):119, Apr 2014. ISSN 0004-637X. doi: 10.1088/0004-637X/785/2/119.
- [40] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). First searches for optical counterparts to gravitational-wave candidate events. *Astrophysical Journal Supplement Series*, 211(1):7, Mar 2014. ISSN 0067-0049. doi: 10.1088/0067-0049/211/1/7.
- [41] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for long-lived gravitational-wave transients coincident with long gamma-ray bursts. *Physical Review D*, 88(12): UNSP 122004, Dec 2013. ISSN 1550-7998. doi: 10.1103/PhysRevD.88.122004.
- [42] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Directed search for continuous gravitational waves from the galactic center. *Physical Review D*, 88(10):102002, Nov 2013. ISSN 1550-7998. doi: 10.1103/PhysRevD.88.102002.
- [43] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network. *Physical Review D*, 88(6):062001, Sep 2013. ISSN 1550-7998. doi: 10.1103/PhysRevD.88.062001.

- [44] Aasi, J. *et al.* (LIGO Scientific Collaboration). Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. *Nature Photonics*, 7(8):613–619, Aug 2013. ISSN 1749-4885. doi: 10.1038/NPHOTON.2013.177.
- [45] Adrian-Martinez, S. *et al.* (ANTARES Collaboration, LIGO Scientific Collaboration and Virgo Collaboration). A first search for coincident gravitational waves and high energy neutrinos using LIGO, Virgo and ANTARES data from 2007. *Journal Of Cosmology And Astroparticle Physics*, 2013(6):008, Jun 2013. ISSN 1475-7516. doi: 10.1088/1475-7516/2013/06/008.
- [46] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Einstein@Home all-sky search for periodic gravitational waves in LIGO S5 data. *Physical Review D*, 87(4):042001, Feb 2013. ISSN 1550-7998. doi: 10.1103/PhysRevD.87.042001.
- [47] Aasi, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves from binary black hole inspiral, merger, and ringdown in LIGO-Virgo data from 2009–2010. *Physical Review D*, 87(2):022002, Jan 2013. ISSN 1550-7998. doi: 10.1103/PhysRevD.87.022002.
- [48] Evans, P. A. *et al.* (SWIFT team, LIGO Scientific Collaboration and Virgo Collaboration). SWIFT follow-up observations of candidate gravitational-wave transient events. *Astrophysical Journal Supplement Series*, 203(2):28, Dec 2012. ISSN 0067-0049. doi: 10.1088/0067-0049/203/2/28.
- [49] Ryan DeRosa, Jennifer C. Driggers, Dani Atkinson, Haixing Miao, Valery Frolov, Michael Landry, Joseph A. Giaime, and Rana X. Adhikari. Global feed-forward vibration isolation in a km scale interferometer. *Classical And Quantum Gravity*, 29(21):215008, Nov 2012. ISSN 0264-9381. doi: 10.1088/0264-9381/29/21/215008.
- [50] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves associated with gamma-ray bursts during LIGO science run 6 and Virgo science runs 2 and 3. *Astrophysical Journal*, 760(1):12, Nov 2012. ISSN 0004-637X. doi: 10.1088/0004-637X/760/1/12.
- [51] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves from binary black hole inspiral, merger, and ringdown (erratum to vol 83, 122005, 2011). *Physical Review D*, 86(6):069903, Sep 2012. ISSN 1550-7998. doi: 10.1103/PhysRevD.86.069903.
- [52] Abadie, J. *et al.* (LIGO Scientific Collaboration). Implications for the origin of GRB 051103 from LIGO observations. *Astrophysical Journal*, 755(1):2, Aug 2012. ISSN 0004-637X. doi: 10.1088/0004-637X/755/1/2.
- [53] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). The characterization of Virgo data and its impact on gravitational-wave searches. *Classical And Quantum Gravity*, 29(15):155002, Aug 2012. ISSN 0264-9381. doi: 10.1088/0264-9381/29/15/155002.
- [54] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). All-sky search for gravitational-wave bursts in the second joint LIGO-Virgo run. *Physical Review D*, 85(12):122007, Jun 2012. ISSN 1550-7998. doi: 10.1103/PhysRevD.85.122007.
- [55] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Upper limits on a stochastic gravitational-wave background using LIGO and Virgo interferometers at 600–1000 Hz. *Physical Review D*, 85(12):122001, Jun 2012. ISSN 1550-7998. doi: 10.1103/PhysRevD.85.122001.
- [56] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). First low-latency LIGO plus Virgo search for binary inspirals and their electromagnetic counterparts. *Astronomy & Astrophysics*, 541:A155, May 2012. ISSN 0004-6361. doi: 10.1051/0004-6361/201218860.
- [57] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves from intermediate mass binary black holes. *Physical Review D*, 85(10):102004, May 2012. ISSN 1550-7998. doi: 10.1103/PhysRevD.85.102004.

- [58] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves from low mass compact binary coalescence in LIGO's sixth science run and Virgo's science runs 2 and 3. *Physical Review D*, 85(8):082002, Apr 2012. ISSN 1550-7998. doi: 10.1103/PhysRevD.85.082002.
- [59] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Implementation and testing of the first prompt search for gravitational wave transients with electromagnetic counterparts. *Astronomy & Astrophysics*, 539:A124, Mar 2012. ISSN 0004-6361. doi: 10.1051/0004-6361/201118219.
- [60] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). All-sky search for periodic gravitational waves in the full S5 LIGO data. *Physical Review D*, 85(2):022001, Jan 2012. ISSN 1550-7998. doi: 10.1103/PhysRevD.85.022001.
- [61] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Directional limits on persistent gravitational waves using LIGO S5 science data. *Physical Review Letters*, 107(27):271102, Dec 2011. ISSN 0031-9007. doi: 10.1103/PhysRevLett.107.271102.
- [62] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Beating the spin-down limit on gravitational wave emission from the Vela pulsar. *Astrophysical Journal*, 737(2):93, Aug 2011. ISSN 0004-637X. doi: 10.1088/0004-637X/737/2/93.
- [63] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational wave bursts from six magnetars. *Astrophysical Journal Letters*, 734(2):L35, Jun 2011. ISSN 2041-8205. doi: 10.1088/2041-8205/734/2/L35.
- [64] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves from binary black hole inspiral, merger, and ringdown. *Physical Review D*, 83(12):122005, Jun 2011. ISSN 1550-7998. doi: 10.1103/PhysRevD.83.122005.
- [65] Abadie, J. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves associated with the August 2006 timing glitch of the Vela pulsar. *Physical Review D*, 83(4):042001, Feb 2011. ISSN 1550-7998. doi: 10.1103/PhysRevD.83.042001.
- [66] Abadie, J. *et al.* (LIGO Scientific Collaboration). Calibration of the LIGO gravitational wave detectors in the fifth science run. *Nuclear Instruments & Methods In Physics Research Section A—Accelerators Spectrometers Detectors And Associated Equipment*, 624(1):223–240, Dec 2010. ISSN 0168-9002. doi: 10.1016/j.nima.2010.07.089.
- [67] Rupal S. Amin and Joseph A. Giaime. Gravitational-wave detector-derived error signals for the LIGO thermal compensation system. *Classical And Quantum Gravity*, 27(21):215002, Nov 2010. ISSN 0264-9381. doi: 10.1088/0264-9381/27/21/215002.
- [68] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational waves from compact binary coalescence in LIGO and Virgo data from S5 and VSR1. *Physical Review D*, 82(10):102001, Nov 2010. ISSN 1550-7998. doi: 10.1103/PhysRevD.82.102001.
- [69] Abadie, J. *et al.* (LIGO Scientific Collaboration). First search for gravitational waves from the youngest known neutron star. *Astrophysical Journal*, 722(2):1504–1513, Oct 2010. ISSN 0004-637X. doi: 10.1088/0004-637X/722/2/1504.
- [70] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Predictions for the rates of compact binary coalescences observable by ground-based gravitational-wave detectors. *Classical And Quantum Gravity*, 27(17):173001, Sep 2010. ISSN 0264-9381. doi: 10.1088/0264-9381/27/17/173001.
- [71] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational-wave bursts associated with gamma-ray bursts using data from LIGO science run 5 and Virgo science run 1. *Astrophysical Journal*, 715(2):1438–1452, Jun 2010. ISSN 0004-637X. doi: 10.1088/0004-637X/715/2/1438.

- [72] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Search for gravitational-wave inspiral signals associated with short gamma-ray bursts during LIGO's fifth and Virgo's first science run. *Astrophysical Journal*, 715(2):1453–1461, Jun 2010. ISSN 0004-637X. doi: 10.1088/0004-637X/715/2/1453.
- [73] Abadie, J. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). All-sky search for gravitational-wave bursts in the first joint LIGO-GEO-Virgo run. *Physical Review D*, 81(10):102001, May 2010. ISSN 1550-7998. doi: 10.1103/PhysRevD.81.102001.
- [74] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Searches for gravitational waves from known pulsars with science run 5 ligo data. *Astrophysical Journal*, 713(1):671–685, Apr 2010. ISSN 0004-637X. doi: 10.1088/0004-637X/713/1/671.
- [75] Abbott, B. *et al.* (LIGO Scientific Collaboration). All-sky search for periodic gravitational waves in LIGO S4 data (erratum to vol 77, 022001, 2008). *Physical Review D*, 80(12):129904, Dec 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.80.129904.
- [76] Abbott, B. *et al.* (LIGO Scientific Collaboration). Beating the spin-down limit on gravitational wave emission from the Crab pulsar (vol 683, pg 145, 2008). *Astrophysical Journal Letters*, 706(1):L203–L204, Nov 2009. ISSN 2041-8205. doi: 10.1088/0004-637X/706/1/L203.
- [77] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational-wave bursts in the first year of the fifth ligo science run. *Physical Review D*, 80(10):102001, Nov 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.80.102001.
- [78] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for high frequency gravitational-wave bursts in the first calendar year of ligo's fifth science run. *Physical Review D*, 80(10):102002, Nov 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.80.102002.
- [79] Abbott, B. *et al.* (LIGO Scientific Collaboration). First ligo search for gravitational wave bursts from cosmic (super)strings. *Physical Review D*, 80(6):062002, Sep 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.80.062002.
- [80] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational wave ringdowns from perturbed black holes in LIGO S4 data. *Physical Review D*, 80(6):062001, Sep 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.80.062001.
- [81] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). An upper limit on the stochastic gravitational-wave background of cosmological origin. *Nature*, 460(7258):990–994, Aug 2009. ISSN 0028-0836. doi: 10.1038/nature08278.
- [82] Abbott, B. *et al.* (LIGO Scientific Collaboration). Einstein@Home search for periodic gravitational waves in early S5 LIGO data. *Physical Review D*, 80(4):042003, Aug 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.80.042003.
- [83] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves from low mass compact binary coalescence in 186 days of LIGO's fifth science run. *Physical Review D*, 80(4):047101, Aug 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.80.047101.
- [84] Abbott, B. *et al.* (LIGO Scientific Collaboration). Stacked search for gravitational waves from the 2006 SGR 1900+14 storm. *Astrophysical Journal Letters*, 701(2):L68–L74, Aug 2009. doi: 10.1088/0004-637X/701/2/L68.
- [85] Abbott, B. *et al.* (LIGO Scientific Collaboration). LIGO: the laser interferometer gravitational-wave observatory. *Reports On Progress In Physics*, 72(7):076901, Jul 2009. ISSN 0034-4885. doi: 10.1088/0034-4885/72/7/076901.
- [86] Abbott, B. *et al.* (LIGO Scientific Collaboration). Observation of a kilogram-scale oscillator near its quantum ground state. *New Journal Of Physics*, 11:073032, Jul 2009. ISSN 1367-2630. doi: 10.1088/1367-2630/11/7/073032.



- [87] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves from low mass binary coalescences in the first year of LIGO's S5 data. *Physical Review D*, 79(12):122001, Jun 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.79.122001.
- [88] Abbott, B. *et al.* (LIGO Scientific Collaboration). All-sky LIGO search for periodic gravitational waves in the early fifth-science-run data. *Physical Review Letters*, 102(11):111102, Mar 2009. ISSN 0031-9007. doi: 10.1103/PhysRevLett.102.111102.
- [89] Abbott, B. *et al.* (LIGO Scientific Collaboration). Einstein@Home search for periodic gravitational waves in LIGO S4 data. *Physical Review D*, 79(2):022001, Jan 2009. ISSN 1550-7998. doi: 10.1103/PhysRevD.79.022001.
- [90] Abbott, B. *et al.* (LIGO Scientific Collaboration). First joint search for gravitational-wave bursts in LIGO and GEO 600 data. *Classical And Quantum Gravity*, 25(24):245008, Dec 2008. ISSN 0264-9381. doi: 10.1088/0264-9381/25/24/245008.
- [91] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational-wave bursts from soft gamma repeaters. *Physical Review Letters*, 101(21):211102, Nov 2008. ISSN 0031-9007. doi: 10.1103/PhysRevLett.101.211102.
- [92] Abbott, B. *et al.* (LIGO Scientific Collaboration). Beating the spin-down limit on gravitational wave emission from the Crab pulsar. *Astrophysical Journal Letters*, 683(1):L45–L49, Aug 2008. ISSN 2041-8205. doi: 10.1086/591526.
- [93] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search of S3 LIGO data for gravitational wave signals from spinning black hole and neutron star binary inspirals. *Physical Review D*, 78(4):042002, Aug 2008. ISSN 1550-7998. doi: 10.1103/PhysRevD.78.042002.
- [94] Abbott, B. *et al.* (LIGO Scientific Collaboration). Implications for the origin of GRB 070201 from LIGO observations. *Astrophysical Journal*, 681(2):1419–1430, Jul 2008. ISSN 0004-637X. doi: 10.1086/587954.
- [95] Abbott, B. *et al.* (LIGO Scientific Collaboration and Virgo Collaboration). Astrophysically triggered searches for gravitational waves: status and prospects. *Classical And Quantum Gravity*, 25(11):114051, Jun 2008. ISSN 0264-9381. doi: 10.1088/0264-9381/25/11/114051.
- [96] Baggio, L. *et al.* (AURIGA Collaboration and LIGO Scientific Collaboration). A joint search for gravitational wave bursts with AURIGA and LIGO. *Classical And Quantum Gravity*, 25(9):095004, May 2008. ISSN 0264-9381. doi: 10.1088/0264-9381/25/9/095004.
- [97] Abbott, B. *et al.* (LIGO Scientific Collaboration). All-sky search for periodic gravitational waves in LIGO S4 data (vol 77, art no 022001, 2008). *Physical Review D*, 77(6):069902, Mar 2008. ISSN 1550-7998. doi: 10.1103/PhysRevD.77.069902.
- [98] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves associated with 39 gamma-ray bursts using data from the second, third, and fourth LIGO runs. *Physical Review D*, 77(6):062004, Mar 2008. ISSN 1550-7998. doi: 10.1103/PhysRevD.77.062004.
- [99] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves from binary inspirals in S3 and S4 LIGO data. *Physical Review D*, 77(6):062002, Mar 2008. ISSN 1550-7998. doi: 10.1103/PhysRevD.77.062002.
- [100] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational-wave bursts in LIGO data from the fourth science run (erratum to vol 24, pg 5343, 2007). *Classical And Quantum Gravity*, 25(3):039801, Feb 2008. ISSN 0264-9381. doi: 10.1088/0264-9381/25/3/039801.
- [101] Abbott, B. *et al.* (LIGO Scientific Collaboration). All-sky search for periodic gravitational waves in LIGO S4 data. *Physical Review D*, 77(2):022001, Jan 2008. ISSN 1550-7998. doi: 10.1103/PhysRevD.77.022001.

- [102] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational-wave bursts in LIGO data from the fourth science run. *Classical And Quantum Gravity*, 24(22):5343–5369, Nov 2007. ISSN 0264-9381. doi: 10.1088/0264-9381/24/22/002.
- [103] Abbott, B. *et al.* (LIGO Scientific Collaboration). Searches for periodic gravitational waves from unknown isolated sources and Scorpius X-1: results from the second LIGO science run. *Physical Review D*, 76(8):082001, Oct 2007. ISSN 1550-7998. doi: 10.1103/PhysRevD.76.082001.
- [104] Abbott, B. *et al.* (LIGO Scientific Collaboration). Upper limit map of a background of gravitational waves. *Physical Review D*, 76(8):082003, Oct 2007. ISSN 1550-7998. doi: 10.1103/PhysRevD.76.082003.
- [105] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational wave radiation associated with the pulsating tail of the SGR 1806–20 hyperflare of 27 December 2004 using LIGO. *Physical Review D*, 76(6):062003, Sep 2007. ISSN 1550-7998. doi: 10.1103/PhysRevD.76.062003.
- [106] Abbott, B. *et al.* (LIGO Scientific Collaboration). Upper limits on gravitational wave emission from 78 radio pulsars. *Physical Review D*, 76(4):042001, Aug 2007. ISSN 1550-7998. doi: 10.1103/PhysRevD.76.042001.
- [107] Abbott, B. *et al.* (LIGO Scientific Collaboration and ALLEGRO Collaboration). First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds. *Physical Review D*, 76(2):022001, Jul 2007. ISSN 1550-7998. doi: 10.1103/PhysRevD.76.022001.
- [108] Abbott, B. *et al.* (LIGO Scientific Collaboration). Searching for a stochastic background of gravitational waves with the laser interferometer gravitational-wave observatory. *Astrophysical Journal*, 659(2):918–930, Apr 2007. ISSN 0004-637X. doi: 10.1086/511329.
- [109] Abbott, B. *et al.* (LIGO Scientific Collaboration and TAMA Collaboration). Joint LIGO and TAMA300 search for gravitational waves from inspiralling neutron star binaries. *Physical Review D*, 73(10):102002, May 2006. ISSN 2470-0010. doi: 10.1103/PhysRevD.73.102002.
- [110] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational-wave bursts in LIGO’s third science run. *Classical And Quantum Gravity*, 23(8):S29–S39, Apr 2006. ISSN 0264-9381. doi: 10.1088/0264-9381/23/8/S05.
- [111] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves from binary black hole inspirals in LIGO data. *Physical Review D*, 73(6):062001, Mar 2006. ISSN 1550-7998. doi: 10.1103/PhysRevD.73.062001.
- [112] Abbott, B. *et al.* (LIGO Scientific Collaboration). Upper limits from the LIGO and TAMA detectors on the rate of gravitational-wave bursts. *Physical Review D*, 72(12):122004, Dec 2005. ISSN 1550-7998. doi: 10.1103/PhysRevD.72.122004.
- [113] Abbott, B. *et al.* (LIGO Scientific Collaboration). First all-sky upper limits from LIGO on the strength of periodic gravitational waves using the Hough transform. *Physical Review D*, 72(10):102004, Nov 2005. ISSN 1550-7998. doi: 10.1103/PhysRevD.72.102004.
- [114] Abbott, B. *et al.* (LIGO Scientific Collaboration). Upper limits on a stochastic background of gravitational waves. *Physical Review Letters*, 95(22):221101, Nov 2005. ISSN 0031-9007. doi: 10.1103/PhysRevLett.95.221101.
- [115] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves from galactic and extra-galactic binary neutron stars. *Physical Review D*, 72(8):082001, Oct 2005. ISSN 1550-7998. doi: 10.1103/PhysRevD.72.082001.
- [116] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves from primordial black hole binary coalescences in the galactic halo. *Physical Review D*, 72(8):082002, Oct 2005. ISSN 1550-7998. doi: 10.1103/PhysRevD.72.082002.

- [117] Abbott, B. *et al.* (LIGO Scientific Collaboration). Search for gravitational waves associated with the gamma ray burst GRB030329 using the LIGO detectors. *Physical Review D*, 72(4):042002, Aug 2005. ISSN 1550-7998. doi: 10.1103/PhysRevD.72.042002.
- [118] Abbott, B. *et al.* (LIGO Scientific Collaboration). Limits on gravitational-wave emission from selected pulsars using LIGO data. *Physical Review Letters*, 94(18):181103, May 2005. ISSN 0031-9007. doi: 10.1103/PhysRevLett.94.181103.
- [119] Abbott, B. *et al.* (LIGO Scientific Collaboration). Analysis of first LIGO science data for stochastic gravitational waves. *Physical Review D*, 69(12):122004, Jun 2004. ISSN 0556-2821. doi: 10.1103/PhysRevD.69.122004.
- [120] Abbott, B. *et al.* (LIGO Scientific Collaboration). Analysis of LIGO data for gravitational waves from binary neutron stars. *Physical Review D*, 69(12):122001, Jun 2004. ISSN 1550-7998. doi: 10.1103/PhysRevD.69.122001.
- [121] E. J. Daw, J. A. Giaime, D. Lormand, M. Lubinski, and J. Zweizig. Long-term study of the seismic environment at LIGO. *Classical And Quantum Gravity*, 21(9):2255–2273, May 2004. ISSN 0264-9381. doi: 10.1088/0264-9381/21/9/003.
- [122] Abbott, B. *et al.* (LIGO Scientific Collaboration). Setting upper limits on the strength of periodic gravitational waves from PSR J1939+2134 using the first science data from the GEO 600 and LIGO detectors. *Physical Review D*, 69(8):082004, Apr 2004. ISSN 0556-2821. doi: 10.1103/PhysRevD.69.082004.
- [123] R. Abbott, R. Adhikari, G. Allen, D. Baglino, C. Campbell, D. Coyne, E. Daw, D. DeBra, J. Faludi, P. Fritschel, A. Ganguli, J. Giaime, M. Hammond, C. Hardham, G. Harry, W. Hua, L. Jones, J. Kern, B. Lantz, K. Lilenkamp, K. Mailand, K. Mason, R. Mittleman, S. Nayfeh, D. Ottaway, J. Phinney, W. Rankin, N. Robertson, R. Scheffler, D. H. Shoemaker, S. Wen, M. Zucker, and L. Zuo. Seismic isolation enhancements for initial and Advanced LIGO. *Classical And Quantum Gravity*, 21(5):S915–S921, Mar 2004. ISSN 0264-9381. doi: 10.1088/0264-9381/21/5/081.
- [124] Abbott, B. *et al.* (LIGO Scientific Collaboration). Upper limits on the strength of periodic gravitational waves from PSR J1939+2134. *Classical And Quantum Gravity*, 21(5):S671–S676, Mar 2004. ISSN 0264-9381. doi: 10.1088/0264-9381/21/5/042.
- [125] Abbott, B. *et al.* (LIGO Scientific Collaboration). Detector description and performance for the first coincidence observations between LIGO and GEO. *Nuclear Instruments & Methods In Physics Research Section A—Accelerators Spectrometers Detectors And Associated Equipment*, 517(1-3):154–179, Jan 2004. ISSN 0168-9002. doi: 10.1016/j.nima.2003.11.124.
- [126] W. Hua, R. Adhikari, D. DeBra, J. Giaime, G. Hammond, C. Hardham, M. Hennessy, J. How, B. Lantz, M. Macinnis, R. Mittleman, S. Richman, N. Robertson, J. Rollins, D. H. Shoemaker, and R. Stebbins. Low frequency active vibration isolation for advanced LIGO. In *Proceedings Of The Society Of Photo-Optical Instrumentation Engineers (SPIE)*, volume 5500, pages 194–205, 2004. doi: 10.1117/12.552518.
- [127] N. A. Robertson, B. Abbott, R. Abbott, R. Adhikari, G. Allen, H. Armandula, S. Aston, A. Baglino, M. Barton, B. Bland, R. Bork, J. Bogenstahl, G. Cagnoli, C. Campbell, C. A. Cantley, K. Carter, D. Cook, D. Coyne, D. Crooks, E. Daw, D. DeBra, E. Elliffe, J. Faludi, P. Fritschel, A. Ganguli, J. Giaime, S. Gossler, A. Grant, J. Greenhalgh, M. Hammond, J. Hanson, C. Hardham, G. Harry, A. Heptonstall, J. Heefner, J. Hough, D. Hoyland, W. Hua, L. Jones, R. Jones, J. Kern, J. LaCour, B. Lantz, K. Lilenkamp, N. Lockerbie, H. Luck, M. MacInnis, K. Mailand, K. Mason, R. Mittleman, S. Nayfeh, J. Nichol, D. J. Ottaway, H. Overmier, M. Perreur-Lloyd, J. Phinney, M. Plissi, W. Rankin, D. Robertson, J. Romie, S. Rowan, R. Scheffler, D. H. Shoemaker, P. Sarin, P. Sneddon, C. Speake, O. Spjeld, G. Stapfer, K. A. Strain, C. Torrie, G. Traylor, J. van Niekerk, A. Vecchio, S. Wen, P. Willems, I. Wilmot, H. Ward, M. Zucker, and L. Zuo. Seismic isolation and suspension systems for Advanced LIGO. In *Proceedings Of The Society Of Photo-Optical Instrumentation Engineers (SPIE)*, volume 5500, pages 81–91, 2004. doi: 10.1117/12.552469.

- [128] J. A. Giaime, E. J. Daw, M. Weitz, R. Adhikari, P. Fritschel, R. Abbott, R. Bork, and J. Heefner. Feedforward reduction of the microseism disturbance in a long-base-line interferometric gravitational-wave detector. *Review Of Scientific Instruments*, 74(1):218–224, Jan 2003. ISSN 0034-6748. doi: 10.1063/1.1524717.
- [129] W. O. Hamilton, M. A. Burgamy, D. M. Busby, E. J. Daw, J. Duran, J. A. Giaime, J. Hanson, I. S. Heng, W. W. Johnson, M. P. McHugh, P. Miller, D. Nettles, and J. T. Whelan. Resonant detectors and interferometers can work together. In *Proceedings Of The Society Of Photo-Optical Instrumentation Engineers (SPIE)*, volume 4856, pages 230–237, 2003. doi: 10.1117/12.459052.
- [130] I. S. Heng, E. Daw, J. Giaime, W. O. Hamilton, M. P. Mchugh, and W. W. Johnson. ALLEGRO: noise performance and the ongoing search for gravitational waves. *Classical And Quantum Gravity*, 19(7):1889–1895, Apr 2002. ISSN 0264-9381. doi: 10.1088/0264-9381/19/7/389.
- [131] R. Abbott, R. Adhikari, G. Allen, S. Cowley, E. Daw, D. DeBra, J. Giaime, G. Hammond, M. Hammond, C. Hardham, J. How, W. Hua, W. Johnson, B. Lantz, K. Mason, R. Mittleman, J. Nichol, S. Richman, J. Rollins, D. Shoemaker, G. Stapfer, and R. Stebbins. Seismic isolation for Advanced LIGO. *Classical And Quantum Gravity*, 19(7):1591–1597, Apr 2002. ISSN 0264-9381. doi: 10.1088/0264-9381/19/7/349.
- [132] J. Giaime, B. Lantz, D. DeBra, J. How, C. Hardham, S. Richman, and R. Stebbins. Active seismic isolation for enhanced LIGO detectors. In *AIP Conference Proceedings*, volume 523, pages 300–305, 2000.
- [133] D. Sigg, N. Mavalvala, J. Giaime, P. Fritschel, and D. Shoemaker. Signal extraction in a power-recycled michelson interferometer with fabry-perot arm cavities by use of a multiple-carrier frontal modulation scheme. *Applied Optics*, 37(24):5687–5693, Aug 1998. ISSN 0003-6935. doi: 10.1364/AO.37.005687.
- [134] S. J. Richman, J. A. Giaime, D. B. Newell, R. T. Stebbins, P. L. Bender, and J. E. Faller. Multistage active vibration isolation system. *Review Of Scientific Instruments*, 69(6):2531–2538, Jun 1998. ISSN 0034-6748. doi: 10.1063/1.1148954.
- [135] J. A. Giaime, R. T. Stebbins, P. L. Bender, J. E. Faller, and J. L. Hall. Experimental demonstration of some aspects of LISA interferometry. In *AIP Conference Proceedings*, volume 456, pages 169–171, 1998.
- [136] A. Abramovici, W. Althouse, J. Camp, D. Durance, J. A. Giaime, A. Gillespie, S. Kawamura, A. Kuhnert, T. Lyons, F. J. Raab, R. L. Savage, D. Shoemaker, L. Sievers, R. Spero, R. Vogt, R. Weiss, S. Whitcomb, and M. Zucker. Improved sensitivity in a gravitational wave interferometer and implications for LIGO. *Physics Letters A*, 218(3-6):157–163, Aug 1996. ISSN 0375-9601. doi: 10.1016/0375-9601(96)00377-5.
- [137] J. Giaime, P. Saha, D. Shoemaker, and L. Sievers. A passive vibration isolation stack for LIGO: design, modeling, and testing. *Review Of Scientific Instruments*, 67(1):208–214, Jan 1996. ISSN 0034-6748. doi: 10.1063/1.1146573.
- [138] D. Shoemaker, P. Fritschel, J. Giaime, N. Christensen, and R. Weiss. Prototype Michelson interferometer with Fabry-Perot cavities. *Applied Optics*, 30(22):3133–3138, Aug 1991. ISSN 0003-6935.

## Technical talks and professional meetings:

- [1] “Observation of gravitational waves from binary black holes using ultra-high precision laser interferometers,” invited plenary lecture at the V Congreso Nacional de Ingeniería Física CNIF in Medellín, Colombia, September 27, 2016.

- [2] "Hearing Black Holes Collide, with LIGO," invited lecture at the 2016 British Science Festival in Swansea, Wales, U.K., September 7, 2016.
- [3] "Observation of Gravitational Waves from a Binary Black Hole Merger," Physics and Astronomy seminar at the University of California Davis, May 2, 2016.
- [4] "Observation of Gravitational Waves," Louisiana State University College of Science seminar, March 11, 2016. (with G. González)
- [5] "LIGO: science, technology and expectations in the Advanced LIGO era," seminar at the University of Louisiana, Lafayette, February 26, 2014.
- [6] Host and Chair of local committee, Southeastern Section of American Physical Society, annual meeting, Baton Rouge, LA, October 20-23, 2010.
- [7] "The LIGO detector, past present and future," invited talk at Multi-Messenger Relativistic Astrophysics; inaugural conference of the Center for Relativistic Astrophysics at Georgia Tech, May 20, 2009.
- [8] "Operational Challenges at LIGO," National Science Foundation (NSF) Large Facilities Workshop, Tucson, AZ, April 17, 2009.
- [9] "The Laser Interferometer Gravitational-wave Observatory: present performance and improvements underway," all-hands meeting of Open Science Grid (OSG) Council, Livingston, LA, March 4, 2009.
- [10] "The Science Education Center at the LIGO Livingston Observatory," invited talk at the annual conference of the Association of Science and Technology Centers (ASTC), Los Angeles, October 16, 2007.
- [11] "The Laser Interferometer Gravitational-wave Observatory: present performance and improvements underway," seminar at Tulane University, September 11, 2007.
- [12] "Searching for Gravitational Waves," Chair and organizer of invited session at the November 9–11, 2006, meeting of the Southeast Section of the American Physical Society, held in Williamsburg, Virginia.
- [13] "Improving the LIGO detector," general seminar, Department of Physics, University of Louisiana Lafayette, October 11, 2006.
- [14] "The Advanced LIGO detector," invited talk, 6th Edoardo Amaldi Conference on Gravitational Waves, Okinawa, Japan, June 24, 2005.
- [15] "Improving the LIGO detector," invited talk, Research Progress Meeting (RPM), Lawrence Berkeley National Laboratory, April 7, 2005.
- [16] "Critical mechanical technologies for future gravitational-wave astronomy," invited talk at Imagining the Future: Gravitational Wave Astronomy, Pennsylvania State University, State College PA, October 29, 2004.
- [17] "Improving the LIGO Detector," general seminar, Department of Physics and Astronomy, Louisiana State University, Baton Rouge LA, October 21, 2004.
- [18] "The Laser Interferometer Gravitational-wave Observatory, early results and technical progress." Physics colloquium at the University of Alabama, Tuscaloosa, October 15, 2003.
- [19] "Seismic Isolation Enhancements for Initial and Advanced LIGO," presented at the 5th Amaldi meeting, Tirrenia, Italy, July 10, 2003.
- [20] "Active seismic isolation for an advanced LIGO gravitational-wave detector," invited talk at the March 2003 APS meeting, Austin, TX.

- [21] "Advanced seismic isolation for LIGO-II," seminar at the Center for Gravitational Physics and Geometry, Penn State, April 10, 2000.
- [22] "The JILA low-frequency seismic isolation platform," with R. Stebbins, P. Bender and J. Faller, at the VIRGO International Workshop on Thermal Noise and Low-Frequency Noise Sources in Gravitational-Wave Detectors, 4-6 June, 1998, Perugia, Italy.
- [23] "Low noise interferometric seismometer readouts in an active vibration isolation system for gravitational wave detectors," with S. Richman, R. Stebbins, P. Bender, and J. Faller, presented at the 1997 Joint April meeting of the APS and the AAPT. *Bull. APS*, **42:2**, 1106.
- [24] "An analysis of interferometric gravitational wave detector design using MAPLE," presented at the 1996 East Coast Computer Algebra Day, April 13, 1996, Yorktown Heights, NY.
- [25] "Test of a candidate interferometer configuration for LIGO," (with D. Shoemaker), presented at the 1994 Joint April meeting of the APS and the AAPT. *Bull. APS*, **39:2**, session J11 PMTG.

## Public lectures:

- [1] "Hearing Black Holes Collide, with LIGO," Rotary Club of Baton Rouge, October 19, 2016.
- [2] "Hearing Black Holes Collide in Louisiana," Baton Rouge Press Club, September 12, 2016.
- [3] "Hearing Black Holes Collide, with LIGO," David Elder Lecture, Glasgow Science Centre, Glasgow, Scotland, U.K., August 29, 2016.
- [4] "Hearing Black Holes Collide," Sunrise Rotary, Baton Rouge, LA, May 19, 2016.
- [5] "Hearing Black Holes Collide," lecture for the general public at University of California, Davis, CA, May 3, 2016.
- [6] "Hearing Black Holes Collide in Louisiana," *Einstein Week* public lecture, University of New Orleans, LA, April 21, 2016.
- [7] "Hearing Black Holes Collide in Louisiana," lecture to Baton Rouge Astronomical Society, April 11, 2016.
- [8] "The Science Education Center and the LIGO Livingston Observatory," Denham Springs Kiwanis, July 24, 2008.
- [9] "The Laser Interferometer Gravitational-wave Observatory, and the new Science Education Center," seminar at the Baton Rouge Area Foundation, August 27, 2007.
- [10] "Searching for Gravitational Waves with LIGO," invited talk to the Baton Rouge Rotary, May 9, 2007.
- [11] "The LIGO Detector," Baton Rouge Amateur Radio Club, April 25, 2006.
- [12] "LIGO and the Search for Gravitational Waves," LSU Saturday Science, February 2003.