

EDUCATION

Cambridge, Massachusetts
Sept. 2016 - Present

Massachusetts Institute of Technology (MIT)

Ph.D. Candidate in Mechanical Engineering, LIGO Laboratory

Major (minor): Optics, Controls and Machine Design (Aerospace Engineering)

Jouy-en-Josas, France
May 2015 – Aug. 2015

École des hautes Études Commerciales de Paris (HEC-Paris)

Certificate in Innovation Management in Aviation and Aerospace

Toulouse, France
Sept. 2014 – Sept. 2015

Université Paul-Sabatier (UPS)

Master in Research (M2R), Aeronautical Mechanics

Toulouse, France
Sept. 2013 – Dec. 2015

Institut Supérieur de l'Aeronautique et de l'Espace (ISAE-SUPAERO)

Master of Science, Aerospace Engineering

Major (minor): Structures and Aeronautical Systems (Satellite design)

Barcelona, Spain
Sept. 2009 – Dec. 2015

Universitat Politècnica de Catalunya (UPC-ETSEIB)

Bachelor & Master of Science, Mechanical Engineering

RESEARCH EXPERIENCE

Cambridge, Massachusetts
Aug. 2018 - Present

Compact Modular Quantum Source, LIGO Laboratory (MIT)

Research Assistant with Prof. Matthew Evans and Prof. Nergis Mavalvala

Design of a low loss compact source of squeezed light that is delivered as an output by the means of a high coupling efficiency fiber optic.

- Design and testing of prototype

Cambridge, Massachusetts
Aug. 2015 – Aug. 2018

Vibration Isolation System for the OPO Instrument, LIGO Laboratory (MIT)

Research Assistant with Research Scientist Fabrice Matichard

Design of an actively damped vibration isolation system to provide seismic isolation to the in-vacuum optical parametric oscillator for the advanced LIGO project.

- Design, testing of prototype from Preliminary to Final Design Reviews
- Testing and installation of final design at the aLIGO observatories

Toulouse, France
Oct. 2013 – Jun. 2015

EntrySat Mechanical Design, DEOS department (ISAE-SUPAERO)

Head of the Mechanical Subsystem with Research Scientist Raphaël Garcia

The EntrySat mission's goal is to define the environmental conditions faced by space debris during the re-entry phase using a 3U CubeSat.

- Head of the mechanical subsystem in charge of the design and testing campaign for the Conceptual Design Review

PUBLICATIONS

Selected publications

Fernández Galiana, Á., McCuller, L., Kissel, J., Barsotti, L., Miller, J., Tse, M., ... & Matichard, F. (2020). **Advanced LIGO squeezer platform for backscattered light and optical loss reduction.** *Classical and Quantum Gravity*, <https://doi.org/10.1088/1361-6382/abb5c2>

Fernández-Galiana, A., Arnbak, J., Evans, M. & Mavalvala, N. (2020). **Implementation of length control of an optical cavity using second-order transverse modes.** *Proceedings of the 2020 American Society for Precision Engineering Spring Topical Meeting (pp. 105-109).* *The American Society for Precision Engineering, Raleigh, NC, USA*

Fernández-Galiana, A. & Matichard F. (2018). **A multipurpose tabletop active vibration isolation system for Ultra High Vacuum (UHV) optical experiments.** *Proceedings of the 33rd annual meeting of the American Society for Precision Engineering (pp. 456-461).* *The American Society for Precision Engineering, Raleigh, NC, USA*

LIGO Scientific Collaboration (LSC) (2017). **GW170817: observation of gravitational waves from a binary neutron star inspiral.** *Physical Review Letters*, 119(16), 161101.

CONFERENCES

Cambridge, Massachusetts
May. 2020

2020 American Association of Precision Engineering (ASPE) Spring Topical Meeting

- Speaker at the Controls and Mechatronics session

Las Vegas, Nevada
Nov. 2018

33th American Association of Precision Engineering (ASPE) Annual Meeting

- Speaker at the Controls and Mechatronics session
- Poster for the poster session

Sonoma, California
Mar. 2018

LIGO VIRGO Collaboration (LVC) Meeting

- Speaker at suspension working group session

TEACHING EXPERIENCE

Cambridge, Massachusetts
Sept. 2018 - Present

Edgerton Center Student Machine Shop (MIT)

Edgerton shop assistant and instructor

- Instructor of the machining course to MIT graduate and undergraduate students
- Assistant during the shop opening hours

Cambridge, Massachusetts
Jun. 2019 - Jul. 2019

Kaufman Teaching Certificate Program

Massachusetts Institute of Technology

Barcelona, Spain
Sept. 2011 - Jun. 2015

Centro de Estudios Universitarios Superiores (CEUS)

Teacher

- Support classes for groups of ≈ 20 ETSEIB and Institut Químic de Sarrià (IQS) students
- Classes taught: Mechanics, Calculus, CAD, Structures, Statistics and Thermodynamics

Barcelona, Spain
Feb. 2010 - Jun. 2013

Centro de Estudios Empresariales (CEEM)

Teacher

- Support classes groups of ≈ 15 Business School (University of Barcelona) students
- Classes taught: Mathematics and Accounting

AWARDS

2017
Fundación Princesa de Asturias

Princesa de Asturias for Scientific and Technical Research laureate as part of the LIGO Scientific Collaboration

2010-2013
ETSEIB

ETSEIB academic record award, awarded three times

OTHER PROJECTS

Cambridge, Massachusetts
Aug. 2018 - Present

Violin Mode Damper for the aLIGO Test Mass Suspension, LIGO Laboratory (MIT)

Design of passive dampers with minimal impact to reduce the ringdown time of the high-Q quadruple suspensions of the advanced LIGO interferometer.

Cambridge, Massachusetts
Feb. 2019

PhilGood, Assistive Technology Hackathon (ATHack), MIT

PhilGood is an easy and adjustable solution that helps people with mobility issues stand

- Our team was co-winner of the hackathon

Cambridge, Massachusetts
Jan. 2017

PokerBot Hackathon, MIT

We designed a bot that used machine learning to optimally play poker with other bots

- Our bot ranked 1st and 4th at the two poker tournaments

OTHER SKILLS

Languages: Spanish, Catalan (native) -- English, French (fluent) -- Greek (beginner)

Programming: MATLAB, Python, Java, C, Mathematica

Software: SolidWorks, Fusion360, CATIA, ANSYS, COMSOL, MasterCAM, Zemax

Skills: Machining (CNC mill and lathe), Welding (MIG and TIG)

Tutorials: “The Dutch Approach to High Performance Motion Control” (ASPE-2016)

Leadership: President of SPAIN@MIT (association of Spanish students of MIT)

Hobbies: Scuba-diving (PADI Open Water), Taekwondo (1st DAN black belt), Private Pilot (Passed theoretical examination, working towards practical)

SUPPLEMENTAL MATERIAL

OTHER SELECTED PUBLICATIONS

- Butters, B., Fernández-Galiana, A., Wollin, D., Traverso, G., Slocum, A. & Petrozza, J. (2020). **A novel deployable six-tooth grasper for laparoscopic myomectomy.** *Working for submission in Journal of Medical Devices.*
- Tse, M., Yu, H., Kijbunchoo, N., Fernandez-Galiana, A., Dupej, P., Barsotti, L., ... & Evans, M. (2019). **Quantum-enhanced advanced LIGO detectors in the era of gravitational-wave astronomy.** *Physical Review Letters*, *123(23)*, 231107.
- McCuller, L., Whittle, C., Ganapathy, D., Komori, K., Tse, M., Fernandez-Galiana, A., ... & Mason, K. (2020). **Frequency-Dependent Squeezing for Advanced LIGO.** *Physical Review Letters*, *124(17)*, 171102.
- Yu, H., McCuller, L., Tse, M., Barsotti, L., Mavalvala, N., Betzwieser, J., ... & Fernandez-Galiana, A. (2020). **Quantum correlations between the light and kilogram-mass mirrors of LIGO.** *arXiv preprint arXiv:2002.01519.*
- Martynov, D. V., Frolov, V. V., Kandhasamy, S., Izumi, K., Miao, H., Mavalvala, N., ... & Abbott, T. D. (2017). **Quantum correlation measurements in interferometric gravitational-wave detectors.** *Physical Review A*. *95(4)*, 043831.
- Fernández Galiana, Á., McCuller, L., Kissel, J., Barsotti, L., Miller, J., Tse, M., ... & Matichard, F. (2019). **A compact actively damped vibration isolation platform for experiments in ultra-high vacuum.** *arXiv preprint arXiv:1901.09666.*
- Walker, M., Abbott, T. D., Aston, S. M., González, G., Macleod, D. M., McIver, J., ... & Anderson, S. B. (2017). **Effects of transients in LIGO suspensions on searches for gravitational waves.** *Review of Scientific Instruments*, *88(12)*, 124501.
- LIGO Scientific Collaboration (LSC) (2017). **GW170104: observation of a 50-solar-mass binary black hole coalescence at redshift 0.2.** *Physical Review Letters*, *118(22)*, 221101.
- Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., Adams, C., ... & Agatsuma, K. (2020). **GW190814: gravitational waves from the coalescence of a 23 solar mass black hole with a 2.6 solar mass compact object.** *The Astrophysical Journal Letters*, *896(2)*, L44.
- Kitane, D., Loukman, S., Marchoudi, N., Fernández-Galiana, A., Bertsimas, D., ... & Fekkek, J. (2020). **FTIR spectroscopy combined with multivariate data analysis for diagnosis of Covid-19.** *Submitted to Nature Biotechnology.*

OTHER PUBLICATIONS

- Buikema, A., Cahillane, C., Mansell, G. L., Blair, C. D., Abbott, R., Adams, C., ... & Areeda, J. S. (2020). **Sensitivity and performance of the advanced LIGO detectors in the third observing run.** *arXiv preprint arXiv:2008.01301.*
- Soni, S., Austin, C., Effler, A., Schofield, R. M. S., Gonzalez, G., Frolov, V. V., ... & Abbott, R. (2020). **Reducing scattered light in LIGO's third observing run.** *arXiv preprint arXiv:2007.14876.*
- Schwartz, E., Pele, A., Warner, J., Lantz, B., Betzwieser, J., Dooley, K. L., ... & Adams, C. (2020). **Improving the Robustness of the Advanced LIGO Detectors to Earthquakes.** *arXiv preprint arXiv:2007.12847.*
- Kijbunchoo, N., McRae, T. G., Sigg, D., Dwyer, S., Yu, H., McCuller, L., ... & Fernandez-Galiana, A. (2020). **Low phase noise squeezed vacuum for future generation gravitational wave detectors.** *Classical and Quantum Gravity.*
- LIGO Scientific Collaboration, & Virgo Collaboration. (2020). **GW190412: Observation of a Binary-Black-Hole Coalescence with Asymmetric Masses.** *arXiv preprint arXiv:2004.08342.*
- Hamburg, R., Fletcher, C., Burns, E., Goldstein, A., Bissaldi, E., Briggs, M. S., ... & Lesage, S. (2020). **A joint Fermi-GBM and LIGO/Virgo analysis of compact binary mergers from the first and second gravitational-wave observing runs.** *The Astrophysical Journal*, *893(2)*, 100.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agatsuma, K. (2020). **Optically targeted search for gravitational waves emitted by core-collapse supernovae during the first and second observing runs of advanced LIGO and advanced Virgo.** *Physical Review D*, *101(8)*, 084002.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2020). **GW190425: Observation of a compact binary coalescence with total mass $\sim 3.4 M_{\odot}$.** *The Astrophysical Journal Letters*, *892(1)*, L3.

- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agatsuma, K. (2020). **A guide to LIGO–Virgo detector noise and extraction of transient gravitational-wave signals.** *Classical and Quantum Gravity*, *37*(5), 055002.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agatsuma, K. (2020). **Model comparison from LIGO–Virgo data on GW170817’s binary components and consequences for the merger remnant.** *Classical and Quantum Gravity*, *37*(4), 045006.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Search for gravitational-wave signals associated with gamma-ray bursts during the second observing run of Advanced LIGO and Advanced Virgo.** *The Astrophysical Journal*, *886*(1), 75.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Tests of general relativity with the binary black hole signals from the LIGO–Virgo catalog GWTC-1.** *Physical Review D*, *100*(10), 104036.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Search for Substellar Mass Ultracompact Binaries in Advanced LIGO’s Second Observing Run.** *Physical review letters*, *123*(16), 161102.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Affeldt, C. (2019). **Search for intermediate mass black hole binaries in the first and second observing runs of the Advanced LIGO and Virgo network.** *Physical Review D*, *100*(6), 064064.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Search for eccentric binary black hole mergers with Advanced LIGO and Advanced Virgo during their first and second observing runs.** *The Astrophysical Journal*, *883*(2), 149.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Binary black hole population properties inferred from the first and second observing runs of advanced LIGO and advanced Virgo.** *The Astrophysical Journal Letters*, *882*(2), L24.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Directional limits on persistent gravitational waves using data from Advanced LIGO’s first two observing runs.** *Physical Review D*, *100*(6), 062001.
- Scientific, L. I. G. O., Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., ... & Agathos, M. (2019). **Search for the isotropic stochastic background using data from Advanced LIGO’s second observing run.** *Physical Review D*, *100*(6), 061101.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **GWTC-1: a gravitational-wave transient catalog of compact binary mergers observed by LIGO and Virgo during the first and second observing runs.** *Physical Review X*, *9*(3), 031040.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run.** *Physical Review D*, *100*(2), 024017.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data.** *Physical Review D*, *100*(2), 024004.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2019). **Tests of general relativity with GW170817.** *Physical review letters*, *123*(1), 011102.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run.** *Physical Review D*, *99*(12), 122002.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Searches for gravitational waves from known pulsars at two harmonics in 2015–2017 LIGO data.** *The Astrophysical Journal*, *879*(1), 10.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run.** *Physical Review D*, *99*(10), 104033.
- Soares-Santos, M., Palmese, A., Hartley, W., Annis, J., Garcia-Bellido, J., Lahav, O., ... & Pereira, M. E. S. (2019). **First measurement of the Hubble constant from a dark standard siren using the Dark Energy Survey galaxies and the LIGO/Virgo binary–black-hole merger GW170814.** *The Astrophysical Journal Letters*, *876*(1), L7.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2019). **Search for gravitational waves from a long-lived remnant of the binary neutron star merger GW170817.** *The Astrophysical Journal*, *875*(2), 160.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Low-latency gravitational-wave alerts for multimessenger astronomy during the second advanced LIGO and virgo observing run.** *The Astrophysical Journal*, *875*(2), 161.

- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Searches for continuous gravitational waves from 15 supernova remnants and Fomalhaut b with advanced LIGO.** *The Astrophysical Journal*, 875(2), 122.
- LIGO Scientific Collaboration. (2019). **Gravitational wave astronomy with LIGO and similar detectors in the next decade.** arXiv preprint arXiv:1904.03187.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abraham, S., Acernese, F., Ackley, K., ... & Agathos, M. (2019). **Search for transient gravitational-wave signals associated with magnetar bursts during Advanced LIGO's second observing run.** *The Astrophysical Journal*, 874(2), 163.
- Reitze, D., Abbott, R., Adams, C., Adhikari, R., Aggarwal, N., Anand, S., ... & Araya, M. (2019). **The US program in ground-based gravitational wave science: contribution from the LIGO laboratory.** *arXiv preprint arXiv:1903.04615*.
- Driggers, J. C., Vitale, S., Lundgren, A. P., Evans, M., Kawabe, K., Dwyer, S. E., ... & Fritschel, P. (2019). **Improving astrophysical parameter estimation via offline noise subtraction for Advanced LIGO.** *Physical Review D*, 99(4), 042001.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2019). **Constraining the p-mode-g-mode tidal instability with GW170817.** *Physical review letters*, 122(6), 061104.
- Burns, E., Goldstein, A., Hui, C. M., Blackburn, L., Briggs, M. S., Connaughton, V., ... & Bissaldi, E. (2019). **A Fermi gamma-ray burst monitor search for electromagnetic signals coincident with gravitational-wave candidates in advanced LIGO's first observing run.** *The Astrophysical Journal*, 871(1), 90.
- Albert, A., André, M., Anghinolfi, M., Ardid, M., Aubert, J. J., Aublin, J., ... & Belhorma, B. (2019). **Search for multimessenger sources of gravitational waves and high-energy neutrinos with advanced LIGO during its first observing run, ANTARES, and IceCube.** *The Astrophysical Journal*, 870(2), 134.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2019). **Properties of the binary neutron star merger GW170817.** *Physical Review X*, 9(1), 011001.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2018). **Search for Substellar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run.** *Physical review letters*, 121(23), 231103.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2018). **Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA.** *Living Reviews in Relativity*, 21(1), 3.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2018). **GW170817: Measurements of neutron star radii and equation of state.** *Physical review letters*, 121(16), 161101.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **GW170814: a three-detector observation of gravitational waves from a binary black hole coalescence.** *Physical review letters*, 119(14), 141101.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2018). **Search for tensor, vector, and scalar polarizations in the stochastic gravitational-wave background.** *Physical review letters*, 120(20), 201102.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2018). **Full band all-sky search for periodic gravitational waves in the O1 LIGO data.** *Physical Review D*, 97(10), 102003.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2018). **Constraints on cosmic strings using data from the first Advanced LIGO observing run.** *Physical Review D*, 97(10), 102002.
- Covas, P. B., Effler, A., Goetz, E., Meyers, P. M., Neunzert, A., Oliver, M., ... & Astone, P. (2018). **Identification and mitigation of narrow spectral artifacts that degrade searches for persistent gravitational waves in the first two observing runs of Advanced LIGO.** *Physical Review D*, 97(8), 082002.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2018). **GW170817: implications for the stochastic gravitational-wave background from compact binary coalescences.** *Physical review letters*, 120(9), 091101.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2018). **All-sky search for long-duration gravitational wave transients in the first Advanced LIGO observing run.** *Classical and quantum gravity*, 35(6), 065009.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2018). **First search for nontensorial gravitational waves from known pulsars.** *Physical review letters*, 120(3), 031104.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data.** *Physical Review D*, 96(12), 122006.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **GW170608: Observation of a 19 solar-mass binary black hole coalescence.** *The Astrophysical Journal Letters*, 851(2), L35.

- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **First low-frequency Einstein@ Home all-sky search for continuous gravitational waves in Advanced LIGO data.** *Physical Review D*, 96(12), 122004.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **Search for post-merger gravitational waves from the remnant of the binary neutron star merger GW170817.** *The Astrophysical Journal Letters*, 851(1), L16.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **On the progenitor of binary neutron star merger GW170817.** *The Astrophysical Journal Letters*, 850(2), L40.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **Estimating the contribution of dynamical ejecta in the kilonova associated with GW170817.** *The Astrophysical Journal Letters*, 850(2), L39.
- LIGO Scientific Collaboration, Virgo Collaboration, 1M2H Collaboration, Dark Energy Camera GW-EM Collaboration, DES Collaboration, DLT40 Collaboration, ... & MASTER Collaboration. (2017). **A gravitational-wave standard siren measurement of the Hubble constant.** *Nature*, 551(7678), 85-88.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **Gravitational waves and gamma-rays from a binary neutron star merger: GW170817 and GRB 170817A.** *The Astrophysical Journal Letters*, 848(2), L13.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **GW170814: a three-detector observation of gravitational waves from a binary black hole coalescence.** *Physical review letters*, 119(14), 141101.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **Upper limits on gravitational waves from Scorpius X-1 from a model-based cross-correlation search in advanced LIGO data.** *The Astrophysical Journal*, 847(1), 47.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **All-sky search for periodic gravitational waves in the O1 LIGO data.** *Physical Review D*, 96(6), 062002.
- Albert, A., André, M., Anghinolfi, M., Anton, G., Ardid, M., Aubert, J. J., ... & Bertin, V. (2017). **Search for high-energy neutrinos from gravitational wave event GW151226 and candidate LVT151012 with ANTARES and IceCube.** *Physical Review D*, 96(2), 022005.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO.** *Physical Review D*, 96(2), 022001.
- Abbott, B. P., Abbott, R., Abbott, T. D., Acernese, F., Ackley, K., Adams, C., ... & Affeldt, C. (2017). **Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with a hidden Markov model.** *Physical Review D*, 95(12), 122003.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2017). **Search for gravitational waves associated with gamma-ray bursts during the first Advanced LIGO observing run and implications for the origin of GRB 150906B.** *The Astrophysical Journal*, 841(2), 89.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2017). **Effects of waveform model systematics on the interpretation of GW150914.** *Classical and Quantum Gravity*, 34(10), 104002.
- Blair, C., Gras, S., Abbott, R., Aston, S., Betzwieser, J., Blair, D., ... & Grote, H. (2017). **First demonstration of electrostatic damping of parametric instability at Advanced LIGO.** *Physical review letters*, 118(15), 151102.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2017). **First search for gravitational waves from known pulsars with Advanced LIGO.** *The Astrophysical Journal*, 839(1), 12.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2017). **Directional limits on persistent gravitational waves from Advanced LIGO's first observing run.** *Physical review letters*, 118(12), 121102.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2017). **Upper limits on the stochastic gravitational-wave background from advanced LIGO's first observing run.** *Physical review letters*, 118(12), 121101.
- Abbott, B. P., Abbott, R., Abbott, T. D., Abernathy, M. R., Acernese, F., Ackley, K., ... & Adya, V. B. (2017). **All-sky search for short gravitational-wave bursts in the first Advanced LIGO run.** *Physical Review D*, 95(4), 042003.