

Listed below are the 32 articles for which I have made significant personal contributions in 5 years. Of these, I am the lead author on 16 articles, 13 of which are published in high-impact journals, including one published in *Nature Astronomy*. These publications have been cited over 800 times and have an h-index of 12. In addition, I have more than 120 additional publications as part of the LIGO Scientific Collaboration with an h-index for all articles of 55. I list below, along with a description of my role, only the collaboration papers to I have significantly contributed.

- [32] **Ashton, G.**, Lasky, P. D., Nathan, R., and Palfreyman, J. (2020b). Flickering of the Vela pulsar during its 2016 glitch. *arXiv e-prints*, page arXiv:2011.07927 (submitted to *Nature Astronomy*)
- [31] Sarin, N., Lasky, P. D., and **Ashton, G.** (2020b). Interpreting the X-ray afterglows of gamma-ray bursts with radiative losses and millisecond magnetars. *arXiv e-prints*, page arXiv:2008.05745 (accepted for publication in *MNRAS*)
- [30] Zhu, X.-J. and **Ashton, G.** (2020). Characterizing Astrophysical Binary Neutron Stars with Gravitational Waves. *Astrophys. J. Lett.*, 902(1):L12 (2 citations)
- [29] Romero-Shaw, I. M., Talbot, C., Biscoveanu, S., D’Emilio, V., **Ashton, G.**, et al. (2020). Bayesian inference for compact binary coalescences with BILBY: Validation and application to the first LIGO-Virgo gravitational-wave transient catalogue. *Mon. Notices Royal Astron. Soc.* (34 citations)
- [28] **Ashton, G.**, Ackley, K., Magaña Hernandez, I., and Piotrkowski, B. (2020a). Current observations are insufficient to confidently associate the binary black hole merger GW190521 with AGN J124942.3+344929. *arXiv e-prints*, page arXiv:2009.12346 (5 citations, under review by *MNRAS*)
- [27] Smith, R., **Ashton, G.**, Vajpeyi, A., and Talbot, C. (2020). Massively parallel Bayesian inference for transient gravitational-wave astronomy. *Mon. Notices Royal Astron. Soc.*, 498(3):4492–4502 (25 citations)
- [26] **Ashton, G.** and Thrane, E. (2020). The astrophysical odds of GW151216. *Mon. Notices Royal Astron. Soc.*, 498(2):1905–1910 (5 citations)
- [25] **Ashton, G.** and Khan, S. (2020). Multiwaveform inference of gravitational waves. *Phys. Rev. D*, 101:064037 (8 citations)
- [24] Sarin, N., Lasky, P. D., and **Ashton, G.** (2020a). Gravitational waves or deconfined quarks: What causes the premature collapse of neutron stars born in short gamma-ray bursts? *Phys. Rev. D*, 101(6):063021 (12 citations)
- [23] You, Z.-Q., Zhu, X.-J., **Ashton, G.**, Thrane, E., and Zhu, Z.-H. (2020). Standard-siren cosmology using gravitational waves from binary black holes. *arXiv e-prints*, page arXiv:2004.00036 (1 citation, under review by *ApJ*)
- [22] The LIGO Scientific Collaboration, the Virgo Collaboration, et al. (2020). GW190425: Observation of a Compact Binary Coalescence with Total Mass $\sim 3.4 M_{\odot}$. *Astrophys. J. Lett.*, 892(1):L3 (Role: member of paper writing team and parameter estimation lead, 411 citations)
- [21] Ackley, K. et al. (2020). Neutron Star Extreme Matter Observatory: A kilohertz-band gravitational-wave detector in the global network. *Publications of the Astronomical Society of Australia*, 37:e047 (4 citations)
- [20] **Ashton, G.**, Thrane, E., and Smith, R. J. E. (2019c). Gravitational wave detection without bootstraps: A Bayesian approach. *Phys. Rev. D*, 100(12):123018 (7 citation)
- [19] **Ashton, G.**, Lasky, P. D., Graber, V., and Palfreyman, J. (2019b). Rotational evolution of the Vela pulsar during the 2016 glitch. *Nature Astronomy*, page 417 (24 citations)
- [18] Lasky, P. D., Sarin, N., and **Ashton, G.** (2019). Neutron star merger remnants: Braking indices, gravitational waves, and the equation of state. In *American Institute of Physics Conference Series*, volume 2127 of *American Institute of Physics Conference Series*, page 020025 (1 citations)
- [17] **Ashton, G.**, Hübner, M., Lasky, P. D., Talbot, C., et al. (2019a). BILBY: A User-friendly Bayesian Inference Library for Gravitational-wave Astronomy. *Astrophys. J. Sup.*, 241(2):27 (122 citations)
- [16] Sarin, N., Lasky, P. D., and **Ashton, G.** (2019). X-Ray Afterglows of Short Gamma-Ray Bursts: Magnetar or Fireball? *Astrophys. J.*, 872(1):114 (9 citations)

- [15] Keitel, D. and **Ashton, G.** (2018). Faster search for long gravitational-wave transients: GPU implementation of the transient F-statistic. *Classical and Quantum Gravity*, 35(20):205003 (3 citations)
- [14] **Ashton, G.**, Prix, R., and Jones, D. I. (2018c). A semicoherent glitch-robust continuous-gravitational-wave search method. *Phys. Rev. D*, 98(6):063011 (3 citations)
- [13] Sarin, N., Lasky, P. D., Sammut, L., and **Ashton, G.** (2018). X-ray guided gravitational-wave search for binary neutron star merger remnants. *Phys. Rev. D*, 98(4):043011 (16 citations)
- [12] **Ashton, G.**, Jones, D. I., and Prix, R. (2018b). Advances in our understanding of the free precession candidate PSR B1828-11. In Weltevrede, P., Perera, B. B. P., Preston, L. L., and Sanidas, S., editors, *Pulsar Astrophysics the Next Fifty Years*, volume 337 of *IAU Symposium*, pages 307–308
- [11] **Ashton, G.**, Burns, E., Dal Canton, T., Dent, T., Eggenstein, H. B., Nielsen, A. B., Prix, R., Was, M., and Zhu, S. J. (2018a). Coincident Detection Significance in Multimessenger Astronomy. *Astrophys. J.*, 860(1):6 (13 citations)
- [10] **Ashton, G.** and Prix, R. (2018). Hierarchical multistage MCMC follow-up of continuous gravitational wave candidates. *Phys. Rev. D*, 97(10):103020 (7 citations)
- [9] LIGO Scientific Collaboration, Virgo Collaboration, et al. (2017). First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data. *Phys. Rev. D*, 96(12):122004 (Role: I helped prepare the candidate lists and performed follow-ups to veto non-astrophysical candidates, 45 citations)
- [8] **Ashton, G.**, Prix, R., and Jones, D. I. (2017b). Statistical characterization of pulsar glitches and their potential impact on searches for continuous gravitational waves. *Phys. Rev. D*, 96(6):063004 (24 citations)
- [7] Jones, D. I., **Ashton, G.**, and Prix, R. (2017). Implications of the Occurrence of Glitches in Pulsar Free Precession Candidates. *Phys. Rev. Lett.*, 118(26):261101 (8 citations)
- [6] **Ashton, G.**, Jones, D. I., and Prix, R. (2017a). On the free-precession candidate PSR B1828-11: Evidence for increasing deformation. *Mon. Notices Royal Astron. Soc.*, 467(1):164–178 (12 citations)
- [5] Baker, A., Beg, M., **Ashton, G.**, Albert, M., et al. (2017). Proposal of a micromagnetic standard problem for ferromagnetic resonance simulations. *Journal of Magnetism and Magnetic Materials*, 421:428–439 (15 citations)
- [4] **Ashton, G.**, Birnholtz, O., Cabero, M., Capano, C., et al. (2016a). Comments on: “Echoes from the abyss: Evidence for Planck-scale structure at black hole horizons”. *arXiv e-prints*, page arXiv:1612.05625 (unpublished comment, 68 citations)
- [3] **Ashton, G.**, Jones, D. I., and Prix, R. (2016b). Comparing models of the periodic variations in spin-down and beamwidth for PSR B1828-11. *Mon. Notices Royal Astron. Soc.*, 458(1):881–899 (10 citations)
- [2] **Ashton, G.**, Jones, D. I., and Prix, R. (2015). Effect of timing noise on targeted and narrow-band coherent searches for continuous gravitational waves from pulsars. *Phys. Rev. D*, 91(6):062009 (11 citations)
- [1] LIGO Scientific Collaboration, Virgo Collaboration, et al. (2015). Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data. *Phys. Rev. D*, 91(2):022004 (Role: I helped define the search parameter space based on an astrophysical prior, 32 citations)