Eliu Huerta

List of Publications by Citations

61 papers	3,660 citations	24 h-index	60 g-index
64 ext. papers	4,729 ext. citations	7.1 avg, IF	5.48 L-index

#	Paper	IF	Citations
61	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. *Nature Photonics*, **2013**, 7, 613-619	33.9	572
60	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. *Living Reviews in Relativity*, **2018**, 21, 3	32.5	543
59	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. *Living Reviews in Relativity*, **2016**, 19, 1	32.5	393
58	The NANOGrav 11-year Data Set: High-precision Timing of 45 Millisecond Pulsars. *Astrophysical Journal, Supplement Series*, **2018**, 235, 37	8	295
57	The NANOGrav 11 Year Data Set: Pulsar-timing Constraints on the Stochastic Gravitational-wave Background. *Astrophysical Journal*, **2018**, 859, 47	4.7	209
56	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. *Classical and Quantum Gravity*, **2016**, 33,	3.3	155
55	Deep Learning for real-time gravitational wave detection and parameter estimation: Results with Advanced LIGO data. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2018**, 778, 64-70	4.2	144
54	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. *Living Reviews in Relativity*, **2020**, 23, 3	32.5	144
53	Deep neural networks to enable real-time multimessenger astrophysics. *Physical Review D*, **2018**, 97,	4.9	100
52	Eccentric, nonspinning, inspiral, Gaussian-process merger approximant for the detection and characterization of eccentric binary black hole mergers. *Physical Review D*, **2018**, 97,	4.9	79
51	Complete waveform model for compact binaries on eccentric orbits. *Physical Review D*, **2017**, 95,	4.9	73
50	Accurate and efficient waveforms for compact binaries on eccentric orbits. *Physical Review D*, **2014**, 90,	4.9	67
49	Classification and unsupervised clustering of LIGO data with Deep Transfer Learning. *Physical Review D*, **2018**, 97,	4.9	65
48	The NANOGrav 11 yr Data Set: Limits on Gravitational Waves from Individual Supermassive Black Hole Binaries. *Astrophysical Journal*, **2019**, 880, 116	4.7	58
47	Effect of eccentricity on binary neutron star searches in advanced LIGO. *Physical Review D*, **2013**, 87,	4.9	54
46	A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo. *Astrophysical Journal*, **2021**, 909, 218	4.7	46
45	The basic physics of the binary black hole merger GW150914. *Annalen Der Physik*, **2017**, 529, 1600209	2.6	45

44	Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B. *Astrophysical Journal*, **2017**, 841, 89	4.7	42
43	Influence of conservative corrections on parameter estimation for extreme-mass-ratio inspirals. *Physical Review D*, **2009**, 79,	4.9	40
42	Proposed search for the detection of gravitational waves from eccentric binary black holes. *Physical Review D*, **2016**, 93,	4.9	39
41	Gravitational wave denoising of binary black hole mergers with deep learning. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2020**, 800, 135081	4.2	39
40	Detection of eccentric supermassive black hole binaries with pulsar timing arrays: Signal-to-noise ratio calculations. *Physical Review D*, **2015**, 92,	4.9	35
39	Enabling real-time multi-messenger astrophysics discoveries with deep learning. *Nature Reviews Physics*, **2019**, 1, 600-608	23.6	28
38	Importance of including small body spin effects in the modelling of extreme and intermediate mass-ratio inspirals. *Physical Review D*, **2011**, 84,	4.9	26
37	Deep learning at scale for the construction of galaxy catalogs in the Dark Energy Survey. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2019**, 795, 248-258	4.2	23
36	Modeling the Uncertainties of Solar System Ephemerides for Robust Gravitational-wave Searches with Pulsar-timing Arrays. *Astrophysical Journal*, **2020**, 893, 112	4.7	23
35	DETECTING ECCENTRIC SUPERMASSIVE BLACK HOLE BINARIES WITH PULSAR TIMING ARRAYS: RESOLVABLE SOURCE STRATEGIES. *Astrophysical Journal*, **2016**, 817, 70	4.7	23
34	The NANOGrav 11 yr Data Set: Limits on Gravitational Wave Memory. *Astrophysical Journal*, **2020**, 889, 38	4.7	22
33	Intermediate-mass-ratio inspirals in the Einstein Telescope. I. Signal-to-noise ratio calculations. *Physical Review D*, **2011**, 83,	4.9	22
32	Fusing numerical relativity and deep learning to detect higher-order multipole waveforms from eccentric binary black hole mergers. *Physical Review D*, **2019**, 100,	4.9	20
31	Intermediate-mass-ratio inspirals in the Einstein Telescope. II. Parameter estimation errors. *Physical Review D*, **2011**, 83,	4.9	19
30	Deep transfer learning for star cluster classification: I. application to the PHANGS–HST survey. *Monthly Notices of the Royal Astronomical Society*, **2020**, 493, 3178-3193	4.3	16
29	Deep learning ensemble for real-time gravitational wave detection of spinning binary black hole mergers. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2021**, 812, 136029	4.2	15
28	Deep learning for gravitational wave forecasting of neutron star mergers. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2021**, 816, 136185	4.2	14
27	The NANOGrav 11 yr Data Set: Evolution of Gravitational-wave Background Statistics. *Astrophysical Journal*, **2020**, 890, 108	4.7	13

26	Importance of including small body spin effects in the modelling of intermediate mass-ratio inspirals. II. Accurate parameter extraction of strong sources using higher-order spin effects. *Physical Review D*, **2012**, 85,	4.9	13
25	Physics of eccentric binary black hole mergers: A numerical relativity perspective. *Physical Review D*, **2019**, 100,	4.9	12
24	Artificial neural network subgrid models of 2D compressible magnetohydrodynamic turbulence. *Physical Review D*, **2020**, 101,	4.9	10
23	Gravitational Waves from Accreting Neutron Stars Undergoing Common-envelope Inspiral. *Astrophysical Journal*, **2018**, 857, 38	4.7	10
22	Characterization of numerical relativity waveforms of eccentric binary black hole mergers. *Physical Review D*, **2019**, 100,	4.9	10
21	Accurate modeling of intermediate-mass-ratio inspirals: Exploring the form of the self-force in the intermediate-mass-ratio regime. *Physical Review D*, **2012**, 86,	4.9	10
20	Physics-inspired deep learning to characterize the signal manifold of quasi-circular, spinning, non-precessing binary black hole mergers. *Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics*, **2020**, 808, 135628	4.2	10
19	Convergence of artificial intelligence and high performance computing on NSF-supported cyberinfrastructure. *Journal of Big Data*, **2020**, 7,	11.7	9
18	Accelerated, scalable and reproducible AI-driven gravitational wave detection. *Nature Astronomy*,	12.1	9
17	Supporting High-Performance and High-Throughput Computing for Experimental Science. *Computing and Software for Big Science*, **2019**, 3, 1	6	7
16	Star cluster classification in the PHANGS-HST survey: Comparison between human and machine learning approaches. *Monthly Notices of the Royal Astronomical Society*,	4.3	7
15	P ython O pen source W aveform E xtracto R (POWER): an open source, Python package to monitor and post-process numerical relativity simulations. *Classical and Quantum Gravity*, **2018**, 35, 027002	3.3	6
14	Probing neutron star structure via f-mode oscillations and damping in dynamical spacetime models. *Physical Review D*, **2019**, 99,	4.9	5
13	BOSS-LDG: A Novel Computational Framework That Brings Together Blue Waters, Open Science Grid, Shifter and the LIGO Data Grid to Accelerate Gravitational Wave Discovery **2017**,		5
12	Self-forced evolutions of an implicit rotating source: A natural framework to model comparable and intermediate mass-ratio systems from inspiral through ringdown. *Physical Review D*, **2014**, 90,	4.9	5
11	Deep Learning for Cardiologist-Level Myocardial Infarction Detection in Electrocardiograms. *IFMBE Proceedings*, **2021**, 341-355	0.2	5
10	Deep Learning with Quantized Neural Networks for Gravitational-wave Forecasting of Eccentric Compact Binary Coalescence. *Astrophysical Journal*, **2021**, 919, 82	4.7	5
9	Statistically-informed deep learning for gravitational wave parameter estimation. *Machine Learning: Science and Technology*, **2022**, 3, 015007	5.1	3

8	Confluence of Artificial Intelligence and High Performance Computing for Accelerated, Scalable and Reproducible Gravitational Wave Detection		3
7	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA **2018**, 21, 1		2
6	Advances in Machine and Deep Learning for Modeling and Real-Time Detection of Multi-messenger Sources **2021**, 1-27		2
5	Interpretable AI forecasting for numerical relativity waveforms of quasicircular, spinning, nonprecessing binary black hole mergers. *Physical Review D*, **2022**, 105,	4.9	1
4	Observation of eccentric binary black hole mergers with second and third generation gravitational wave detector networks. *Physical Review D*, **2021**, 103,	4.9	1
3	A FAIR and AI-ready Higgs boson decay dataset.. *Scientific Data*, **2022**, 9, 31	8.2	1
2	Inference-Optimized AI and High Performance Computing for Gravitational Wave Detection at Scale.. *Frontiers in Artificial Intelligence*, **2022**, 5, 828672	3	0
1	Advances in Machine and Deep Learning for Modeling and Real-Time Detection of Multi-messenger Sources **2022**, 1793-1819		