Haixing Miao

List of Publications by Year
in descending order

58 papers	1,382 citations	304368 22 h-index	344852 36 g-index
59 all docs	59 docs citations	59 times ranked	1386 citing authors

#	Article	IF	Citations
1	Proposal for gravitational-wave detection beyond the standard quantum limit through EPRÂentanglement. Nature Physics, 2017, 13, 776-780.	6.5	101
2	Macroscopic Quantum Mechanics in a Classical Spacetime. Physical Review Letters, 2013, 110, 170401.	2.9	100
3	Standard Quantum Limit for Probing Mechanical Energy Quantization. Physical Review Letters, 2009, 103, 100402.	2.9	88
4	Preparing a Mechanical Oscillator in Non-Gaussian Quantum States. Physical Review Letters, 2010, 105, 070403.	2.9	79
5	Exploring the sensitivity of gravitational wave detectors to neutron star physics. Physical Review D, 2019, 99, .	1.6	78
6	Laser noise in cavity-optomechanical cooling and thermometry. New Journal of Physics, 2013, 15, 035007.	1.2	76
7	Enhancing the Bandwidth of Gravitational-Wave Detectors with Unstable Optomechanical Filters. Physical Review Letters, 2015, 115, 211104.	2.9	65
8	Quantum back-action in measurements of zero-point mechanical oscillations. Physical Review A, 2012, 86, .	1.0	56
9	Narrowing the Filter-Cavity Bandwidth in Gravitational-Wave Detectors via Optomechanical Interaction. Physical Review Letters, 2014, 113, 151102.	2.9	51
10	Towards the design of gravitational-wave detectors for probing neutron-star physics. Physical Review D, 2018, 98, .	1.6	42
11	Three-Mode Optoacoustic Parametric Amplifier: A Tool for Macroscopic Quantum Experiments. Physical Review Letters, 2009, 102, 243902.	2.9	41
12	Advanced quantum techniques for future gravitational-wave detectors. Living Reviews in Relativity, 2019, 22, 1.	8.2	39
13	Probing macroscopic quantum states with a sub-Heisenberg accuracy. Physical Review A, 2010, 81, .	1.0	38
14	Quantum correlations of light mediated by gravity. Physical Review A, 2020, 101, .	1.0	34
15	Open quantum dynamics of single-photon optomechanical devices. Physical Review A, 2013, 88, .	1.0	33
16	Towards the Fundamental Quantum Limit of Linear Measurements of Classical Signals. Physical Review Letters, 2017, 119, 050801.	2.9	32
17	Quantum limits of interferometer topologies for gravitational radiation detection. Classical and Quantum Gravity, 2014, 31, 165010.	1.5	31
18	Global feed-forward vibration isolation in a km scale interferometer. Classical and Quantum Gravity, 2012, 29, 215008.	1.5	27

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19	Gravitational wave detectors with broadband high frequency sensitivity. Communications Physics, 2021, 4, .	2.0	26
20	Achieving ground state and enhancing optomechanical entanglement by recovering information. New Journal of Physics, 2010, 12, 083032.	1.2	24
21	Universal quantum entanglement between an oscillator and continuous fields. Physical Review A, 2010, 81, .	1.0	23
22	The next detectors for gravitational wave astronomy. Science China: Physics, Mechanics and Astronomy, 2015, 58, 1.	2.0	23
23	Negative optical inertia for enhancing the sensitivity of future gravitational-wave detectors. Physical Review D, 2011, 83, .	1.6	21
24	Quantum Limit for Laser Interferometric Gravitational-Wave Detectors from Optical Dissipation. Physical Review X, 2019, 9, .	2.8	21
25	Multicolor cavity metrology. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2012, 29, 2092.	0.8	18
26	Quantum-enhanced interferometry for axion searches. Physical Review D, 2020, 101, .	1.6	17
27	Signatures of the quantum nature of gravity in the differential motion of two masses. Quantum Science and Technology, 2021, 6, 045014.	2.6	16
28	Suppression of quantum-radiation-pressure noise in an optical spring. Physical Review A, 2013, 88, .	1.0	15
29	Broadband sensitivity enhancement of detuned dual-recycled Michelson interferometers with EPR entanglement. Physical Review D, 2017, 96, .	1.6	15
30	Converting the signal-recycling cavity into an unstable optomechanical filter to enhance the detection bandwidth of gravitational-wave detectors. Physical Review D, 2019, 99, .	1.6	15
31	Quantum noise of a white-light cavity using a double-pumped gain medium. Physical Review A, 2015, 92, .	1.0	14
32	Fundamental Quantum Limits of Multicarrier Optomechanical Sensors. Physical Review Letters, 2018, 121, 110505.	2.9	14
33	Increasing the sensitivity of future gravitational-wave detectors with double squeezed-input. Physical Review D, 2009, 80, .	1.6	12
34	Nonadiabatic elimination of auxiliary modes in continuous quantum measurements. Physical Review A, 2012, 85, .	1.0	12
35	Multi-spatial-mode effects in squeezed-light-enhanced interferometric gravitational wave detectors. Physical Review D, 2017, 96, .	1.6	9
36	Toward observing neutron star collapse with gravitational wave detectors. Physical Review D, 2021, 103, .	1.6	9

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37	A six degree-of-freedom fused silica seismometer: designÂand tests of a metal prototype. Classical and Quantum Gravity, 2022, 39, 015006.	1.5	9
38	Enhancing interferometer sensitivity without sacrificing bandwidth and stability: Beyond single-mode and resolved-sideband approximation. Physical Review D, 2021, 103, .	1.6	8
39	A Broadband Signal Recycling Scheme for Approaching the Quantum Limit from Optical Losses. Galaxies, 2021, 9, 3.	1.1	7
40	Direct approach to realizing quantum filters for high-precision measurements. Physical Review A, 2021, 103, .	1.0	6
41	General quantum constraints on detector noise in continuous linear measurements. Physical Review A, 2017, 95, .	1.0	5
42	Enhanced Dynamic Casimir Effect in Temporally and Spatially Modulated Josephson Transmission Line. Laser and Photonics Reviews, 2019, 13, 1900164.	4.4	5
43	Broadband quantum noise reduction in future long baseline gravitational-wave detectors via EPR entanglement. Physical Review D, 2019, 100, .	1.6	4
44	Paired carriers as a way to reduce quantum noise of multicarrier gravitational-wave detectors. Physical Review D, 2015, 91, .	1.6	3
45	First-order perturbative Hamiltonian equations of motion for a point particle orbiting a Schwarzschild black hole. Physical Review D, 2014, 89, .	1.6	2
46	Sensitivity of intracavity filtering schemes for detecting gravitational waves. Physical Review D, 2014, 89, .	1.6	2
47	Enhancing high frequency sensitivity of gravitational wave detectors with a Sagnac interferometer. Physical Review D, 2021, 104, .	1.6	2
48	Three-mode opto-acoustic interactions in optical cavities: introducing the three-mode opto-acoustic parametric amplifier. Proceedings of SPIE, 2010, , .	0.8	1
49	Quantum squeezing schemes for heterodyne readout. Physical Review D, 2020, 101, .	1.6	1
50	The development of ground based gravitational wave astronomy and opportunities for Australiaâ€"China collaboration. International Journal of Modern Physics A, 2015, 30, 1545019.	0.5	0
51	Two-Carrier Scheme: Evading the 3ÂdB Quantum Penalty of Heterodyne Readout in Gravitational-Wave Detectors. Physical Review Letters, 2021, 126, 221301.	2.9	0
52	Modifying Input Optics: Double Squeezed-Input. , 2012, , 51-63.		0
53	Achieving the Ground State and Enhancing Optomechanical Entanglement. , 2012, , 107-125.		0
54	Universal Entanglement Between an Oscillator and Continuous Fields. , 2012, , 127-139.		0

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55	Nonlinear Optomechanical System for Probing Mechanical Energy Quantization. , 2012, , 141-149.		0
56	State Preparation: Non-Gaussian Quantum State. , 2012, , 151-164.		0
57	MQM With Three-Mode Optomechanical Interactions. , 2012, , 85-106.		0
58	Probing Macroscopic Quantum States. , 2012, , 165-202.		0