Sergey P Vyatchanin

List of Publications by Year
in descending order

64 papers	5,203 citations	279798 23 h-index	133252 59 g-index
64 all docs	64 docs citations	64 times ranked	4990 citing authors

#	Article	IF	Citations
1	Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light. Nature Photonics, 2013, 7, 613-619.	31.4	825
2	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. Living Reviews in Relativity, 2018, 21, 3.	26.7	808
3	Conversion of conventional gravitational-wave interferometers into quantum nondemolition interferometers by modifying their input and/or output optics. Physical Review D, 2001, 65, .	4.7	536
4	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. Living Reviews in Relativity, 2020, 23, 3.	26.7	447
5	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. Living Reviews in Relativity, 2016, 19, 1.	26.7	427
6	Parametric oscillatory instability in Fabryâ€“Perot interferometer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 287, 331-338.	2.1	302
7	Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914. Classical and Quantum Gravity, 2016, 33, 134001.	4.0	225
8	Thermodynamical fluctuations and photo-thermal shot noise in gravitational wave antennae. Physics Letters, Section A: General, Atomic and Solid State Physics, 1999, 264, 1-10.	2.1	221
9	Low quantum noise tranquilizer for Fabryâ€“Perot interferometer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 293, 228-234.	2.1	159
10	A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo. Astrophysical Journal, 2021, 909, 218.	4.5	144
11	Analysis of parametric oscillatory instability in power recycled LIGO interferometer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 305, 111-124.	2.1	124
12	Thermo-refractive noise in gravitational wave antennae. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 271, 303-307.	2.1	107
13	Squeezed-state source using radiation-pressure-induced rigidity. Physical Review A, 2006, 73, .	2.5	92
14	Quantum variation measurement of a force. Physics Letters, Section A: General, Atomic and Solid State Physics, 1995, 201, 269-274.	2.1	86
15	Thermoelastic dissipation in inhomogeneous media: loss measurements and displacement noise in coated test masses for interferometric gravitational wave detectors. Physical Review D, 2004, 70, .	4.7	73
16	The basic physics of the binary black hole merger GW150914. Annalen Der Physik, 2017, 529, 1600209.	2.4	69
17	Noise in gravitational-wave detectors and other classical-force measurements is not influenced by test-mass quantization. Physical Review D, 2003, 67, .	4.7	62
18	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.	4.5	52

#	Article	IF	Citations
19	Analysis of parametric oscillatory instability in signal recycled LIGO interferometer with different arms. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 365, 10-16.	2.1	34
20	How to reduce suspension thermal noise in LIGO without improving theQof the pendulum and violin modes. Measurement Science and Technology, 1999, 10, 598-606.	2.6	31
21	Analysis of parametric oscillatory instability in signal recycled LIGO interferometer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 362, 91-99.	2.1	31
22	Isolation of test masses in the advanced laser interferometric gravitationalâ€wave antennae. Review of Scientific Instruments, 1994, 65, 3771-3774.	1.3	26
23	Notes about noise in gravitational wave antennas created by cosmic rays. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 350, 1-4.	2.1	23
24	Advanced LIGO: non-Gaussian beams. Classical and Quantum Gravity, 2004, 21, S867-S873.	4.0	21
25	Quantum speed meter based on dissipative coupling. Physical Review A, 2016, 93, .	2.5	21
26	First joint observation by the underground gravitational-wave detector KAGRA with GEO 600. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	20
27	Observation of three-mode parametric instability. Physical Review A, 2015, 91, .	2.5	19
28	The value of the force of radiative friction. Optics Communications, 1996, 131, 107-113.	2.1	18
29	Microcavity morphology optimization. Physical Review A, 2014, 90, .	2.5	18
30	Sub-standard-quantum-limit sensitivity via optical rigidity in the advanced LIGO interferometer with optical losses. Physical Review D, 2006, 73, .	4.7	17
31	Calculation of thermal noise in grating reflectors. Physical Review D, 2013, 88, .	4.7	17
32	Thermal noise of folding mirrors. Physical Review D, 2014, 90, .	4.7	14
33	Optical rigidity in signal-recycled configurations of laser gravitational-wave detectors. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 344, 7-17.	2.1	13
34	Limitations in quantum measurements resolution created by cosmic rays. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 359, 86-89.	2.1	10
35	A ponderomotive scheme for QND measurement of quadrature component. Applied Physics B: Lasers and Optics, 1997, 64, 167-171.	2.2	9
36	Thermorefractive noise of finite-sized cylindrical test masses. Physical Review D, 2011, 84, .	4.7	9

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37	Time evolution of parametric instability in large-scale gravitational-wave interferometers. Physical Review D, 2014, 90, .	4.7	9
38	Parametric instability in GEO 600 interferometer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 370, 177-183.	2.1	8
39	Mitigating parametric instability in optical gravitational wave detectors. Physical Review D, 2016, 93, .	4.7	7
40	Dissipative coupling, dispersive coupling, and their combination in cavityless optomechanical systems. Physical Review A, 2020, 102, .	2.5	7
41	Displacement-noise-free gravitational-wave detection with a single Fabryâ€“Perot cavity: A toy model. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 6801-6812.	2.1	6
42	Stable optical spring in the Advanced LIGO detector with unbalanced arms and in the Michelson-Sagnac interferometer. Physical Review D, 2014, 89, .	4.7	6
43	Stable optical rigidity based on dissipative coupling. Journal of Physics B: Atomic, Molecular and Optical Physics, 2019, 52, 155401.	1.5	5
44	Thermal charge carrier driven noise in transmissive semiconductor optics. Physical Review D, 2020, 102, .	4.7	5
45	Stable double-resonance optical spring in laser gravitational-wave detectors. Physical Review D, 2011, 84, .	4.7	4
46	Sensitivity of laser gravitational-wave detectors with stable double-pumped optical spring. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 1405-1411.	2.1	4
47	On sensitivity limitations of a dichromatic optical detection of a classical mechanical force. Journal of the Optical Society of America B: Optical Physics, 2018, 35, 1970.	2.1	4
48	On fundamental diffraction limitation of finesse of a Fabryâ€“Perot cavity. Journal of Optics (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	2.2	4
49	On mechanical motion damping of a magnetically trapped diamagnetic particle. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126643.	2.1	4
50	Spontaneous crystallization noise in mirrors of gravitational wave detectors. Physical Review D, 2015, 92, .	4.7	3
51	Displacement-noise-free gravitational-wave detection with two Fabryâ€“Perot cavities. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 373, 13-18.	2.1	2
52	Parametric oscillatory instability in Fabry-Perot cavity with Gauss and Laguerre-Gauss pumping mode profiles. Gravitation and Cosmology, 2011, 17, 87-90.	1.1	2
53	Squeezing of optomechanical modes in detuned Fabryâ€“Perot interferometer. Physics Letters, Section A: General, Atomic and Solid State Physics, 2013, 377, 1317-1322.	2.1	2
54	Broadband dichromatic variational measurement. Physical Review A, 2021, 104, .	2.5	2

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55	Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA. , 2018, 21, 1.		2
56	Combination of dissipative and dispersive coupling in the cavity optomechanical systems. Physical Review A, 2022, 105, .	2.5	2
57	Thermal noise of beam splitters in laser gravitational wave detectors. Physical Review D, 2018, 98, .	4.7	1
58	Electromagnetic-continuum-induced nonlinearity. Physical Review A, 2018, 97, .	2.5	1
59	The loss in reflecting coating induced by polarization. Physics Letters, Section A: General, Atomic and Solid State Physics, 2020, 384, 126878.	2.1	1
60	Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo. , 2016, 19, 1.		1
61	Diffraction losses of a Fabry-Perot cavity with nonidentical non-spherical mirrors. Journal of Optics (United Kingdom), 2020, 22, 115603.	2.2	1
62	The Estimation of Signal Force Parameters in Quantum Variation Measurement. , 0, , .		0
63	Displacement transformer in laser gravitational-wave detectors. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 6545-6550.	2.1	0
64	Broadband quantum back action evading measurements of a resonant force. Physics Letters, Section A: General, Atomic and Solid State Physics, 2022, 424, 127849.	2.1	0