

# Paolo Villoresi

## List of Publications by Year in descending order

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160  
papers

8,329  
citations

61945

43  
h-index

46771

89  
g-index

161  
all docs

161  
docs citations

161  
times ranked

5021  
citing authors

#	ARTICLE	IF	CITATIONS
1	Isolated Single-Cycle Attosecond Pulses. <i>Science</i> , 2006, 314, 443-446.	6.0	1,496
2	Advances in quantum cryptography. <i>Advances in Optics and Photonics</i> , 2020, 12, 1012.	12.1	848
3	Absolute-phase phenomena in photoionization with few-cycle laser pulses. <i>Nature</i> , 2001, 414, 182-184.	13.7	653
4	Controlling attosecond electron dynamics by phase-stabilized polarization gating. <i>Nature Physics</i> , 2006, 2, 319-322.	6.5	399
5	Free-Space Quantum Key Distribution by Rotation-Invariant Twisted Photons. <i>Physical Review Letters</i> , 2014, 113, 060503.	2.9	331
6	Experimental Satellite Quantum Communications. <i>Physical Review Letters</i> , 2015, 115, 040502.	2.9	216
7	Experimental verification of the feasibility of a quantum channel between space and Earth. <i>New Journal of Physics</i> , 2008, 10, 033038.	1.2	177
8	Feasibility of satellite quantum key distribution. <i>New Journal of Physics</i> , 2009, 11, 045017.	1.2	171
9	Single-grating monochromator for extreme-ultraviolet ultrashort pulses. <i>Optics Express</i> , 2011, 19, 19169.	1.7	137
10	Effects of Carrier-Envelope Phase Differences of Few-Optical-Cycle Light Pulses in Single-Shot High-Order-Harmonic Spectra. <i>Physical Review Letters</i> , 2003, 91, 213905.	2.9	134
11	Quantum randomness certified by the uncertainty principle. <i>Physical Review A</i> , 2014, 90, .	1.0	125
12	Sub-two-cycle light pulses at $16\ \mu\text{m}$ from an optical parametric amplifier. <i>Optics Letters</i> , 2008, 33, 741.	1.7	117
13	Cluster effects in high-order harmonics generated by ultrashort light pulses. <i>Applied Physics Letters</i> , 2005, 86, 111121.	1.5	111
14	Source-Device-Independent Ultrafast Quantum Random Number Generation. <i>Physical Review Letters</i> , 2017, 118, 060503.	2.9	99
15	Advances in space quantum communications. <i>IET Quantum Communication</i> , 2021, 2, 182-217.	2.2	91
16	Above-Threshold Ionization at the Few-Cycle Limit. <i>Physical Review Letters</i> , 2003, 91, 173003.	2.9	89
17	Intense femtosecond extreme ultraviolet pulses by using a time-delay-compensated monochromator. <i>Optics Letters</i> , 2007, 32, 2897.	1.7	88
18	CubeSat quantum communications mission. <i>EPJ Quantum Technology</i> , 2017, 4, .	2.9	86

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19	Source-device-independent heterodyne-based quantum random number generator at 17 Gbps. Nature Communications, 2018, 9, 5365.	5.8	86
20	Space-quest, experiments with quantum entanglement in space. Europhysics News, 2009, 40, 26-29.	0.1	77
21	Impact of Turbulence in Long Range Quantum and Classical Communications. Physical Review Letters, 2012, 109, 200502.	2.9	75
22	SAGE: A proposal for a space atomic gravity explorer. European Physical Journal D, 2019, 73, 1.	0.6	75
23	Efficient continuum generation exceeding 200 eV by intense ultrashort two-color driver. Optics Letters, 2009, 34, 3125.	1.7	73
24	Compensation of optical path lengths in extreme-ultraviolet and soft-x-ray monochromators for ultrafast pulses. Applied Optics, 1999, 38, 6040.	2.1	72
25	Interference at the Single Photon Level Along Satellite-Ground Channels. Physical Review Letters, 2016, 116, 253601.	2.9	67
26	Observation of Carrier-Envelope Phase Phenomena in the Multi-Optical-Cycle Regime. Physical Review Letters, 2004, 92, 113904.	2.9	66
27	Optimization of high-order harmonic generation by adaptive control of a sub-10-fs pulse wave front. Optics Letters, 2004, 29, 207.	1.7	66
28	Time-delay compensated monochromator for the spectral selection of extreme-ultraviolet high-order laser harmonics. Review of Scientific Instruments, 2009, 80, 123109.	0.6	62
29	X-ray spectroscopy observation of fast ions generation in plasma produced by short low-contrast laser pulse irradiation of solid targets. Laser and Particle Beams, 2007, 25, 267-275.	0.4	58
30	Adaptive real time selection for quantum key distribution in lossy and turbulent free-space channels. Physical Review A, 2015, 91, .	1.0	58
31	Feasibility of satellite-to-ground continuous-variable quantum key distribution. Npj Quantum Information, 2021, 7, .	2.8	58
32	Instrumentation for analysis and utilization of extreme-ultraviolet and soft x-ray high-order harmonics. Review of Scientific Instruments, 2004, 75, 4413-4418.	0.6	57
33	Experimental single-photon exchange along a space link of 7000 km. Physical Review A, 2016, 93, .	1.0	55
34	Link budget and background noise for satellite quantum key distribution. Advances in Space Research, 2011, 47, 802-810.	1.2	54
35	Full daylight quantum-key-distribution at 1550 nm enabled by integrated silicon photonics. Npj Quantum Information, 2021, 7, .	2.8	54
36	Spectral Features and Modeling of High-Order Harmonics Generated by Sub-10-fs Pulses. Physical Review Letters, 2000, 85, 2494-2497.	2.9	51

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37	Three-observer Bell inequality violation on a two-qubit entangled state. Quantum Science and Technology, 2017, 2, 015010.	2.6	51
38	High-order laser harmonics detection in the EUV and soft x-ray spectral regions. Review of Scientific Instruments, 2001, 72, 2868-2874.	0.6	50
39	Influence of satellite motion on polarization qubits in a Space-Earth quantum communication link. Optics Express, 2006, 14, 10050.	1.7	49
40	Time-delay compensated monochromator in the off-plane mount for extreme-ultraviolet ultrashort pulses. Applied Optics, 2006, 45, 8577.	2.1	47
41	High harmonic generation spectroscopy of hydrocarbons. Applied Physics Letters, 2010, 97, .	1.5	47
42	Towards quantum communication from global navigation satellite system. Quantum Science and Technology, 2019, 4, 015012.	2.6	46
43	Experimental quantum key distribution with finite-key security analysis for noisy channels. Nature Communications, 2013, 4, 2363.	5.8	44
44	Direct Reconstruction of the Quantum Density Matrix by Strong Measurements. Physical Review Letters, 2018, 121, 230501.	2.9	44
45	Simple quantum key distribution with qubit-based synchronization and a self-compensating polarization encoder. Optica, 2020, 7, 284.	4.8	44
46	Free-space optical channel estimation for physical layer security. Optics Express, 2016, 24, 8940.	1.7	43
47	All-fiber self-compensating polarization encoder for quantum key distribution. Optics Letters, 2019, 44, 2398.	1.7	42
48	Generation of 85-fs pulses at 13 $\mu$ m for ultrabroadband pump-probe spectroscopy. Optics Express, 2009, 17, 12510.	1.7	39
49	Fast and Simple Qubit-Based Synchronization for Quantum Key Distribution. Physical Review Applied, 2020, 13, .	1.5	39
50	Extending Wheeler's delayed-choice experiment to space. Science Advances, 2017, 3, e1701180.	4.7	38
51	Interplay between group-delay-dispersion-induced polarization gating and ionization to generate isolated attosecond pulses from multicycle lasers. Optics Letters, 2010, 35, 2798.	1.7	36
52	Space QUEST mission proposal: experimentally testing decoherence due to gravity. New Journal of Physics, 2018, 20, 063016.	1.2	36
53	Silicon Carbide Films by Laser Pyrolysis of Polycarbosilane. Journal of the American Ceramic Society, 2001, 84, 224-226.	1.9	34
54	Even-Order Aberration Cancellation in Quantum Interferometry. Physical Review Letters, 2008, 101, 233603.	2.9	34

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55	Optical concept of a compressor for XUV pulses in the attosecond domain. Optics Express, 2008, 16, 6652.	1.7	32
56	Gating of high-order harmonics generated by incommensurate two-color mid-IR laser pulses. Laser Physics Letters, 2011, 8, 875-879.	0.6	32
57	Postselection-Loophole-Free Bell Violation with Genuine Time-Bin Entanglement. Physical Review Letters, 2018, 121, 190401.	2.9	32
58	Asymmetric architecture for heralded single-photon sources. Physical Review A, 2013, 88, .	1.0	31
59	Experimental Certification of Sustained Entanglement and Nonlocality after Sequential Measurements. Physical Review Applied, 2020, 13, .	1.5	31
60	Hongâ€™sâ€™Mandel interference between independent IIIâ€™V on silicon waveguide integrated lasers. Optics Letters, 2019, 44, 271.	1.7	31
61	K-shell photoabsorption spectrum of C ii. Physical Review A, 1993, 47, 4033-4041.	1.0	29
62	Measurement of Harmonic Phase Differences by Interference of Attosecond Light Pulses. Physical Review Letters, 2005, 94, 193903.	2.9	29
63	Real-Time Source-Independent Quantum Random-Number Generator with Squeezed States. Physical Review Applied, 2019, 12, .	1.5	28
64	Experimental demonstration of sequential quantum random access codes. Physical Review Research, 2020, 2, .	1.3	28
65	Random bits, true and unbiased, from atmospheric turbulence. Scientific Reports, 2014, 4, 5490.	1.6	26
66	Stable, low-error, and calibration-free polarization encoder for free-space quantum communication. Optics Letters, 2020, 45, 4706.	1.7	24
67	Quantum technologies in space. Experimental Astronomy, 2021, 51, 1677-1694.	1.6	23
68	Wave front active control by a digital-signal-processor-driven deformable membrane mirror. Review of Scientific Instruments, 2006, 77, 093102.	0.6	22
69	Optical design of a spectrometerâ€™monochromator for the extreme-ultraviolet and soft-x-ray emission of high-order harmonics. Applied Optics, 2003, 42, 6367.	2.1	21
70	Experimental Evidence for Detuning Induced Pattern Selection in Nonlinear Optics. Physical Review Letters, 2001, 87, 274102.	2.9	20
71	Elemental sensitivity in soft x-ray imaging with a laser-plasma source and a color center detector. Optics Letters, 2007, 32, 2593.	1.7	20
72	Compression methods for XUV attosecond pulses. Optics Express, 2011, 19, 23420.	1.7	20

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73	Measurement of the K-shell photoionization cross section of C iv through the L-shell photoabsorption spectra. <i>Physical Review A</i> , 1995, 51, 314-323.	1.0	19
74	Beam separator for high-order harmonic radiation in the 3-10 nm spectral region. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2008, 25, 1104.	0.8	19
75	General theorem on the divergence of vortex beams. <i>Physical Review A</i> , 2016, 94, .	1.0	19
76	Exploring the boundaries of quantum mechanics: advances in satellite quantum communications. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2018, 376, 20170461.	1.6	19
77	Semi-Device-Independent Heterodyne-Based Quantum Random-Number Generator. <i>Physical Review Applied</i> , 2021, 15, .	1.5	19
78	Ultrabroadband pulse shaping with a push-pull deformable mirror. <i>Optics Express</i> , 2010, 18, 23147.	1.7	18
79	Resource-effective quantum key distribution: a field trial in Padua city center. <i>Optics Letters</i> , 2021, 46, 2848.	1.7	18
80	Experimental test of sequential weak measurements for certified quantum randomness extraction. <i>Physical Review A</i> , 2021, 103, .	1.0	18
81	Sub-ns timing accuracy for satellite quantum communications. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2019, 36, B59.	0.9	18
82	Design of an extreme-ultraviolet attosecond compressor. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2008, 25, B133.	0.9	17
83	High order harmonics driven by a self-phase-stabilized IR parametric source. <i>Laser Physics</i> , 2010, 20, 1019-1027.	0.6	17
84	Space-to-ground quantum communication using an optical ground station: a feasibility study. , 2004, 5551, 113.		16
85	Birth and evolution of an optical vortex. <i>Optics Express</i> , 2016, 24, 16390.	1.7	16
86	Experimental measurement of the C III-shell photoabsorption spectrum. <i>Physical Review A</i> , 1998, 58, 4985-4988.	1.0	15
87	Table-top soft x-ray imaging of nanometric films. <i>Applied Physics Letters</i> , 2006, 89, 111122.	1.5	15
88	Semi-device independent randomness generation based on quantum stateâ€™s indistinguishability. <i>Quantum Science and Technology</i> , 2021, 6, 045026.	2.6	15
89	Temporal characterization of a time-compensated monochromator for high-efficiency selection of extreme-ultraviolet pulses generated by high-order harmonics. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2008, 25, B44.	0.9	14
90	LaserCube optical communication terminal for nano and micro satellites. <i>Acta Astronautica</i> , 2020, 173, 310-319.	1.7	14

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91	Optimization of two-photon wave function in parametric down conversion by adaptive optics control of the pump radiation. Optics Letters, 2013, 38, 489.	1.7	13
92	Multiparameter entangled-state engineering using adaptive optics. Physical Review A, 2009, 79, .	1.0	12
93	Versatile and Concurrent FPGA-Based Architecture for Practical Quantum Communication Systems. IEEE Transactions on Quantum Engineering, 2022, 3, 1-8.	2.9	11
94	Ultra-fast spectroscopy and extreme nonlinear optics by few-optical-cycle laser pulses. Applied Physics B: Lasers and Optics, 2000, 71, 779-786.	1.1	10
95	Efficient random number generation techniques for CMOS single-photon avalanche diode array exploiting fast time tagging units. Physical Review Research, 2020, 2, .	1.3	10
96	Light's Orbital Angular Momentum and Optical Vortices for Astronomical Coronagraphy from Ground and Space Telescopes. Earth, Moon and Planets, 2009, 105, 283-288.	0.3	8
97	Free-Space Quantum Communication with a Portable Quantum Memory. Physical Review Applied, 2017, 8, .	1.5	8
98	Security bounds for decoy-state quantum key distribution with arbitrary photon-number statistics. Physical Review A, 2022, 105, .	1.0	8
99	Semi-device-independent randomness from $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mi} \rangle \text{d} \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ -outcome continuous-variable detection. Physical Review A, 2021, 104, .	1.0	8
100	Design and experimental characterization of a high-resolution instrument for measuring the extreme-UV absorption of laser plasmas. Applied Optics, 2000, 39, 85.	2.1	7
101	Imaging of recombination events in high-order harmonic generation by phase-stabilized few-optical-cycle pulses. Journal of Modern Optics, 2006, 53, 67-74.	0.6	7
102	Ablation model for semiconductors and dielectrics under ultrafast laser pulses for solar cells micromachining. European Physical Journal Plus, 2015, 130, 1.	1.2	7
103	Integrated optical modulator manipulating the polarization and rotation handedness of Orbital Angular Momentum states. Scientific Reports, 2017, 7, 3835.	1.6	7
104	Deployment-Ready Quantum Key Distribution Over a Classical Network Infrastructure in Padua. Journal of Lightwave Technology, 2022, 40, 1658-1663.	2.7	7
105	Surface damage of extreme-ultraviolet gratings exposed to high-energy 20-fs laser pulses. Applied Optics, 1999, 38, 4720.	2.1	6
106	On the optical analysis of the ray path-lengths in the diffraction of femtosecond XUV and soft X-ray pulses. Laser and Particle Beams, 2000, 18, 529-534.	0.4	6
107	2P and 4PC II photoabsorption spectra. Physical Review A, 2001, 64, .	1.0	6
108	The role of beam profile in high-order harmonic generation by few-optical-cycle pulses. Applied Physics B: Lasers and Optics, 2002, 74, s11-s15.	1.1	6

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109	Molecular orbital dependence of high-order harmonic generation. <i>Journal of Modern Optics</i> , 2006, 53, 97-111.	0.6	6
110	Experimental evaluation of a new system for laser tissue welding applied on damaged lungs. <i>Interactive Cardiovascular and Thoracic Surgery</i> , 2013, 16, 577-582.	0.5	6
111	High-visibility time-bin entanglement for testing chained Bell inequalities. <i>Physical Review A</i> , 2017, 95, .	1.0	6
112	100 kHz satellite laser ranging demonstration at Matera Laser Ranging Observatory. <i>Journal of Geodesy</i> , 2021, 95, 1.	1.6	6
113	Study of few-optical-cycles generation of high-order harmonics. <i>Laser and Particle Beams</i> , 2001, 19, 41-45.	0.4	5
114	Intense femtosecond extreme ultraviolet pulses by using a time-delay-compensated monochromator: erratum. <i>Optics Letters</i> , 2008, 33, 140.	1.7	5
115	High-order harmonics generated by 1.5 $\mu$ m parametric source. <i>Journal of Modern Optics</i> , 2010, 57, 1008-1013.	0.6	5
116	Intersatellite quantum communication feasibility study. <i>Proceedings of SPIE</i> , 2011, , .	0.8	5
117	Absorption spectra and oscillator strength ratio measurements for $n = 1$ transitions from excited levels of Be I and Be II. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 1997, 57, 847-857.	1.1	4
118	Design optimization for quantum communications in a GNSS intersatellite network. , 2013, , .		4
119	Loss tolerant device-independent quantum key distribution: a proof of principle. <i>New Journal of Physics</i> , 2014, 16, 063064.	1.2	4
120	Enhanced security for multi-detector quantum random number generators. <i>Quantum Science and Technology</i> , 2016, 1, 015005.	2.6	4
121	Satellite quantum communication towards GEO distances. <i>Proceedings of SPIE</i> , 2016, , .	0.8	4
122	Large-scale optical interferometry in general spacetimes. <i>Physical Review D</i> , 2020, 101, .	1.6	4
123	Gas medium ionization and harmonic wavelength tunability in high-order harmonic generation with ultrashort laser pulses. <i>Laser and Particle Beams</i> , 2000, 18, 477-482.	0.4	3
124	Single-atom effects in high-order harmonic generation: role of carrier-envelope phase in the few-optical-cycle regime. <i>Applied Physics B: Lasers and Optics</i> , 2004, 78, 873-877.	1.1	3
125	Realization of a time-compensated monochromator exploiting conical diffraction for few-femtosecond XUV pulses. <i>Laser and Particle Beams</i> , 2007, 25, 391-396.	0.4	3
126	Layer separation driven by laser-induced strain in semiconductor thin film. <i>Optical Materials Express</i> , 2013, 3, 1925.	1.6	3



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127	Stigmatic spectrograph with a CCD detector for soft x-ray observations of laser produced plasmas. Review of Scientific Instruments, 1994, 65, 2049-2055.	0.6	2
128	Laser-produced plasma stigmatic observations in the extreme ultraviolet by means of a CCD detector. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1997, 19, 759-777.	0.4	2
129	C+ and C++ ion densities scaling in laser plasmas by ultraviolet photoabsorption spectroscopy. , 1998, 114, 213-216.		2
130	Generation of mutually unbiased bases for 4D-QKD with structured photons via LNOI photonic wire. Journal of Optics (United Kingdom), 2018, 20, 095802.	1.0	2
131	QCoSOne: a chip-based prototype for daylight free-space QKD at telecom wavelength. , 2019, , .		2
132	Spectral analysis of high-order harmonics generated by 30-fs and sub-10-fs laser pulses. Applied Physics B: Lasers and Optics, 2000, 70, S215-S220.	1.1	1
133	Toward the single-cycle regime in the generation of high-order laser harmonics. Laser and Particle Beams, 2004, 22, 335-339.	0.4	1
134	Two-photon spectral coherence matrix and characterization of multi-parameter entangled states. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 3109-3117.	0.9	1
135	Phase control of a path-entangled photon state by a deformable membrane mirror. , 2011, , .		1
136	Bi-photon generation with optimized wavefront by means of adaptive optics. , 2014, , .		1
137	Practical Semi-Device-Independent Quantum Random Number Generators. , 2021, , .		1
138	Certification of the efficient random number generation technique based on single-photon detector arrays and time-to-digital converters. IET Quantum Communication, 2021, 2, 74-79.	2.2	1
139	Space Quantum Communication with higher Orbits. , 2019, , .		1
140	The XUV monochromator for ultrashort pulses at ARTEMIS. , 2009, , .		1
141	Qubit4Sync: a qubit-based synchronization system for quantum key distribution. , 2020, , .		1
142	Advanced instrumentation for spectral and spatial investigations of high-order laser harmonics. Laser and Particle Beams, 2001, 19, 201-204.	0.4	0
143	XUV monochromator for novel application of ultrafast pulses. , 2006, , .		0
144	Real-time thermal control in laser diode microprocessing. , 2006, , .		0

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145	Polarization transformation induced on qubits in a Space-to-Earth quantum communication link. , 2007, , .		0
146	Spectral Entanglement and Precise Measurement of Optical Dispersion. , 2007, , .		0
147	Attosecond pulse compression in the extreme ultraviolet region by conical diffraction. , 2007, , .		0
148	Quantum Communications along the Canary Strongly-Turbulent Optical Link. , 2013, , .		0
149	Turbulent single-photon propagation in the Canary optical link. , 2014, , .		0
150	Exploiting Strong Turbulence in Quantum Communications. , 2014, , .		0
151	Reply to "Comment on "Device-independent entanglement-based Bennett 1992 protocol"™" Physical Review A, 2016, 93, .	1.0	0
152	A resource-effective QKD field-trial in Padua with the iPOGNAC encoder. , 2021, , .		0
153	Free Space Quantum Communication with Quantum Memory. , 2016, , .		0
154	Interference for Quantum Time-Bin States in Satellite Channels. , 2016, , .		0
155	Postselection-Loophole-Free Time-Bin Entanglement Bell Test. , 2019, , .		0
156	Quantum random number generation with efficient processing of single photon detections. , 2020, , .		0
157	Semi-Device-Independent Quantum Random Number Generator based on heterodyne detection and bounded energy. , 2020, , .		0
158	Simulating satellite quantum key distribution links: analytical model and software tool. , 2021, , .		0
159	QKD field-trial in Padua: a resource-effective implementation with the iPOGNAC encoder. , 2022, , .		0
160	Time-bin Quantum Key Distribution exploiting the iPOGNAC polarization moulator and Qubit4Sync temporal synchronization. , 2022, , .		0