

Ivo P Degiovanni

List of Publications by Year in descending order

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167
papers

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all docs

169
docs citations

169
times ranked

2121
citing authors

#	ARTICLE	IF	CITATIONS
1	Spectral Emission Dependence of Tin Vacancy Centers in Diamond from Thermal Processing and Chemical Functionalization. Advanced Photonics Research, 2022, 3, 2100148.	3.6	5
2	Coherent phase transfer for real-world twin-field quantum key distribution. Nature Communications, 2022, 13, 157.	12.8	44
3	Single photon sources for quantum radiometry: a brief review about the current state-of-the-art. Applied Physics B: Lasers and Optics, 2022, 128, 1.	2.2	3
4	Emergence of Constructor-Based Irreversibility in Quantum Systems: Theory and Experiment. Physical Review Letters, 2022, 128, 080401.	7.8	4
5	Detection rate dependence of the inherent detection efficiency in single-photon detectors based on avalanche diodes. Physical Review A, 2022, 105, .	2.5	2
6	Quantum Zeno and Anti-Zeno Probes of Noise Correlations in Photon Polarization. Physical Review Letters, 2022, 129, .	7.8	12
7	Detection of ultra-weak laser pulses by free-running single-photon detectors: Modeling dead time and dark counts effects. Applied Physics Letters, 2021, 118, .	3.3	11
8	Anomalous weak values via a single photon detection. Light: Science and Applications, 2021, 10, 106.	16.6	8
9	Protective Measurement—A New Quantum Measurement Paradigm: Detailed Description of the First Realization. Applied Sciences (Switzerland), 2021, 11, 4260.	2.5	2
10	Spectral features of Pb-related color centers in diamond — a systematic photoluminescence characterization. New Journal of Physics, 2021, 23, 063032.	2.9	6
11	Temporal teleportation with pseudo-density operators: How dynamics emerges from temporal entanglement. Science Advances, 2021, 7, eabe4742.	10.3	5
12	Quantum conformance test. Science Advances, 2021, 7, eabm3093.	10.3	4
13	A Molecule-Based Single-Photon Source Applied in Quantum Radiometry. Advanced Quantum Technologies, 2020, 3, 1900083.	3.9	25
14	Is a Quantum Biosensing Revolution Approaching? Perspectives in NV-Assisted Current and Thermal Biosensing in Living Cells. Advanced Quantum Technologies, 2020, 3, 2000066.	3.9	36
15	Fluorine-based color centers in diamond. Scientific Reports, 2020, 10, 21537.	3.3	6
16	Twin beam quantum-enhanced correlated interferometry for testing fundamental physics. Communications Physics, 2020, 3, .	5.3	14
17	Single-phase and correlated-phase estimation with multiphoton annihilated squeezed vacuum states: An energy-balancing scenario. Physical Review A, 2020, 101, .	2.5	3
18	Non-Monogamy of Spatio-Temporal Correlations and the Black Hole Information Loss Paradox. Entropy, 2020, 22, 228.	2.2	4

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19	Anomalous values, Fisher information, and contextuality, in generalized quantum measurements. Quantum Science and Technology, 2020, 5, 025007.	5.8	7
20	Practical Applications of Quantum Sensing: A Simple Method to Enhance the Sensitivity of Nitrogen-Vacancy-Based Temperature Sensors. Physical Review Applied, 2020, 13, .	3.8	17
21	A study to develop a robust method for measuring the detection efficiency of free-running InGaAs/InP single-photon detectors. EPJ Quantum Technology, 2020, 7, .	6.3	4
22	A biocompatible technique for magnetic field sensing at (sub)cellular scale using Nitrogen-Vacancy centers. EPJ Quantum Technology, 2020, 7, .	6.3	3
23	Theoretical description and experimental simulation of quantum entanglement near open time-like curves via pseudo-density operators. Nature Communications, 2019, 10, 182.	12.8	9
24	Towards a standard procedure for the measurement of the multi-photon component in a CW telecom heralded single-photon source. Metrologia, 2019, 56, 025004.	1.2	5
25	Optimal estimation of entanglement and discord in two-qubit states. Scientific Reports, 2019, 9, 3030.	3.3	15
26	Feasibility study towards comparison of the $\langle i \rangle g \langle i \rangle \langle \sup \rangle (2) \langle /sup \rangle (0)$ measurement in the visible range. Metrologia, 2019, 56, 015016.	1.2	6
27	Quantum imaging with sub-Poissonian light: challenges and perspectives in optical metrology. Metrologia, 2019, 56, 024001.	1.2	73
28	Toward a quantum enhanced holometer: preliminary results of a power-recycled 2D optical cavity at INRIM. , 2019, , .		0
29	A quantum Interferometer for quantum gravity studies. , 2019, , .		0
30	Quantum-optical characterization of single-photon emitters created by MeV proton irradiation of HPHT diamond nanocrystals. Nuclear Instruments & Methods in Physics Research B, 2018, 435, 318-322.	1.4	2
31	Single-Photon Emitters in Lead-Implanted Single-Crystal Diamond. ACS Photonics, 2018, 5, 4864-4871.	6.6	66
32	Mapping the Local Spatial Charge in Defective Diamond by Means of N- $\langle i \rangle V \langle /i \rangle$ Sensorsâ€”A Self-Diagnostic Concept. Physical Review Applied, 2018, 10, .	3.8	15
33	Investigating the Effects of the Interaction Intensity in a Weak Measurement. Scientific Reports, 2018, 8, 6959.	3.3	16
34	Protective measurements: extracting the expectation value by measuring a single particle. , 2018, , .		0
35	Quantum key distribution security threat: the backflash light case. , 2018, , .		0
36	European coordinated metrological effort for quantum cryptography. , 2018, , .		2

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37	Quantum weak-interaction-based measurement: from sequential weak measurement to protective measurement. , 2018, , .		0
38	Single-Photon-Emitting Optical Centers in Diamond Fabricated upon Sn Implantation. ACS Photonics, 2017, 4, 2580-2586.	6.6	86
39	Photo-physical properties of He-related color centers in diamond. Applied Physics Letters, 2017, 111, .	3.3	13
40	Determining the quantum expectation value by measuring a single photon. Nature Physics, 2017, 13, 1191-1194.	16.7	43
41	Direct experimental observation of nonclassicality in ensembles of single-photon emitters. Physical Review B, 2017, 96, .	3.2	13
42	Quantifying backflash radiation to prevent zero-error attacks in quantum key distribution. Light: Science and Applications, 2017, 6, e16261-e16261.	16.6	40
43	Weak measurements: From measuring incompatible observables and testing quantum contextuality to protective measurements. , 2017, , .		0
44	Anomalous weak values and the violation of a multiple-measurement Leggett-Garg inequality. Physical Review A, 2017, 96, .	2.5	26
45	Optimal estimation of parameters of an entangled quantum state. Journal of Physics: Conference Series, 2017, 841, 012033.	0.4	2
46	Super-resolution from single photon emission: toward biological application. , 2017, , .		0
47	Realization of a twin beam source based on four-wave mixing in Cesium. International Journal of Quantum Information, 2016, 14, 1640014.	1.1	5
48	Absolute calibration of an EMCCD camera by quantum correlation, linking photon counting to the analog regime. Optics Letters, 2016, 41, 1841.	3.3	42
49	Creation and characterization of He-related color centers in diamond. Journal of Luminescence, 2016, 179, 59-63.	3.1	12
50	Improving interferometers by quantum light: toward testing quantum gravity on an optical bench. , 2016, , .		0
51	Experiment Investigating the Connection between Weak Values and Contextuality. Physical Review Letters, 2016, 116, 180401.	7.8	44
52	Measuring Incompatible Observables by Exploiting Sequential Weak Values. Physical Review Letters, 2016, 117, 170402.	7.8	66
53	Towards joint reconstruction of noise and losses in quantum channels. Quantum Measurements and Quantum Metrology, 2016, 3, .	3.3	0
54	Measuring non-commuting observables of a single photon. , 2016, , .		0

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55	Beating the Diffraction limit with single-photons. , 2016, , .		0
56	Measuring non-commuting observables of a photon via sequential weak values evaluation. , 2016, , .		1
57	One- and two-mode squeezed light in correlated interferometry. Physical Review A, 2015, 92, .	2.5	29
58	Electrical stimulation of non-classical photon emission from diamond color centers by means of sub-superficial graphitic electrodes. Scientific Reports, 2015, 5, 15901.	3.3	26
59	Overcoming classical measurement limits through entanglement in photon number: an introduction. EPJ Web of Conferences, 2015, 95, 03011.	0.3	0
60	Channel models for QKD at higher photon flux levels based on spatial entanglement of twin beams in PDC. , 2015, , .		0
61	Metrology for Quantum Communication. , 2015, , .		1
62	Magneto-optical imaging technique for hostile environments: The ghost imaging approach. Applied Physics Letters, 2015, 106, .	3.3	30
63	Electroluminescence from a diamond device with ion-beam-micromachined buried graphitic electrodes. Nuclear Instruments & Methods in Physics Research B, 2015, 348, 187-190.	1.4	13
64	Positive operator-valued measure reconstruction of a beam-splitter tree-based photon-number-resolving detector. Optics Letters, 2015, 40, 1548.	3.3	11
65	Recent progresses in quantum imaging real applications. , 2015, , .		0
66	Quantum and Classical Characterization of Single/Few Photon Detectors. Quantum Matter, 2015, 4, 200-212.	0.2	2
67	Native NIR-emitting single colour centres in CVD diamond. New Journal of Physics, 2014, 16, 053005.	2.9	33
68	A detailed description of the experimental realization of a quantum illumination protocol. Physica Scripta, 2014, T160, 014026.	2.5	23
69	Worldwide standardization activity for quantum key distribution. , 2014, , .		9
70	Quantifying the source of enhancement in experimental continuous variable quantum illumination. Journal of the Optical Society of America B: Optical Physics, 2014, 31, 2045.	2.1	33
71	Absolute calibration of a charge-coupled device camera with twin beams. Applied Physics Letters, 2014, 105, .	3.3	22
72	Reconstruction of mode structure of faint light sources and its applications. Physica Scripta, 2014, T163, 014024.	2.5	0

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73	Metrology for industrial quantum communications: the MIQC project. Metrologia, 2014, 51, S267-S275.	1.2	12
74	Measurement facility for the evaluation of the backscattering in fiber: Realization of an OTDR operating at single photon level. International Journal of Quantum Information, 2014, 12, 1461014.	1.1	2
75	Single-photon emitters based on NIR color centers in diamond coupled with solid immersion lenses. International Journal of Quantum Information, 2014, 12, 1560011.	1.1	6
76	Metrology of single-photon sources and detectors: a review. Optical Engineering, 2014, 53, 081910.	1.0	114
77	Beating the Abbe Diffraction Limit in Confocal Microscopy via Nonclassical Photon Statistics. Physical Review Letters, 2014, 113, 143602.	7.8	106
78	High performing SPS based on native NIR-emitting single colour centers in diamond. , 2014, , .		0
79	Practical Implementation of a Test of Event-Based Corpuscular Model as an Alternative to Quantum Mechanics. Foundations of Physics, 2013, 43, 913-922.	1.3	1
80	Mode reconstruction of a light field by multiphoton statistics. Physical Review A, 2013, 88, .	2.5	42
81	Experimental Realization of Quantum Illumination. Physical Review Letters, 2013, 110, 153603.	7.8	292
82	Quantum Light in Coupled Interferometers for Quantum Gravity Tests. Physical Review Letters, 2013, 110, 213601.	7.8	53
83	Experimental Test of an Event-Based Corpuscular Model Modification as an Alternative to Quantum Mechanics. Journal of the Physical Society of Japan, 2013, 82, 034004.	1.6	7
84	Revealing interference by continuous variable discordant states. Optics Letters, 2013, 38, 3099.	3.3	7
85	Hybrid Detectors. Experimental Methods in the Physical Sciences, 2013, 45, 217-255.	0.1	0
86	Some recent progresses in quantum tomography realised at INRIM. , 2013, , .		1
87	The illusionist game and hidden correlations. Physica Scripta, 2013, T153, 014006.	2.5	4
88	An extremely low-noise heralded single-photon source without temporal post-selection. , 2013, , .		0
89	Beyond classical limits by exploiting quantum light : a short review of INRIM results. Journal of Physics: Conference Series, 2013, 442, 012022.	0.4	1
90	Reply to Comment on “Experimental Test of an Event-Based Corpuscular Model Modification as an Alternative to Quantum Mechanics” Journal of the Physical Society of Japan, 2013, 82, 086002.	1.6	0

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91	Mode reconstruction by multi-photon statistics. , 2013, , .		0
92	Review on Recent Groundbreaking Experiments on Quantum Communication with Orthogonal States. Quantum Matter, 2013, 2, 153-166.	0.2	2
93	Single-Photon Devices and Applications. Journal of Modern Optics, 2012, 59, 1455-1457.	1.3	3
94	Quantum characterization of superconducting photon counters. New Journal of Physics, 2012, 14, 085001.	2.9	69
95	Entanglement-assisted calibration of a photon-number-resolving detector. , 2012, , .		0
96	An extremely low-noise heralded single-photon source: A breakthrough for quantum technologies. Applied Physics Letters, 2012, 101, .	3.3	56
97	Ancilla-Assisted Calibration of a Measuring Apparatus. Physical Review Letters, 2012, 108, 253601.	7.8	36
98	Photon number statistics of NV centre emission. Metrologia, 2012, 49, S156-S160.	1.2	14
99	Report on proof-of-principle implementations of novel QKD schemes performed at INRIM. Proceedings of SPIE, 2012, , .	0.8	0
100	Unveiling optical hidden correlations: the illusionist game. , 2012, , .		0
101	Experimental realization of counterfactual quantum cryptography. Laser Physics Letters, 2012, 9, 247-252.	1.4	47
102	Experimental realization of a low-noise heralded single-photon source. Optics Express, 2011, 19, 1484.	3.4	60
103	Self consistent, absolute calibration technique for photon number resolving detectors. Optics Express, 2011, 19, 23249.	3.4	42
104	Biphoton compression in standard optical fiber. , 2011, , .		0
105	On the Discrimination Between Classical and Quantum States. Foundations of Physics, 2011, 41, 305-316.	1.3	10
106	Optimal estimation of entanglement in optical qubit systems. Physical Review A, 2011, 83, .	2.5	23
107	Studying photon number distribution of NV-centre-emission in diamond. , 2011, , .		0
108	TOWARD THIRD ORDER GHOST IMAGING WITH THERMAL LIGHT. International Journal of Quantum Information, 2011, 09, 341-348.	1.1	3

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109	Ti/Au TES AS SUPERCONDUCTING DETECTOR FOR QUANTUM TECHNOLOGIES. International Journal of Quantum Information, 2011, 09, 405-413.	1.1	10
110	Single-photon technologies. Journal of Modern Optics, 2011, 58, 169-173.	1.3	2
111	Experimental quantum cryptography scheme based on orthogonal states: preliminary results. Proceedings of SPIE, 2010, , .	0.8	0
112	Experimental Estimation of Entanglement at the Quantum Limit. Physical Review Letters, 2010, 104, 100501.	7.8	57
113	Detection of multimode spatial correlation in PDC and application to the absolute calibration of a CCD camera. Optics Express, 2010, 18, 20572.	3.4	63
114	Biphoton compression in a standard optical fiber: Exact numerical calculation. Physical Review A, 2010, 81, .	2.5	4
115	Experimental quantum-cryptography scheme based on orthogonal states. Physical Review A, 2010, 82, .	2.5	32
116	Experimental realization of Goldenberg — Vaidman QKD protocol. , 2010, , .		0
117	Some Recent Tests on Foundations of Quantum Mechanics Performed at INRIM. , 2009, , .		0
118	Chirped Biphotons and their Compression in Optical Fibers. Physical Review Letters, 2009, 103, 193602.	7.8	37
119	Improved implementation of the Alicki—Van Ryn nonclassicality test for a single particle using Sidetectors. Physical Review A, 2009, 79, .	2.5	20
120	Scalable multiplexed detector system for high-rate telecom-band single-photon detection. Review of Scientific Instruments, 2009, 80, 116103.	1.3	11
121	Monitoring the quantum-classical transition in thermally seeded parametric down-conversion by intensity measurements. Physical Review A, 2009, 79, .	2.5	20
122	QUANTUM CORRELATION BOUNDS FOR WIGNER'S INEQUALITY GENERALIZED PARAMETRIZATION. International Journal of Quantum Information, 2009, 07, 257-262.	1.1	0
123	Improved implementation and modeling of deadtime reduction in an actively multiplexed detection system. Journal of Modern Optics, 2009, 56, 405-412.	1.3	10
124	Recent tests of realistic models. Journal of Physics: Conference Series, 2009, 174, 012014.	0.4	1
125	Improved Multiplexed Infrared Detectors for High-Rate Single-Photon Detection. , 2009, , .		0
126	Multimode thermal-seeded parametric down-conversion: Entanglement and ghost imaging. European Physical Journal: Special Topics, 2008, 160, 105-113.	2.6	0

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127	Frequency downconversion and ghost imaging: Classical and quantum approaches. European Physical Journal: Special Topics, 2008, 160, 361-369.	2.6	0
128	Comparison of photon counting and analog techniques for the measurement of photon pair generation in a PPLN waveguide. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 7.	2.1	4
129	Chaotically seeded parametric downconversion for ghost imaging. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 1203.	2.1	7
130	Experimental test of nonclassicality for a single particle. Optics Express, 2008, 16, 11750.	3.4	30
131	Quantum correlation bounds for optimization of quantum-information experiments: The Wigner inequality case. Physical Review A, 2008, 77, .	2.5	4
132	Multiplexed photon-counting detectors. Proceedings of SPIE, 2008, , .	0.8	3
133	Improved multiplexed infrared single photon detectors. , 2008, , .		1
134	Intensity correlations, entanglement properties, and ghost imaging in multimode thermal-seeded parametric down-conversion: Theory. Physical Review A, 2007, 76, .	2.5	28
135	GHOST IMAGING WITH INTENSE CORRELATED LIGHT. International Journal of Quantum Information, 2007, 05, 33-36.	1.1	2
136	Improved photon-counting detector performance by intelligent management of detector deadtime. Proceedings of SPIE, 2007, , .	0.8	0
137	Ghost imaging with intense fields from chaotically seeded parametric downconversion. Optics Letters, 2007, 32, 1132.	3.3	17
138	Reduced deadtime and higher rate photon-counting detection using a multiplexed detector array. Journal of Modern Optics, 2007, 54, 337-352.	1.3	64
139	Implementing a Multiplexed System of Detectors for Higher Photon Counting Rates. IEEE Journal of Selected Topics in Quantum Electronics, 2007, 13, 978-983.	2.9	35
140	Ghost imaging with intense entangled fields. , 2007, , .		0
141	Achieving higher photon counting rates using multiplexed detectors. , 2006, 6305, 178.		7
142	Degenerate parametric down-conversion at 1570 nm by periodically poled lithium niobate waveguide: a route to single photon source and photon entanglement. , 2006, 6183, 261.		0
143	Optimizing single-photon-source heralding efficiency and detection efficiency metrology at 1550nm using periodically poled lithium niobate. Metrologia, 2006, 43, S56-S60.	1.2	25
144	Spatial and spectral mode selection of heralded single photons from parametric down-conversion in bulk and PPLN. , 2005, , .		2

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145	Two-Photon Mode Preparation and Matching Efficiency: Definition, Measurement, and Optimization. IEEE Transactions on Instrumentation and Measurement, 2005, 54, 890-893.	4.7	12
146	Reply to "Comment on "Quantum dense key distribution"™". Physical Review A, 2005, 71, .	2.5	10
147	Spatial and spectral mode selection of heralded single photons from pulsed parametric down-conversion. Optics Express, 2005, 13, 6709.	3.4	69
148	Radiometric reference for weak radiations: comparison of methods. Metrologia, 2005, 42, 271-277.	1.2	19
149	Quantum Dense Key Distribution and Secure Communication Without Cryptography. AIP Conference Proceedings, 2004, , .	0.4	0
150	Experimental Evidence for Bounds on Quantum Correlations. Physical Review Letters, 2004, 92, 060404.	7.8	12
151	Quantum dense key distribution. Physical Review A, 2004, 69, .	2.5	40
152	On the measurement of two-photon single-mode coupling efficiency in parametric down-conversion photon sources. New Journal of Physics, 2004, 6, 87-87.	2.9	25
153	Two-photon single mode coupling efficiency: definition, measurement, optimization.. , 2004, , .		0
154	A theoretical and experimental test on the security of quantum cryptography key distribution Ekert's protocol based on Wigner's inequality. , 2004, 5161, 229.		0
155	Coupling efficiencies in single-photon on-demand sources. , 2004, 5161, 48.		5
156	Measurement of coupling PDC photon sources with single-mode and multimode optical fibers. , 2004, , .		3
157	BAYESIAN APPROACH TO QUANTUM STATE TOMOGRAPHY. , 2004, , .		0
158	Modified Wigner inequality for secure quantum-key distribution. Physical Review A, 2003, 67, .	2.5	7
159	Experimental eavesdropping attack against Ekert's protocol based on Wigner's inequality. Physical Review A, 2003, 68, .	2.5	2
160	Quantum and classical noise in practical quantum-cryptography systems based on polarization-entangled photons. Physical Review A, 2003, 67, .	2.5	8
161	Evaluation of statistical noise in measurements based on correlated photons. Journal of the Optical Society of America B: Optical Physics, 2002, 19, 1247.	2.1	11
162	Intercomparison of a correlated-photon-based method to measure detector quantum efficiency. Applied Optics, 2002, 41, 2914.	2.1	28

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163	Quantum non-demolition measurement of the photon number: an application to radiometry. Journal of Optics B: Quantum and Semiclassical Optics, 2001, 3, S60-S65.	1.4	2
164	Towards an uncertainty budget in quantum-efficiency measurements with parametric fluorescence. Metrologia, 2000, 37, 629-632.	1.2	31
165	Theoretical aspects of photon number measurement. Metrologia, 2000, 37, 613-616.	1.2	17
166	Quantum efficiency and dead time of single-photon counting photodiodes: a comparison between two measurement techniques. Metrologia, 2000, 37, 625-628.	1.2	39
167	NON-DEMOLITIVE PHOTON NUMBER MEASUREMENT VIA $\chi^{(2)}$ NONLINEARITY. International Journal of Modern Physics B, 1999, 13, 3383-3392.	2.0	1