Nicolas Treps

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3072036/publications.pdf

Version: 2024-02-01

138 papers	3,999 citations	147801 31 h-index	123424 61 g-index
143 all docs	143 docs citations	143 times ranked	2362 citing authors

#	Article	IF	Citations
1	Wavelength-multiplexed quantum networks with ultrafast frequency combs. Nature Photonics, 2014, 8, 109-112.	31.4	370
2	Efficient and mode selective spatial mode multiplexer based on multi-plane light conversion. Optics Express, 2014, 22, 15599.	3.4	342
3	Experimental investigation of continuous-variable quantum teleportation. Physical Review A, 2003, 67, .	2.5	280
4	A Quantum Laser Pointer. Science, 2003, 301, 940-943.	12.6	263
5	Surpassing the Standard Quantum Limit for Optical Imaging Using Nonclassical Multimode Light. Physical Review Letters, 2002, 88, 203601.	7.8	190
6	Programmable unitary spatial mode manipulation. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2010, 27, 2524.	1.5	181
7	Experimental Demonstration of Continuous Variable Polarization Entanglement. Physical Review Letters, 2002, 89, 253601.	7.8	164
8	Programmable multimode quantum networks. Nature Communications, 2012, 3, 1026.	12.8	130
9	Generation and Characterization of Multimode Quantum Frequency Combs. Physical Review Letters, 2012, 108, 083601.	7.8	104
10	Conditional Preparation of a Quantum State in the Continuous Variable Regime: Generation of a sub-Poissonian State from Twin Beams. Physical Review Letters, 2003, 91, 213601.	7.8	98
11	Non-Gaussian quantum states of a multimode light field. Nature Physics, 2020, 16, 144-147.	16.7	95
12	Entangling the Spatial Properties of Laser Beams. Science, 2008, 321, 541-543.	12.6	81
13	Ultimate sensitivity of precision measurements with intense Gaussian quantum light: A multimodal approach. Physical Review A, 2012, 85, .	2.5	77
14	Quantum Improvement of Time Transfer between Remote Clocks. Physical Review Letters, 2008, 101, 123601.	7.8	74
15	Reconfigurable Hexapartite Entanglement by Spatially Multiplexed Four-Wave Mixing Processes. Physical Review Letters, 2020, 124, 090501.	7.8	65
16	Entanglement and Wigner Function Negativity of Multimode Non-Gaussian States. Physical Review Letters, 2017, 119, 183601.	7.8	64
17	Optical entanglement of co-propagating modes. Nature Photonics, 2009, 3, 399-402.	31.4	60
18	Tomography and Purification of the Temporal-Mode Structure of Quantum Light. Physical Review Letters, 2018, 120, 213601.	7.8	51

#	Article	IF	Citations
19	Quantum-network generation based on four-wave mixing. Physical Review A, 2015, 91, .	2.5	50
20	Quantum limits in image processing. Europhysics Letters, 2008, 81, 44001.	2.0	47
21	Precision measurements with photon-subtracted or photon-added Gaussian states. Physical Review A, 2014, 90, .	2.5	45
22	Spatial optical mode demultiplexing as a practical tool for optimal transverse distance estimation. Optica, 2020, 7, 1621.	9.3	42
23	Stokes-operator-squeezed continuous-variable polarization states. Physical Review A, 2003, 67, .	2.5	41
24	Roadmap on multimode light shaping. Journal of Optics (United Kingdom), 2022, 24, 013001.	2.2	41
25	Multipartite Entanglement of a Two-Separable State. Physical Review Letters, 2016, 117, 110502.	7.8	40
26	Nano-displacement measurements using spatially multimode squeezed light. Journal of Optics B: Quantum and Semiclassical Optics, 2004, 6, S664-S674.	1.4	38
27	Recovery of continuous wave squeezing at low frequencies. Journal of Optics B: Quantum and Semiclassical Optics, 2002, 4, 421-424.	1.4	37
28	Polynomial approximation of non-Gaussian unitaries by counting one photon at a time. Physical Review A, 2017, 95, .	2.5	36
29	Nonlinear photon subtraction from a multimode quantum field. Physical Review A, 2014, 89, .	2.5	34
30	Tailoring Non-Gaussian Continuous-Variable Graph States. Physical Review Letters, 2018, 121, 220501.	7.8	34
31	Experimental demonstration of frequency-degenerate bright EPR beams with a self-phase-locked OPO. Optics Express, 2008, 16, 9351.	3.4	33
32	Near-infrared to visible upconversion imaging using a broadband pump laser. Optics Express, 2018, 26, 13252.	3.4	33
33	Real-time displacement measurement immune from atmospheric parameters using optical frequency combs. Optics Express, 2012, 20, 27133.	3.4	32
34	Quantum measurements of spatial conjugate variables: displacement and tilt of a Gaussian beam. Optics Letters, 2006, 31, 1537.	3.3	31
35	Tomography of a Mode-Tunable Coherent Single-Photon Subtractor. Physical Review X, 2017, 7, .	8.9	31
36	Unity gain and nonunity gain quantum teleportation. IEEE Journal of Selected Topics in Quantum Electronics, 2003, 9, 1519-1532.	2.9	29

#	Article	IF	Citations
37	Image transmission through a stable paraxial cavity. Physical Review A, 2005, 72, .	2.5	29
38	Superresolution Limits from Measurement Crosstalk. Physical Review Letters, 2020, 125, 100501.	7.8	29
39	Versatile engineering of multimode squeezed states by optimizing the pump spectral profile in spontaneous parametric down-conversion. Physical Review A, 2018, 97, .	2.5	28
40	Statistical signatures of multimode single-photon-added and -subtracted states of light. Physical Review A, 2017, 96, .	2.5	27
41	Versatile multipartite Einstein-Podolsky-Rosen steering via a quantum frequency comb. Physical Review Research, 2020, 2, .	3.6	27
42	Direct generation of a multi-transverse mode non-classical state of light. Optics Express, 2011, 19, 4405.	3.4	25
43	Practical Framework for Conditional Non-Gaussian Quantum State Preparation. PRX Quantum, 2020, 1, .	9.2	25
44	Frequency doubling of low power images using a self-imaging cavity. Optics Express, 2010, 18, 8033.	3.4	23
45	Remote Generation of Wigner Negativity through Einstein-Podolsky-Rosen Steering. Physical Review Letters, 2020, 124, 150501.	7.8	22
46	Continuous-variable spatial entanglement for bright optical beams. Physical Review A, 2005, 72, .	2.5	20
47	Continuous-wave phase-sensitive parametric image amplification. Journal of Modern Optics, 2006, 53, 809-820.	1.3	18
48	Spectral Noise Correlations of an Ultrafast Frequency Comb. Physical Review Letters, 2014, 113, 263906.	7.8	18
49	Neural Networks for Detecting Multimode Wigner Negativity. Physical Review Letters, 2020, 125, 160504.	7.8	18
50	Optimal Observables and Estimators for Practical Superresolution Imaging. Physical Review Letters, 2021, 127, 123604.	7.8	17
51	Atomic quantum memory for multimode frequency combs. Physical Review A, 2015, 91, .	2.5	16
52	Certification of Non-Gaussian States with Operational Measurements. PRX Quantum, 2021, 2, .	9.2	16
53	Quantum fluctuations and correlations of spatial scalar or multimode vector solitons in Kerr media. Journal of Optics B: Quantum and Semiclassical Optics, 2004, 6, S295-S302.	1.4	15
54	Continuous variable polarization entanglement, experiment and analysis. Journal of Optics B: Quantum and Semiclassical Optics, 2003, 5, S467-S478.	1.4	14

#	Article	IF	Citations
55	Experimental realization of a feedback optical parametric amplifier with four-wave mixing. Physical Review B, 2018, 97, .	3.2	14
56	Moment-based superresolution: Formalism and applications. Physical Review A, 2021, 104, .	2.5	14
57	Experimental evidence of spontaneous symmetry breaking in intracavity type II second-harmonic generation with triple resonance. Optics Letters, 2005, 30, 284.	3.3	12
58	Violating Bell inequalities with entangled optical frequency combs and multipixel homodyne detection. Physical Review A, 2018, 98, .	2.5	12
59	A time/frequency quantum analysis of the light generated by synchronously pumped optical parametric oscillators. New Journal of Physics, 2012, 14, 043006.	2.9	11
60	Quantum-limited measurements of distance fluctuations with a multimode detector. Quantum Science and Technology, 2017, 2, 034008.	5.8	10
61	Versatile Photonic Entanglement Synthesizer in the Spatial Domain. Physical Review Applied, 2020, 14, .	3.8	10
62	Mode-dependent-loss model for multimode photon-subtracted states. Physical Review A, 2019, 100, .	2.5	9
63	High sensitivity narrowband wavelength mid-infrared detection at room temperature. Optics Letters, 2017, 42, 2006.	3.3	9
64	Pulse shaping with birefringent crystals: a tool for quantum metrology. Optics Express, 2013, 21, 21889.	3.4	8
65	Analysis and filtering of phase noise in an optical frequency comb at the quantum limit to improve timing measurements. Optics Letters, 2014, 39, 3603.	3.3	8
66	Sub-shot-noise interferometric timing measurement with a squeezed frequency comb. Physical Review A, 2018, 98, .	2.5	8
67	Quantum state engineering in arrays of nonlinear waveguides. Physical Review A, 2020, 102, .	2.5	8
68	Squeezed light from a diamond-turned monolithic cavity. Optics Express, 2016, 24, 4042.	3.4	7
69	Continuous axial scanning of a Gaussian beam via beam steering. Optics Express, 2017, 25, 23060.	3.4	7
70	Multimode single-pass spatio-temporal squeezing. Optics Express, 2020, 28, 12385.	3.4	7
71	Distribution and quantification of remotely generated Wigner negativity. Npj Quantum Information, 2022, 8, .	6.7	7
72	Quantum correlations of pulses of optical parametric oscillator synchronously pumped above threshold. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2011, 110, 925-935.	0.6	6

#	Article	IF	Citations
73	Quantum uncertainty in the beam width of spatial optical modes. Optics Express, 2015, 23, 32777.	3.4	6
74	Frequency-multiplexed entanglement for continuous-variable quantum key distribution. Photonics Research, 2021, 9, 2351.	7.0	6
75	Optical experiments beyond the quantum limit: Squeezing, entanglement, and teleportation. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2003, 94, 651-665.	0.6	5
76	Third-order nonlinearity OPO: Schmidt mode decomposition and tripartite entanglement. Optics Letters, 2017, 42, 4865.	3.3	5
77	Generation of hexapartite entanglement in a four-wave-mixing process with a spatially structured pump: Theoretical study. Physical Review A, 2020, 102, .	2.5	5
78	High dimensional quantum entanglement. European Physical Journal D, 2013, 67, 1.	1.3	4
79	Efficient and mode selective spatial mode multiplexer based on multi-plane light conversion. , 2014, , .		4
80	Toward a compact fibered squeezing parametric source. Optics Letters, 2018, 43, 1267.	3.3	4
81	Full characterization of the transmission properties of a multi-plane light converter. Physical Review Research, 2021, 3, .	3.6	4
82	Conditional preparation of non-Gaussian quantum optical states by mesoscopic measurement. New Journal of Physics, 2021, 23, 063039.	2.9	4
83	C.w. optical parametric oscillators: single mode or multimode?. Comptes Rendus Physique, 2000, 1, 553-559.	0.1	3
84	Spatial quantum effects with continuous-wave laser beams. Journal of Modern Optics, 2006, 53, 597-611.	1.3	3
85	Detecting the spatial quantum uncertainty of bosonic systems. New Journal of Physics, 2016, 18, 093004.	2.9	3
86	Temporal-mode tomography of single photons. , 2017, , .		3
87	Modal analysis for noise characterization and propagation in a femtosecond oscillator. Optics Letters, 2019, 44, 3992.	3.3	3
88	Non-Gaussian Continuous-Variable Graph States. , 2019, , .		3
89	Teaching a laser beam to go straight. Contemporary Physics, 2005, 46, 395-405.	1.8	2
90	3 Modes transmission using hybrid separation with high mode selectivity and low losses spatial mode multiplexer. , 2014, , .		2

#	Article	IF	Citations
91	Maximal entanglement increase with single-photon subtraction. Quantum - the Open Journal for Quantum Science, 0, 6, 704.	0.0	2
92	Quantum information processing in optical images. Superlattices and Microstructures, 2002, 32, 323-329.	3.1	1
93	Spatial quantum optical properties of c.w. Optical Parametric Amplification. Comptes Rendus Physique, 2007, 8, 199-205.	0.9	1
94	A gain criterion for the improvement of detection tasks with sub-Poissonian light. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 1139.	1.5	1
95	Photon subtraction from a multimode squeezed vacuum state. , 2017, , .		1
96	Parametrically generated ultrafast frequency combs : a promising tool for wavelength multiplexed quantum information processing. , 2013, , .		1
97	Programmable unitary transformation of spectro-temporal modes. , 2017, , .		1
98	Near-infrared to visible upconversion detection for active imaging using a broadband pump laser. , 2018, , .		1
99	Spatial eigenmodes of light in atmospheric turbulence. , 2020, , .		1
100	Mode-selective single-photon addition to a multimode quantum field. New Journal of Physics, 0, , .	2.9	1
101	Quantum squeezing in temporal, polarization, and spatial domains. , 2003, 5111, 67.		0
102	Quantum imaging with continuous variables. , 2004, , .		0
103	Quantum laser pointer and other applications of squeezed light. , 2004, , .		0
104	Broadband Fabry-Perot cavity for quantum-limited frequency comb metrology. , 2013, , .		0
105	Quantum Uncertainty in the Beam Width for Optical Spatial Modes. , 2016, , .		0
106	Ultra-fast and continuous control of the focus point of a laser beam. , 2017, , .		0
107	Phase-amplitude noise correlations in an optical frequency comb. , 2017, , .		0
108	High sensitivity mid-infrared detection at room temperature by upconversion in orientation-patterned GaAs. , 2017, , .		0

#	Article	IF	Citations
109	Tomography of mode-tunable coherent single-photon subtractor. , 2017, , .		0
110	A Single-Pass Quantum Source of Multimode Squeezed States of Light. , 2018, , .		0
111	Certification of Non-Gaussian States using Double Homodyne Detection. , 2021, , .		0
112	Versatile Photonic Entanglement Synthesizer in the Spatial Domain. , 2021, , .		0
113	Demonstrating spatial entanglement for the position and momentum of laser beams. , 2007, , .		0
114	Quantum Imaging Techniques for Improving Information Extraction from Images. , 2007, , 323-343.		0
115	Multimode OPOs as Sources for Multipartite Entanglement. , 2009, , .		0
116	Experimental Demonstration of Computer Reconfigurable Multimode Entanglement. , 2010, , .		0
117	Spatial reshaping of a squeezed state of light. , 2011, , .		0
118	Parametrically generated ultrafast frequency combs : a promising tool for wavelength multiplexed quantum information processing. , 2013, , .		0
119	Quantum Limited Parameter Estimation with Pulse Shaped Frequency Combs. , 2014, , .		0
120	Revealing spectral amplitude and phase correlations of an optical frequency comb with ultrafast pulse-shaping. , 2014, , .		0
121	Tomography of Single-Photon Subtraction Process in Multiple Time-Frequency Modes. , 2016, , .		0
122	Tomography of mode-tunable coherent single-photon subtractor. , 2017, , .		0
123	Tomography of mode-tunable coherent single-photon subtractor. , 2017, , .		0
124	SINGLE-PASS QUANTUM SOURCE OF MULTIMODE SQUEEZED STATES. , 2017, , .		0
125	Shaping the Pump of a Synchronously Pumped Optical Parametric Oscillator for Continous-Variable Quantum Information. , 2017, , .		0
126	Statistical signatures of non-Gaussian states of light. , 2017, , .		0

#	Article	IF	Citations
127	Modal Approach Towards Complete Characterization of Frequency Comb Noise. , 2017, , .		0
128	A Single-Pass Quantum Source of Multimode Squeezed States of Light. , 2018, , .		0
129	Temporal Mode Selective Measurement and Purification of Quantum Light. , 2018, , .		0
130	Increasing image resolution in near-infrared to visible upconversion detection for long-range active imaging. , 2018, , .		0
131	Quantum Frequency Comb for Quantum Complex Networks. , 2019, , .		0
132	Photon-Subtracted Continuous-Variable Graph States. , 2019, , .		0
133	Quantum-enhanced interferometric timing measurement with a squeezed optical frequency comb. , 2019, , .		0
134	Violating Bell inequalities with entangled optical frequency combs and multi-pixel homodyne detection. , 2019, , .		0
135	Experimental generation of non-Gaussian quantum states of a multimode light field. , 2020, , .		0
136	Quantum Imaging in the Continuous-Wave Regime Using Degenerate Optical Cavities. , 2007, , 47-65.		0
137	Quantum Imaging by Synthesis of Multimode Quantum Light. , 2007, , 67-78.		0
138	Transverse Distribution of Quantum Fluctuations in Free-Space Spatial Solitons. , 2007, , 201-219.		0