

Alfredo Luis Aina

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

168
papers

2,615
citations

27
h-index

41
g-index

172
ext. papers

2,871
ext. citations

2.6
avg, IF

5.72
L-index

#	Paper	IF	Citations
168	Inequalities for complementarity in observed statistics. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2022 , 427, 127914	2.3	0
167	Signal estimation and coherence: publisher's note. <i>Optics Letters</i> , 2021 , 46, 6111	3	
166	Signal estimation and coherence. <i>Optics Letters</i> , 2021 , 46, 5409-5412	3	1
165	Number-phase entanglement and Einstein-Podolsky-Rosen steering. <i>Physical Review A</i> , 2020 , 101,	2.6	4
164	Nonclassical joint distributions and Bell measurements. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020 , 384, 126416	2.3	4
163	Detector self-tomography. <i>Optics Letters</i> , 2020 , 45, 6799-6802	3	1
162	Observed quantum dynamics: classical dynamics and lack of Zeno effect. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020 , 53, 375306	2	1
161	Classical and quantum complementarity. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020 , 384, 126849	2.3	2
160	Apparatus contribution to observed nonclassicality. <i>Physical Review A</i> , 2020 , 102,	2.6	2
159	Phase space quantum-classical hybrid model. <i>Annals of Physics</i> , 2019 , 411, 167961	2.5	2
158	Entanglement between total intensity and polarization for pairs of coherent states. <i>Physical Review A</i> , 2018 , 97,	2.6	2
157	Polarization monotones of two-dimensional and three-dimensional random electromagnetic fields. <i>Physical Review A</i> , 2018 , 97,	2.6	2
156	Resource-theoretic approach to vectorial coherence. <i>Optics Letters</i> , 2018 , 43, 1463-1466	3	3
155	Phase-number uncertainty from Weyl commutation relations. <i>Annals of Physics</i> , 2017 , 383, 92-100	2.5	
154	Breaking the weak Heisenberg limit. <i>Physical Review A</i> , 2017 , 95,	2.6	5
153	Nonclassicality of coherent states: Entanglement of joint statistics. <i>Physical Review A</i> , 2017 , 96,	2.6	8
152	Mapping of the 2 + 1 q-deformed Dirac oscillator onto the q-deformed Jaynes-Cummings model. <i>Europhysics Letters</i> , 2017 , 120, 44002	1.6	5

151	Nonlinear fiber gyroscope for quantum metrology. <i>Physical Review A</i> , 2016 , 94,	2.6	4
150	Potential barrier mimicking frequent location measurements in quantum Zeno dynamics. <i>Physical Review A</i> , 2016 , 93,	2.6	3
149	Coherence for vectorial waves and majorization. <i>Optics Letters</i> , 2016 , 41, 5190-5193	3	1
148	Majorization of quantum polarization distributions. <i>Physical Review A</i> , 2016 , 94,	2.6	3
147	Entropic measures of joint uncertainty: Effects of lack of majorization. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2016 , 444, 905-913	3.3	13
146	Majorization applied to diffraction. <i>Optics Letters</i> , 2016 , 41, 1624-7	3	5
145	Nonclassical light revealed by the joint statistics of simultaneous measurements. <i>Optics Letters</i> , 2016 , 41, 1789-92	3	7
144	Polarization in Quantum Optics. <i>Progress in Optics</i> , 2016 , 283-331	3.4	10
143	Sub-Poissonian and anti-bunching criteria via majorization of statistics. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2015 , 48, 255302	2	2
142	What dynamics can be expected for mixed states in two-slit experiments?. <i>Annals of Physics</i> , 2015 , 357, 95-107	2.5	8
141	Nonclassicality phase-space functions: more insight with fewer detectors. <i>Physical Review Letters</i> , 2015 , 114, 103602	7.4	16
140	Nonclassical polarization dynamics in classical-like states. <i>Physical Review A</i> , 2015 , 92,	2.6	3
139	Nonlinear Michelson interferometer for improved quantum metrology. <i>Physical Review A</i> , 2015 , 92,	2.6	5
138	Zeno inhibition of polarization rotation in an optically active medium. <i>European Journal of Physics</i> , 2015 , 36, 045001	0.8	3
137	Single-particle interference only when imperfect path detectors click simultaneously. <i>European Journal of Physics</i> , 2015 , 36, 025012	0.8	
136	Quantum Zeno effect for a free-moving particle. <i>Physical Review A</i> , 2014 , 90,	2.6	7
135	Polarization versus photon spin. <i>Optics Express</i> , 2014 , 22, 1569-75	3.3	1
134	Fluorescence in cola drinks and caramel. <i>Physics Teacher</i> , 2014 , 52, 54-54	0.4	7

133	Classical Zeno dynamics in the light emitted by an extended, partially coherent source. <i>Physical Review A</i> , 2013 , 88,	2.6	8
132	Signal detection without finite-energy limits to quantum resolution. <i>Annals of Physics</i> , 2013 , 331, 1-8	2.5	7
131	Alternative measures of uncertainty in quantum metrology: Contradictions and limits. <i>Physical Review A</i> , 2013 , 87,	2.6	11
130	Reconciling quantum trajectories and stationary quantum distributions in single-photon polarization states. <i>Physical Review A</i> , 2013 , 87,	2.6	6
129	SU(2)-invariant depolarization of quantum states of light. <i>Physical Review A</i> , 2013 , 88,	2.6	11
128	Zeno effect in degree of polarization of a single photon or quantum-state purity of a spin-1/2 system. <i>Physical Review A</i> , 2013 , 87,	2.6	2
127	Contradictions between different measures of quantum uncertainty. <i>Physical Review A</i> , 2012 , 86,	2.6	5
126	Sub-Heisenberg estimation of non-random phase shifts. <i>New Journal of Physics</i> , 2012 , 14, 093052	2.9	40
125	Fisher information as a generalized measure of coherence in classical and quantum optics. <i>Optics Express</i> , 2012 , 20, 24686-98	3.3	8
124	From Classical to Quantum Light and Vice Versa 2012 , 483-506		
123	Zeno dynamics in wave-packet diffraction spreading. <i>Physical Review A</i> , 2011 , 84,	2.6	13
122	Independent nonclassical tests for states and measurements in the same experiment. <i>Physica Scripta</i> , 2011 , T143, 014015	2.6	2
121	Effect of fluctuation measures on the uncertainty relations between two observables: Different measures lead to opposite conclusions. <i>Physical Review A</i> , 2011 , 84,	2.6	22
120	Nonclassicality in the statistics of noncommuting observables: Nonclassical states are more compatible than classical states. <i>Physical Review A</i> , 2011 , 84,	2.6	3
119	Nonclassicality in phase-number uncertainty relations. <i>Physical Review A</i> , 2011 , 84,	2.6	4
118	Angular-momentum nonclassicality by breaking classical bounds on statistics. <i>Physical Review A</i> , 2011 , 84,	2.6	6
117	Precision quantum metrology and nonclassicality in linear and nonlinear detection schemes. <i>Physical Review Letters</i> , 2010 , 105, 010403	7.4	76
116	Nonclassicality tests by classical bounds on the statistics of multiple outcomes. <i>Physical Review A</i> , 2010 , 82,	2.6	1

115	Coherence and visibility for vectorial light. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2010 , 27, 1764-9	1.8	11
114	Quantum-limited metrology with nonlinear detection schemes. <i>Journal of Photonics for Energy</i> , 2010 , 018006	1.2	6
113	Nonclassicality in phase by breaking classical bounds on statistics. <i>Physical Review A</i> , 2010 , 82,	2.6	3
112	Coherence versus interferometric resolution. <i>Physical Review A</i> , 2010 , 81,	2.6	2
111	Coherence and the statistics of the phase difference between partially polarized electromagnetic waves. <i>Optics Communications</i> , 2010 , 283, 4435-4439	2	1
110	Nonclassicality of states and measurements by breaking classical bounds on statistics. <i>Physical Review A</i> , 2009 , 79,	2.6	21
109	Ensemble approach to coherence between two scalar harmonic light vibrations and the phase difference. <i>Physical Review A</i> , 2009 , 79,	2.6	3
108	Coherence, polarization, and entanglement for classical light fields. <i>Optics Communications</i> , 2009 , 282, 3665-3670	2	42
107	Ray picture of diffraction gratings. <i>Optics Communications</i> , 2009 , 282, 2009-2015	2	1
106	Maximum likelihood state between measurements. <i>Physical Review A</i> , 2009 , 80,	2.6	2
105	Metrological resolution and minimum uncertainty states in linear and nonlinear signal detection schemes. <i>Physical Review A</i> , 2009 , 80,	2.6	12
104	Modulation of coherence of vectorial electromagnetic waves in the Young interferometer. <i>Optics Letters</i> , 2008 , 33, 1497-9	3	4
103	Irreversible effects of random unitary transformations on coherence properties of partially polarized electromagnetic fields. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2008 , 25, 2749-57	1.8	17
102	ASU(3) Wigner function for three-dimensional systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2008 , 41, 495302	2	12
101	Chirality quantum phase transition in the Dirac oscillator. <i>Physical Review A</i> , 2008 , 77,	2.6	72
100	Nonrelativistic limit in the 2+1 Dirac oscillator: A Ramsey-interferometry effect. <i>Physical Review A</i> , 2008 , 77,	2.6	45
99	Intrinsic metrological resolution as a distance measure and nonclassical light. <i>Physical Review A</i> , 2008 , 77,	2.6	9
98	Practical schemes for the measurement of angular-momentum covariance matrices in quantum optics. <i>Physical Review A</i> , 2008 , 78,	2.6	9

97	Characterization of quantum angular-momentum fluctuations via principal components. <i>Physical Review A</i> , 2008 , 77,	2.6	28
96	Quantum-classical correspondence for visibility, coherence, and relative phase for multidimensional systems. <i>Physical Review A</i> , 2008 , 78,	2.6	10
95	Polarization and coherence for vectorial electromagnetic waves and the ray picture of light propagation. <i>Journal of the European Optical Society-Rapid Publications</i> , 2007 , 2,	2.5	2
94	Polarization distributions and degree of polarization for quantum Gaussian light fields. <i>Optics Communications</i> , 2007 , 273, 173-181	2	30
93	Quantum limits, nonseparable transformations, and nonlinear optics. <i>Physical Review A</i> , 2007 , 76,	2.6	29
92	Polarization ray picture of coherence for vectorial electromagnetic waves. <i>Physical Review A</i> , 2007 , 76,	2.6	8
91	Quantum properties of exponential states. <i>Physical Review A</i> , 2007 , 75,	2.6	10
90	Degree of polarization of type-II unpolarized light. <i>Physical Review A</i> , 2007 , 75,	2.6	16
89	Complementary Huygens principle for geometrical and nongeometrical optics. <i>European Journal of Physics</i> , 2007 , 28, 231-240	0.8	9
88	Maximum visibility in interferometers illuminated by vectorial waves. <i>Optics Letters</i> , 2007 , 32, 2191-3	3	11
87	Degree of coherence for vectorial electromagnetic fields as the distance between correlation matrices. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2007 , 24, 1063-8 ⁸	1.8	59
86	Overall degree of coherence for vectorial electromagnetic fields and the Wigner function. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2007 , 24, 2070-4	1.8	18
85	Paradoxical evolution of the number of photons in the Jaynes-Cummings model. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2007 , 24, 2619	1.7	8
84	Polarization squeezing and nonclassical properties of light. <i>Physical Review A</i> , 2006 , 74,	2.6	57
83	Nonclassical polarization states. <i>Physical Review A</i> , 2006 , 73,	2.6	27
82	Geometric phase in a flat space for electromagnetic scalar waves. <i>Optics Letters</i> , 2006 , 31, 2471-3	3	
81	Gaussian beams and minimum diffraction. <i>Optics Letters</i> , 2006 , 31, 3644-6	3	10
80	Ray picture of polarization and coherence in a Young interferometer. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2006 , 23, 2855-60	1.8	16

79	Spatial-angular Mueller matrices. <i>Optics Communications</i> , 2006 , 263, 141-146	2	13
78	Squeezed coherent states as feasible approximations to phase-optimized states. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2006 , 354, 71-78	2.3	12
77	Negativity, diffraction and interference for nongeometrical waves. <i>Optics Communications</i> , 2006 , 266, 426-432	2	8
76	Scalar Wigner function for vectorial fields and spatial-angular Stokes parameters. <i>Optics Communications</i> , 2005 , 246, 437-443	2	20
75	Properties of spatial-angular Stokes parameters. <i>Optics Communications</i> , 2005 , 251, 243-253	2	15
74	Degree of polarization for three-dimensional fields as a distance between correlation matrices. <i>Optics Communications</i> , 2005 , 253, 10-14	2	57
73	Polarization distribution and degree of polarization for three-dimensional quantum light fields. <i>Physical Review A</i> , 2005 , 71,	2.6	27
72	Quantum polarization distributions via marginals of quadrature distributions. <i>Physical Review A</i> , 2005 , 71,	2.6	18
71	Breaking the Heisenberg limit with inefficient detectors. <i>Physical Review A</i> , 2005 , 72,	2.6	53
70	Quantum polarization for three-dimensional fields via Stokes operators. <i>Physical Review A</i> , 2005 , 71,	2.6	15
69	Reaching quantum limits for phase-shift detection with semiclassical states. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2004 , 6, 1-4		8
68	Optimum quantum states for interferometers with fixed and moving mirrors. <i>Physical Review A</i> , 2004 , 69,	2.6	4
67	Quantum-invariant processes in phase space. <i>Physical Review A</i> , 2004 , 70,	2.6	3
66	Heisenberg limit for displacements with semiclassical states. <i>Physical Review A</i> , 2004 , 69,	2.6	8
65	Operational approach to complementarity and duality relations. <i>Physical Review A</i> , 2004 , 70,	2.6	4
64	Classical and quantum polarization correlations. <i>Physical Review A</i> , 2004 , 69,	2.6	16
63	Nonclassicality in weak measurements. <i>Physical Review A</i> , 2004 , 70,	2.6	41
62	Quantum phase space points for Wigner functions in finite-dimensional spaces. <i>Physical Review A</i> , 2004 , 69,	2.6	10

61	Nonlinear transformations and the Heisenberg limit. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2004 , 329, 8-13	2.3	74
60	Comment on 'Correlative amplitude-operational phase entanglement embodied by the EPR-pair eigenstate ""'. <i>Journal of Physics A</i> , 2003 , 36, 289-291		
59	Polarization correlations in quantum optics. <i>Optics Communications</i> , 2003 , 216, 165-172	2	24
58	Visibility for multi-particle interference. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2003 , 314, 197-202	2.3	12
57	Classical mechanics and the propagation of the discontinuities of the quantum wave function. <i>Physical Review A</i> , 2003 , 67,	2.6	7
56	Zeno and anti-Zeno effects in two-level systems. <i>Physical Review A</i> , 2003 , 67,	2.6	14
55	Phase-space distributions and the classical component of quantum observables. <i>Physical Review A</i> , 2003 , 67,	2.6	5
54	Complementarity and duality relations for finite-dimensional systems. <i>Physical Review A</i> , 2003 , 67,	2.6	24
53	Complementarity for generalized observables. <i>Physical Review Letters</i> , 2002 , 88, 230401	7.4	13
52	Generation of maximally entangled states via dispersive interactions. <i>Physical Review A</i> , 2002 , 65,	2.6	10
51	Zeno and anti-Zeno effects in multimode parametric down-conversion. <i>Physical Review A</i> , 2002 , 66,	2.6	5
50	Visibility for anharmonic fringes. <i>Journal of Physics A</i> , 2002 , 35, 8805-8815		17
49	Phase-shift amplification for precision measurements without nonclassical states. <i>Physical Review A</i> , 2002 , 65,	2.6	25
48	Degree of polarization in quantum optics. <i>Physical Review A</i> , 2002 , 66,	2.6	87
47	Construction of a matter-light interferometer via the Zeno effect. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2001 , 3, 238-241		5
46	Complementarity in multiple beam interference. <i>Journal of Physics A</i> , 2001 , 34, 8597-8600		14
45	Quantum mechanics as a geometric phase: phase-space interferometers. <i>Journal of Physics A</i> , 2001 , 34, 7677-7684		24
44	Equivalence between macroscopic quantum superpositions and maximally entangled states: Application to phase-shift detection. <i>Physical Review A</i> , 2001 , 64,	2.6	28

43	Quantum-state preparation and control via the Zeno effect. <i>Physical Review A</i> , 2001 , 63,	2.6	14
42	Zeno effect in spontaneous decay induced by coupling to an unstable level. <i>Physical Review A</i> , 2001 , 64,	2.6	5
41	Complementarity and certainty relations for two-dimensional systems. <i>Physical Review A</i> , 2001 , 64,	2.6	23
40	Quantum phase difference, phase measurements and stokes operators. <i>Progress in Optics</i> , 2000 , 41, 421-481	3-4	49
39	Unbalanced homodyne detection with a weak local oscillator. <i>Optics Communications</i> , 2000 , 175, 153-161		7
38	An eight-port detector with a local oscillator of finite intensity. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2000 , 2, 526-533		1
37	Quantum dynamics of the relative phase in second-harmonic generation. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 2000 , 2, 33-40		6
36	Quantum tomography of input-output processes. <i>Physical Review A</i> , 2000 , 62,	2.6	6
35	Luis and sánchez-soto reply:. <i>Physical Review Letters</i> , 2000 , 84, 2041	7-4	3
34	Randomization of quantum relative phase in welcher Weg measurements. <i>Journal of Optics B: Quantum and Semiclassical Optics</i> , 1999 , 1, 668-677		9
33	Dynamics of a two-level atom observed via an interaction-free measurement. <i>Physical Review A</i> , 1999 , 60, 56-62	2.6	8
32	Complete Characterization of Arbitrary Quantum Measurement Processes. <i>Physical Review Letters</i> , 1999 , 83, 3573-3576	7-4	73
31	Influence of field dynamics on Rabi oscillations: Beyond the standard semiclassical Jaynes-Cummings model. <i>Journal of Modern Optics</i> , 1999 , 46, 639-655	1.1	3
30	Atom-field resonant interaction without exchange of photons. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1999 , 252, 130-136	2.3	4
29	Measuring quantum input-output processes: phase-space representation of transformations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1999 , 261, 12-16	2.3	10
28	Quantum theory of rotation angles: The problem of angle sum and angle difference. <i>European Physical Journal D</i> , 1998 , 3, 195-200	1.3	10
27	Conditional generation of field states in parametric down-conversion. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998 , 244, 211-216	2.3	12
26	Discrete Wigner function for finite-dimensional systems. <i>Journal of Physics A</i> , 1998 , 31, 1423-1441		49

25	Complementarity Enforced by Random Classical Phase Kicks. <i>Physical Review Letters</i> , 1998 , 81, 4031-4035.	2.4	31
24	Dynamical analysis of seemingly interaction-free measurements. <i>Physical Review A</i> , 1998 , 58, 836-839	2.6	9
23	Determination of atom-field observables via resonant interaction. <i>Physical Review A</i> , 1998 , 57, 3105-3111.	1.6	1
22	Anti-Zeno effect in parametric down-conversion. <i>Physical Review A</i> , 1998 , 57, 781-787	2.6	28
21	Relative phase for a quantum field interacting with a two-level system. <i>Physical Review A</i> , 1997 , 56, 994-1006	1.6	18
20	Quantum atom-field relative phase in the Jaynes-Cummings model. <i>Optics Communications</i> , 1997 , 133, 159-164	2	6
19	Contradirectional propagation and canonical transformations. <i>Quantum and Semiclassical Optics: Journal of the European Optical Society Part B</i> , 1996 , 8, 39-46		18
18	Generalized measurements in eight-port homodyne detection. <i>Quantum and Semiclassical Optics: Journal of the European Optical Society Part B</i> , 1996 , 8, 873-886		15
17	Zeno effect in parametric down-conversion. <i>Physical Review Letters</i> , 1996 , 76, 4340-4343	7.4	48
16	Probability distributions for the phase difference. <i>Physical Review A</i> , 1996 , 53, 495-501	2.6	29
15	Noisy simultaneous measurement of noncommuting observables in eight- and twelve-port homodyne detection. <i>Quantum and Semiclassical Optics: Journal of the European Optical Society Part B</i> , 1996 , 8, 887-907		10
14	SU(2) coherent states in parametric down-conversion. <i>Physical Review A</i> , 1996 , 53, 1886-1893	2.6	28
13	Optimum phase-shift estimation and the quantum description of the phase difference. <i>Physical Review A</i> , 1996 , 54, 4564-4570	2.6	65
12	Reply to "Comment on 'Phase-difference operator Q'". <i>Physical Review A</i> , 1995 , 51, 861-863	2.6	10
11	A quantum description of the beam splitter. <i>Quantum and Semiclassical Optics: Journal of the European Optical Society Part B</i> , 1995 , 7, 153-160		41
10	Phase properties of light propagating in a Kerr medium: Stokes parameters versus Pegg-Barnett predictions. <i>Physical Review A</i> , 1995 , 51, 1634-1643	2.6	21
9	Quantum stokes parameters and phase difference operator. <i>Optics Communications</i> , 1994 , 105, 84-88	2	27
8	Canonical transformations to action and phase-angle variables and phase operators. <i>Physical Review A</i> , 1993 , 48, 752-757	2.6	13

7	Phase and statistical properties of multiphoton states. <i>Journal of the European Optical Society Part B: Quantum Optics</i> , 1993 , 5, 33-41		8
6	Alternative derivation of the Pegg-Barnett phase operator. <i>Physical Review A</i> , 1993 , 47, 1492-1496	2.6	13
5	Phase-difference operator. <i>Physical Review A</i> , 1993 , 48, 4702-4708	2.6	124
4	Multimode quantum analysis of an interferometer with moving mirrors. <i>Physical Review A</i> , 1992 , 45, 8228-8234	2.6	17
3	Breaking the standard quantum limit for interferometric measurements. <i>Optics Communications</i> , 1992 , 89, 140-144	2	14
2	Mode Transformation Properties and Quantum Limits for a Fabry-Perot Interferometer. <i>Journal of Modern Optics</i> , 1991 , 38, 971-985	1.1	9
1	Nonclassical states of light and canonical transformations. <i>Journal of Physics A</i> , 1991 , 24, 2083-2092		15