Miguel A Alonso

List of Publications by Year
in descending order

186	3,140	186265	182427
papers	citations	28 h-index	51 g-index

190	190	190	1673
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Transverse shifts and time delays of spatiotemporal vortex pulses reflected and refracted at a planar interface. Nanophotonics, 2022, 11, 737-744.	6.0	22
2	Transverse spinning of unpolarized light. Nature Photonics, 2021, 15, 156-161.	31.4	82
3	Analytic treatment of nonparaxial full-PoincarÃ© fields: singularity structure and trapping properties. Journal of Optics (United Kingdom), 2021, 23, 024005.	2.2	1
4	A tribute to Marat Soskin. Journal of Optics (United Kingdom), 2021, 23, 050201.	2.2	1
5	Experimental demonstration of superresolution of partially coherent light sources using parity sorting. Optics Express, 2021, 29, 22034.	3.4	27
6	Polarization singularities and MÃ¶bius strips in sound and water-surface waves. Physics of Fluids, 2021, 33, .	4.0	10
7	Experimental demonstration of superresolution of partially coherent light sources using parity sorting: erratum. Optics Express, 2021, 29, 35579.	3.4	0
8	Abstract spaces, mappings and geometry in the study of optical systems. , 2021, , .		1
9	Birefringent Fourier filtering for single molecule coordinate and height super-resolution imaging with dithering and orientation. Nature Communications, 2020, 11, 5307.	12.8	49
10	Shaping caustics into propagation-invariant light. Nature Communications, 2020, 11, 3597.	12.8	62
11	Maximum likelihood estimation in the context of an optical measurement. Progress in Optics, 2020, 65, 231-311.	0.6	3
12	Modal Majorana Sphere and Hidden Symmetries of Structured-Gaussian Beams. Physical Review Letters, 2020, 125, 123903.	7.8	19
13	Platonic Gaussian beams: wave and ray treatment. Optics Letters, 2020, 45, 6759.	3.3	8
14	Validity of the perturbation model for the propagation of MSF structures in 3D. Optics Express, 2020, 28, 20277.	3.4	5
15	Customizing Caustics. Optics and Photonics News, 2020, 31, 48.	0.5	0
16	Single molecule Coordinate and Height super-resolution Imaging with Dithering and Orientation (CHIDO). , 2020, , .		0
17	Ince-Gauss Modes of Aberrated Cavities as Emulators of Many-Body Topological Transitions. , 2020, , .		0
18	Limit on Differential Group Delay Achievable by Space-Time Wave Packets. , 2020, , .		0

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19	Majorana Representation and Hidden Symmetries of Structured-Gaussian Beams. , 2020, , .		0
20	Generalized Gaussian beams in terms of Jones vectors. Journal of Optics (United Kingdom), 2019, 21, 084001.	2.2	21
21	Geometric phases in 2D and 3D polarized fields: geometrical, dynamical, and topological aspects. Reports on Progress in Physics, 2019, 82, 122401.	20.1	74
22	Gaussian mode families from systems of rays. JPhys Photonics, 2019, 1, 025003.	4.6	21
23	Simultaneous Measurement of Multiple Parameters of a Subwavelength Structure Based on the Weak Value Formalism. Physical Review Letters, 2019, 122, 123603.	7.8	19
24	Predictive models for the Strehl ratio of diamond-machined optics. Applied Optics, 2019, 58, 3272.	1.8	8
25	Validity of the perturbation model for the propagation of MSF structure in 2D. Optics Express, 2019, 27, 3390.	3.4	9
26	What is the maximum differential group delay achievable by a space-time wave packet in free space?. Optics Express, 2019, 27, 12443.	3.4	61
27	Effects on the OTF of MSF structures with random variations. Optics Express, 2019, 27, 34665.	3.4	8
28	Optimal birefringence distributions for imaging polarimetry. Optics Express, 2019, 27, 36799.	3.4	12
29	Classical entanglement underpins the invariant propagation of spaceâ€“time wave packets. Optics Letters, 2019, 44, 2645.	3.3	38
30	Shearing interferometry via geometric phase. Optica, 2019, 6, 396.	9.3	33
31	The polarization of nonparaxial fields: description and applications. , 2019, , .		0
32	Maximum Differential Group Delay Achievable by a Space-TimeWave-Packet in Free Space. , 2019, , .		0
33	Tailored Shearing Interferometry Using Geometric Phase.. , 2019, , .		0
34	The Validity of the Perturbation Model for the Propagation of MSF Structures. , 2019, , .		0
35	Telescope windows examined by Wigner function. , 2019, , .		0
36	Study of reflectors for illumination via conformal maps. Optics Letters, 2019, 44, 3809.	3.3	2

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37	Rapidly decaying Fourier-like bases. Optics Express, 2019, 27, 32263.	3.4	2
38	Birefringent distributions tailored for imaging and other applications. , 2018, , .		0
39	Single-shot noninterferometric measurement of the phase transmission matrix in multicore fibers. Optics Letters, 2018, 43, 4493.	3.3	7
40	Lorenz-Mie scattering of focused light via complex focus fields: An analytic treatment. Physical Review A, 2018, 97, .	2.5	8
41	Measuring vector field correlations using diffraction. Optics Express, 2018, 26, 8301.	3.4	8
42	PoincarÃ© sphere representation for spatially varying birefringence. Optics Letters, 2018, 43, 379.	3.3	13
43	Entanglement polygon inequality in qubit systems. New Journal of Physics, 2018, 20, 063012.	2.9	21
44	Measuring Geometric Phase without Interferometry. Physical Review Letters, 2018, 120, 233602.	7.8	26
45	Lorenz-Mie Scattering in Terms of Complex Focus Fields. , 2018, , .		0
46	Geometric Phases in Optics. , 2018, , .		0
47	Measuring Geometric Phase Without Interferometry. , 2018, , .		1
48	Using the pupil difference probability density to understand OTF. , 2018, , .		0
49	Swings and roundabouts: optical PoincarÃ© spheres for polarization and Gaussian beams. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2017, 375, 20150441.	3.4	39
50	The Ultrasound Needle Pulse. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2017, 64, 1045-1049.	3.0	4
51	Birefringent masks that are optimal for generating bottle fields. Optics Express, 2017, 25, 9318.	3.4	9
52	Understanding the effects of groove structures on the MTF. Optics Express, 2017, 25, 18827.	3.4	15
53	Ray-optical PoincarÃ© sphere for structured Gaussian beams. Optica, 2017, 4, 476.	9.3	55
54	Effects of defocus and other quadratic errors on OTF. Optics Letters, 2017, 42, 5254.	3.3	6

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55	Scalar and electromagnetic nonparaxial bases composed as superpositions of simple vortex fields with complex foci. Optics Express, 2017, 25, 14856.	3.4	7
56	Complete confined bases for beam propagation in Cartesian coordinates. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2017, 34, 1697.	1.5	4
57	Optimization of a Birefringent Mask for Generating Optical Bottle Fields. , 2017, , .		0
58	Polynomials of Gaussians and vortex-Gaussian beams as complete, transversely confined bases. Optics Letters, 2017, 42, 2205.	3.3	8
59	MTF as the Fourier Transform of a Pupil-Difference Probability Density. , 2017, , .		0
60	MTF as the Fourier Transform of a Pupil-Difference Probability Density. , 2017, , .		0
61	Confined bases: from paraxial to electromagnetic. , 2017, , .		0
62	Is the Maxwell-Shafer fish eye lens able to form super-resolved images?. , 2016, , .		0
63	Phase-space approach to lensless measurements of optical field correlations. Optics Express, 2016, 24, 16099.	3.4	11
64	Longitudinal iso-phase condition and needle pulses. Optics Express, 2016, 24, 28669.	3.4	86
65	Single-shot polarimetry imaging of multicore fiber. Optics Letters, 2016, 41, 2105.	3.3	37
66	Quantum and classical opticsâ€“emerging links. Physica Scripta, 2016, 91, 063003.	2.5	57
67	Center-of-mass interpretation for bipartite purity analysis of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>N</mml:mi></mml:math>-party entanglement. Physical Review A, 2016, 94, .	2.5	14
68	Strehl ratio as the Fourier transform of a probability density of error differences. Optics Letters, 2016, 41, 3735.	3.3	13
69	Mie scattering of highly focused, scalar fields: an analytic approach. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2016, 33, 1236.	1.5	7
70	Lensless Measurements of Optical Field Correlations. , 2016, , .		0
71	Single-Shot Polarimetry Imaging of Multicore Fibers. , 2016, , .		0
72	Simultaneous Determination of 3D Orientation and 3D Localization in Single Emitter Microscopy Imaging. , 2016, , .		1

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73	Can a Dove prism change the past of a single photon?. Quantum Studies: Mathematics and Foundations, 2015, 2, 255-261.	0.9	25
74	Is the Maxwellâ€“Shafer fish eye lens able to form super-resolved images?. New Journal of Physics, 2015, 17, 073013.	2.9	5
75	Entanglement Constraints in Multi-Qubit Systems. , 2015, , .		1
76	Measuring Spatial Coherence Without Lenses: A Phase-Space Approach. , 2015, , .		0
77	Measuring spatial coherence through the shadow of small obstacles. , 2014, , .		0
78	Weak measurements applied to process monitoring using focused beam scatterometry. , 2014, , .		0
79	Generation of nonparaxial accelerating fields through mirrors II: Three dimensions. Optics Express, 2014, 22, 14738.	3.4	9
80	Generation of nonparaxial accelerating fields through mirrors I: Two dimensions. Optics Express, 2014, 22, 7124.	3.4	9
81	The Connection between Rays and Waves. , 2014, , 457-464.		1
82	Using shadows to measure spatial coherence. Optics Letters, 2014, 39, 4927.	3.3	28
83	Focused beam scatterometry for deep subwavelength metrology. , 2014, , .		8
84	Measurement of spatial coherence through the shadow of small obscurations. Proceedings of SPIE, 2014, , .	0.8	0
85	Analytical techniques for the study of focused beams. Proceedings of SPIE, 2013, , .	0.8	0
86	Ray-based diffraction calculations using stable aggregates of flexible elements. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2013, 30, 1223.	1.5	5
87	Ray transfer matrix for a spiral phase plate. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2013, 30, 2526.	1.5	10
88	Imaging the polarization of a light field. Optics Express, 2013, 21, 4106.	3.4	53
89	Three-dimensional accelerating electromagnetic waves. Optics Express, 2013, 21, 13917.	3.4	49
90	3D Accelerating Electromagnetic Waves. , 2013, , .		0

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91	Measurement of spatial coherence through diffraction from a transparent mask with a phase discontinuity. Optics Letters, 2012, 37, 2724.	3.3	29
92	Coherence vortices in Mie scattered nonparaxial partially coherent beams. Optics Express, 2012, 20, 2858.	3.4	12
93	Imaging with complex ray-optical refractive-index interfaces between complex object and image distances. Optics Letters, 2012, 37, 701.	3.3	6
94	Full PoincarÃ© beams II: partial polarization. Optics Express, 2012, 20, 9357.	3.4	40
95	Spherical fields as nonparaxial accelerating waves. Optics Letters, 2012, 37, 5175.	3.3	50
96	Simple methods for measuring spatial coherence and their relation to the Wigner function. , 2012, , .		0
97	Orthonormal basis for nonparaxial focused fields in two dimensions, and its application to modeling scattering and optical manipulation of objects. American Journal of Physics, 2012, 80, 82-93.	0.7	12
98	Changes in the degree of polarization through a paraxial focus. , 2012, , .		0
99	Generalized Wigner functions in Classical Optics. , 2012, , .		0
100	Measurement of spatial coherence through diffraction from a transparent mask with a phase discontinuity: experimental results. , 2012, , .		0
101	Generalized radiometry model for the propagation of light within anisotropic and chiral media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 791.	1.5	2
102	Ambiguity function and phase-space tomography for nonparaxial fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2011, 28, 897.	1.5	7
103	Wigner functions in optics: describing beams as ray bundles and pulses as particle ensembles. Advances in Optics and Photonics, 2011, 3, 272.	25.5	128
104	Spin-to-orbital angular momentum conversion in focusing, scattering, and imaging systems. Optics Express, 2011, 19, 26132.	3.4	210
105	Paraxial and nonparaxial polynomial beams and the analytic approach to propagation. Optics Letters, 2011, 36, 4452.	3.3	15
106	Generalized phase space representations in classical optics. Proceedings of SPIE, 2011, , .	0.8	0
107	Mie scattering of high numerical aperture fields. , 2011, , .		2
108	The effect of orbital angular momentum and helicity in the uncertainty-type relations between focal spot size and angular spread. Journal of Optics (United Kingdom), 2011, 13, 064016.	2.2	17

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109	Full PoincarÃ© beams. , 2011, , .		0
110	Angular momenta and spin-orbit interaction for nonparaxial beams. Proceedings of SPIE, 2011, , .	0.8	0
111	Angular momentum of light revisited: spin-orbit interactions in free space. , 2011, , .		0
112	Simple models for focused fields. , 2011, , .		0
113	Coherence retrieval by measuring the diffracted field from a binary planar phase mask. , 2011, , .		0
114	Angular momenta and spin-orbit interaction of nonparaxial light in free space. Physical Review A, 2010, 82, .	2.5	232
115	Two methods for modeling the propagation of the coherence and polarization properties of nonparaxial fields. Optics Communications, 2010, 283, 4457-4466.	2.1	53
116	Full PoincarÃ© beams. Optics Express, 2010, 18, 10777.	3.4	383
117	Phase space distributions tailored for dispersive media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2010, 27, 1194.	1.5	4
118	Airy beams: a geometric optics perspective. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2010, 27, 2574.	1.5	42
119	Methods for modeling nonparaxial fields. , 2010, , .		0
120	Diffraction Free Stokes Distributions in a Full PoincarÃ© Beam. , 2010, , .		2
121	Mie Scattering of Arbitrary Focused Fields. , 2010, , .		0
122	Full PoincarÃ© beams. , 2010, , .		0
123	Bases for focused waves in two dimensions. , 2010, , .		0
124	Diffraction of paraxial partially coherent fields by planar obstacles in the Wigner representation. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 1588.	1.5	10
125	Bases for the description of monochromatic, strongly focused, scalar fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 1754.	1.5	20
126	Propagation of nonparaxial partially coherent fields across interfaces using generalized radiometry. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 2012.	1.5	4

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127	Closed-form bases for the description of monochromatic, strongly focused, electromagnetic fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 2211.	1.5	22
128	Free-space asymptotic far-field series. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2009, 26, 2410.	1.5	3
129	The Connection Between Rays and Waves. , 2009, , .		0
130	The cross-spectral density matrix of a planar, electromagnetic stochastic source as a correlation matrix. Optics Communications, 2008, 281, 2393-2396.	2.1	15
131	Ray-based propagation of the cross-spectral density. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2008, 25, 1395.	1.5	8
132	Closed form formula for Mie scattering of nonparaxial analogues of Gaussian beams. Optics Express, 2008, 16, 5926.	3.4	34
133	Localization measures for high-aperture wavefields based on pupil moments. Journal of Optics, 2008, 10, 033001.	1.5	7
134	Diffraction effects in Wigner functions for paraxial and nonparaxial fields. , 2008, , .		0
135	Exact ray-based nonparaxial propagation of coherence and polarization through anisotropic media. , 2008, , .		0
136	Calibration of a reversed-wavefront interferometer for polarization coherence metrology. , 2007, , .		6
137	Monochromatic scalar fields with maximum focal irradiance. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 2057.	1.5	3
138	Propagation of partially coherent fields through planar dielectric boundaries using angle-impact Wigner functions I. Two dimensions. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 2590.	1.5	7
139	Monochromatic electromagnetic fields with maximum focal energy density. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 3115.	1.5	2
140	A ray-based framework for propagating partially coherent field information through optical systems. , 2007, , .		0
141	Propagation of Partially Coherent, Partially Polarized Fields via a Wigner Representation in Direction and Angular Momentum. , 2007, , .		0
142	Fields with Maximum Focal Irradiance. , 2007, , .		0
143	Series of corrections to far-field estimates. , 2007, , .		0
144	Propagation of the electric correlation matrix and the van Cittertâ€“Zernike theorem for random electromagnetic fields. Journal of Modern Optics, 2006, 53, 969-978.	1.3	27

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145	Complete far-field asymptotic series for free fields. Optics Letters, 2006, 31, 3028.	3.3	8
146	Nonparaxial fields with maximum joint spatial-directional localization I Scalar case. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 691.	1.5	13
147	Nonparaxial fields with maximum joint spatial-directional localization II Vectorial case. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 701.	1.5	8
148	Joint spatial-directional localization features of wave fields focused at a complex point. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 933.	1.5	7
149	New basis for rotationally symmetric nonparaxial fields in terms of spherical waves with complex foci. Optics Express, 2006, 14, 6894.	3.4	13
150	Comment on â€œDo evanescent waves really exist in free space?â€• Optics Communications, 2006, 266, 448-449.	2.1	3
151	Wigner functions for non-paraxial fields: Interfaces. , 2006, , .		0
152	Efficient Computation of Rotationally-Symmetric Nonparaxial Fields in Terms of Spherical Waves with Complex Foci. , 2006, , .		0
153	Highly focused spirally polarized beams. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2005, 22, 1420.	1.5	43
154	Nonparaxial Fields with Maximum Joint Spatial-Directional Localization. , 2005, , .		1
155	Exact Ray-Based Representation of the Polarization of Nonparaxial Electromagnetic Fields. , 2005, , .		0
156	Stable aggregates of flexible element link rays and waves. , 2004, 5185, 125.		1
157	Wigner functions for nonparaxial, arbitrarily polarized electromagnetic wave fields in free space. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 2233.	1.5	36
158	Ray-based diffraction calculations using SAFE. , 2004, , .		0
159	Angle-impact representations for wave fields in convex cavities. Optics Communications, 2003, 224, 159-173.	2.1	0
160	Uncertainty relations and minimum uncertainty states for the discrete Fourier transform and the Fourier series. Journal of Physics A, 2003, 36, 7027-7047.	1.6	15
161	New wave-based radiance analogs and their applications. , 2003, , .		0
162	Measures of spread for periodic distributions and the associated uncertainty relations. American Journal of Physics, 2001, 69, 340-347.	0.7	27

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163	Radiometry and Wide-Angle Wave Fields. Optics and Photonics News, 2001, 12, 52.	0.5	3
164	Using Rays Better. Optics and Photonics News, 2001, 12, 54.	0.5	2
165	Radiometry and wide-angle wave fields I Coherent fields in two dimensions. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2001, 18, 902.	1.5	28
166	Radiometry and wide-angle wave fields II Coherent fields in three dimensions. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2001, 18, 910.	1.5	24
167	Using rays better I Theory for smoothly varying media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2001, 18, 1132.	1.5	27
168	Using rays better II Ray families to match prescribed wave fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2001, 18, 1146.	1.5	23
169	Using rays better III Error estimates and illustrative applications in smooth media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2001, 18, 1357.	1.5	17
170	Radiometry and wide-angle wave fields III: partial coherence. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2001, 18, 2502.	1.5	34
171	Consistent analogs of the Fourier uncertainty relation. American Journal of Physics, 2001, 69, 1091-1095.	0.7	12
172	Measurement of Helmholtz wave fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2000, 17, 1256.	1.5	11
173	Phase-space distributions for high-frequency fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2000, 17, 2288.	1.5	9
174	Uncertainty products for nonparaxial wave fields. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2000, 17, 2391.	1.5	23
175	New approach to semiclassical analysis in mechanics. Journal of Mathematical Physics, 1999, 40, 1699-1718.	1.1	12
176	Beyond the Fresnel approximation for focused waves. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1999, 16, 1958.	1.5	8
177	Asymptotic estimation of the optical wave propagator I Derivation of a new method. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1998, 15, 1329.	1.5	10
178	Asymptotic estimation of the optical wave propagator II Relative validity. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1998, 15, 1341.	1.5	7
179	What on earth is a ray and how can we use them best?. , 1998, 3482, 22.		5
180	Semigeometrical estimation of Green's functions and wave propagators in optics. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1997, 14, 1076.	1.5	7

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181	Uniform asymptotic expansions for wave propagators via fractional transformations. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1997, 14, 1279.	1.5	7
182	<title>Fractional Legendre transformation and its use in Hamilton's formalism</title>. , 1996, , .		1
183	Generalization of Hamiltonâ€™s formalism for geometrical optics. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 1995, 12, 2744.	1.5	7
184	Fractional Legendre transformation. Journal of Physics A, 1995, 28, 5509-5527.	1.6	5
185	Optimal pulses for arbitrary dispersive media. Journal of the European Optical Society-Rapid Publications, 0, 6, .	1.9	2
186	Spin-orbit interactions of light in isotropic media. , 0, , 174-245.		6