

Alessandro Ciattoni

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/3179072/publications.pdf>

Version: 2024-02-01

121
papers

2,804
citations

126907

33
h-index

197818

49
g-index

123
all docs

123
docs citations

123
times ranked

1502
citing authors

#	ARTICLE	IF	CITATIONS
1	Optical propagation in uniaxial crystals orthogonal to the optical axis: paraxial theory and beyond. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 2163.	1.5	148
2	Vectorial theory of propagation in uniaxially anisotropic media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2001, 18, 1656.	1.5	141
3	Singularity-driven second- and third-harmonic generation at μ -near-zero crossing points. Physical Review A, 2011, 84,	2.5	112
4	Circularly polarized beams and vortex generation in uniaxial media. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 163.	1.5	111
5	Extreme nonlinear electrodynamic in metamaterials with very small linear dielectric permittivity. Physical Review A, 2010, 81, .	2.5	94
6	Propagation of cylindrically symmetric fields in uniaxial crystals. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2002, 19, 792.	1.5	88
7	Vectorial analytical description of propagation of a highly nonparaxial beam. Optics Communications, 2002, 202, 17-20.	2.1	83
8	Laguerre-Gauss and Bessel-Gauss beams in uniaxial crystals. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2002, 19, 1680.	1.5	82
9	Optical parametric amplification by monolayer transition metal dichalcogenides. Nature Photonics, 2021, 15, 6-10.	31.4	74
10	Angular momentum dynamics of a paraxial beam in a uniaxial crystal. Physical Review E, 2003, 67, 036618.	2.1	67
11	Vectorial free-space optical propagation: a simple approach for generating all-order nonparaxial corrections. Optics Communications, 2000, 177, 9-13.	2.1	58
12	Vectorial nonparaxial propagation equation in the presence of a tensorial refractive-index perturbation. Journal of the Optical Society of America B: Optical Physics, 2000, 17, 809.	2.1	56
13	Azimuthally Polarized Spatial Dark Solitons: Exact Solutions of Maxwell's Equations in a Kerr Medium. Physical Review Letters, 2005, 94, 073902.	7.8	55
14	Enhanced nonlinear effects in pulse propagation through ϵ -near-zero media. Laser and Photonics Reviews, 2016, 10, 517-525.	8.7	53
15	Terahertz active spatial filtering through optically tunable hyperbolic metamaterials. Optics Letters, 2012, 37, 3345.	3.3	51
16	Nonlocal homogenization theory in metamaterials: Effective electromagnetic spatial dispersion and artificial chirality. Physical Review B, 2015, 91, .	3.2	50
17	One-Dimensional Chirality: Strong Optical Activity in Epsilon-Near-Zero Metamaterials. Physical Review Letters, 2015, 115, 057401.	7.8	50
18	Nondiffracting beams in uniaxial media propagating orthogonally to the optical axis. Optics Communications, 2003, 224, 175-183.	2.1	49

#	ARTICLE	IF	CITATIONS
19	Transmissivity directional hysteresis of a nonlinear metamaterial slab with very small linear permittivity. <i>Optics Letters</i> , 2010, 35, 2130.	3.3	49
20	Anisotropic charge displacement supporting isolated photorefractive optical needles. <i>Optics Letters</i> , 2001, 26, 908.	3.3	48
21	Ordinary and extraordinary beams characterization in uniaxially anisotropic crystals. <i>Optics Communications</i> , 2001, 195, 55-61.	2.1	48
22	Efficient second-harmonic generation in micrometer-thick slabs with indefinite permittivity. <i>Physical Review A</i> , 2012, 85, .	2.5	47
23	Hermite-Gauss beams in uniaxially anisotropic crystals. <i>IEEE Journal of Quantum Electronics</i> , 2001, 37, 1517-1524.	1.9	46
24	Two-peaked and flat-top perfect bright solitons in nonlinear metamaterials with epsilon near zero. <i>Physical Review A</i> , 2011, 83, .	2.5	40
25	Thermally induced phase transition in crystalline lead phthalocyanine films investigated by XRD and atomic force microscopy. <i>Applied Surface Science</i> , 1998, 136, 81-86.	6.1	39
26	Paraxial propagation along the optical axis of a uniaxial medium. <i>Physical Review E</i> , 2002, 66, 036614.	2.1	39
27	Optically induced metal-to-dielectric transition in Epsilon-Near-Zero metamaterials. <i>Scientific Reports</i> , 2016, 6, 27700.	3.3	39
28	Efficient Vortex Generation in Subwavelength Epsilon-Near-Zero Slabs. <i>Physical Review Letters</i> , 2017, 118, 104301.	7.8	39
29	Polariton excitation in epsilon-near-zero slabs: Transient trapping of slow light. <i>Physical Review A</i> , 2013, 87, .	2.5	38
30	Radially and azimuthally polarized vortices in uniaxial crystals. <i>Optics Communications</i> , 2003, 220, 33-40.	2.1	37
31	Gain assisted nanocomposite multilayers with near zero permittivity modulus at visible frequencies. <i>Applied Physics Letters</i> , 2011, 99, .	3.3	36
32	Anisotropic beam spreading in uniaxial crystals. <i>Optics Communications</i> , 2004, 231, 79-92.	2.1	34
33	Miniaturization and embedding of soliton-based electro-optically addressable photonic arrays. <i>Applied Physics Letters</i> , 2004, 85, 2679-2681.	3.3	33
34	Nonparaxial description of reflection and transmission at the interface between an isotropic medium and a uniaxial crystal. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2002, 19, 1422.	1.5	31
35	Nonparaxial dark solitons in optical Kerr media. <i>Optics Letters</i> , 2005, 30, 516.	3.3	31
36	All-optical active plasmonic devices with memory and power-switching functionalities based on μ -near-zero nonlinear metamaterials. <i>Physical Review A</i> , 2011, 83, .	2.5	30

#	ARTICLE	IF	CITATIONS
37	Perfect optical solitons: spatial Kerr solitons as exact solutions of Maxwell's equations. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 1384.	2.1	29
38	\$\$ epsilon \$\$ -Near-zero materials in the near-infrared. Applied Physics B: Lasers and Optics, 2013, 110, 23-26.	2.2	25
39	Exact axial electromagnetic field for vectorial Gaussian and flattened Gaussian boundary distributions. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2002, 19, 1207.	1.5	24
40	Vector electromagnetic X waves. Physical Review E, 2004, 69, 036608.	2.1	24
41	Approach to space-charge field description in photorefractive crystals. Journal of the Optical Society of America B: Optical Physics, 1998, 15, 1469.	2.1	23
42	Pairing space-charge field conditions with self-guiding for the attainment of circular symmetry in photorefractive solitons. Applied Physics Letters, 2004, 85, 5499-5501.	3.3	23
43	Role of charge saturation in photorefractive dynamics of micron-sized beams and departure from soliton behavior. Physical Review E, 2006, 73, 017601.	2.1	23
44	Quantum electromagnetic X waves. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 2195.	2.1	23
45	Wiggling and bending-free micron-sized solitons in periodically biased photorefractives. Optics Express, 2008, 16, 10867.	3.4	23
46	Photo-generated metamaterials induce modulation of CW terahertz quantum cascade lasers. Scientific Reports, 2015, 5, 16207.	3.3	23
47	Stokes parameters of a Gaussian beam in a calcite crystal. Optics Express, 2002, 10, 699.	3.4	22
48	Effective Medium Theory for Kapitza Stratified Media: Diffractionless Propagation. Physical Review Letters, 2013, 110, 143901.	7.8	22
49	Polarization and energy dynamics in ultrafocused optical Kerr propagation. Optics Letters, 2002, 27, 734.	3.3	19
50	Terahertz optically tunable dielectric metamaterials without microfabrication. Optics Letters, 2013, 38, 1307.	3.3	18
51	Design Optimisation of Plasmonic Metasurfaces for Mid-Infrared High-Sensitivity Chemical Sensing. Plasmonics, 2017, 12, 293-298.	3.4	17
52	Energy exchange between the Cartesian components of a paraxial beam in a uniaxial crystal. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2002, 19, 1894.	1.5	16
53	Transverse power flow reversing of guided waves in extreme nonlinear metamaterials. Optics Express, 2010, 18, 11911.	3.4	16
54	Ultrathin optical switch based on a liquid crystal/silver nanoparticles mixture as a tunable indefinite medium. Optical Materials Express, 2011, 1, 732.	3.0	15

#	ARTICLE	IF	CITATIONS
55	On the limits of validity of nonparaxial propagation equations in Kerr media. Optics Express, 2006, 14, 5517.	3.4	14
56	Electro-activation and electro-morphing of photorefractive funnel waveguides. Optics Express, 2009, 17, 22659.	3.4	12
57	Electromagnetic chirality induced by graphene inclusions in multilayered metamaterials. Photonics Research, 2014, 2, 121.	7.0	12
58	Counterpropagating Spatial Solitons in Reflection Gratings with a Longitudinally Modulated Kerr Nonlinearity. Physical Review Letters, 2007, 98, 043901.	7.8	11
59	Reconfigurable photoinduced metamaterials in the microwave regime. Journal Physics D: Applied Physics, 2015, 48, 135103.	2.8	11
60	Counterpropagating spatial Kerr soliton in reflection gratings. Optics Letters, 2006, 31, 1507.	3.3	10
61	Beam shaping and effective guiding in the bulk of photorefractive crystals through linear beam dynamics. Applied Physics Letters, 2007, 91, 081105.	3.3	10
62	Graphene-nonlinearity unleashing at lasing threshold in graphene-assisted cavities. Physical Review A, 2015, 91, .	2.5	10
63	Plasmon-Enhanced Spin-Orbit Interaction of Light in Graphene. Laser and Photonics Reviews, 2018, 12, 1800140.	8.7	10
64	NONLINEAR OPTICAL PROPAGATION PHENOMENA IN NEAR-TRANSITION CENTROSYMMETRIC PHOTOREFRACTIVE CRYSTALS. Journal of Nonlinear Optical Physics and Materials, 1999, 08, 1-20.	1.8	9
65	One-dimensional nondiffracting pulses. Physical Review E, 2004, 69, 056611.	2.1	8
66	Photorefractive solitons embedded in gratings in centrosymmetric crystals. Optics Letters, 2006, 31, 1690.	3.3	8
67	Multistability at arbitrary low optical intensities in a metal-dielectric layered structure. Optics Express, 2011, 19, 283.	3.4	8
68	All-optical modulation in wavelength-sized epsilon-near-zero media. Optics Letters, 2016, 41, 3102.	3.3	8
69	Enhancement and interplay of first- and second-order spatial dispersion in metamaterials with moderate-permittivity inclusions. Physical Review B, 2017, 96, .	3.2	8
70	Enhanced asymmetric transmission in hyperbolic epsilon-near-zero slabs. Journal of Optics (United Kingdom), 2012, 15, 022202.	2.2	8
71	Diffraction by elliptic and circular apertures in uniaxially anisotropic crystals: theory and experiment. Journal of Optics, 2002, 4, 424-432.	1.5	7
72	Universal space-time properties of X waves. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 451.	1.5	7

#	ARTICLE	IF	CITATIONS
73	Miniaturized bending-free solitons by restoring symmetry in periodically biased photorefractives. <i>Optics Letters</i> , 2008, 33, 2110.	3.3	7
74	Photorefractive solitons of arbitrary and controllable linear polarization determined by the local bias field. <i>Optics Express</i> , 2008, 16, 12002.	3.4	7
75	Conformable optical coatings with epsilon near zero response. <i>APL Photonics</i> , 2019, 4, .	5.7	7
76	Electric Control of Spin-Orbit Coupling in Graphene-Based Nanostructures with Broken Rotational Symmetry. <i>Laser and Photonics Reviews</i> , 2020, 14, 2000214.	8.7	7
77	Collision and fusion of counterpropagating micrometer-sized optical beams in periodically biased photorefractive crystals. <i>Optics Letters</i> , 2009, 34, 911.	3.3	6
78	Bertrand's paradox: a physical way out along the lines of Buffon's needle throwing experiment. <i>European Journal of Physics</i> , 2011, 32, 819-825.	0.6	6
79	Kapitza homogenization of deep gratings for designing dielectric metamaterials. <i>Optics Letters</i> , 2013, 38, 3658.	3.3	6
80	Multipolar terahertz absorption spectroscopy ignited by graphene plasmons. <i>Communications Physics</i> , 2019, 2, .	5.3	6
81	Propagation-invariant beams in uniaxial crystals. <i>Journal of Modern Optics</i> , 2002, 49, 2267-2272.	1.3	5
82	Linear writing of waveguides in bulk photorefractive crystals through a two-step polarization sequence. <i>Journal of Optics</i> , 2008, 10, 064005.	1.5	5
83	Separating polarization components through the electro-optic read-out of photorefractive solitons. <i>Optics Express</i> , 2007, 15, 14283.	3.4	4
84	Counterpropagating reflection grating dark solitons in Kerr media. <i>Physical Review A</i> , 2007, 75, .	2.5	4
85	Harnessing quadratic optical response of two-dimensional materials through active microcavities. <i>Physical Review A</i> , 2014, 90, .	2.5	4
86	Extrinsic electromagnetic chirality in all-photodesigned one-dimensional terahertz metamaterials. <i>Physical Review B</i> , 2016, 93, .	3.2	4
87	Out-of-equilibrium electron dynamics of silver driven by ultrafast electromagnetic fields – a novel hydrodynamical approach. <i>Faraday Discussions</i> , 2019, 214, 235-243.	3.2	4
88	Electromagnetic nondiffracting pulses in lossless isotropic plasmalike media. <i>Physical Review E</i> , 2004, 70, 035601.	2.1	3
89	Reflection solitons supported by competing nonlinear gratings. <i>Physical Review A</i> , 2008, 78, .	2.5	3
90	Highly nonparaxial (1+1)-D subwavelength optical fields. <i>Optics Express</i> , 2010, 18, 7617.	3.4	3

#	ARTICLE	IF	CITATIONS
91	Optical hollow-core waves in nonlinear Epsilon-Near-Zero metamaterials. Optics Communications, 2011, 284, 2573-2575.	2.1	3
92	A Simple First-Principles Homogenization Theory for Chiral Metamaterials. Photonics, 2015, 2, 365-374.	2.0	3
93	Electric Directional Steering of Cathodoluminescence From Graphene-Based Hybrid Nanostructures. Physical Review Applied, 2021, 15, .	3.8	3
94	Mirror Optical Activity: Nanophotonic Chiral Sensing from Parity Indefiniteness. Physical Review Applied, 2021, 16, .	3.8	3
95	Wiggling and bending-free micron-sized solitons in periodically biased photorefractives. Optics Express, 2008, 16, 16867.	3.4	3
96	Pinning-induced round solitons with symmetric nonlinear response for electroactivated optical circuitry. Applied Physics Letters, 2006, 89, 121123.	3.3	2
97	Optical resonances and angular filtering functionality of subwavelength hyperbolic etalons. Optik, 2013, 124, 3623-3626.	2.9	2
98	Dynamically reconfigurable metamaterials for shielding and absorption in the GHz range. , 2015, , .		2
99	Separable metamaterials: analytical ab-initio homogenization and chirality. Journal of Optics (United Tj ETQq1 1 0.784314 rgBT /Over	2.2	2
100	Linear and nonlinear optical behavior of epsilon near zero metamaterials: opportunities and challenges. Proceedings of SPIE, 2017, , .	0.8	2
101	A one- and two-dimensional nonlinear pulse interaction. Physical Review E, 2000, 61, R4714-R4717.	2.1	1
102	Transverse and soliton instabilities due to counterpropagation through a reflection grating in Kerr media. Optics Letters, 2006, 31, 2900.	3.3	1
103	Counterpropagating nondiffracting beams through reflection gratings. Optics Express, 2007, 15, 14163.	3.4	1
104	Light-induced dielectric structures and enhanced self-focusing in critical photorefractive ferroelectrics. Optics Letters, 2009, 34, 3295.	3.3	1
105	Evanescent-Wave Filtering in Images Using Remote Terahertz Structured Illumination. Physical Review Applied, 2017, 8, .	3.8	1
106	Asymmetric Scattering of Mirror-Symmetric Radiation from Nanostructures Coupled to Chiral Films. Physical Review Applied, 2022, 17, .	3.8	1
107	Distortion correction by phase conjugation of nonparaxial vectorial beams: a general proof. Optics Letters, 2001, 26, 28.	3.3	0
108	Laser beam characterization in uniaxial crystals. , 2003, 4932, 677.		0

#	ARTICLE	IF	CITATIONS
109	Paraxial propagation in uniaxial crystals. , 2003, , .		0
110	Absence of convection in a perfect gas. American Journal of Physics, 2004, 72, 1517-1520.	0.7	0
111	OPTICAL BEAMS IN UNIAXIAL CRYSTALS. , 2004, , .		0
112	Solitons. Optics and Photonics News, 2005, 16, 43.	0.5	0
113	Miniaturization and embedding of soliton-based electro-optically addressable photonic arrays. , 2006, , .		0
114	Linear writing of waveguides in bulk photorefractives. , 2007, , .		0
115	Kapitza dielectric metamaterials. , 2013, , .		0
116	Effective medium theory for Kapitza stratified media. , 2013, , .		0
117	Artificial electromagnetic chirality in multi-layered metamaterial structures. , 2014, , .		0
118	Optimisation of the Detection Sensitivity of Plasmonic Nanoantenna Based Sensors for Mid-infrared Spectroscopy. Procedia Engineering, 2015, 120, 1179-1182.	1.2	0
119	1D chirality in all-photodesigned THz metamaterials. , 2017, , .		0
120	Extreme Nonlinear Optical Regime Supported by Metamaterials: Beam Transverse Power Flow Reversing. , 2010, , .		0
121	Efficient vortex generation in sub-wavelength near-zero index slabs. , 2018, , .		0