Alessandro Ciattoni

List of Publications by Year
in descending order

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	Asymmetric Scattering of Mirror-Symmetric Radiation from Nanostructures Coupled to Chiral Films. Physical Review Applied, 2022, 17, .	3.8	1
2	Optical parametric amplification by monolayer transition metal dichalcogenides. Nature Photonics, 2021, 15, 6-10.	31.4	74
3	Electric Directional Steering of Cathodoluminescence From Graphene-Based Hybrid Nanostructures. Physical Review Applied, 2021, 15, .	3.8	3
4	Mirror Optical Activity: Nanophotonic Chiral Sensing from Parity Indefiniteness. Physical Review Applied, 2021, 16, .	3.8	3
5	Electric Control of Spinâ€Orbit Coupling in Grapheneâ€Based Nanostructures with Broken Rotational Symmetry. Laser and Photonics Reviews, 2020, 14, 2000214.	8.7	7
6	Multipolar terahertz absorption spectroscopy ignited by graphene plasmons. Communications Physics, 2019, 2, .	5.3	6
7	Out-of-equilibrium electron dynamics of silver driven by ultrafast electromagnetic fields â€“ a novel hydrodynamical approach. Faraday Discussions, 2019, 214, 235-243.	3.2	4
8	Conformable optical coatings with epsilon near zero response. APL Photonics, 2019, 4, .	5.7	7
9	Plasmonâ€Enhanced Spinâ€“Orbit Interaction of Light in Graphene. Laser and Photonics Reviews, 2018, 12, 1800140.	8.7	10
10	Enhanced asymmetric transmission in hyperbolic epsilon-near-zero slabs. Journal of Optics (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	2.2	8
11	Efficient vortex generation in sub-wavelength near-zero index slabs. , 2018, , .		0
12	Design Optimisation of Plasmonic Metasurfaces for Mid-Infrared High-Sensitivity Chemical Sensing. Plasmonics, 2017, 12, 293-298.	3.4	17
13	Linear and nonlinear optical behavior of epsilon near zero metamaterials: opportunities and challenges. Proceedings of SPIE, 2017, , .	0.8	2
14	Efficient Vortex Generation in Subwavelength Epsilon-Near-Zero Slabs. Physical Review Letters, 2017, 118, 104301.	7.8	39
15	Enhancement and interplay of first- and second-order spatial dispersion in metamaterials with moderate-permittivity inclusions. Physical Review B, 2017, 96, .	3.2	8
16	Evanescent-Wave Filtering in Images Using Remote Terahertz Structured Illumination. Physical Review Applied, 2017, 8, .	3.8	1
17	1D chirality in all-photodesigned THz metamaterials. , 2017, , .		0
18	Enhanced nonlinear effects in pulse propagation through epsilonâ€nearâ€zero media. Laser and Photonics Reviews, 2016, 10, 517-525.	8.7	53

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19	Optically induced metal-to-dielectric transition in Epsilon-Near-Zero metamaterials. Scientific Reports, 2016, 6, 27700.	3.3	39
20	Extrinsic electromagnetic chirality in all-photodesigned one-dimensional terahertz metamaterials. Physical Review B, 2016, 93, .	3.2	4
21	All-optical modulation in wavelength-sized epsilon-near-zero media. Optics Letters, 2016, 41, 3102.	3.3	8
22	Separable metamaterials: analytical ab-initio homogenization and chirality. Journal of Optics (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	2.2	2
23	Graphene-nonlinearity unleashing at lasing threshold in graphene-assisted cavities. Physical Review A, 2015, 91, .	2.5	10
24	Nonlocal homogenization theory in metamaterials: Effective electromagnetic spatial dispersion and artificial chirality. Physical Review B, 2015, 91, .	3.2	50
25	Photo-generated metamaterials induce modulation of CW terahertz quantum cascade lasers. Scientific Reports, 2015, 5, 16207.	3.3	23
26	A Simple First-Principles Homogenization Theory for Chiral Metamaterials. Photonics, 2015, 2, 365-374.	2.0	3
27	Reconfigurable photoinduced metamaterials in the microwave regime. Journal Physics D: Applied Physics, 2015, 48, 135103.	2.8	11
28	Optimisation of the Detection Sensitivity of Plasmonic Nanoantenna Based Sensors for Mid-infrared Spectroscopy. Procedia Engineering, 2015, 120, 1179-1182.	1.2	0
29	One-Dimensional Chirality: Strong Optical Activity in Epsilon-Near-Zero Metamaterials. Physical Review Letters, 2015, 115, 057401.	7.8	50
30	Dynamically reconfigurable metamaterials for shielding and absorption in the GHz range. , 2015, , .		2
31	Harnessing quadratic optical response of two-dimensional materials through active microcavities. Physical Review A, 2014, 90, .	2.5	4
32	Artificial electromagnetic chirality in multi-layered metamaterial structures. , 2014, , .		0
33	Electromagnetic chirality induced by graphene inclusions in multilayered metamaterials. Photonics Research, 2014, 2, 121.	7.0	12
34	$$\|epsilon\|$$ -Near-zero materials in the near-infrared. Applied Physics B: Lasers and Optics, 2013, 110, 23-26.	2.2	25
35	Kapitza dielectric metamaterials. , 2013, , .		0
36	Effective Medium Theory for Kapitza Stratified Media: Diffractionless Propagation. Physical Review Letters, 2013, 110, 143901.	7.8	22

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37	Optical resonances and angular filtering functionality of subwavelength hyperbolic etalons. Optik, 2013, 124, 3623-3626.	2.9	2
38	Terahertz optically tunable dielectric metamaterials without microfabrication. Optics Letters, 2013, 38, 1307.	3.3	18
39	Kapitza homogenization of deep gratings for designing dielectric metamaterials. Optics Letters, 2013, 38, 3658.	3.3	6
40	Polariton excitation in epsilon-near-zero slabs: Transient trapping of slow light. Physical Review A, 2013, 87, .	2.5	38
41	Effective medium theory for Kapitza stratified media. , 2013, , .		0
42	Terahertz active spatial filtering through optically tunable hyperbolic metamaterials. Optics Letters, 2012, 37, 3345.	3.3	51
43	Efficient second-harmonic generation in micrometer-thick slabs with indefinite permittivity. Physical Review A, 2012, 85, .	2.5	47
44	All-optical active plasmonic devices with memory and power-switching functionalities based onÎµ-near-zero nonlinear metamaterials. Physical Review A, 2011, 83, .	2.5	30
45	Multistability at arbitrary low optical intensities in a metal-dielectric layered structure. Optics Express, 2011, 19, 283.	3.4	8
46	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
47	Optical hollow-core waves in nonlinear Epsilon-Near-Zero metamaterials. Optics Communications, 2011, 284, 2573-2575.	2.1	3
48	Singularity-driven second- and third-harmonic generation at<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Îµ</mml:mi></mml:math>-near-zero crossing points. Physical Review A, 2011, 84, .	2.5	112
49	Two-peaked and flat-top perfect bright solitons in nonlinear metamaterials with epsilon near zero. Physical Review A, 2011, 83, .	2.5	40
50	Gain assisted nanocomposite multilayers with near zero permittivity modulus at visible frequencies. Applied Physics Letters, 2011, 99, .	3.3	36
51	Bertrand's paradox: a physical way out along the lines of Buffon's needle throwing experiment. European Journal of Physics, 2011, 32, 819-825.	0.6	6
52	Highly nonparaxial (1+1)-D subwavelength optical fields. Optics Express, 2010, 18, 7617.	3.4	3
53	Transverse power flow reversing of guided waves in extreme nonlinear metamaterials. Optics Express, 2010, 18, 11911.	3.4	16
54	Transmissivity directional hysteresis of a nonlinear metamaterial slab with very small linear permittivity. Optics Letters, 2010, 35, 2130.	3.3	49

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55	Extreme nonlinear electrodynamics in metamaterials with very small linear dielectric permittivity. Physical Review A, 2010, 81, .	2.5	94
56	Extreme Nonlinear Optical Regime Supported by Metamaterials: Beam Transverse Power Flow Reversing. , 2010, , .		0
57	Collision and fusion of counterpropagating micrometer-sized optical beams in periodically biased photorefractive crystals. Optics Letters, 2009, 34, 911.	3.3	6
58	Light-induced dielectric structures and enhanced self-focusing in critical photorefractive ferroelectrics. Optics Letters, 2009, 34, 3295.	3.3	1
59	Electro-activation and electro-morphing of photorefractive funnel waveguides. Optics Express, 2009, 17, 22659.	3.4	12
60	Miniaturized bending-free solitons by restoring symmetry in periodically biased photorefractives. Optics Letters, 2008, 33, 2110.	3.3	7
61	Wiggling and bending-free micron-sized solitons in periodically biased photorefractives. Optics Express, 2008, 16, 10867.	3.4	23
62	Photorefractive solitons of arbitrary and controllable linear polarization determined by the local bias field. Optics Express, 2008, 16, 12002.	3.4	7
63	Linear writing of waveguides in bulk photorefractive crystals through a two-step polarization sequence. Journal of Optics, 2008, 10, 064005.	1.5	5
64	Reflection solitons supported by competing nonlinear gratings. Physical Review A, 2008, 78, .	2.5	3
65	Wiggling and bending-free micron-sized solitons in periodically biased photorefractives. Optics Express, 2008, 16, 16867.	3.4	3
66	Linear writing of waveguides in bulk photorefractives. , 2007, , .		0
67	Counterpropagating Spatial Solitons in Reflection Gratings with a Longitudinally Modulated Kerr Nonlinearity. Physical Review Letters, 2007, 98, 043901.	7.8	11
68	Quantum electromagnetic X waves. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 2195.	2.1	23
69	Counterpropagating nondiffracting beams through reflection gratings. Optics Express, 2007, 15, 14163.	3.4	1
70	Separating polarization components through the electro-optic read-out of photorefractive solitons. Optics Express, 2007, 15, 14283.	3.4	4
71	Counterpropagating reflection grating dark solitons in Kerr media. Physical Review A, 2007, 75, .	2.5	4
72	Beam shaping and effective guiding in the bulk of photorefractive crystals through linear beam dynamics. Applied Physics Letters, 2007, 91, 081105.	3.3	10

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73	Counterpropagating spatial Kerr soliton in reflection gratings. Optics Letters, 2006, 31, 1507.	3.3	10
74	Photorefractive solitons embedded in gratings in centrosymmetric crystals. Optics Letters, 2006, 31, 1690.	3.3	8
75	Transverse and soliton instabilities due to counterpropagation through a reflection grating in Kerr media. Optics Letters, 2006, 31, 2900.	3.3	1
76	On the limits of validity of nonparaxial propagation equations in Kerr media. Optics Express, 2006, 14, 5517.	3.4	14
77	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
78	Pinning-induced round solitons with symmetric nonlinear response for electroactivated optical circuitry. Applied Physics Letters, 2006, 89, 121123.	3.3	2
79	Miniaturization and embedding of soliton-based electro-optically addressable photonic arrays. , 2006, , .		0
80	Azimuthally Polarized Spatial Dark Solitons: Exact Solutions of Maxwell's Equations in a Kerr Medium. Physical Review Letters, 2005, 94, 073902.	7.8	55
81	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
82	Nonparaxial dark solitons in optical Kerr media. Optics Letters, 2005, 30, 516.	3.3	31
83	Solitons. Optics and Photonics News, 2005, 16, 43.	0.5	0
84	Vector electromagneticXwaves. Physical Review E, 2004, 69, 036608.	2.1	24
85	Miniaturization and embedding of soliton-based electro-optically addressable photonic arrays. Applied Physics Letters, 2004, 85, 2679-2681.	3.3	33
86	Electromagnetic nondiffracting pulses in lossless isotropic plasmalike media. Physical Review E, 2004, 70, 035601.	2.1	3
87	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
88	One-dimensional nondiffracting pulses. Physical Review E, 2004, 69, 056611.	2.1	8
89	Anisotropic beam spreading in uniaxial crystals. Optics Communications, 2004, 231, 79-92.	2.1	34
90	Absence of convection in a perfect gas. American Journal of Physics, 2004, 72, 1517-1520.	0.7	0

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91	Universal spaceâ€“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
92	OPTICAL BEAMS IN UNIAXIAL CRYSTALS. , 2004, , .		0
93	Angular momentum dynamics of a paraxial beam in a uniaxial crystal. Physical Review E, 2003, 67, 036618.	2.1	67
94	Radially and azimuthally polarized vortices in uniaxial crystals. Optics Communications, 2003, 220, 33-40.	2.1	37
95	Nondiffracting beams in uniaxial media propagating orthogonally to the optical axis. Optics Communications, 2003, 224, 175-183.	2.1	49
96	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
97	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
98	Laser beam characterization in uniaxial crystals. , 2003, 4932, 677.		0
99	Paraxial propagation in uniaxial crystals. , 2003, , .		0
100	Paraxial propagation along the optical axis of a uniaxial medium. Physical Review E, 2002, 66, 036614.	2.1	39
101	Diffraction by elliptic and circular apertures in uniaxially anisotropic crystals: theory and experiment. Journal of Optics, 2002, 4, 424-432.	1.5	7
102	Polarization and energy dynamics in ultrafocused optical Kerr propagation. Optics Letters, 2002, 27, 734.	3.3	19
103	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
104	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
105	Nonparaxial description of reflection and transmission at the interface between an isotropic medium and a uniaxial crystal. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2002, 19, 1422.	1.5	31
106	Laguerreâ€“Gauss and Besselâ€“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
107	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
108	Stokes parameters of a Gaussian beam in a calcite crystal. Optics Express, 2002, 10, 699.	3.4	22

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109	Propagation-invariant beams in uniaxial crystals. Journal of Modern Optics, 2002, 49, 2267-2272.	1.3	5
110	Vectorial analytical description of propagation of a highly nonparaxial beam. Optics Communications, 2002, 202, 17-20.	2.1	83
111	Distortion correction by phase conjugation of nonparaxial vectorial beams:â€ƒa general proof. Optics Letters, 2001, 26, 28.	3.3	0
112	Anisotropic charge displacement supporting isolated photorefractive optical needles. Optics Letters, 2001, 26, 908.	3.3	48
113	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
114	Hermite-Gauss beams in uniaxially anisotropic crystals. IEEE Journal of Quantum Electronics, 2001, 37, 1517-1524.	1.9	46
115	Ordinary and extraordinary beams characterization in uniaxially anisotropic crystals. Optics Communications, 2001, 195, 55-61.	2.1	48
116	Vectorial free-space optical propagation: a simple approach for generating all-order nonparaxial corrections. Optics Communications, 2000, 177, 9-13.	2.1	58
117	A one- and two-dimensional nonlinear pulse interaction. Physical Review E, 2000, 61, R4714-R4717.	2.1	1
118	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
119	NONLINEAR OPTICAL PROPAGATION PHENOMENA IN NEAR-TRANSITION CENTROSYMMETRIC PHOTOREFRACTIVE CRYSTALS. Journal of Nonlinear Optical Physics and Materials, 1999, 08, 1-20.	1.8	9
120	Thermally induced phase transition in crystalline lead phthalocyanine films investigated by XRD and atomic force microscopy. Applied Surface Science, 1998, 136, 81-86.	6.1	39
121	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