Costas M Soukoulis

List of Publications by Year
in descending order

77 papers	7,631 citations	116194 36 h-index	100535 70 g-index
78 all docs	78 docs citations	78 times ranked	9074 citing authors

#	Article	IF	Citations
1	Past achievements and future challenges in the development of three-dimensional photonic metamaterials. Nature Photonics, 2011, 5, 523-530.	15.6	1,464
2	PHYSICS: Negative Refractive Index at Optical Wavelengths. Science, 2007, 315, 47-49.	6.0	882
3	Negative index materials using simple short wire pairs. Physical Review B, 2006, 73, .	1.1	372
4	Negative refractive index due to chirality. Physical Review B, 2009, 79, .	1.1	359
5	A comparison of graphene, superconductors and metals as conductors for metamaterials and plasmonics. Nature Photonics, 2012, 6, 259-264.	15.6	349
6	Fullâ€Polarization 3D Metasurface Cloak with Preserved Amplitude and Phase. Advanced Materials, 2016, 28, 6866-6871.	11.1	259
7	Optical Metamaterialsâ€”More Bulky and Less Lossy. Science, 2010, 330, 1633-1634.	6.0	227
8	Wide-angle and polarization-independent chiral metamaterial absorber. Physical Review B, 2009, 80, .	1.1	225
9	Terahertz chiral metamaterials with giant and dynamically tunable optical activity. Physical Review B, 2012, 86, .	1.1	221
10	Origamiâ€Based Reconfigurable Metamaterials for Tunable Chirality. Advanced Materials, 2017, 29, 1700412.	11.1	193
11	Broadband terahertz generation from metamaterials. Nature Communications, 2014, 5, 3055.	5.8	175
12	Optical anisotropic metamaterials: Negative refraction and focusing. Physical Review B, 2009, 79, .	1.1	159
13	Low-loss and high-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Q</mml:mi></mml:math>planar metamaterial with toroidal moment. Physical Review B, 2013, 87, .	1.1	153
14	Toward Intelligent Metasurfaces: The Progress from Globally Tunable Metasurfaces to Softwareâ€Defined Metasurfaces with an Embedded Network of Controllers. Advanced Optical Materials, 2020, 8, 2000783.	3.6	145
15	Electrically Tunable Goosâ€“HÃnchen Effect with Graphene in the Terahertz Regime. Advanced Optical Materials, 2016, 4, 1824-1828.	3.6	144
16	Graphene Plasmonics: A Platform for 2D Optics. Advanced Optical Materials, 2019, 7, 1800537.	3.6	139
17	Nonplanar chiral metamaterials with negative index. Applied Physics Letters, 2009, 94, .	1.5	134
18	Photoexcited Graphene Metasurfaces: Significantly Enhanced and Tunable Magnetic Resonances. ACS Photonics, 2018, 5, 1612-1618.	3.2	123

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19	Three-Dimensional Infrared Metamaterial with Asymmetric Transmission. ACS Photonics, 2015, 2, 287-294.	3.2	122
20	Intelligent Metasurfaces with Continuously Tunable Local Surface Impedance for Multiple Reconfigurable Functions. Physical Review Applied, 2019, 11, .	1.5	108
21	A New Perspective on Plasmonics: Confinement and Propagation Length of Surface Plasmons for Different Materials and Geometries. Advanced Optical Materials, 2016, 4, 177-184.	3.6	107
22	Negative refractive index response of weakly and strongly coupled optical metamaterials. Physical Review B, 2009, 80, .	1.1	89
23	Reducing ohmic losses in metamaterials by geometric tailoring. Physical Review B, 2009, 80, .	1.1	84
24	First-principles study on the electronic, optical, and transport properties of monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î±</mml:mi></mml:math> - and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î²</mml:mi></mml:math> -GeSe. Physical Review B, 2017, 96, .	1.1	81
25	Chemical intuition for high thermoelectric performance in monolayer black phosphorus, Î±-arsenene and aW-antimonene. Journal of Materials Chemistry A, 2018, 6, 2018-2033.	5.2	80
26	Photonic band gap of a graphene-embedded quarter-wave stack. Physical Review B, 2013, 88, .	1.1	72
27	Achieving a high- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Q</mml:mi></mml:math> response in metamaterials by manipulating the toroidal excitations. Physical Review A, 2018, 97, .	1.0	67
28	1D SbSeI, SbSI, and SbSBr With High Stability and Novel Properties for Microelectronic, Optoelectronic, and Thermoelectric Applications. Advanced Theory and Simulations, 2018, 1, 1700005.	1.3	65
29	Pairing Toroidal and Magnetic Dipole Resonances in Elliptic Dielectric Rod Metasurfaces for Reconfigurable Wavefront Manipulation in Reflection. Advanced Optical Materials, 2018, 6, 1800633.	3.6	65
30	Effective material parameter retrieval for thin sheets: Theory and application to graphene, thin silver films, and single-layer metamaterials. Physica B: Condensed Matter, 2012, 407, 4062-4065.	1.3	64
31	Retarded long-range interaction in split-ring-resonator square arrays. Physical Review B, 2011, 84, .	1.1	56
32	Parametric localized modes in quadratic nonlinear photonic structures. Physical Review E, 2000, 63, 016615.	0.8	49
33	Programmable Metasurfaces: State of the Art and Prospects. , 2018, , .		49
34	Electric and Magnetic Response in Dielectric Dark States for Low Loss Subwavelength Optical Meta Atoms. Advanced Optical Materials, 2015, 3, 1431-1438.	3.6	45
35	Sub-picosecond photo-induced displacive phase transition in two-dimensional MoTe2. Npj 2D Materials and Applications, 2020, 4, .	3.9	43
36	Switching nonlinearity in a superconductor-enhanced metamaterial. Applied Physics Letters, 2012, 100, 121906.	1.5	39

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37	Comparison of gold- and graphene-based resonant nanostructures for terahertz metamaterials and an ultrathin graphene-based modulator. Physical Review B, 2014, 90, .	1.1	39
38	Phaseâ€Modulated Scattering Manipulation for Exterior Cloaking in Metalâ€“Dielectric Hybrid Metamaterials. Advanced Materials, 2019, 31, e1903206.	11.1	38
39	Antimatched Electromagnetic Metasurfaces for Broadband Arbitrary Phase Manipulation in Reflection. ACS Photonics, 2018, 5, 1101-1107.	3.2	36
40	Optical metamaterials with different metals. Physical Review B, 2012, 85, .	1.1	31
41	Tailorable Zeroâ€Phase Delay of Subwavelength Particles toward Miniaturized Wave Manipulation Devices. Advanced Materials, 2015, 27, 6187-6194.	11.1	31
42	Large Quality Factor in Sheet Metamaterials Made from Dark Dielectric Meta-atoms. Physical Review Letters, 2014, 112, 117403.	2.9	30
43	Microstructure effects for Casimir forces in chiral metamaterials. Physical Review B, 2010, 82, .	1.1	29
44	High thermoelectric efficiency in monolayer PbI₂ from 300 K to 900 K. Inorganic Chemistry Frontiers, 2019, 6, 920-928.	3.0	29
45	Nonlinearity in the Dark: Broadband Terahertz Generation with Extremely High Efficiency. Physical Review Letters, 2019, 122, 027401.	2.9	29
46	Strong group-velocity dispersion compensation with phase-engineered sheet metamaterials. Physical Review B, 2014, 89, .	1.1	28
47	Intercell Wireless Communication in Software-defined Metasurfaces. , 2018, , .		28
48	Metamaterials in microwaves, optics, mechanics, thermodynamics, and transport. Journal of Optics (United Kingdom), 2017, 19, 084005.	1.0	26
49	Surface plasmon driven electric and magnetic resonators for metamaterials. Physical Review B, 2011, 83, .	1.1	24
50	Experimental Implementation of Achromatic Multiresonant Metasurface for Broadband Pulse Delay. ACS Photonics, 2021, 8, 1649-1655.	3.2	23
51	Ministop bands in single-defect photonic crystal waveguides. Physical Review E, 2001, 64, 055603.	0.8	21
52	Temperature-Controlled Chameleonlike Cloak. Physical Review X, 2017, 7, .	2.8	21
53	Broadband metasurfaces enabling arbitrarily large delay-bandwidth products. Applied Physics Letters, 2016, 108, .	1.5	17
54	Metamaterial-based lossy anisotropic epsilon-near-zero medium for energy collimation. Physical Review B, 2016, 93, .	1.1	17

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55	Squeezing a Prism into a Surface: Emulating Bulk Optics with Achromatic Metasurfaces. Advanced Optical Materials, 2020, 8, 2000942.	3.6	17
56	Tunable terahertz frequency comb generation using time-dependent graphene sheets. Physical Review B, 2015, 91, .	1.1	16
57	Interplay of Optical Force and Ray-Optic Behavior between Luneburg Lenses. ACS Photonics, 2015, 2, 1384-1390.	3.2	16
58	Scattering matrix of the boundary of a nonlocal metamaterial. Physical Review B, 2012, 86, .	1.1	9
59	Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>7</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">N</mml:mi><mml:mn>6</mml:mn></mml:msub></mml:mrow></mml:math> : Room-temperature excitons with large binding energies and high thermal conductivities. Physical Review Materials, 2020, 4, .	0.9	8
60	3D Photonic Nanostructures via Diffusion-Assisted Direct fs Laser Writing. Advances in OptoElectronics, 2012, 2012, 1-6.	0.6	7
61	Spin Momentumâ€“Locked Surface States in Metamaterials without Topological Transition. Laser and Photonics Reviews, 2018, 12, 1800002.	4.4	7
62	On loss compensation, amplification and lasing in metallic metamaterials. Nanomaterials and Nanotechnology, 2019, 9, 184798041881794.	1.2	7
63	Discontinuous design of negative index metamaterials based on mode hybridization. Applied Physics Letters, 2012, 101, 081913.	1.5	5
64	Topological Transition Enabled by Surface Modification of Photonic Crystals. ACS Photonics, 2021, 8, 1385-1392.	3.2	5
65	Experimental Demonstration of Darkâ€State Metasurface Laser with Controllable Radiative Coupling. Advanced Optical Materials, 2022, 10, .	3.6	5
66	Photoimprinted Controllable Fano Resonance in the Terahertz Regime. ACS Photonics, 2017, 4, 1785-1789.	3.2	4
67	Modelling of the Fluctuation and Coherent Dynamics in Active Metamaterial Devices. IEEE Nanotechnology Magazine, 2021, 20, 543-551.	1.1	4
68	Dark-State-Based Low-Loss Metasurfaces with Simultaneous Electric and Magnetic Resonant Response. ACS Photonics, 2020, 7, 241-248.	3.2	3
69	Robustness of Optical Response for Selfâ€Assembled Plasmonic Metamaterials with Morphological Disorder and Surface Roughness. Advanced Optical Materials, 2020, 8, 1901794.	3.6	3
70	Robust wedge demonstration to optical negative index metamaterials. Applied Physics Letters, 2013, 102, 241915.	1.5	2
71	Toroidal Multipoles in Metamaterials. , 2020, , 237-278.		2
72	Historical Perspective and Review of Fundamental Principles in Modeling Three-Dimensional Periodic Structures with Emphasis on Volumetric EBGs. , 0, , 211-238.		1

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73	Effects of Coherent versus Incoherent Illumination and Imaging Setup on Experimental Measurements of Scattering Amplitudes in Metamaterials. ACS Photonics, 2021, 8, 1856-1862.	3.2	1
74	Left-Handed Materials in Microwave and Infrared Frequencies. , 2007, , .		0
75	Metamaterials for microwaves and optics. , 2008, , .		0
76	Surface plasmon polaritons and negative refraction in fishnet metamaterial. , 2014, , .		0
77	Metamaterials: Tailorable Zero-Phase Delay of Subwavelength Particles toward Miniaturized Wave Manipulation Devices (Adv. Mater. 40/2015). Advanced Materials, 2015, 27, 6304-6304.	11.1	0