

Dimitrios L Sounas

List of Publications by Year in descending order

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117
papers

7,916
citations

76294

40
h-index

56687

83
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117
all docs

117
docs citations

117
times ranked

4470
citing authors

#	ARTICLE	IF	CITATIONS
1	Sound Isolation and Giant Linear Nonreciprocity in a Compact Acoustic Circulator. <i>Science</i> , 2014, 343, 516-519.	6.0	820
2	Non-reciprocal photonics based on time modulation. <i>Nature Photonics</i> , 2017, 11, 774-783.	15.6	611
3	An invisible acoustic sensor based on parity-time symmetry. <i>Nature Communications</i> , 2015, 6, 5905.	5.8	549
4	Magnetic-free non-reciprocity and isolation based on parametrically modulated coupled-resonator loops. <i>Nature Physics</i> , 2014, 10, 923-927.	6.5	511
5	Metagratings: Beyond the Limits of Graded Metasurfaces for Wave Front Control. <i>Physical Review Letters</i> , 2017, 119, 067404.	2.9	380
6	Electromagnetic Nonreciprocity. <i>Physical Review Applied</i> , 2018, 10, .	1.5	366
7	Giant non-reciprocity at the subwavelength scale using angular momentum-biased metamaterials. <i>Nature Communications</i> , 2013, 4, 2407.	5.8	358
8	Nonlocal Metasurfaces for Optical Signal Processing. <i>Physical Review Letters</i> , 2018, 121, 173004.	2.9	250
9	Static non-reciprocity in mechanical metamaterials. <i>Nature</i> , 2017, 542, 461-464.	13.7	237
10	Gyrotropy and Nonreciprocity of Graphene for Microwave Applications. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2012, 60, 901-914.	2.9	214
11	Negative Refraction and Planar Focusing Based on Parity-Time Symmetric Metasurfaces. <i>Physical Review Letters</i> , 2014, 113, 023903.	2.9	212
12	Analogue computing with metamaterials. <i>Nature Reviews Materials</i> , 2021, 6, 207-225.	23.3	193
13	Artificial Faraday rotation using a ring metamaterial structure without static magnetic field. <i>Applied Physics Letters</i> , 2011, 99, .	1.5	175
14	Broadband passive isolators based on coupled nonlinear resonances. <i>Nature Electronics</i> , 2018, 1, 113-119.	13.1	160
15	High-Index Dielectric Metasurfaces Performing Mathematical Operations. <i>Nano Letters</i> , 2019, 19, 8418-8423.	4.5	143
16	Phase-Induced Frequency Conversion and Doppler Effect With Time-Modulated Metasurfaces. <i>IEEE Transactions on Antennas and Propagation</i> , 2020, 68, 1607-1617.	3.1	135
17	Magnetless Microwave Circulators Based on Spatiotemporally Modulated Rings of Coupled Resonators. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2016, , 1-17.	2.9	134
18	Angular-Momentum-Biased Nanorings To Realize Magnetic-Free Integrated Optical Isolation. <i>ACS Photonics</i> , 2014, 1, 198-204.	3.2	133

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19	Magnetless Nonreciprocal Metamaterial (MNM) Technology: Application to Microwave Components. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 1030-1042.	2.9	131
20	Maximum Willis Coupling in Acoustic Scatterers. Physical Review Letters, 2018, 120, 254301.	2.9	101
21	Synchronized conductivity modulation to realize broadband lossless magnetic-free non-reciprocity. Nature Communications, 2017, 8, 795.	5.8	95
22	Spectrum Control through Discrete Frequency Diffraction in the Presence of Photonic Gauge Potentials. Physical Review Letters, 2018, 120, 133901.	2.9	92
23	Magnet-Less Circulators Based on Spatiotemporal Modulation of Bandstop Filters in a Delta Topology. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 911-926.	2.9	90
24	Doppler cloak restores invisibility to objects in relativistic motion. Physical Review B, 2017, 95, .	1.1	83
25	Fundamental bounds on the operation of Fano nonlinear isolators. Physical Review B, 2018, 97, .	1.1	75
26	Electromagnetic Modeling of a Magnetless Nonreciprocal Gyrotropic Metasurface. IEEE Transactions on Antennas and Propagation, 2013, 61, 221-231.	3.1	64
27	Pseudo-Linear Time-Invariant Magnetless Circulators Based on Differential Spatiotemporal Modulation of Resonant Junctions. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 2731-2745.	2.9	62
28	Microwave Nonreciprocity. Proceedings of the IEEE, 2020, 108, 1728-1758.	16.4	62
29	Dual-Polarization Analog 2D Image Processing with Nonlocal Metasurfaces. ACS Photonics, 2020, 7, 1799-1805.	3.2	59
30	Can a Nonradiating Mode Be Externally Excited? Nonscattering States versus Embedded Eigenstates. ACS Photonics, 2019, 6, 3108-3114.	3.2	56
31	Nonreciprocity in Antenna Radiation Induced by Space-Time Varying Metamaterial Cloaks. IEEE Antennas and Wireless Propagation Letters, 2018, 17, 1968-1972.	2.4	55
32	Time-Reversal Symmetry Bounds on the Electromagnetic Response of Asymmetric Structures. Physical Review Letters, 2017, 118, 154302.	2.9	54
33	Synthesis of Cross-Coupled Reduced-Order Dispersive Delay Structures (DDSs) With Arbitrary Group Delay and Controlled Magnitude. IEEE Transactions on Microwave Theory and Techniques, 2013, 61, 1043-1052.	2.9	52
34	Nonreciprocal Horn Antennas Using Angular Momentum-Biased Metamaterial Inclusions. IEEE Transactions on Antennas and Propagation, 2015, 63, 5593-5600.	3.1	51
35	Non-reciprocal magnetoplasmon graphene coupler. Optics Express, 2013, 21, 11248.	1.7	49
36	Nonreciprocal cavities and the time-“bandwidth limit. Optica, 2019, 6, 104.	4.8	49

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37	Nonreciprocal Magnetless CRLH Leaky-Wave Antenna Based on a Ring Metamaterial Structure. IEEE Antennas and Wireless Propagation Letters, 2011, 10, 1551-1554.	2.4	45
38	Parity-Time Symmetry in Acoustics: Theory, Devices, and Potential Applications. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 121-129.	1.9	45
39	Nonreciprocal Willis Coupling in Zero-Index Moving Media. Physical Review Letters, 2019, 123, 064301.	2.9	42
40	Edge surface modes in magnetically biased chemically doped graphene strips. Applied Physics Letters, 2011, 99, .	1.5	41
41	CMOS Integrated Magnetless Circulators Based on Spatiotemporal Modulation Angular-Momentum Biasing. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 2649-2662.	2.9	41
42	Magnetic-free radio frequency circulator based on spatiotemporal commutation of MEMS resonators. , 2018, , .		38
43	Surface Susceptibility Bianisotropic Matrix Model for Periodic Metasurfaces of Uniaxially Mono-Anisotropic Scatterers Under Oblique TE-Wave Incidence. IEEE Transactions on Antennas and Propagation, 2012, 60, 5753-5767.	3.1	34
44	Broadband Cyclic-Symmetric Magnetless Circulators and Theoretical Bounds on Their Bandwidth. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 5472-5481.	2.9	34
45	Nonreciprocity Based on Nonlinear Resonances. IEEE Antennas and Wireless Propagation Letters, 2018, 17, 1958-1962.	2.4	31
46	Electromagnetic Isolation Induced by Time-Varying Metasurfaces: Nonreciprocal Bragg Grating. IEEE Antennas and Wireless Propagation Letters, 2020, 19, 1886-1890.	2.4	31
47	Magnet-Free Circulator Based on Spatiotemporal Modulation of Photonic Crystal Defect Cavities. ACS Photonics, 2019, 6, 2056-2066.	3.2	30
48	CRLH C-Section Dispersive Delay Structures With Enhanced Group-Delay Swing for Higher Analog Signal Processing Resolution. IEEE Transactions on Microwave Theory and Techniques, 2012, 60, 3939-3949.	2.9	29
49	Achieving Full-Duplex Communication: Magnetless Parametric Circulators for Full-Duplex Communication Systems. IEEE Microwave Magazine, 2018, 19, 84-90.	0.7	29
50	Switchable Magnetless Nonreciprocal Metamaterial (MNM) and its Application to a Switchable Faraday Rotation Metasurface. IEEE Antennas and Wireless Propagation Letters, 2012, 11, 1454-1457.	2.4	26
51	All-pass dispersion synthesis using microwave C-sections. International Journal of Circuit Theory and Applications, 2014, 42, 1228-1245.	1.3	26
52	Nonreciprocal acoustic propagation and leaky-wave radiation in a waveguide with flow. Journal of the Acoustical Society of America, 2019, 146, 802-809.	0.5	26
53	Terahertz magnetoplasmon energy concentration and splitting in Graphene PN Junctions. Optics Express, 2013, 21, 25356.	1.7	25
54	Tunable Orbital Angular Momentum Radiation from Angular-Momentum-Biased Microcavities. Physical Review Letters, 2018, 121, 103901.	2.9	25

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55	Optically Transparent and Flexible Graphene Reciprocal and Nonreciprocal Microwave Planar Components. IEEE Microwave and Wireless Components Letters, 2012, 22, 360-362.	2.0	24
56	Extinction symmetry for reciprocal objects and its implications on cloaking and scattering manipulation. Optics Letters, 2014, 39, 4053.	1.7	24
57	Differential magnetless circulator using modulated bandstop filters. , 2017, , .		23
58	Radio Frequency Magnet-Free Circulators Based on Spatiotemporal Modulation of Surface Acoustic Wave Filters. IEEE Transactions on Microwave Theory and Techniques, 2019, 67, 4773-4782.	2.9	22
59	Parity-time Symmetry Based on Time Modulation. Physical Review Applied, 2020, 14, .	1.5	22
60	Nonreciprocal Components Based on Switched Transmission Lines. IEEE Transactions on Microwave Theory and Techniques, 2018, , 1-20.	2.9	21
61	Quasielectrostatic Wave Propagation Beyond the Delay-Bandwidth Limit in Switched Networks. Physical Review X, 2019, 9, .	2.8	21
62	Radio Frequency Angular Momentum Biased Quasi-LTI Nonreciprocal Acoustic Filters. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2019, 66, 1814-1825.	1.7	21
63	Nonlinearity-based circulator. Applied Physics Letters, 2019, 114, .	1.5	19
64	Highly-Linear Magnet-Free Microelectromechanical Circulators. Journal of Microelectromechanical Systems, 2019, 28, 933-940.	1.7	17
65	A Wideband ADI-FDTD Algorithm for the Design of Double Negative Metamaterial-Based Waveguides and Antenna Substrates. IEEE Transactions on Magnetics, 2007, 43, 1329-1332.	1.2	16
66	Optically driven effective Faraday effect in instantaneous nonlinear media. Optica, 2019, 6, 1152.	4.8	16
67	Graphene-based non-reciprocal spatial isolator. , 2011, , .		15
68	Broadband delay lines and nonreciprocal resonances in unidirectional waveguides. Physical Review B, 2019, 100, .	1.1	15
69	Virtual perfect absorption through modulation of the radiative decay rate. Physical Review B, 2020, 101, .	1.1	14
70	Free-Space Nonreciprocal Transmission Based on Nonlinear Coupled Fano Metasurfaces. Photonics, 2021, 8, 139.	0.9	14
71	Angular-Momentum Biased Circulators and Their Power Consumption. IEEE Antennas and Wireless Propagation Letters, 2018, 17, 1963-1967.	2.4	13
72	Gyrotropy and non-reciprocity of graphene for microwave applications. , 2011, , .		12

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73	Low-Loss Broadband Magnetless Circulators for Full-Duplex Radios. , 2018, , .		12
74	Discrete space optical signal processing. Optica, 2020, 7, 1325.	4.8	12
75	Active Microwave Cloaking Using Parity-Time-Symmetric Satellites. Physical Review Applied, 2018, 10, .	1.5	11
76	Ultra-Wideband Switched-Capacitor Delays and Circulatorsâ€™ Theory and Implementation. IEEE Journal of Solid-State Circuits, 2021, 56, 1412-1424.	3.5	10
77	A Quasi-LTI Frequency-Selective SAW Circulator. , 2018, , .		9
78	Focusing Efficiency Analysis and Performance Optimization of Arbitrarily Sized DNG Metamaterial Slabs With Losses. IEEE Transactions on Microwave Theory and Techniques, 2006, 54, 4111-4121.	2.9	8
79	Theoretical Investigation of Traveling-Wave Amplification in Metallic Carbon Nanotubes Biased by a DC Field. IEEE Nanotechnology Magazine, 2012, 11, 463-471.	1.1	8
80	Field displacement in a traveling-wave ring resonator meta-structure. , 2011, , .		7
81	Color Separation through Spectrally-Selective Optical Funneling. ACS Photonics, 2016, 3, 620-626.	3.2	6
82	Stencil-Optimized Time-Domain Algorithms for Compact Circular Patch Antennas With Anisotropic Metamaterial Substrates. IEEE Transactions on Magnetics, 2009, 45, 1368-1371.	1.2	5
83	Generalized antireflection coatings for complex bulk metamaterials. Physical Review B, 2016, 93, .	1.1	5
84	Static-to-dynamic field conversion with time-varying media. Physical Review B, 2022, 105, .	1.1	5
85	Composite Floquet scattering matrix for the analysis of time-modulated systems. , 2017, , .		4
86	Nonreciprocal cavities and the time-bandwidth limit: reply. Optica, 2020, 7, 1102.	4.8	4
87	Angular-momentum biasing: A new paradigm for linear, magnetic-free, non-reciprocal devices. , 2014, , .		3
88	Angular-Momentum Biased Circulator With Locally Generated Modulation. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 551-565.	2.9	3
89	Dynamic wireless power transfer in the presence of reflecting walls. Analog Integrated Circuits and Signal Processing, 2021, 108, 447-453.	0.9	3
90	Scatterers in the Rx Near Field for RF Energy Harvesting Efficiency Enhancement. Energies, 2022, 15, 2109.	1.6	3

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91	Graphene for highly tunable non-reciprocal electromagnetic devices. , 2012, , .		2
92	Ultrathin active cloak with balanced loss and gain. , 2016, , .		2
93	Frequency-shifted reflection achieved through time-varying metasurfaces. , 2019, , .		2
94	Magnetless circulators for electromagnetic and acoustic waves. , 2016, , .		1
95	Angular-Momentum Biased Circulator with a Common-Differential Mode Topology for RF and Modulation Isolation. , 2020, , .		1
96	Role of Synchronization in Magnetless Nonreciprocal Devices Based on Commutated Transmission Lines. Physical Review Applied, 2020, 13, .	1.5	1
97	Stability bounds on superluminal propagation in active structures. Nature Communications, 2022, 13, 1115.	5.8	1
98	Field displacement in a graphene loaded waveguide. , 2011, , .		0
99	Network modeling of a magnetically biased graphene sheet in an arbitrary cylindrical waveguide. , 2012, , .		0
100	New opportunities in electromagnetics with nanotechnologies. , 2012, , .		0
101	Non-reciprocal faraday rotation in graphene: Just a unique phenomenon or even more?. , 2013, , .		0
102	Nonreciprocity, nonlinearity and parity-time symmetry in optical metasurfaces and metamaterials. , 2014, , .		0
103	Unidirectional invisibility with 3D parity-time symmetric structures. , 2014, , .		0
104	Non-reciprocal space-time gratings. , 2015, , .		0
105	Non-Linear isolators: Fundamental bounds and optimal designs. , 2016, , .		0
106	Parity-time symmetry for cloaking and negative refraction. , 2016, , .		0
107	Non-reciprocal wave manipulation with non-linear metasurfaces. , 2017, , .		0
108	Electromagnetic devices for next-generation wireless communication systems. , 2017, , .		0

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109	Non-Reciprocal electromagnetics in time-varying systems. , 2017, , .		0
110	Nonlocal Metasurfaces Performing Analog Mathematical Operations. , 2018, , .		0
111	Optical isolation by hot atoms. Nature Photonics, 2018, 12, 720-721.	15.6	0
112	Metagratings: A novel paradigm for efficient wavefront control. , 2018, , .		0
113	Recent advances in spatiotemporally-modulated (STM) magnetless circulators. , 2018, , .		0
114	The time-bandwidth limit in optical nanostructures and its relation to nonreciprocity. , 2018, , .		0
115	Non-Reciprocal Graphene Gratings Based on Spatiotemporal Modulation. , 2019, , .		0
116	Topology-Optimized Metamaterials for Optical Signal Compression. , 2021, , .		0
117	Trapping electromagnetic signals in time modulated and non-linear cavities. , 2020, , .		0