Luca Dal Negro

List of Publications by Year
in descending order

142 papers	6,368 citations	66343 42 h-index	74163 75 g-index
143 all docs	143 docs citations	143 times ranked	7469 citing authors

#	Article	IF	Citations
1	Physics-informed neural networks for imaging and parameter retrieval of photonic nanostructures from near-field data. APL Photonics, 2022, 7, .	5.7	16
2	Structure-dependent optical nonlinearity of indium tin oxide. Applied Physics Letters, 2022, 120, .	3.3	11
3	Hyperuniform scalar random fields for lensless, multispectral imaging systems: erratum. Optics Letters, 2022, 47, 1932.	3.3	0
4	Inverse design of ultracompact multi-focal optical devices by diffractive neural networks. Optics Letters, 2022, 47, 2842.	3.3	3
5	Cavity-enhanced lightâ€“matter interaction in Vogel-spiral devices as a platform for quantum photonics. Applied Physics Letters, 2021, 118, .	3.3	12
6	Aperiodic bandgap structures for enhanced quantum two-photon sources. Journal of the Optical Society of America B: Optical Physics, 2021, 38, C94.	2.1	7
7	Wave Transport and Localization in Prime Number Landscapes. Frontiers in Physics, 2021, 9, .	2.1	0
8	Hyperuniform scalar random fields for lensless, multispectral imaging systems. Optics Letters, 2021, 46, 5360-5363.	3.3	3
9	Compact Dualâ€Band Multiâ€Focal Diffractive Lenses. Laser and Photonics Reviews, 2021, 15, 2000207.	8.7	10
10	Engineering isotropic aperiodic structures for lensless imaging systems. , 2021, , .		0
11	Phase-Modulated Axilenses As Ultracompact Spectroscopic Tools. ACS Photonics, 2020, 7, 2731-2738.	6.6	6
12	Cavity quantum electro-dynamics with solid-state emitters in aperiodic nano-photonic spiral devices. Applied Physics Letters, 2020, 117, .	3.3	13
13	Multifractality of light in photonic arrays based on algebraic number theory. Communications Physics, 2020, 3, .	5.3	12
14	Physics-informed neural networks for inverse problems in nano-optics and metamaterials. Optics Express, 2020, 28, 11618.	3.4	257
15	Phase-modulated axilenses for infrared multiband spectroscopy. Optics Letters, 2020, 45, 2371.	3.3	5
16	Gate-tunable metafilm absorber based on indium silicon oxide. Nanophotonics, 2019, 8, 1803-1810.	6.0	9
17	A fractional diffusion random laser. Scientific Reports, 2019, 9, 8686.	3.3	7
18	Indium silicon oxide thin films for infrared metaphotonics. Applied Physics Letters, 2019, 114, .	3.3	4

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19	Aperiodic Photonics of Elliptic Curves. Crystals, 2019, 9, 482.	2.2	8
20	Engineered hyperuniformity for directional light extraction. APL Photonics, 2019, 4, 110801.	5.7	39
21	Optimization of Large-Scale Vogel Spiral Arrays of Plasmonic Nanoparticles. Plasmonics, 2019, 14, 253-261.	3.4	10
22	Compact localized states of open scattering media: a graph decomposition approach for an ab initio design. Optics Letters, 2019, 44, 375.	3.3	5
23	Spectral statistics and scattering resonances of complex primes arrays. Physical Review B, 2018, 97, .	3.2	16
24	Directional light emission enhancement from LED-phosphor converters using dielectric Vogel spiral arrays. APL Photonics, 2018, 3, 126103.	5.7	21
25	Pole-zero analysis of scattering resonances of multilayered nanospheres. Physical Review B, 2018, 98, .	3.2	4
26	Plasmonic Nanotrough Networks for Scalable Bacterial Raman Biosensing. ACS Applied Materials & Interfaces, 2018, 10, 27928-27935.	8.0	22
27	Edge modes of scattering chains with aperiodic order. Optics Letters, 2018, 43, 1986.	3.3	21
28	Indium Tin Oxide Broadband Metasurface Absorber. ACS Photonics, 2018, 5, 3526-3533.	6.6	78
29	Fractional Transport of Photons in Deterministic Aperiodic Structures. Scientific Reports, 2017, 7, 2259.	3.3	18
30	Deep-Ultraviolet Emitting AlGaN Multiple Quantum Well Graded-Index Separate-Confinement Heterostructures Grown by MBE on SiC Substrates. IEEE Photonics Journal, 2017, 9, 1-9.	2.0	27
31	Tunability of indium tin oxide materials for mid-infrared plasmonics applications. Optical Materials Express, 2017, 7, 2727.	3.0	74
32	Structural and Spectral Properties of Deterministic Aperiodic Optical Structures. Crystals, 2016, 6, 161.	2.2	27
33	Engineering non-radiative anapole modes for broadband absorption enhancement of light. Optics Express, 2016, 24, 19048.	3.4	68
34	Inverse Design of Metal Nanoparticlesâ€™ Morphology. ACS Photonics, 2016, 3, 68-78.	6.6	33
35	Effect of indium in Al_{0.65}Ga_{0.35}N/Al_{0.8}Ga_{0.2}N MQWs for the development of deepâ€UV laser structures in the form of gradedâ€index separate confinement heterostructure (GRINSCH). Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1165-1169.	1.8	15
36	Probing scattering resonances of Vogelâ€™s spirals with the Greenâ€™s matrix spectral method. Optics Letters, 2016, 41, 1933.	3.3	13

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37	Gold Nanofiber-Based Electrodes for Plasmon-Enhanced Electrocatalysis. Journal of the Electrochemical Society, 2016, 163, H1132-H1135.	2.9	16
38	Multispectral Cesaro-Type Fractal Plasmonic Nanoantennas. ACS Photonics, 2016, 3, 2102-2111.	6.6	45
39	Imaging and controlling plasmonic interference fields at buried interfaces. Nature Communications, 2016, 7, 13156.	12.8	58
40	Radiative properties of diffractively-coupled optical nano-antennas with helical geometry. Optics Express, 2015, 23, 25496.	3.4	5
41	Polarization response of nanowires Ã la carte. Scientific Reports, 2015, 5, 7651.	3.3	17
42	Enhanced photoluminescence of Si nanocrystals-doped cellulose nanofibers by plasmonic light scattering. Applied Physics Letters, 2015, 107, .	3.3	18
43	Wide tuning of the optical and structural properties of alternative plasmonic materials. Optical Materials Express, 2015, 5, 2415.	3.0	133
44	Plasmon-Enhanced Emission Rate of Silicon Nanocrystals in Gold Nanorod Composites. ACS Photonics, 2015, 2, 1298-1305.	6.6	26
45	Enhanced third-harmonic generation in Si-compatible epsilon-near-zero indium tin oxide nanolayers. Optics Letters, 2015, 40, 1500.	3.3	182
46	Deep-UV optical gain in AlGaN-based graded-index separate confinement heterostructure. Optical Materials Express, 2015, 5, 809.	3.0	17
47	Comparative Study of Second-Harmonic Generation from Epsilon-Near-Zero Indium Tin Oxide and Titanium Nitride Nanolayers Excited in the Near-Infrared Spectral Range. ACS Photonics, 2015, 2, 1584-1591.	6.6	151
48	Broadband enhancement of local density of states using silicon-compatible hyperbolic metamaterials. Applied Physics Letters, 2015, 106, 241105.	3.3	20
49	Silicon photonic modulators based on epsilon-near-zero indium tin oxide materials. , 2014, , .		1
50	Full-Wave Analytical Solution of Second-Harmonic Generation in Metal Nanospheres. Plasmonics, 2014, 9, 151-166.	3.4	24
51	Enhancement of Molecular Fluorescence in the UV Spectral Range Using Aluminum Nanoantennas. Plasmonics, 2014, 9, 715-725.	3.4	21
52	Photonicâ€“Plasmonic Coupling of GaAs Single Nanowires to Optical Nanoantennas. Nano Letters, 2014, 14, 2271-2278.	9.1	73
53	Simplicity unlocks complexity. Nature Materials, 2014, 13, 1080-1081.	27.5	2
54	Size-dependent second-harmonic generation from gold nanoparticles. Physical Review B, 2014, 89, .	3.2	38

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55	Cloaking of arbitrarily shaped objects with homogeneous coatings. Physical Review B, 2014, 89, .	3.2	4
56	Radiation Rate Enhancement in Subwavelength Plasmonic Ring Nanocavities. Nano Letters, 2013, 13, 3709-3715.	9.1	12
57	Enhanced Second Harmonic Generation by Photonicâ€“Plasmonic Fano-Type Coupling in Nanoplasmonic Arrays. Nano Letters, 2013, 13, 3111-3117.	9.1	123
58	Enhanced second harmonic generation from Au nanoparticle arrays by femtosecond laser irradiation. Nanoscale, 2013, 5, 7795.	5.6	9
59	Theory of coupled plasmon modes and Fano-like resonances in subwavelength metal structures. Physical Review B, 2013, 88, .	3.2	53
60	Enhanced second harmonic generation from InAs nano-wing structures on silicon. Nanoscale, 2013, 5, 10163.	5.6	15
61	Generation of second harmonic radiation from sub-stoichiometric silicon nitride thin films. Applied Physics Letters, 2013, 102, 141114.	3.3	21
62	High-capacity quantum Fibonacci coding for key distribution. Physical Review A, 2013, 87, .	2.5	34
63	Engineering Plasmon-Enhanced Au Light Emission with Planar Arrays of Nanoparticles. Nano Letters, 2013, 13, 786-792.	9.1	35
64	Microfluidics integration of aperiodic plasmonic arrays for spatial-spectral optical detection. Optics Express, 2013, 21, 4945.	3.4	11
65	Development of AlGaN-based graded-index-separate-confinement-heterostructure deep UV emitters by molecular beam epitaxy. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, .	1.2	33
66	Aperiodic Order in Nanoplasmonics. Challenges and Advances in Computational Chemistry and Physics, 2013, , 329-377.	0.6	0
67	Multipolar second harmonic generation from planar arrays of Au nanoparticles. Optics Express, 2012, 20, 15797.	3.4	43
68	Control of optical orbital angular momentum by Vogel spiral arrays of metallic nanoparticles. Optics Letters, 2012, 37, 5076.	3.3	33
69	Geometrical structure, multifractal spectra and localized optical modes of aperiodic Vogel spirals. Optics Express, 2012, 20, 3015.	3.4	56
70	Plasmonic-photonic arrays with aperiodic spiral order for ultra-thin film solar cells. Optics Express, 2012, 20, A418.	3.4	34
71	Analytical light scattering and orbital angular momentum spectra of arbitrary Vogel spirals. Optics Express, 2012, 20, 18209.	3.4	40
72	Rare earth doped Si-rich ZnO for multiband near-infrared light emitting devices. Applied Physics Letters, 2012, 101, 191115.	3.3	27

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73	Sub-250 nm room-temperature optical gain from AlGaN/AlN multiple quantum wells with strong band-structure potential fluctuations. Applied Physics Letters, 2012, 100, 061111.	3.3	52
74	Optical super-resolution by high-index liquid-immersed microspheres. Applied Physics Letters, 2012, 101, .	3.3	278
75	Surface integral formulations for the design of plasmonic nanostructures. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2012, 29, 2314.	1.5	32
76	Nanopatterning of silicon nanowires for enhancing visible photoluminescence. Nanoscale, 2012, 4, 2863.	5.6	30
77	Aperiodic arrays of active nanopillars for radiation engineering. Journal of Applied Physics, 2012, 111, 113101.	2.5	41
78	GPU-accelerated T-matrix algorithm for light-scattering simulations. Journal of Computational Physics, 2012, 231, 5640-5652.	3.8	7
79	Thermal conductivity and photoluminescence of light-emitting silicon nitride films. Applied Physics Letters, 2012, 100, .	3.3	6
80	Direct Transfer of Subwavelength Plasmonic Nanostructures on Bioactive Silk Films. Advanced Materials, 2012, 24, 6088-6093.	21.0	43
81	Vertical â€œIIIâ€“Vâ€•V-Shaped Nanomembranes Epitaxially Grown on a Patterned Si[001] Substrate and Their Enhanced Light Scattering. ACS Nano, 2012, 6, 10982-10991.	14.6	41
82	Concentric Necklace Nanolenses for Optical Near-Field Focusing and Enhancement. ACS Nano, 2012, 6, 4341-4348.	14.6	24
83	Genetically Engineered Plasmonic Nanoarrays. Nano Letters, 2012, 12, 2037-2044.	9.1	102
84	Deterministic aperiodic nanostructures for photonics and plasmonics applications. Laser and Photonics Reviews, 2012, 6, 178-218.	8.7	180
85	Circularly Symmetric Light Scattering from Nanoplasmonic Spirals. Nano Letters, 2011, 11, 2008-2016.	9.1	82
86	Energy transfer and stimulated emission dynamics at 11 Î¼m in Nd-doped SiN_x. Optics Express, 2011, 19, 5379.	3.4	11
87	Plasmon-enhanced depolarization of reflected light from arrays of nanoparticle dimers. Optics Express, 2011, 19, 21081.	3.4	16
88	Multi-wavelength mid-infrared plasmonic antennas with single nanoscale focal point. Optics Express, 2011, 19, 22113.	3.4	29
89	Localized photonic band edge modes and orbital angular momenta of light in a golden-angle spiral. Optics Express, 2011, 19, 23631.	3.4	41
90	Plasmon-enhanced structural coloration of metal films with isotropic Pinwheel nanoparticle arrays. Optics Express, 2011, 19, 23818.	3.4	22

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91	Absorption bleaching by stimulated emission in erbium-doped silicon-rich silicon nitride waveguides. Optics Letters, 2011, 36, 4.	3.3	7
92	Engineering Photonicâ€“Plasmonic Coupling in Metal Nanoparticle Necklaces. ACS Nano, 2011, 5, 6578-6585.	14.6	85
93	Near-field calculation based on the T-matrix method with discrete sources. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 2384-2394.	2.3	16
94	Thermo-optic tuning of erbium-doped amorphous silicon nitride microdisk resonators. Applied Physics Letters, 2011, 98, 041102.	3.3	19
95	Lasing in Thueâ€“Morse structures with optimized aperiodicity. Applied Physics Letters, 2011, 98, .	3.3	20
96	Silicon Nanocavity Based Light Sources. Materials Research Society Symposia Proceedings, 2011, 1305, 1.	0.1	0
97	Photonic Crystal and Plasmonic Silicon-Based Light Sources. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 132-140.	2.9	15
98	Visible and 1.54 mum Emission From Amorphous Silicon Nitride Films by Reactive Cosputtering. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 114-123.	2.9	31
99	Engineering Nanoparticle Cluster Arrays for Bacterial Biosensing: The Role of the Building Block in Multiscale SERS Substrates. Advanced Functional Materials, 2010, 20, 2619-2628.	14.9	103
100	Rapid Nanoimprinting of Silk Fibroin Films for Biophotonic Applications. Advanced Materials, 2010, 22, 1746-1749.	21.0	139
101	Rapid Nanoimprinting of Doped Silk Films for Enhanced Fluorescent Emission. Advanced Materials, 2010, 22, 4596-4599.	21.0	49
102	Spatial and spectral detection of protein monolayers with deterministic aperiodic arrays of metal nanoparticles. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 12086-12090.	7.1	54
103	Demonstration of laser action in a pseudorandom medium. Applied Physics Letters, 2010, 97, .	3.3	23
104	Coupled fiber taper extraction of 153 Î¼m photoluminescence from erbium doped silicon nitride photonic crystal cavities. Optics Express, 2010, 18, 5964.	3.4	21
105	Observation of Transparency of Erbium-doped Silicon nitride in photonic crystal nanobeam cavities. Optics Express, 2010, 18, 13863.	3.4	29
106	Formation of colorimetric fingerprints on nano-patterned deterministic aperiodic surfaces. Optics Express, 2010, 18, 14568.	3.4	35
107	Light scattering, field localization and local density of states in co-axial plasmonic nanowires. Optics Express, 2010, 18, 16120.	3.4	10
108	Enhanced near-green light emission from InGaN quantum wells by use of tunable plasmonic resonances in silver nanoparticle arrays. Optics Express, 2010, 18, 21322.	3.4	69

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109	Particle-swarm optimization of broadband nanoplasmonic arrays. Optics Letters, 2010, 35, 133.	3.3	81
110	Multiple-wavelength plasmonic nanoantennas. Optics Letters, 2010, 35, 538.	3.3	46
111	Self-referenced photonic molecule bio(chemical)sensor. Optics Letters, 2010, 35, 2496.	3.3	43
112	Linewidth narrowing and Purcell enhancement in photonic crystal cavities on an Er-doped silicon nitride platform. Optics Express, 2010, 18, 2601.	3.4	45
113	Tunable light sources in the visible and near infrared based on fiber taper coupled photonic crystal nanocavities. , 2010, , .		0
114	Role of aperiodic order in the spectral, localization, and scaling properties of plasmon modes for the design of nanoparticle arrays. Physical Review B, 2009, 79, .	3.2	35
115	Silver Nanoparticles with Broad Multiband Linear Optical Absorption. Angewandte Chemie - International Edition, 2009, 48, 5921-5926.	13.8	235
116	Erbium-doped silicon nanocrystals in silicon/silicon nitride superlattice structures: Light emission and energy transfer. Physica E: Low-Dimensional Systems and Nanostructures, 2009, 41, 1040-1043.	2.7	9
117	Optical gaps, mode patterns and dipole radiation in two-dimensional aperiodic photonic structures. Physica E: Low-Dimensional Systems and Nanostructures, 2009, 41, 1102-1106.	2.7	10
118	Deterministic aperiodic arrays of metal nanoparticles for surface-enhanced Raman scattering (SERS). Optics Express, 2009, 17, 3741.	3.4	219
119	The role of nanoparticle shapes and deterministic aperiodicity for the design of nanoplasmonic arrays. Optics Express, 2009, 17, 9648.	3.4	54
120	Enhanced light emission from erbium doped silicon nitride in plasmonic metal-insulator-metal structures. Optics Express, 2009, 17, 20642.	3.4	24
121	Spectral analysis of induced color change on periodically nanopatterned silk films. Optics Express, 2009, 17, 21271.	3.4	60
122	Nanoplasmonics of prime number arrays. Optics Express, 2009, 17, 24288.	3.4	19
123	Differential gain at 1.54 Î¼m in Er-doped silicon nitride coupled to photonic crystal cavity. , 2009, , .		0
124	Plasmonic Nanogalaxies: Multiscale Aperiodic Arrays for Surface-Enhanced Raman Sensing. Nano Letters, 2009, 9, 3922-3929.	9.1	206
125	Engineered SERS Substrates with Multiscale Signal Enhancement: Nanoparticle Cluster Arrays. ACS Nano, 2009, 3, 1190-1202.	14.6	375
126	Nanoâ€•and Micropatterning of Optically Transparent, Mechanically Robust, Biocompatible Silk Fibroin Films. Advanced Materials, 2008, 20, 3070-3072.	21.0	181

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127	Second-order parametric interactions in 1-D photonic-crystal microcavity structures. Optics Express, 2008, 16, 5261.	3.4	9
128	Quasi-periodic distribution of plasmon modes in two-dimensional Fibonacci arrays of metal nanoparticles. Optics Express, 2008, 16, 5544.	3.4	47
129	Sensitive label-free biosensing using critical modes in aperiodic photonic structures. Optics Express, 2008, 16, 12511.	3.4	28
130	Optical gap formation and localization properties of optical modes in deterministic aperiodic photonic structures. Optics Express, 2008, 16, 18813.	3.4	49
131	Photonic-Plasmonic Scattering Resonances in Deterministic Aperiodic Structures. Nano Letters, 2008, 8, 2423-2431.	9.1	150
132	Enhanced light emission in photonic crystal nanocavities with Erbium-doped silicon nanocrystals. Applied Physics Letters, 2008, 92, .	3.3	67
133	Enhanced erbium emission in photonic crystal nanocavities. , 2008, , .		0
134	Field Enhancement in Deterministic Aperiodic Arrays of Metal Nanoparticles. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
135	Plasmon mode transformation in modulated-index metal-dielectric slot waveguides. Optics Letters, 2007, 32, 3086.	3.3	27
136	Spectral gaps and mode localization in Fibonacci chains of metal nanoparticles. Optics Express, 2007, 15, 14396.	3.4	48
137	Modeling of Aperiodic Fractal Waveguide Structures for Multifrequency Light Transport. Journal of Lightwave Technology, 2007, 25, 1841-1847.	4.6	19
138	Metalâ€“Dielectric Slot-Waveguide Structures for the Propagation of Surface Plasmon Polaritons at 1.55 $mu{hbox {m}}$. IEEE Journal of Quantum Electronics, 2007, 43, 479-485.	1.9	102
139	Plasmonic Mode Transformers Using Modulated-Index Metal-Dielectric Slot Waveguides. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	1
140	Synthesis, Characterization, and Modeling of Nitrogen-Passivated Colloidal and Thin Film Silicon Nanocrystals. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1151-1163.	2.9	13
141	Light-Emitting Silicon Nanocrystals and Photonic Structures in Silicon Nitride. IEEE Journal of Selected Topics in Quantum Electronics, 2006, 12, 1628-1635.	2.9	36
142	Polarized Optical Gain and Polarization-Narrowing of Heavily Oxidized Porous Silicon. Physical Review Letters, 2004, 93, 207402.	7.8	64