Nicolas Bonod

List of Publications by Year
in descending order

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160 papers	6,474 citations	47006 47 h-index	69250 77 g-index
162 all docs	162 docs citations	162 times ranked	5513 citing authors

#	Article	IF	Citations
1	Investigation of the influence of a spatial beam profile on laser damage growth dynamics in multilayer dielectric mirrors in the near infrared sub-picosecond regime. Optics Express, 2022, 30, 17739.	3.4	3
2	Poles, physical bounds, and optimal materials predicted with approximated Mie coefficients. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 979.	2.1	1
3	Full-silica metamaterial wave plate for high-intensity UV lasers. Optica, 2021, 8, 1372.	9.3	11
4	Few-Molecule Strong Coupling with Dimers of Plasmonic Nanoparticles Assembled on DNA. ACS Nano, 2021, 15, 14732-14743.	14.6	27
5	Wigner matrix formalism for phase-modulated signals. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2021, 38, 124.	1.5	1
6	Controlling spontaneous emission with dielectric optical antennas. , 2020, , 109-144.		1
7	Modal analysis of anapoles. Journal of Physics: Conference Series, 2020, 1461, 012017.	0.4	0
8	Modal analysis of Mie resonators: Pole-expansion of scattering operators. Journal of Physics: Conference Series, 2020, 1461, 012025.	0.4	0
9	Full optical characterization of single nanoparticles using quantitative phase imaging. Optica, 2020, 7, 243.	9.3	33
10	All-dielectric Mie-resonant metaphotonics. Comptes Rendus Physique, 2020, 21, 425-442.	0.9	9
11	Gustav Mie: the man, the theory. Photoniques, 2020, , 22-26.	0.1	2
12	Dielectric nanoantennas to manipulate solid-state light emission. Journal of Applied Physics, 2019, 126, .	2.5	76
13	Deep Ultraviolet Plasmonic Enhancement of Single Protein Autofluorescence in Zero-Mode Waveguides. Nano Letters, 2019, 19, 7434-7442.	9.1	38
14	Optimized Magnetic Nanoantennas: Evolutionary Optimization of Allâ€Dielectric Magnetic Nanoantennas (Advanced Optical Materials 10/2019). Advanced Optical Materials, 2019, 7, 1970039.	7.3	1
15	Evolutionary Optimization of Allâ€Dielectric Magnetic Nanoantennas. Advanced Optical Materials, 2019, 7, 1900121.	7.3	26
16	Strong Light Intensifications Yielded by Arbitrary Defects: Fresnel Diffraction Theory Applied to a Set of Opaque Disks. Physical Review Applied, 2019, 11, .	3.8	11
17	Enhanced Four-Wave Mixing in Doubly Resonant Si Nanoresonators. ACS Photonics, 2019, 6, 1295-1301.	6.6	27
18	A Dielectric Magnetic Nanoantenna Designed by Evolutionary Optimization. , 2019, , .		0

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19	Enhancing Magnetic Light Emission with Optical Nanoantennas. , 2019, , .		0
20	Modal analysis of anapoles, internal fields, and Fano resonances in dielectric particles. Journal of the Optical Society of America B: Optical Physics, 2019, 36, 2052.	2.1	22
21	Influence of absorption-edge properties on subpicosecond intrinsic laser-damage threshold at 1053 nm in hafnia and silica monolayers. Optics Express, 2019, 27, 16922.	3.4	16
22	Experimental Validation of the Robust Optimization Algorithm for High-Fluence Optical Coatings. , 2019, , .		1
23	Free-space micro-graphics with electrically driven levitated light scatterers. Optics Letters, 2019, 44, 1476.	3.3	5
24	Opticien cÃ©lÃ¨bre. Marie SkÅ‚odowska-Curie. Photoniques, 2019, , 14-16.	0.1	0
25	Physicien cÃ©lÃ¨bre. Paul Langevin. Photoniques, 2019, , 18-20.	0.1	0
26	Physicien cÃ©lÃ¨breÂ: Max von Laue. Photoniques, 2019, , 18-19.	0.1	0
27	Spectroscopy and Biosensing with Optically Resonant Dielectric Nanostructures. Advanced Optical Materials, 2018, 6, 1701094.	7.3	120
28	Enhancing Magnetic Light Emission with All-Dielectric Optical Nanoantennas. Nano Letters, 2018, 18, 3481-3487.	9.1	66
29	Nanoscale Switching of Near-Infrared Hot Spots in Plasmonic Oligomers Probed by Two-Photon Absorption in Photopolymers. ACS Photonics, 2018, 5, 918-928.	6.6	16
30	Kerker Effect in Ultrahigh-Field Magnetic Resonance Imaging. Physical Review X, 2018, 8, .	8.9	24
31	Circularly Polarized Images with Contrast Reversal Using Pseudochiral Metasurfaces. ACS Photonics, 2018, 5, 4068-4073.	6.6	12
32	Robust optimization of the laser induced damage threshold of dielectric mirrors for high power lasers. Optics Express, 2018, 26, 11764.	3.4	30
33	Interplay between spontaneous decay rates and Lamb shifts in open photonic systems. Optics Letters, 2018, 43, 1950.	3.3	16
34	Modal expansion of the scattered field: Causality, nondivergence, and nonresonant contribution. Physical Review B, 2018, 98, .	3.2	30
35	Self-assembled antireflection coatings for light trapping based on SiGe random metasurfaces. Physical Review Materials, 2018, 2, .	2.4	13
36	Designing surface lattice resonances to enhance the luminescence from silicon nanocrystals. , 2018, , .		0

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37	Single Emitter Fluorescence Enhancement with Surface Lattice Resonances. Journal of Physical Chemistry C, 2017, 121, 13280-13289.	3.1	38
38	All-Dielectric Metasurfaces Based on Cross-Shaped Resonators for Color Pixels with Extended Gamut. ACS Photonics, 2017, 4, 1076-1082.	6.6	127
39	All-Dielectric Color Filters Using SiGe-Based Mie Resonator Arrays. ACS Photonics, 2017, 4, 873-883.	6.6	75
40	Polarizability expressions for predicting resonances in plasmonic and Mie scatterers. Physical Review A, 2017, 95, .	2.5	8
41	Stacked magnetic resonators for MRI RF coils decoupling. Journal of Magnetic Resonance, 2017, 275, 11-18.	2.1	21
42	Lattice modes and plasmonic linewidth engineering in gold and aluminum nanoparticle arrays. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 691.	2.1	156
43	Lamb shift multipolar analysis. Journal of the Optical Society of America B: Optical Physics, 2017, 34, 1348.	2.1	7
44	Les mÃ©tasurfaces, des composants optiques fonctionnels ultra-minces. Photoniques, 2017, , 25-30.	0.1	0
45	Enhancement and Inhibition of Spontaneous Photon Emission by Resonant Silicon Nanoantennas. Physical Review Applied, 2016, 6, .	3.8	65
46	Competition between FÃ¶rster Resonance Energy Transfer and Donor Photodynamics in Plasmonic Dimer Nanoantennas. ACS Photonics, 2016, 3, 895-903.	6.6	61
47	Tailoring the chirality of light emission with spherical Si-based antennas. Nanoscale, 2016, 8, 10441-10452.	5.6	52
48	Diffraction gratings: from principles to applications in high-intensity lasers. Advances in Optics and Photonics, 2016, 8, 156.	25.5	166
49	Tailoring light emission with all-silicon optical antennas. , 2016, , .		0
50	All-Dielectric Colored Metasurfaces with Silicon Mie Resonators. ACS Nano, 2016, 10, 7761-7767.	14.6	265
51	Polarizability approximations generalized to dielectric nanospheres. , 2016, , .		0
52	Optimal interactions of light with magnetic and electric resonant particles. Physical Review B, 2016, 93, .	3.2	14
53	All-Dielectric Silicon Nanogap Antennas To Enhance the Fluorescence of Single Molecules. Nano Letters, 2016, 16, 5143-5151.	9.1	197
54	Optical Monitoring of the Magnetoelectric Coupling in Individual Plasmonic Scatterers. ACS Photonics, 2016, 3, 1581-1588.	6.6	16

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55	High damage threshold meter-scale optical components for multi-PW lasers. , 2016, , .		0
56	Optimized 2D array of thin silicon pillars for efficient antireflective coatings in the visible spectrum. Scientific Reports, 2016, 6, 24947.	3.3	28
57	Transverse multipolar light-matter couplings in evanescent waves. Physical Review A, 2016, 94, .	2.5	9
58	Fano-like resonance emerging from magnetic and electric plasmon mode coupling in small arrays of gold particles. Scientific Reports, 2016, 6, 32061.	3.3	36
59	Picosecond Lifetimes with High Quantum Yields from Single-Photon-Emitting Colloidal Nanostructures at Room Temperature. ACS Nano, 2016, 10, 4806-4815.	14.6	48
60	Fabrication of poly-crystalline Si-based Mie resonators via amorphous Si on SiO₂dewetting. Nanoscale, 2016, 8, 2844-2849.	5.6	27
61	Miniaturiser les antennes pour la lumiÃ¨re visible. , 2016, , 95-99.	0.1	0
62	Mimicking localized surface plasmons with dielectric particles. Physical Review B, 2015, 92, .	3.2	23
63	Preface: the 2014 international workshop on Optical Wave (and Waveguide) Theory and Numerical Modelling. Optical and Quantum Electronics, 2015, 47, 3127-3129.	3.3	0
64	Purcell factor of spherical Mie resonators. Physical Review B, 2015, 91, .	3.2	123
65	Optimizing nano-antenna designs: Ideal absorption, unitarity, and directivity. , 2015, , .		0
66	Optimizing Nanoparticle Designs for Ideal Absorption of Light. ACS Photonics, 2015, 2, 263-270.	6.6	63
67	Large-scale dielectric metasurfaces. Nature Materials, 2015, 14, 664-665.	27.5	32
68	Self-Assembled Nanoparticle Dimer Antennas for Plasmonic-Enhanced Single-Molecule Fluorescence Detection at Micromolar Concentrations. ACS Photonics, 2015, 2, 1099-1107.	6.6	105
69	Chemical Alkaline Etching of Silicon Mie Particles. Advanced Optical Materials, 2015, 3, 1280-1286.	7.3	19
70	Enhanced Light Harvesting in Semitransparent Organic Solar Cells using an Optical Metal Cavity Configuration. Advanced Energy Materials, 2015, 5, 1400614.	19.5	55
71	Importance of Mueller matrix characterization of bianisotropic metamaterials. Thin Solid Films, 2014, 571, 405-409.	1.8	5
72	Enhancing the magnetic field intensity with a dielectric gap antenna. Applied Physics Letters, 2014, 104, 021117.	3.3	58

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73	Selfâ€Assembled Plasmonic Oligomers for Organic Photovoltaics. Advanced Optical Materials, 2014, 2, 171-175.	7.3	20
74	Wafer Scale Formation of Monocrystalline Silicon-Based Mie Resonators via Silicon-on-Insulator Dewetting. ACS Nano, 2014, 8, 11181-11190.	14.6	89
75	Singular analysis to homogenize planar metamaterials as nonlocal effective media. Physical Review B, 2014, 89, .	3.2	7
76	Magneto-electric nano-antennas. , 2013, , .		0
77	Optimization of resonant effects in nanostructures via Weierstrass factorization. Physical Review A, 2013, 88, .	2.5	64
78	Laserâ€“particle interactions in shaped beams: Beam power normalization. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 126, 31-37.	2.3	4
79	Singular analysis of Fano resonances in plasmonic nanostructures. Physical Review A, 2013, 88, .	2.5	36
80	Controllable emission of a dipolar source coupled with a magneto-dielectric resonant subwavelength scatterer. Scientific Reports, 2013, 3, 3063.	3.3	60
81	Plasmonic oligomers as effective red light scatterers to enhance the performance of organic solar cells. , 2013, , .		0
82	Multipolar effects on the dipolar polarizability of magneto-electric antennas. Optics Express, 2013, 21, 16444.	3.4	17
83	Manipulating light matter interaction with Mie resonators. , 2013, , .		0
84	Recent progress in the development of pulse compression gratings. EPJ Web of Conferences, 2013, 59, 07002.	0.3	4
85	Boosting the directivity of optical antennas with magnetic and electric dipolar resonant particles. Optics Express, 2012, 20, 20376.	3.4	182
86	Imaging the Gouy phase shift in photonic jets with a wavefront sensor. Optics Letters, 2012, 37, 3531.	3.3	12
87	Dispersion relations in metal nanoparticle chains: necessity of the multipole approach. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 1012.	2.1	12
88	Accelerated single photon emission from dye molecule-driven nanoantennas assembled on DNA. Nature Communications, 2012, 3, 962.	12.8	104
89	Photonic Engineering of Hybrid Metalâ€“Organic Chromophores. Angewandte Chemie - International Edition, 2012, 51, 11083-11087.	13.8	27
90	Promoting magnetic dipolar transition in trivalent lanthanide ions with lossless Mie resonances. Physical Review B, 2012, 85, .	3.2	120

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91	Digital Heterodyne Holography Reveals the Non-Quasi-Static Scattering Behaviour of Transversally Coupled Nanodisk Pairs. International Journal of Optics, 2012, 2012, 1-8.	1.4	2
92	Optical Antennas. International Journal of Optics, 2012, 2012, 1-4.	1.4	2
93	Near-field phase analysis reveals unexpected scattering properties of optical antennas. , 2012, , .		0
94	Bright Unidirectional Fluorescence Emission of Molecules in a Nanoaperture with Plasmonic Corrugations. Nano Letters, 2011, 11, 637-644.	9.1	258
95	Metallic dimers: When bonding transverse modes shine light. Physical Review B, 2011, 84, .	3.2	18
96	Optical and Topological Characterization of Gold Nanoparticle Dimers Linked by a Single DNA Double Strand. Nano Letters, 2011, 11, 5060-5065.	9.1	112
97	Multipole methods for nanoantennas design: applications to Yagi-Uda configurations. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 1213.	2.1	51
98	Crucial role of the emitterâ€“particle distance on the directivity of optical antennas. Optics Letters, 2011, 36, 3368.	3.3	44
99	Recent progress in the development of pulse compression gratings. , 2011, , .		1
100	The role of electric field polarization of the incident laser beam in the short pulse damage mechanism of pulse compression gratings. Applied Physics Letters, 2011, 99, .	3.3	26
101	On The Phase Of The Electric Field In Optical Antennas. , 2011, , .		0
102	Near field dielectric microlenses. Proceedings of SPIE, 2010, , .	0.8	4
103	Straightforward control of light in a metallic trimer. Proceedings of SPIE, 2010, , .	0.8	0
104	Mixed metal dielectric pulse compression gratings. , 2010, , .		0
105	Mode-balancing far-field control of light localization in nanoantennas. Physical Review B, 2010, 81, .	3.2	21
106	Compact Metallo-Dielectric Optical Antenna for Ultra Directional and Enhanced Radiative Emission. ACS Nano, 2010, 4, 3390-3396.	14.6	165
107	Ultracompact and unidirectional metallic antennas. Physical Review B, 2010, 82, .	3.2	56
108	Mixed metal dielectric gratings for pulse compression. Optics Express, 2010, 18, 23776.	3.4	61

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109	Enhanced second-harmonic generation from individual metallic nanoapertures. Optics Letters, 2010, 35, 4063.	3.3	39
110	Photonic jets and Bessel beams. , 2010, , .		1
111	Are surface plasmons always required for absorbing light in metallic nanostrutures?. , 2010, , .		0
112	Gratings and their quasistatic equivalents for high optical absorptance. Physical Review A, 2009, 79, .	2.5	2
113	Transverse and longitudinal confinement of photonic nanojets by compound dielectric microspheres. Proceedings of SPIE, 2009, , .	0.8	7
114	Metamaterial-induced band-gap of surface plasmon propagation. Journal of Optics, 2009, 11, 114018.	1.5	1
115	Efficient excitation and collection of single-molecule fluorescence close to a dielectric microsphere. Journal of the Optical Society of America B: Optical Physics, 2009, 26, 1473.	2.1	65
116	Three-dimensional subwavelength confinement of light with dielectric microspheres. Optics Express, 2009, 17, 2089.	3.4	124
117	Absorption of light by extremely shallow metallic gratings: metamaterial behavior. Optics Express, 2009, 17, 6770.	3.4	60
118	Mixed metal dielectric gratings for pulse compression applications. , 2009, , .		0
119	Biophotonics applications of nanometric apertures. International Journal of Materials and Product Technology, 2009, 34, 488.	0.2	5
120	Design of a full-silica pulse-compression grating. Optics Letters, 2008, 33, 458.	3.3	13
121	Total light absorption in a wide range of incidence by nanostructured metals without plasmons. Optics Letters, 2008, 33, 2398.	3.3	28
122	Field enhancement in a circular aperture surrounded by a single channel groove. Optics Express, 2008, 16, 2276.	3.4	28
123	Emission and excitation contributions to enhanced single molecule fluorescence by gold nanometric apertures. Optics Express, 2008, 16, 3008.	3.4	122
124	Direct imaging of photonic nanojets. Optics Express, 2008, 16, 6930.	3.4	240
125	Increased surface plasmon resonance sensitivity with the use of double Fourier harmonic gratings. Optics Express, 2008, 16, 11691.	3.4	15
126	Spectral analysis of three-dimensional photonic jets. Optics Express, 2008, 16, 14200.	3.4	108

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127	Strong electromagnetic confinement near dielectric microspheres to enhance single-molecule fluorescence. Optics Express, 2008, 16, 15297.	3.4	97
128	Total absorption of light by lamellar metallic gratings. Optics Express, 2008, 16, 15431.	3.4	94
129	Nanoaperture-enhanced fluorescence: Towards higher detection rates with plasmonic metals. Physical Review B, 2008, 77, .	3.2	88
130	Pulse compression gratings for the PETAL project: a review of various technologies. , 2008, , .		6
131	Single-scattering theory of light diffraction by a circular subwavelength aperture in a finitely conducting screen. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2007, 24, 339.	1.5	19
132	Comparison of plasmon surface waves on shallow and deep metallic 1D and 2D gratings. Optics Express, 2007, 15, 4224.	3.4	68
133	Non-Bloch plasmonic stop-band in real-metal gratings. Optics Express, 2007, 15, 6241.	3.4	7
134	Unidirectional excitation of surface plasmons by slanted gratings. Optics Express, 2007, 15, 11427.	3.4	60
135	Effect of electric field on laser induced damage threshold of multilayer dielectric gratings. Optics Express, 2007, 15, 12508.	3.4	120
136	Radiative and Nonradiative Photokinetics Alteration Inside a Single Metallic Nanometric Aperture. Journal of Physical Chemistry C, 2007, 111, 11469-11474.	3.1	23
137	Differential theory of diffraction in cylindrical coordinates. Physica Status Solidi (B): Basic Research, 2007, 244, 3463-3478.	1.5	1
138	Field enhancement in single subwavelength apertures. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 2342.	1.5	49
139	Polarization insensitive blazed diffraction gratings. Journal of the European Optical Society-Rapid Publications, 2006, 1, .	1.9	3
140	Optical performance and laser induced damage threshold improvement of diffraction gratings used as compressors in ultra high intensity lasers. Optics Communications, 2006, 260, 649-655.	2.1	53
141	Raman scattering and fluorescence emission in a single nanoaperture: Optimizing the local intensity enhancement. Optics Communications, 2006, 267, 224-228.	2.1	24
142	Design, optimization and development of pulse compression gratings for the MPW-HE LIL. European Physical Journal Special Topics, 2006, 133, 669-672.	0.2	4
143	Enhanced Raman Scattering in a 10 Attoliter Nanohole. , 2006, , .		0
144	Design of diffraction gratings for multipetawatt laser compressors. , 2005, 5962, 810.		0

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145	Light transmission through a subwavelength microstructured aperture: electromagnetic theory and applications. Optics Communications, 2005, 245, 355-361.	2.1	10
146	Fourier factorization of nonlinear Maxwell equations in periodic media: application to the optical Kerr effect. Optics Communications, 2005, 244, 389-398.	2.1	21
147	Light transmission through a subwavelength hole. Optics Communications, 2005, 255, 338-348.	2.1	25
148	Analysis of the physical origin of surface modes on finite-size photonic crystals. Physical Review B, 2005, 72, .	3.2	28
149	Enhancement of Single-Molecule Fluorescence Detection in Subwavelength Apertures. Physical Review Letters, 2005, 95, 117401.	7.8	211
150	Surface plasmon excitation on a single subwavelength hole in a metallic sheet. Applied Optics, 2005, 44, 2332.	2.1	80
151	Optimization of plasmon excitation at structured apertures. Applied Optics, 2005, 44, 6141.	2.1	18
152	Enhanced transmission of light through a circularly structured aperture. Applied Optics, 2005, 44, 6898.	2.1	19
153	Differential theory of diffraction by finite cylindrical objects. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2005, 22, 481.	1.5	30
154	Factorization of products of discontinuous functions applied to Fourierâ€“Bessel basis. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 46.	1.5	17
155	Differential theory: application to highly conducting gratings. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 199.	1.5	30
156	Optimization of surface-plasmon-enhanced magneto-optical effects. Journal of the Optical Society of America B: Optical Physics, 2004, 21, 791.	2.1	62
157	Enhanced transmission due to nonplasmon resonances in one- and two-dimensional gratings. Applied Optics, 2004, 43, 999.	2.1	34
158	Resonant optical transmission through thin metallic films with and without holes. Optics Express, 2003, 11, 482.	3.4	186
159	Factorization of nonlinear Maxwell equations in periodic media. , 2003, 5184, 134.		0
160	Physics of extraordinary transmission through subwavelength hole arrays. , 0, , 1-27.		3