

# Christian Girard

## List of Publications by Year in descending order

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114  
papers

6,495  
citations

66343

42  
h-index

64796

79  
g-index

114  
all docs

114  
docs citations

114  
times ranked

5449  
citing authors

#	ARTICLE	IF	CITATIONS
1	Parallel and selective trapping in a patterned plasmonic landscape. <i>Nature Physics</i> , 2007, 3, 477-480.	16.7	455
2	Near-field optics theories. <i>Reports on Progress in Physics</i> , 1996, 59, 657-699.	20.1	398
3	Generalized Field Propagator for Electromagnetic Scattering and Light Confinement. <i>Physical Review Letters</i> , 1995, 74, 526-529.	7.8	353
4	Mapping Heat Origin in Plasmonic Structures. <i>Physical Review Letters</i> , 2010, 104, 136805.	7.8	256
5	Controlling and tuning strong optical field gradients at a local probe microscope tip apex. <i>Applied Physics Letters</i> , 1997, 70, 705-707.	3.3	247
6	Plasmon polaritons of metallic nanowires for controlling submicron propagation of light. <i>Physical Review B</i> , 1999, 60, 9061-9068.	3.2	241
7	Surface Plasmon Optical Tweezers: Tunable Optical Manipulation in the Femtonewton Range. <i>Physical Review Letters</i> , 2008, 100, 186804.	7.8	235
8	Near fields in nanostructures. <i>Reports on Progress in Physics</i> , 2005, 68, 1883-1933.	20.1	222
9	Deep learning in nano-photonics: inverse design and beyond. <i>Photonics Research</i> , 2021, 9, B182.	7.0	222
10	Plasmonic Pumping of Excitonic Photoluminescence in Hybrid MoS <sub>2</sub> /Au Nanostructures. <i>ACS Nano</i> , 2014, 8, 12682-12689.	14.6	198
11	Tailoring and imaging the plasmonic local density of states in crystalline nanoprisms. <i>Nature Materials</i> , 2013, 12, 426-432.	27.5	172
12	Thermoplasmonics modeling: A Green's function approach. <i>Physical Review B</i> , 2010, 82, .	3.2	146
13	Surface Plasmon Damping Quantified with an Electron Nanoprobe. <i>Scientific Reports</i> , 2013, 3, 1312.	3.3	133
14	The physics of the near-field. <i>Reports on Progress in Physics</i> , 2000, 63, 893-938.	20.1	132
15	Molecular Lifetime Changes Induced by Nanometer Scale Optical Fields. <i>Physical Review Letters</i> , 1995, 75, 3098-3101.	7.8	122
16	Iterative scheme for computing exactly the total field propagating in dielectric structures of arbitrary shape. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1994, 11, 1073.	1.5	121
17	Evolutionary multi-objective optimization of colour pixels based on dielectric nanoantennas. <i>Nature Nanotechnology</i> , 2017, 12, 163-169.	31.5	105
18	Optical Analogy to Electronic Quantum Corrals. <i>Physical Review Letters</i> , 2001, 86, 4950-4953.	7.8	99

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19	Theoretical principles of near-field optical microscopies and spectroscopies. <i>Journal of Chemical Physics</i> , 2000, 112, 7775-7789.	3.0	98
20	Observation of Light Confinement Effects with a Near-Field Optical Microscope. <i>Physical Review Letters</i> , 1996, 77, 5332-5335.	7.8	84
21	Plasmonic Nanoparticle Networks for Light and Heat Concentration. <i>ACS Nano</i> , 2012, 6, 3434-3440.	14.6	82
22	Near-field optical properties of single plasmonic nanowires. <i>Applied Physics Letters</i> , 2006, 89, 233119.	3.3	81
23	Damping of the Acoustic Vibrations of Individual Gold Nanoparticles. <i>Nano Letters</i> , 2011, 11, 3301-3306.	9.1	75
24	Local detection of the optical magnetic field in the near zone of dielectric samples. <i>Physical Review B</i> , 2000, 62, 10504-10514.	3.2	69
25	Generation of optical standing waves around mesoscopic surface structures: Scattering and light confinement. <i>Physical Review B</i> , 1995, 52, 2889-2898.	3.2	68
26	Tailoring the transmittance of integrated optical waveguides with short metallic nanoparticle chains. <i>Physical Review B</i> , 2004, 69, .	3.2	68
27	Near-field optical transmittance of metal particle chain waveguides. <i>Optics Express</i> , 2004, 12, 6141.	3.4	68
28	Dielectric versus topographic contrast in near-field microscopy. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1996, 13, 1801.	1.5	67
29	Strongly Directional Scattering from Dielectric Nanowires. <i>ACS Photonics</i> , 2017, 4, 2036-2046.	6.6	67
30	Single-atom motion during a lateral STM manipulation. <i>Physical Review B</i> , 1999, 59, R7845-R7848.	3.2	60
31	Optical spectroscopy of a surface at the nanometer scale: A theoretical study in real space. <i>Physical Review B</i> , 1994, 49, 11344-11351.	3.2	57
32	Multimodal plasmonics in fused colloidal networks. <i>Nature Materials</i> , 2015, 14, 87-94.	27.5	57
33	Importance of confined fields in near-field optical imaging of subwavelength objects. <i>Physical Review B</i> , 1994, 50, 14467-14473.	3.2	56
34	Generalized Field Propagator for Arbitrary Finite-Size Photonic Band Gap Structures. <i>Physical Review Letters</i> , 1999, 82, 315-318.	7.8	49
35	Tailoring Second-Harmonic Generation in Single L-Shaped Plasmonic Nanoantennas from the Capacitive to Conductive Coupling Regime. <i>ACS Photonics</i> , 2015, 2, 1592-1601.	6.6	49
36	Acousto-Plasmonic and Surface-Enhanced Raman Scattering Properties of Coupled Gold Nanospheres/Nanodisk Trimers. <i>Nano Letters</i> , 2011, 11, 431-437.	9.1	47

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37	Model for reflection near field optical microscopy. Applied Optics, 1990, 29, 3726.	2.1	45
38	Optical magnetic near-field intensities around nanometer-scale surface structures. Physical Review B, 1997, 55, 16487-16497.	3.2	45
39	Relationship between scanning near-field optical images and local density of photonic states. Chemical Physics Letters, 2001, 345, 512-516.	2.6	44
40	Near-field optical properties of top-down and bottom-up nanostructures. Journal of Optics, 2006, 8, S73-S86.	1.5	44
41	Molecular quenching and relaxation in a plasmonic tunable system. Physical Review B, 2008, 77, .	3.2	44
42	Gold nanoring trimers: a versatile structure for infrared sensing. Optics Express, 2010, 18, 22271.	3.4	44
43	Self-consistent interaction potential for a molecule adsorbed on a dielectric surface: A symmetric top molecule on an ionic crystal. Journal of Chemical Physics, 1987, 86, 6531-6539.	3.0	41
44	Computing the optical near-field distributions around complex subwavelength surface structures: A comparative study of different methods. Physical Review E, 1996, 54, 4285-4292.	2.1	41
45	Field propagator of a dressed junction: Fluorescence lifetime calculations in a confined geometry. Physical Review A, 1997, 56, 3245-3254.	2.5	41
46	Generalized Bloch equations for optical interactions in confined geometries. Chemical Physics Letters, 2005, 404, 44-48.	2.6	41
47	Theoretical analysis of light-inductive forces in scanning probe microscopy. Physical Review B, 1994, 49, 13872-13881.	3.2	40
48	Theory of near-field optical imaging with a single molecule as light source. Journal of Chemical Physics, 2002, 117, 4659-4666.	3.0	39
49	Potential energy calculations for argon and methane adsorbed on MgO(001) substrate. Chemical Physics Letters, 1987, 138, 83-89.	2.6	35
50	Plasmonic Hot Printing in Gold Nanoprisms. ACS Photonics, 2015, 2, 744-751.	6.6	34
51	Computation of electrostatic fields in low-symmetry systems: Application to STM configurations. Physical Review B, 1996, 53, 13159-13168.	3.2	33
52	Plasmonic Shaping in Gold Nanoparticle Three-Dimensional Assemblies. Journal of Physical Chemistry C, 2013, 117, 23126-23132.	3.1	33
53	Theory of molecular excitation and relaxation near a plasmonic device. Journal of Chemical Physics, 2007, 127, 034701.	3.0	32
54	Dual wavelength sensing based on interacting gold nanodisk trimers. Nanotechnology, 2010, 21, 305501.	2.6	30

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55	Theoretical Near-Field Optical Properties of Branched Plasmonic Nanoparticle Networks. <i>Physical Review Letters</i> , 2006, 97, 100801.	7.8	29
56	Origin of second-harmonic generation from individual silicon nanowires. <i>Physical Review B</i> , 2016, 93, .	3.2	29
57	Mechanics of (Xe)Natomic chains under STM manipulation. <i>Physical Review B</i> , 2001, 63, .	3.2	28
58	Theoretical study of the atomic-force-microscopy imaging process on the NaCl(001) surface. <i>Journal of Chemical Physics</i> , 1998, 108, 359-367.	3.0	25
59	Near-field optical properties of localized plasmons around lithographically designed nanostructures. <i>Journal of Applied Physics</i> , 1999, 86, 2576-2583.	2.5	25
60	Processing and near-field optical properties of self-assembled plasmonic nanoparticle networks. <i>Journal of Chemical Physics</i> , 2009, 130, 034702.	3.0	25
61	Design of plasmonic directional antennas via evolutionary optimization. <i>Optics Express</i> , 2019, 27, 29069.	3.4	25
62	Electron energy losses and cathodoluminescence from complex plasmonic nanostructures: spectra, maps and radiation patterns from a generalized field propagator. <i>New Journal of Physics</i> , 2014, 16, 113012.	2.9	23
63	Decay rate of magnetic dipoles near nonmagnetic nanostructures. <i>Physical Review B</i> , 2018, 97, .	3.2	23
64	Enhancement of electric and magnetic dipole transition of rare-earth-doped thin films tailored by high-index dielectric nanostructures. <i>Applied Optics</i> , 2019, 58, 1682.	1.8	23
65	Scanning optical microscopy modeling in nanoplasmonics. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2012, 29, 2431.	2.1	21
66	Polarization conversion in plasmonic nanoantennas for metasurfaces using structural asymmetry and mode hybridization. <i>Scientific Reports</i> , 2017, 7, 40906.	3.3	21
67	Polarization state of the optical near field. <i>Physical Review E</i> , 2002, 65, 036701.	2.1	18
68	Fluorescence resonant energy transfer in the optical near field. <i>Physical Review A</i> , 2003, 67, .	2.5	18
69	Substrate-mediated interactions between adsorbed atoms and molecules - a discrete solid theory. <i>Surface Science</i> , 1988, 195, 173-186.	1.9	17
70	Sub-wavelength patterning of the optical near-field. <i>Optics Express</i> , 2004, 12, 282.	3.4	17
71	Modal engineering of Surface Plasmons in apertured Au Nanoprisms. <i>Scientific Reports</i> , 2015, 5, 16635.	3.3	17
72	Deep Learning Enabled Strategies for Modeling of Complex Aperiodic Plasmonic Metasurfaces of Arbitrary Size. <i>ACS Photonics</i> , 2022, 9, 575-585.	6.6	17

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73	Electromagnetic fields in two-dimensional models of near-field optical microscope tips. <i>Ultramicroscopy</i> , 1995, 60, 1-9.	1.9	16
74	Transmission scanning near-field optical microscopy with uncoated silicon tips. <i>Ultramicroscopy</i> , 1998, 71, 371-377.	1.9	16
75	Addressing and imaging high optical index dielectric ridges in the optical near field. <i>Physical Review E</i> , 2001, 64, 066607.	2.1	16
76	Energy transfer in near-field optics. <i>Journal of Chemical Physics</i> , 2005, 123, 174709.	3.0	16
77	Designing Plasmonic Eigenstates for Optical Signal Transmission in Planar Channel Devices. <i>ACS Photonics</i> , 2018, 5, 2328-2335.	6.6	16
78	Challenges in nanofabrication for efficient optical metasurfaces. <i>Scientific Reports</i> , 2021, 11, 5620.	3.3	16
79	Electrodynamics in complex systems: Application to near-field probing of optical microresonators. <i>Physical Review E</i> , 1996, 54, 5752-5760.	2.1	15
80	Resonant optical tunnel effect through dielectric structures of subwavelength cross sections. <i>Physical Review E</i> , 1999, 59, 6097-6104.	2.1	15
81	Plasphonics : local hybridization of plasmons and phonons. <i>Optics Express</i> , 2013, 21, 4551.	3.4	15
82	â€œpyGDMâ€• new functionalities and major improvements to the python toolkit for nano-optics full-field simulations. <i>Computer Physics Communications</i> , 2022, 270, 108142.	7.5	15
83	Field susceptibility of a composite system: application to van der Waals dispersive interactions inside a finite line of physisorbed atoms. <i>Surface Science</i> , 1993, 295, 445-456.	1.9	14
84	Detection of the optical magnetic field by circular symmetry plasmons. <i>Applied Surface Science</i> , 2000, 164, 124-130.	6.1	11
85	Sculpting nanometer-sized light landscape with plasmonic nanocolumns. <i>Journal of Chemical Physics</i> , 2009, 131, 224707.	3.0	11
86	Near-field optical contrasts in the Fresnel evanescent wave. <i>Physical Review E</i> , 1998, 58, 1081-1085.	2.1	10
87	Interaction of an ultrashort optical pulse with a metallic nanotip: A Green dyadic approach. <i>Journal of Applied Physics</i> , 2012, 112, 053103.	2.5	10
88	NEAR-FIELD PROPERTIES OF PLASMONIC NANOSTRUCTURES WITH HIGH ASPECT RATIO. <i>Progress in Electromagnetics Research</i> , 2014, 146, 77-88.	4.4	10
89	Selection of Arginine-Rich Anti-Gold Antibodies Engineered for Plasmonic Colloid Self-Assembly. <i>Journal of Physical Chemistry C</i> , 2014, 118, 14502-14510.	3.1	9
90	Polarizabilities of complex individual dielectric or plasmonic nanostructures. <i>Physical Review B</i> , 2020, 101, .	3.2	9

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91	Modelling resonant coupling between microring resonators addressed by optical evanescent waves. <i>Nanotechnology</i> , 2004, 15, 1200-1210.	2.6	8
92	Theory of plasmonic properties of hyper-doped silicon nanostructures. <i>Optics Communications</i> , 2019, 453, 124336.	2.1	8
93	Transmittance of subwavelength optical tunnel junctions. <i>Physical Review B</i> , 1998, 58, 12551-12554.	3.2	6
94	Manipulating and squeezing the photon local density of states with plasmonic nanoparticle networks. <i>Physical Review B</i> , 2010, 81, .	3.2	6
95	Interconnect-Free Multibit Arithmetic and Logic Unit in a Single Reconfigurable $3 \frac{1}{4} \mu\text{m}^2$ Plasmonic Cavity. <i>ACS Nano</i> , 2021, 15, 13351-13359.	14.6	6
96	Quantum theory of near-field optical imaging with rare-earth atomic clusters. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2020, 37, 1474.	2.1	6
97	Numerical determination of the structure of registered rare gas monolayers adsorbed on dielectric or metallic substrates. <i>Surface Science</i> , 1988, 201, 278-293.	1.9	5
98	New optical near field developments: some perspectives in interferometry. <i>Ultramicroscopy</i> , 1995, 61, 117-125.	1.9	5
99	Molecular decay rate near nonlocal plasmonic particles. <i>Optics Letters</i> , 2015, 40, 2116.	3.3	5
100	Beyond dipolar regime in high-order plasmon mode bowtie antennas. <i>Optics Communications</i> , 2017, 387, 48-54.	2.1	5
101	Tailoring Wavelength- and Emitter-Orientation-Dependent Propagation of Single Photons in Silicon Nanowires. <i>Physical Review Applied</i> , 2022, 17, .	3.8	5
102	Theory of Near-field Optical Imaging with a Single Molecule as Light Source. <i>Single Molecules</i> , 2002, 3, 311-312.	0.9	4
103	Spectral Tuning of High Order Plasmonic Resonances in Multimodal Film-Coupled Crystalline Cavities. <i>Advanced Optical Materials</i> , 2019, 7, 1801787.	7.3	4
104	Theory of Near Field Optics. , 1995, , 1-20.		4
105	Theory of Kerr effect in magnetic multilayered structures. <i>Ultramicroscopy</i> , 1995, 61, 57-62.	1.9	3
106	Coplanar devices for the optical addressing of single molecules. <i>Nanotechnology</i> , 2001, 12, 75-79.	2.6	2
107	Theory of near-field optical imaging with a single fluorescent molecule used as a point-like detector. <i>Chemical Physics</i> , 2002, 282, 277-287.	1.9	2
108	Evolutionary multi-objective optimization for multi-resonant photonic nanostructures. , 2016, , .		2

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109	Martin, Girard, and Dereux Reply:. Physical Review Letters, 1996, 76, 2405-2405.	7.8	1
110	Multi-resonant silicon nanoantennas by evolutionary multi-objective optimization. , 2018, , .		1
111	Generalizing the exact multipole expansion: density of multipole modes in complex photonic nanostructures. Nanophotonics, 2022, 11, 3663-3678.	6.0	1
112	Interference patterns in and outside a dielectric prism combined with a Fabry-Pérot cavity. Ultramicroscopy, 1995, 61, 29-34.	1.9	0
113	The strength of surface plasmons. , 2008, , .		0
114	Tuning the linear and non-linear optical response of orthogonal dimmer antennas for metasurfaces. , 2016, , .		0