

Jens Färstner

List of Publications by Year in descending order

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121
papers

1,960
citations

304743

22
h-index

276875

41
g-index

122
all docs

122
docs citations

122
times ranked

2020
citing authors

#	ARTICLE	IF	CITATIONS
1	Phonon-Assisted Damping of Rabi Oscillations in Semiconductor Quantum Dots. <i>Physical Review Letters</i> , 2003, 91, 127401.	7.8	261
2	Collective Effects in Second-Harmonic Generation from Split-Ring-Resonator Arrays. <i>Physical Review Letters</i> , 2012, 109, 015502.	7.8	160
3	Unveiling Nanometer Scale Extinction and Scattering Phenomena through Combined Electron Energy Loss Spectroscopy and Cathodoluminescence Measurements. <i>Nano Letters</i> , 2015, 15, 1229-1237.	9.1	143
4	Second harmonic generation spectroscopy on hybrid plasmonic/dielectric nanoantennas. <i>Light: Science and Applications</i> , 2016, 5, e16013-e16013.	16.6	114
5	Optical dephasing of coherent intersubband transitions in a quasi-two-dimensional electron gas. <i>Physical Review B</i> , 2004, 69, .	3.2	81
6	Theory of ultrafast nonlinear optics of Coulomb-coupled semiconductor quantum dots: Rabi oscillations and pump-probe spectra. <i>Physical Review B</i> , 2006, 73, .	3.2	61
7	Resonance fluorescence of semiconductor quantum dots: Signatures of the electron-phonon interaction. <i>Physical Review B</i> , 2005, 71, .	3.2	53
8	Cavity-assisted emission of polarization-entangled photons from biexcitons in quantum dots with fine-structure splitting. <i>Optics Express</i> , 2012, 20, 5335.	3.4	47
9	Phonon-induced damping of Rabi oscillations in semiconductor quantum dots. <i>Physica Status Solidi (B): Basic Research</i> , 2003, 238, 419-422.	1.5	42
10	Directional Emission from Dielectric Leaky-Wave Nanoantennas. <i>Nano Letters</i> , 2017, 17, 4178-4183.	9.1	39
11	Light scattering by ice crystals of cirrus clouds: From exact numerical methods to physical-optics approximation. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2017, 195, 132-140.	2.3	35
12	Self-induced transparency in InGaAs quantum-dot waveguides. <i>Applied Physics Letters</i> , 2003, 83, 3668-3670.	3.3	34
13	Light scattering by irregular particles much larger than the wavelength with wavelength-scale surface roughness. <i>Optics Letters</i> , 2016, 41, 3491.	3.3	34
14	How planar optical waves can be made to climb dielectric steps. <i>Optics Letters</i> , 2015, 40, 3711.	3.3	30
15	Ultrafast electron-phonon interaction of intersubband transitions: Quantum kinetics from adiabatic following to Rabi-oscillations. <i>Physical Review B</i> , 2005, 72, .	3.2	29
16	Femtosecond Transfer Dynamics of Photogenerated Electrons at a Surface Resonance of Reconstructed InP(100). <i>Physical Review Letters</i> , 2005, 94, 067601.	7.8	28
17	Phonon-assisted tunneling between singlet states in two-electron quantum dot molecules. <i>Physical Review B</i> , 2008, 78, .	3.2	28
18	Light scattering by randomly irregular dielectric particles larger than the wavelength. <i>Optics Letters</i> , 2013, 38, 5153.	3.3	27

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19	Linear and nonlinear pulse propagation in a multiple-quantum-well photonic crystal. <i>Physical Review B</i> , 2004, 70, .	3.2	26
20	Adiabatically driven electron dynamics in a resonant photonic band gap: Optical switching of a Bragg periodic semiconductor. <i>Physical Review B</i> , 2004, 70, .	3.2	26
21	Microscopic analysis of charge and spin photocurrents injected by circularly polarized one-color laser pulses in GaAs quantum wells. <i>Physical Review B</i> , 2010, 82, .	3.2	26
22	Light Propagation- and Many-particle-induced Non-Lorentzian Lineshapes in Semiconductor Nanooptics. <i>Physica Status Solidi (B): Basic Research</i> , 2002, 234, 155-165.	1.5	22
23	Unveiling and Imaging Degenerate States in Plasmonic Nanoparticles with Nanometer Resolution. <i>ACS Nano</i> , 2018, 12, 8436-8446.	14.6	22
24	Intensity surge and negative polarization of light from compact irregular particles. <i>Optics Letters</i> , 2018, 43, 3562.	3.3	22
25	Reversal of Coherently Controlled Ultrafast Photocurrents by Band Mixing in Undoped GaAs Quantum Wells. <i>Physical Review Letters</i> , 2010, 104, 217401.	7.8	21
26	OpenCL-Based FPGA Design to Accelerate the Nodal Discontinuous Galerkin Method for Unstructured Meshes. , 2018, , .		21
27	Full Resonant Transmission of Semiguided Planar Waves Through Slab Waveguide Steps at Oblique Incidence. <i>Journal of Lightwave Technology</i> , 2016, 34, 997-1005.	4.6	20
28	Whispering gallery modes in zinc-blende AlN microdisks containing non-polar GaN quantum dots. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	19
29	Polaron signatures in the line shape of semiconductor intersubband transitions: quantum kinetics of the electron-phonon interaction. <i>Physica Status Solidi (B): Basic Research</i> , 2004, 241, R49-R51.	1.5	18
30	Theory of the lineshape of quantum well intersubband transitions: optical dephasing and light propagation effects. <i>Physica Status Solidi (B): Basic Research</i> , 2003, 238, 474-477.	1.5	17
31	Phase Evolution of Solitonlike Optical Pulses during Excitonic Rabi Flopping in a Semiconductor. <i>Physical Review Letters</i> , 2005, 94, 057406.	7.8	17
32	Light scattering by ice crystals of cirrus clouds: comparison of the physical optics methods. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2016, 182, 12-23.	2.3	17
33	Tailored UV Emission by Nonlinear IR Excitation from ZnO Photonic Crystal Nanocavities. <i>ACS Photonics</i> , 2018, 5, 1933-1942.	6.6	17
34	Electron-factor anisotropy in symmetric (110)-oriented GaAs quantum wells. <i>Physical Review B</i> , 2011, 84, .	3.2	16
35	Coupling Mediated Coherent Control of Localized Surface Plasmon Polaritons. <i>Nano Letters</i> , 2015, 15, 4189-4193.	9.1	16
36	Flexible FPGA design for FDTD using OpenCL. , 2017, , .		16

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37	Theory of phonon-mediated relaxation in doped quantum dot molecules. <i>Physical Review B</i> , 2010, 81, .	3.2	14
38	Oblique evanescent excitation of a dielectric strip: A model resonator with an open optical cavity of unlimited Q. <i>Optics Express</i> , 2019, 27, 9313.	3.4	14
39	Discrete plasmonic solitons in graphene-coated nanowire arrays. <i>Optics Express</i> , 2016, 24, 4714.	3.4	12
40	Oblique incidence of semi-guided planar waves on slab waveguide steps: effects of rounded edges. <i>Optics Express</i> , 2018, 26, 18621.	3.4	12
41	Electromagnetic field structure and normal mode coupling in photonic crystal nanocavities. <i>Optics Express</i> , 2005, 13, 4980.	3.4	11
42	Transition between different coherent light-matter interaction regimes analyzed by phase-resolved pulse propagation. <i>Optics Letters</i> , 2005, 30, 1384.	3.3	11
43	Tuning quantum-dot based photonic devices with liquid crystals. <i>Optics Express</i> , 2010, 18, 7946.	3.4	11
44	Modeling excitonic line shapes in weakly disordered semiconductor nanostructures. <i>Physical Review B</i> , 2010, 81, .	3.2	10
45	Fabrication and characterization of two-dimensional cubic AlN photonic crystal membranes containing zincblende GaN quantum dots. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2016, 13, 292-296.	0.8	10
46	Nonlinear Polariton Pulse Propagation in Bulk Semiconductors. <i>Physica Status Solidi (B): Basic Research</i> , 2000, 221, 453-457.	1.5	9
47	Nonlinear Pulse Propagation in Semiconductors: Hole Burning within a Homogeneous Line. <i>Physical Review Letters</i> , 2001, 86, 476-479.	7.8	9
48	Self-assembled quantum dots in a liquid-crystal-tunable microdisk resonator. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 2552-2555.	2.7	9
49	Dynamics of the phonon-induced electron transfer between semiconductor bulk and surface states. <i>Physica Status Solidi (B): Basic Research</i> , 2004, 241, R60-R62.	1.5	8
50	Microscopic theory of electron dynamics and time-resolved two-color two-photon photoemission at semiconductor surfaces. <i>Physical Review B</i> , 2005, 71, .	3.2	8
51	Light scattering by random irregular particles of two classes of shape. <i>Optics Letters</i> , 2014, 39, 6723.	3.3	8
52	The role of electromagnetic interactions in second harmonic generation from plasmonic metamaterials. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	2.2	8
53	Ultrafast electric phase control of a single exciton qubit. <i>Applied Physics Letters</i> , 2018, 112, 111105.	3.3	8
54	Polarization Conversion Effect in Biological and Synthetic Photonic Diamond Structures. <i>Advanced Optical Materials</i> , 2018, 6, 1800635.	7.3	8

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55	Electrically controlled rapid adiabatic passage in a single quantum dot. Applied Physics Letters, 2020, 116, .	3.3	8
56	Dielectric travelling wave antennas for directional light emission. Optics Express, 2021, 29, 14694.	3.4	8
57	Oblique quasi-lossless excitation of a thin silicon slab waveguide: a guided-wave variant of an anti-reflection coating. Journal of the Optical Society of America B: Optical Physics, 2019, 36, 2395.	2.1	8
58	Nonlinear dielectric properties of random paraelectric-dielectric composites. Acta Materialia, 2021, 203, 116432.	7.9	7
59	Self-consistent Projection Operator Theory of Intersubband Absorbance in Semiconductor Quantum Wells. , 2004, , 251-271.		7
60	Negative polarization of light at backscattering from a numerical analog of planetary regoliths. Icarus, 2022, 384, 115099.	2.5	7
61	Direction-tunable enhanced emission from a subwavelength metallic double-nanoslit structure. Optics Express, 2017, 25, 13207.	3.4	6
62	Light backscattering from large clusters of densely packed irregular particles. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 255, 107234.	2.3	6
63	Light diffraction in slab waveguide lenses simulated with the stepwise angular spectrum method. Optics Express, 2020, 28, 36361.	3.4	6
64	Numerical analysis of the coherent mechanism producing negative polarization at backscattering from systems of absorbing particles. Optics Letters, 2022, 47, 58.	3.3	6
65	Convey vector personalities - FPGA acceleration with an openmp-like programming effort?. , 2012, , .		5
66	Spiral modes supported by circular dielectric tubes and tube segments. Optical and Quantum Electronics, 2017, 49, 1.	3.3	5
67	Hybrid coupled mode modelling of the evanescent excitation of a dielectric tube by semi-guided waves at oblique angles. Optical and Quantum Electronics, 2020, 52, 1.	3.3	5
68	Resonant evanescent excitation of guided waves with high-order optical angular momentum. Journal of the Optical Society of America B: Optical Physics, 2021, 38, 1717.	2.1	5
69	Ultrafast electric control of cavity mediated single-photon and photon-pair generation with semiconductor quantum dots. Physical Review B, 2021, 104, .	3.2	5
70	Coupled microstrip-cavities under oblique incidence of semi-guided waves: a lossless integrated optical add-drop filter. OSA Continuum, 2019, 2, 3288.	1.8	5
71	Optimization of optical waveguide antennas for directive emission of light. Journal of the Optical Society of America B: Optical Physics, 2022, 39, 83.	2.1	5
72	Broadband optical Ta ₂ O ₅ antennas for directional emission of light. Optics Express, 2022, 30, 19288.	3.4	5

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73	Indirect spin dephasing via charge-state decoherence in optical control schemes in quantum dots. <i>Physical Review A</i> , 2009, 79, .	2.5	4
74	Anticrossing of Whispering Gallery Modes in microdisk resonators embedded in an anisotropic environment. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2010, 8, 273-277.	2.0	4
75	Simulation of the ultrafast nonlinear optical response of metal slabs. <i>Physica Status Solidi (B): Basic Research</i> , 2011, 248, 887-891.	1.5	4
76	Photonic crystal waveguides intersection for resonant quantum dot optical spectroscopy detection. <i>Optics Express</i> , 2012, 20, 14130.	3.4	4
77	Cubic GaN quantum dots embedded in zinc-blende AlN microdisks. <i>Journal of Crystal Growth</i> , 2013, 378, 287-290.	1.5	4
78	Optimal second-harmonic generation in split-ring resonator arrays. , 2013, , .		4
79	Solving Maxwell's Equations with Modern C++ and SYCL: A Case Study. , 2018, , .		4
80	Oblique Semi-Guided Waves: 2-D Integrated Photonics with Negative Effective Permittivity. , 2018, , .		4
81	Generation of injection currents in (110)-oriented GaAs quantum wells: experimental observation and development of a microscopic theory. , 2009, , .		3
82	Transformation of Scientific Algorithms to Parallel Computing Code: Single GPU and MPI Multi GPU Backends with Subdomain Support. , 2011, , .		3
83	Oscillatory excitation energy dependence of injection currents in GaAs/AlGaAs quantum wells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 1137-1140.	0.8	3
84	Simulations of high harmonic generation from plasmonic nanoparticles in the terahertz region. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	2.2	3
85	Radar backscattering from a large-grain cometary coma: numerical simulation. <i>Astronomy and Astrophysics</i> , 2017, 608, A20.	5.1	3
86	Numerical analysis of coupled photonic crystal cavities. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2011, 9, 345-350.	2.0	2
87	Phonon-assisted decoherence and tunneling in quantum dot molecules. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 1125-1128.	0.8	2
88	Numerical investigation of the coupling between microdisk modes and quantum dots. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 1254-1257.	0.8	2
89	Robust Population Inversion by Polarization Selective Pulsed Excitation. <i>Scientific Reports</i> , 2015, 5, 10313.	3.3	2
90	Interplay of electron-phonon and Coulomb interaction in semiconductor quantum dots. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2006, 3, 2389-2392.	0.8	1

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91	Theoretical study of phononassisted singlet-singlet relaxation in two-electron semiconductor quantum dot molecules. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, 474-478.	0.8	1
92	Microscopic theoretical analysis of optically generated injection currents in semiconductor quantum wells. <i>Proceedings of SPIE</i> , 2010, , .	0.8	1
93	Near-field coupling and second-harmonic generation in split-ring resonator arrays. , 2012, , .		1
94	Optimization of the intensity enhancement in plasmonic nanoantennas. , 2012, , .		1
95	Engineering plasmonic and dielectric directional nanoantennas. <i>Proceedings of SPIE</i> , 2014, , .	0.8	1
96	Oblique incidence of semi-guided waves on step-like folds in planar dielectric slabs: Lossless vertical interconnects in 3D integrated photonic circuits. , 2016, , .		1
97	Light scattering by 3-foci convex and concave particles in the geometrical optics approximation. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2019, 231, 49-60.	2.3	1
98	The HighPerMeshes framework for numerical algorithms on unstructured grids. <i>Concurrency Computation Practice and Experience</i> , 0, , e6616.	2.2	1
99	Resonant evanescent excitation of OAM modes in a high-contrast circular step-index fiber. , 2022, , .		1
100	Flexible source of correlated photons based on LNOI rib waveguides. <i>JPhys Photonics</i> , 0, , .	4.6	1
101	Line narrowing and hole burning within the homogeneous linewidth: a new wave-mixing effect in two-level systems. <i>Optics Letters</i> , 2002, 27, 1830.	3.3	0
102	Quantum information processing using Coulomb-coupled quantum dots. <i>AIP Conference Proceedings</i> , 2005, , .	0.4	0
103	Optical experiments on second-harmonic generation from metamaterials consisting of split-ring resonators. , 2006, , .		0
104	Anticrossing of Whispering Gallery Modes in Microdisk Resonators Embedded in a Liquid Crystal. , 2009, , .		0
105	Phonon-mediated relaxation in doped quantum dot molecules. <i>Journal of Physics: Conference Series</i> , 2010, 245, 012035.	0.4	0
106	Numerical Analysis of Coupled Photonic Crystal Cavities. , 2010, , .		0
107	Enhanced FDTD edge correction for nonlinear effects calculation. , 2010, , .		0
108	Intensity dependence of optically-induced injection currents in semiconductor quantum wells. , 2011, , .		0

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109	Theoretical approach to the ultrafast nonlinear optical response of metal slabs. , 2011, , .		0
110	Intensity-dependent ultrafast dynamics of injection currents in unbiased GaAs quantum wells. Physica Status Solidi - Rapid Research Letters, 2011, 5, 119-121.	2.4	0
111	Simulation of Mutual Coupling of Photonic Crystal Cavity Modes and Semiconductor Quantum Dots. , 2011, , .		0
112	Injection currents in (110)-oriented GaAs/AlGaAs quantum wells: recent progress in theory and experiment. , 2011, , .		0
113	Application of the Discontinuous Galerkin Time Domain Method to the Optics of Bi-Chiral Plasmonic Crystals. , 2011, , .		0
114	Collective effects in second-harmonic generation from split-ring-resonator arrays. , 2012, , .		0
115	Engineering high harmonic generation in semiconductors via pulse shaping. , 2012, , .		0
116	Subwavelength binary plasmonic solitons. Optics Letters, 2015, 40, 851.	3.3	0
117	Phase sensitive properties and coherent manipulation of a photonic crystal microcavity. Optics Express, 2016, 24, 20672.	3.4	0
118	Application of the Discontinuous Galerkin Time Domain Method in Nonlinear Nanoplasmonics. , 2018, , .		0
119	Temporal phase evolution during excitonic Rabi flopping in semiconductors. , 2004, , .		0
120	Indirect Dephasing Channel for Optically Controlled Spin in a Single Quantum Dot. , 2009, , .		0
121	Optoelectronic sampling of ultrafast electric transients with single quantum dots. Applied Physics Letters, 2021, 119, 181109.	3.3	0