Mark I Stockman

List of Publications by Year
in descending order

162 papers	14,938 citations	31976 53 h-index	17592 121 g-index
171 all docs	171 docs citations	171 times ranked	10561 citing authors

#	Article	IF	Citations
1	Surface Plasmon Amplification by Stimulated Emission of Radiation: Quantum Generation of Coherent Surface Plasmons in Nanosystems. Physical Review Letters, 2003, 90, 027402.	7.8	1,524
2	Nanofocusing of Optical Energy in Tapered Plasmonic Waveguides. Physical Review Letters, 2004, 93, 137404.	7.8	1,125
3	Nanoplasmonics: past, present, and glimpse into future. Optics Express, 2011, 19, 22029.	3.4	978
4	Ultrafast active plasmonics. Nature Photonics, 2009, 3, 55-58.	31.4	785
5	Self-Similar Chain of Metal Nanospheres as an Efficient Nanolens. Physical Review Letters, 2003, 91, 227402.	7.8	719
6	Optical-field-induced current in dielectrics. Nature, 2013, 493, 70-74.	27.8	592
7	Controlling dielectrics with the electric field of light. Nature, 2013, 493, 75-78.	27.8	489
8	Nanoplasmonics: The physics behind the applications. Physics Today, 2011, 64, 39-44.	0.3	399
9	Attosecond metrology: from electron capture to future signal processing. Nature Photonics, 2014, 8, 205-213.	31.4	384
10	Spasers explained. Nature Photonics, 2008, 2, 327-329.	31.4	344
11	Localization versus Delocalization of Surface Plasmons in Nanosystems: Can One State Have Both Characteristics?. Physical Review Letters, 2001, 87, 167401.	7.8	341
12	Attosecond nanoplasmonic-field microscope. Nature Photonics, 2007, 1, 539-544.	31.4	317
13	The spaser as a nanoscale quantum generator and ultrafast amplifier. Journal of Optics (United) Tj ETQq1 1 0.784314 rgBT /Overlock	2.2	316
14	Plasmonic generation of ultrashort extreme-ultraviolet light pulses. Nature Photonics, 2011, 5, 677-681.	31.4	286
15	Coherent Control of Femtosecond Energy Localization in Nanosystems. Physical Review Letters, 2002, 88, 067402.	7.8	280
16	Enhanced Raman scattering by fractal clusters: Scale-invariant theory. Physical Review B, 1992, 46, 2821-2830.	3.2	260
17	Roadmap on plasmonics. Journal of Optics (United Kingdom), 2018, 20, 043001.	2.2	240
18	Controlled near-field enhanced electron acceleration from dielectric nanospheres with intense few-cycle laser fields. Nature Physics, 2011, 7, 656-662.	16.7	210

#	Article	IF	Citations
19	All-Color Plasmonic Nanolasers with Ultralow Thresholds: Autotuning Mechanism for Single-Mode Lasing. Nano Letters, 2014, 14, 4381-4388.	9.1	201
20	Criterion for Negative Refraction with Low Optical Losses from a Fundamental Principle of Causality. Physical Review Letters, 2007, 98, .	7.8	199
21	Ten years of spasers and plasmonic nanolasers. Light: Science and Applications, 2020, 9, 90.	16.6	192
22	Theory and numerical simulation of optical properties of fractal clusters. Physical Review B, 1991, 43, 8183-8195.	3.2	183
23	Spaser as a biological probe. Nature Communications, 2017, 8, 15528.	12.8	164
24	Enhanced Second-Harmonic Generation by Metal Surfaces with Nanoscale Roughness: Nanoscale Dephasing, Depolarization, and Correlations. Physical Review Letters, 2004, 92, 057402.	7.8	157
25	Strong-Field Perspective on High-Harmonic Radiation from Bulk Solids. Physical Review Letters, 2014, 113, 213901.	7.8	153
26	Dipolar emitters at nanoscale proximity of metal surfaces: Giant enhancement of relaxation in microscopic theory. Physical Review B, 2004, 69, .	3.2	149
27	Nanoplasmonic sensing and detection. Science, 2015, 348, 287-288.	12.6	144
28	Spaser Action, Loss Compensation, and Stability in Plasmonic Systems with Gain. Physical Review Letters, 2011, 106, 156802.	7.8	134
29	Real and Imaginary Properties of Epsilon-Near-Zero Materials. Physical Review Letters, 2016, 117, 107404.	7.8	129
30	Giant fluctuations of local optical fields in fractal clusters. Physical Review Letters, 1994, 72, 2486-2489.	7.8	119
31	Inhomogeneous eigenmode localization, chaos, and correlations in large disordered clusters. Physical Review E, 1997, 56, 6494-6507.	2.1	106
32	Toward Full Spatiotemporal Control on the Nanoscale. Nano Letters, 2007, 7, 3145-3149.	9.1	105
33	Surface plasmon amplification by stimulated emission in nanolenses. Physical Review B, 2005, 71, .	3.2	104
34	Nanoconcentration of terahertz radiation in plasmonic waveguides. Optics Express, 2008, 16, 18576.	3.4	101
35	Optimized nonadiabatic nanofocusing of plasmons by tapered metal rods. Journal of Applied Physics, 2008, 104, .	2.5	101
36	Coherent control of nanoscale localization of ultrafast optical excitation in nanosystems. Physical Review B, 2004, 69, .	3.2	95

#	Article	IF	Citations
37	Theory and technology of SPASERs. Advances in Optics and Photonics, 2017, 9, 79.	25.5	95
38	Dark-hot resonances. Nature, 2010, 467, 541-542.	27.8	88
39	Graphene in ultrafast and superstrong laser fields. Physical Review B, 2015, 91, .	3.2	88
40	Theory of spoof plasmons in real metals. Applied Physics A: Materials Science and Processing, 2010, 100, 375-378.	2.3	87
41	Imperfect Perfect Lens. Nano Letters, 2005, 5, 339-343.	9.1	82
42	Proposed graphene nanospaser. Light: Science and Applications, 2014, 3, e191-e191.	16.6	82
43	Enhanced second harmonic generation in a self-similar chain of metal nanospheres. Physical Review B, 2005, 72, .	3.2	81
44	Solid-state light-phase detector. Nature Photonics, 2014, 8, 214-218.	31.4	75
45	Direct observation of localized surface plasmon field enhancement by Kelvin probe force microscopy. Light: Science and Applications, 2017, 6, e17038-e17038.	16.6	75
46	Highly efficient spatiotemporal coherent control in nanoplasmonics on a nanometer-femtosecond scale by time reversal. Physical Review B, 2008, 77, .	3.2	74
47	Ultrafast nanoplasmonics under coherent control. New Journal of Physics, 2008, 10, 025031.	2.9	71
48	Electromagnetic Theory of SERS. , 2006, , 47-65.		68
49	All-Optical Control of the Ultrafast Dynamics of a Hybrid Plasmonic System. Physical Review Letters, 2010, 104, 113903.	7.8	64
50	Predicted Ultrafast Dynamic Metallization of Dielectric Nanofilms by Strong Single-Cycle Optical Fields. Physical Review Letters, 2011, 107, 086602.	7.8	61
51	Theory of dielectric nanofilms in strong ultrafast optical fields. Physical Review B, 2012, 86, .	3.2	59
52	Strong-Field Resonant Dynamics in Semiconductors. Physical Review Letters, 2016, 116, 197401.	7.8	58
53	Electric Spaser in the Extreme Quantum Limit. Physical Review Letters, 2013, 110, 106803.	7.8	56
54	Metallization of Nanofilms in Strong Adiabatic Electric Fields. Physical Review Letters, 2010, 105, 086803.	7.8	55

#	Article	IF	Citations
55	Open Resonator Electric Spaser. ACS Nano, 2017, 11, 12573-12582.	14.6	52
56	Giant Surface-Plasmon-Induced Drag Effect in Metal Nanowires. Physical Review Letters, 2009, 103, 186801.	7.8	51
57	Resonant excitations and nonlinear optics of fractals. Physica A: Statistical Mechanics and Its Applications, 1992, 185, 181-186.	2.6	50
58	Slow Propagation, Anomalous Absorption, and Total External Reflection of Surface Plasmon Polaritons in Nanolayer Systems. Nano Letters, 2006, 6, 2604-2608.	9.1	49
59	Chaos and Spatial Correlations for Dipolar Eigenproblems. Physical Review Letters, 1997, 79, 4562-4565.	7.8	48
60	Attosecond strong-field interferometry in graphene: Chirality, singularity, and Berry phase. Physical Review B, 2016, 93, .	3.2	48
61	Electrodynamic effects in plasmonic nanolenses. Physical Review B, 2008, 77, .	3.2	47
62	Femtosecond Optical Responses of Disordered Clusters, Composites, and Rough Surfaces: â€œThe Ninth Waveâ€•Effect. Physical Review Letters, 2000, 84, 1011-1014.	7.8	45
63	Femtosecond valley polarization and topological resonances in transition metal dichalcogenides. Physical Review B, 2018, 98, .	3.2	41
64	MoS2 spaser. Journal of Applied Physics, 2016, 119, .	2.5	39
65	Atomic-scale diffractive imaging of sub-cycle electron dynamics in condensed matter. Scientific Reports, 2015, 5, 14581.	3.3	38
66	Semimetallization of dielectrics in strong optical fields. Scientific Reports, 2016, 6, 21272.	3.3	38
67	Linear and nonlinear optical susceptibilities of Maxwell Garnett composites: Dipolar spectral theory. Physical Review B, 1999, 60, 17071-17083.	3.2	37
68	Nanoscopy reveals surface-metallic black phosphorus. Light: Science and Applications, 2016, 5, e16162-e16162.	16.6	37
69	Wannier-Stark states of graphene in strong electric field. Physical Review B, 2014, 90, .	3.2	36
70	Topological resonance and single-optical-cycle valley polarization in gapped graphene. Physical Review B, 2019, 100, .	3.2	36
71	Optical absorption and localization of eigenmodes in disordered clusters. Physical Review B, 1995, 51, 185-195.	3.2	32
72	Nanolocalized Nonlinear Electron Photoemission under Coherent Control. Nano Letters, 2005, 5, 2325-2329.	9.1	31

#	Article	IF	Citations
73	Loss compensation by gain and spasing. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 3510-3524.	3.4	29
74	Multimode analysis of highly tunable, quantum cascade powered, circular graphene spaser. Journal of Applied Physics, 2015, 118, .	2.5	29
75	Metal nanofilm in strong ultrafast optical fields. Physical Review B, 2013, 88, .	3.2	27
76	Complete characterization of the spasing (L-L) curve of a three-level quantum coherence enhanced spaser for design optimization. Applied Physics Letters, 2018, 112, .	3.3	24
77	Control of plasmonic nanoantennas by reversible metal-insulator transition. Scientific Reports, 2015, 5, 13997.	3.3	23
78	Surface plasmon lifetime in metal nanoshells. Physical Review B, 2016, 94, .	3.2	23
79	Giant attosecond fluctuations of local optical fields in disordered nanostructured media. Physical Review B, 2000, 62, 10494-10497.	3.2	22
80	Ultrafast field control of symmetry, reciprocity, and reversibility in buckled graphene-like materials. Physical Review B, 2015, 92, .	3.2	22
81	Absolute phase effect in ultrafast optical responses of metal nanostructures. Applied Physics A: Materials Science and Processing, 2007, 89, 247-250.	2.3	19
82	Exciton behavior under the influence of metal nanoparticle near fields: Significance of nonlocal effects. Physical Review B, 2018, 98, .	3.2	19
83	Plasmonic Properties of Metallic Nanoshells in the Quantum Limit: From Single Particle Excitations to Plasmons. Journal of Physical Chemistry C, 2020, 124, 27694-27708.	3.1	19
84	Optically controlled quantum thermal gate. Physical Review B, 2020, 101, .	3.2	19
85	Quasi-static analysis of controllable optical cross-sections of a layered nanoparticle with a sandwiched gain layer. Journal of Optics (United Kingdom), 2014, 16, 075003.	2.2	18
86	Improved scheme for modeling a spaser made of identical gain elements. Journal of the Optical Society of America B: Optical Physics, 2018, 35, 1397.	2.1	18
87	Self-consistent random-phase approximation for interacting electrons in quantum wells and intersubband absorption. Physical Review B, 2002, 66, .	3.2	17
88	Graphene superlattices in strong circularly polarized fields: Chirality, Berry phase, and attosecond dynamics. Physical Review B, 2017, 96, .	3.2	17
89	Reconstruction of Nanoscale Near Fields by Attosecond Streaking. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 77-87.	2.9	16
90	Weyl semimetals in ultrafast laser fields. Physical Review B, 2019, 99, .	3.2	16

#	Article	IF	Citations
91	Plasmonic enhancing nanoantennas for photodetection. Infrared Physics and Technology, 2007, 50, 177-181.	2.9	15
92	Ionization-Induced Subcycle Metallization of Nanoparticles in Few-Cycle Pulses. ACS Photonics, 2020, 7, 3207-3215.	6.6	15
93	Interaction of crystalline topological insulator with an ultrashort laser pulse. Physical Review B, 2017, 95, .	3.2	14
94	Generalized superradiant assembly for nanophotonic thermal emitters. Physical Review B, 2018, 97, .	3.2	14
95	Phosphorene in ultrafast laser field. Physical Review B, 2018, 97, .	3.2	14
96	Fundamentally fastest optical processes at the surface of a topological insulator. Physical Review B, 2018, 98, .	3.2	14
97	Significance of the nonlocal optical response of metal nanoparticles in describing the operation of plasmonic lasers. Physical Review B, 2019, 99, .	3.2	14
98	Nanoscopy of Phase Separation in In_xGa_{1â€“x}N Alloys. ACS Applied Materials & Interfaces, 2016, 8, 23160-23166.	8.0	13
99	Cavity quantum electrodynamic analysis of spasing in nanospherical dimers. Physical Review B, 2019, 100, .	3.2	13
100	Nonequilibrium cavity QED model accounting for dipole-dipole interaction in strong-, ultrastrong-, and deep-strong-coupling regimes. Physical Review A, 2020, 102, .	2.5	13
101	Brief history of spaser from conception to the future. Advanced Photonics, 2020, 2, .	11.8	12
102	Octupolar metal nanoparticles as optically driven, coherently controlled nanorotors. Chemical Physics Letters, 2006, 433, 130-135.	2.6	11
103	Addendum: Optical-field-induced current in dielectrics. Nature, 2014, 507, 386-387.	27.8	11
104	Ultrafast optical currents in gapped graphene. Journal of Physics Condensed Matter, 2020, 32, 065305.	1.8	11
105	Topological Spaser. Physical Review Letters, 2020, 124, 017701.	7.8	11
106	Three-dimensional topological insulator based nanospaser. Physical Review B, 2016, 93, .	3.2	9
107	Topological resonance in Weyl semimetals in a circularly polarized optical pulse. Physical Review B, 2020, 102, .	3.2	9
108	Nanoplasmonics: Fundamentals and Applications. NATO Science for Peace and Security Series B: Physics and Biophysics, 2015, , 3-102.	0.3	8

#	Article	IF	Citations
109	Buckled Dirac Materials in Ultrashort and Strong Optical Field: Coherent Control and Reversibility Modulation. IEEE Nanotechnology Magazine, 2016, 15, 51-59.	2.0	8
110	Ultrafast optical Faraday effect in transparent solids. Physical Review B, 2017, 96, .	3.2	8
111	Scattering characteristics of an exciton-plasmon nanohybrid made by coupling a monolayer graphene nanoflake to a carbon nanotube. Journal of Physics Condensed Matter, 2019, 31, 085302.	1.8	8
112	Giant fluctuations of second harmonic generation on nanostructured surfaces. Chemical Physics, 2005, 318, 156-162.	1.9	7
113	Ultrafast phenomena on the nanoscale. Annalen Der Physik, 2013, 525, A13.	2.4	7
114	Control of quantum emitter-plasmon strong coupling and energy transport with external electrostatic fields. Journal of Physics Condensed Matter, 2020, 32, 125301.	1.8	7
115	Topological nanospaser. Nanophotonics, 2020, 9, 865-874.	6.0	6
116	Femtosecond energy concentration in nanosystems: coherent control. Physica B: Condensed Matter, 2003, 338, 361-365.	2.7	5
117	Stockman Replies:. Physical Review Letters, 2011, 107, .	7.8	5
118	Effect of logarithmic perturbations in ohmic like spectral densities in dynamics of electronic excitation using variational polaron transformation approach. Journal of Physics Condensed Matter, 2021, 33, 145304.	1.8	4
119	A fluctuating fractal nanoworld. Physics Magazine, 0, 3, .	0.1	3
120	Plasmon-induced hot carrier transfer to the surface of three-dimensional topological insulators. Physical Review B, 2018, 98, .	3.2	3
121	Ultrafast strong-field absorption in gapped graphene. Physical Review B, 2020, 101, .	3.2	3
122	Lasing Spaser in Photonic Crystals. ACS Omega, 2021, 6, 4417-4422.	3.5	3
123	Laser pulse waveform control of Dirac fermions in graphene. , 2019, , .		3
124	Fundamental causality and a criterion of negative refraction with low optical losses. , 2007, , .		2
125	Stockman Replies:. Physical Review Letters, 2011, 107, .	7.8	2
126	Theoretical study of electron dynamics in graphene interacting with ultrafast and ultrastrong laser pulses. , 2015, , .		2

#	Article	IF	Citations
127	TMDC-Based Topological Nanospaser: Single and Double Threshold Behavior. ACS Photonics, 2021, 8, 907-915.	6.6	2
128	Nanoplasmonics: From Present into Future. Challenges and Advances in Computational Chemistry and Physics, 2013, , 1-101.	0.6	2
129	Theory of Spoof Plasmons in Real Metals. , 2010, , .		2
130	Electromagnetic Theory of SERS. , 2006, , 47-66.		2
131	Ultrafast, nonlinear, and active nanoplasmonics. , 2005, , .		1
132	Interdisciplinary nanophotonics. Nanophotonics, 2019, 8, 1443-1445.	6.0	1
133	Transition metal dichalcogenide monolayers in an ultrashort optical pulse: Femtosecond currents and anisotropic electron dynamics. Physical Review B, 2021, 103, .	3.2	1
134	Weyl semimetals in circularly-polarized ultrafast laser field. , 2019, , .		1
135	Is MoS2 better for spasers than graphene?. , 2016, , .		1
136	Adiabatic Control of Solids by Strong Ultrafast Optical Fields. , 2016, , .		1
137	Surface plasmon lasers and ultrafast nonlinear nanoplasmonic effects. , 2004, , FThS4.		0
138	SPASER as Ultrafast Nanoscale Phenomenon and Device. Springer Series in Chemical Physics, 2005, , 676-678.	0.2	0
139	Nanolocalized nonlinear electron photoemission under coherent control. , 2006, , .		0
140	Slow propagation, anomalous absorption, and total external reflection of surface plasmon polaritons in nanolayer systems. , 2007, , .		0
141	Nanoplasmonics from attoseconds to terahertz. , 2009, , .		0
142	Ultrafast coherent control of plasmon polaritons on the nanoscale. , 2009, , .		0
143	New Horizons of Nanoplasmonics: from SPASER to Attoseconds. , 2009, , .		0
144	Giant Surface-Plasmon-Induced Drag Effect. , 2010, , .		0

#	Article	IF	Citations
145	Spasing and amplification in plasmonic nanosystems. , 2012, , .		0
146	Attosecond nanoscale physics of solids in strong ultrafast optical fields (Conference Presentation). , 2016, , .		0
147	Buckled graphene-like materials in ultrashort and strong optical fields. , 2016, , .		0
148	Graphene under a few-cycle circularly polarized optical field: ultrafast interferometry and Berry phase manifestation. , 2016, , .		0
149	Ultrafast optical Faraday effect in transparent solids. , 2017, , .		0
150	Universality of ultrafast semi-metallization in dielectrics in PHz domain. , 2017, , .		0
151	Nanoplasmonics Fundamentals and Surface-Enhanced Raman Scattering as a Physical Phenomenon. , 2018, , 1-32.		0
152	Broken poloidal symmetry and plasmonic eigenmodes on a torus. Physical Review B, 2020, 101, .	3.2	0
153	Femtosecond and attosecond giant optical responses and fluctuations in disordered clusters, nanocomposites, and rough surfaces. , 2000, , .		0
154	Femtosecond Energy Concentration in Nanosystems Coherently Controlled by Excitation Phase. Springer Series in Chemical Physics, 2003, , 496-498.	0.2	0
155	Nanolocalized Nonlinear Photoprocesses under Coherent Control. , 2006, , .		0
156	Full Coherent Control on Nanoscale. , 2007, , .		0
157	Nanolocalized Nonlinear Photoprocesses under Coherent Control. Springer Series in Chemical Physics, 2007, , 645-647.	0.2	0
158	LOCAL FIELDS' LOCALIZATION AND CHAOS AND NONLINEAR-OPTICAL ENHANCEMENT IN COMPOSITES. , 1999, , 244-272.		0
159	Topological properties of graphene on a nanowire superlattice subjected to ultrafast circular pulses. , 2017, , .		0
160	Nanosystems in ultrafast and superstrong fields: attosecond phenomena (Conference Presentation). , 2017, , .		0
161	How to detect Berry phase in graphene without magnetic field?. , 2017, , .		0
162	Solids in Ultrafast Strong Laser Fields: Optical Control of Electronic State. , 2018, , .		0