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	Lasing Spaser in Photonic Crystals. ACS Omega, 2021, 6, 4417-4422.	3.5	3
2	TMDC-Based Topological Nanospaser: Single and Double Threshold Behavior. ACS Photonics, 2021, 8, 907-915.	6.6	2
3	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
4	Transition metal dichalcogenide monolayers in an ultrashort optical pulse: Femtosecond currents and anisotropic electron dynamics. Physical Review B, 2021, 103, .	3.2	1
5	Ultrafast optical currents in gapped graphene. Journal of Physics Condensed Matter, 2020, 32, 065305.	1.8	11
6	Topological Spaser. Physical Review Letters, 2020, 124, 017701.	7.8	11
7	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
8	Ionization-Induced Subcycle Metallization of Nanoparticles in Few-Cycle Pulses. ACS Photonics, 2020, 7, 3207-3215.	6.6	15
9	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
10	Topological resonance in Weyl semimetals in a circularly polarized optical pulse. Physical Review B, 2020, 102, .	3.2	9
11	Optically controlled quantum thermal gate. Physical Review B, 2020, 101, .	3.2	19
12	Broken poloidal symmetry and plasmonic eigenmodes on a torus. Physical Review B, 2020, 101, .	3.2	0
13	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
14	Ultrafast strong-field absorption in gapped graphene. Physical Review B, 2020, 101, .	3.2	3
15	Ten years of spasers and plasmonic nanolasers. Light: Science and Applications, 2020, 9, 90.	16.6	192
16	Brief history of spaser from conception to the future. Advanced Photonics, 2020, 2, .	11.8	12
17	Topological nanospaser. Nanophotonics, 2020, 9, 865-874.	6.0	6
18	Cavity quantum electrodynamic analysis of spasing in nanospherical dimers. Physical Review B, 2019, 100, .	3.2	13

#	Article	IF	Citations
19	Topological resonance and single-optical-cycle valley polarization in gapped graphene. Physical Review B, 2019, 100, .	3.2	36
20	Weyl semimetals in ultrafast laser fields. Physical Review B, 2019, 99, .	3.2	16
21	Significance of the nonlocal optical response of metal nanoparticles in describing the operation of plasmonic lasers. Physical Review B, 2019, 99, .	3.2	14
22	Interdisciplinary nanophotonics. Nanophotonics, 2019, 8, 1443-1445.	6.0	1
23	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
24	Weyl semimetals in circularly-polarized ultrafast laser field. , 2019, , .		1
25	Laser pulse waveform control of Dirac fermions in graphene. , 2019, , .		3
26	Roadmap on plasmonics. Journal of Optics (United Kingdom), 2018, 20, 043001.	2.2	240
27	Generalized superradiant assembly for nanophotonic thermal emitters. Physical Review B, 2018, 97, .	3.2	14
28	Nanoplasmonics Fundamentals and Surface-Enhanced Raman Scattering as a Physical Phenomenon. , 2018, , 1-32.		0
29	Phosphorene in ultrafast laser field. Physical Review B, 2018, 97, .	3.2	14
30	Fundamentally fastest optical processes at the surface of a topological insulator. Physical Review B, 2018, 98, .	3.2	14
31	Exciton behavior under the influence of metal nanoparticle near fields: Significance of nonlocal effects. Physical Review B, 2018, 98, .	3.2	19
32	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
33	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
34	Plasmon-induced hot carrier transfer to the surface of three-dimensional topological insulators. Physical Review B, 2018, 98, .	3.2	3
35	Femtosecond valley polarization and topological resonances in transition metal dichalcogenides. Physical Review B, 2018, 98, .	3.2	41
36	Solids in Ultrafast Strong Laser Fields: Optical Control of Electronic State. , 2018, , .		0

#	Article	IF	Citations
37	Interaction of crystalline topological insulator with an ultrashort laser pulse. Physical Review B, 2017, 95, .	3.2	14
38	Theory and technology of SPASERs. Advances in Optics and Photonics, 2017, 9, 79.	25.5	95
39	Reconstruction of Nanoscale Near Fields by Attosecond Streaking. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 77-87.	2.9	16
40	Spaser as a biological probe. Nature Communications, 2017, 8, 15528.	12.8	164
41	Open Resonator Electric Spaser. ACS Nano, 2017, 11, 12573-12582.	14.6	52
42	Graphene superlattices in strong circularly polarized fields: Chirality, Berry phase, and attosecond dynamics. Physical Review B, 2017, 96, .	3.2	17
43	Ultrafast optical Faraday effect in transparent solids. Physical Review B, 2017, 96, .	3.2	8
44	Direct observation of localized surface plasmon field enhancement by Kelvin probe force microscopy. Light: Science and Applications, 2017, 6, e17038-e17038.	16.6	75
45	Ultrafast optical Faraday effect in transparent solids. , 2017, , .		0
46	Universality of ultrafast semi-metallization in dielectrics in PHz domain. , 2017, , .		0
47	Topological properties of graphene on a nanowire superlattice subjected to ultrafast circular pulses. , 2017, , .		0
48	Nanosystems in ultrafast and superstrong fields: attosecond phenomena (Conference Presentation). , 2017, , .		0
49	How to detect Berry phase in graphene without magnetic field?. , 2017, , .		0
50	Semimetallization of dielectrics in strong optical fields. Scientific Reports, 2016, 6, 21272.	3.3	38
51	MoS2 spaser. Journal of Applied Physics, 2016, 119, .	2.5	39
52	Attosecond nanoscale physics of solids in strong ultrafast optical fields (Conference Presentation). , 2016, , .		0
53	Buckled graphene-like materials in ultrashort and strong optical fields. , 2016, , .		0
54	Graphene under a few-cycle circularly polarized optical field: ultrafast interferometry and Berry phase manifestation. , 2016, , .		0

#	Article	IF	Citations
55	Real and Imaginary Properties of Epsilon-Near-Zero Materials. Physical Review Letters, 2016, 117, 107404.	7.8	129
56	Nanoscopy of Phase Separation in In_{<i>x</i>}Ga_{1â€“<i>x</i>}N Alloys. ACS Applied Materials & Interfaces, 2016, 8, 23160-23166.	8.0	13
57	Three-dimensional topological insulator based nanospaser. Physical Review B, 2016, 93, .	3.2	9
58	Attosecond strong-field interferometry in graphene: Chirality, singularity, and Berry phase. Physical Review B, 2016, 93, .	3.2	48
59	Strong-Field Resonant Dynamics in Semiconductors. Physical Review Letters, 2016, 116, 197401.	7.8	58
60	Surface plasmon lifetime in metal nanoshells. Physical Review B, 2016, 94, .	3.2	23
61	Nanoscopy reveals surface-metallic black phosphorus. Light: Science and Applications, 2016, 5, e16162-e16162.	16.6	37
62	Buckled Dirac Materials in Ultrashort and Strong Optical Field: Coherent Control and Reversibility Modulation. IEEE Nanotechnology Magazine, 2016, 15, 51-59.	2.0	8
63	Is MoS2 better for spasers than graphene?. , 2016, , .		1
64	Adiabatic Control of Solids by Strong Ultrafast Optical Fields. , 2016, , .		1
65	Ultrafast field control of symmetry, reciprocity, and reversibility in buckled graphene-like materials. Physical Review B, 2015, 92, .	3.2	22
66	Control of plasmonic nanoantennas by reversible metal-insulator transition. Scientific Reports, 2015, 5, 13997.	3.3	23
67	Atomic-scale diffractive imaging of sub-cycle electron dynamics in condensed matter. Scientific Reports, 2015, 5, 14581.	3.3	38
68	Multimode analysis of highly tunable, quantum cascade powered, circular graphene spaser. Journal of Applied Physics, 2015, 118, .	2.5	29
69	Graphene in ultrafast and superstrong laser fields. Physical Review B, 2015, 91, .	3.2	88
70	Nanoplasmonic sensing and detection. Science, 2015, 348, 287-288.	12.6	144
71	Theoretical study of electron dynamics in graphene interacting with ultrafast and ultrastrong laser pulses. , 2015, , .		2
72	Nanoplasmonics: Fundamentals and Applications. NATO Science for Peace and Security Series B: Physics and Biophysics, 2015, , 3-102.	0.3	8

#	Article	IF	Citations
73	Attosecond metrology: from electron capture to future signal processing. Nature Photonics, 2014, 8, 205-213.	31.4	384
74	Solid-state light-phase detector. Nature Photonics, 2014, 8, 214-218.	31.4	75
75	Strong-Field Perspective on High-Harmonic Radiation from Bulk Solids. Physical Review Letters, 2014, 113, 213901.	7.8	153
76	All-Color Plasmonic Nanolasers with Ultralow Thresholds: Autotuning Mechanism for Single-Mode Lasing. Nano Letters, 2014, 14, 4381-4388.	9.1	201
77	Proposed graphene nanospaser. Light: Science and Applications, 2014, 3, e191-e191.	16.6	82
78	Addendum: Optical-field-induced current in dielectrics. Nature, 2014, 507, 386-387.	27.8	11
79	Wannier-Stark states of graphene in strong electric field. Physical Review B, 2014, 90, .	3.2	36
80	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
81	Ultrafast phenomena on the nanoscale. Annalen Der Physik, 2013, 525, A13.	2.4	7
82	Electric Spaser in the Extreme Quantum Limit. Physical Review Letters, 2013, 110, 106803.	7.8	56
83	Optical-field-induced current in dielectrics. Nature, 2013, 493, 70-74.	27.8	592
84	Controlling dielectrics with the electric field of light. Nature, 2013, 493, 75-78.	27.8	489
85	Metal nanofilm in strong ultrafast optical fields. Physical Review B, 2013, 88, .	3.2	27
86	Nanoplasmonics: From Present into Future. Challenges and Advances in Computational Chemistry and Physics, 2013, , 1-101.	0.6	2
87	Spasing and amplification in plasmonic nanosystems. , 2012, , .		0
88	Theory of dielectric nanofilms in strong ultrafast optical fields. Physical Review B, 2012, 86, .	3.2	59
89	Predicted Ultrafast Dynamic Metallization of Dielectric Nanofilms by Strong Single-Cycle Optical Fields. Physical Review Letters, 2011, 107, 086602.	7.8	61
90	Stockman Replies:. Physical Review Letters, 2011, 107, .	7.8	2

#	Article	IF	Citations
91	Stockman Replies:. Physical Review Letters, 2011, 107, .	7.8	5
92	Nanoplasmonics: past, present, and glimpse into future. Optics Express, 2011, 19, 22029.	3.4	978
93	Nanoplasmonics: The physics behind the applications. Physics Today, 2011, 64, 39-44.	0.3	399
94	Controlled near-field enhanced electron acceleration from dielectric nanospheres with intense few-cycle laser fields. Nature Physics, 2011, 7, 656-662.	16.7	210
95	Spaser Action, Loss Compensation, and Stability in Plasmonic Systems with Gain. Physical Review Letters, 2011, 106, 156802.	7.8	134
96	Plasmonic generation of ultrashort extreme-ultraviolet light pulses. Nature Photonics, 2011, 5, 677-681.	31.4	286
97	Loss compensation by gain and spasing. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 3510-3524.	3.4	29
98	All-Optical Control of the Ultrafast Dynamics of a Hybrid Plasmonic System. Physical Review Letters, 2010, 104, 113903.	7.8	64
99	The spaser as a nanoscale quantum generator and ultrafast amplifier. Journal of Optics (United) Tj ETQq1 1 0.784314 rgBT /Overlock 10	2.2	316
100	Theory of spoof plasmons in real metals. Applied Physics A: Materials Science and Processing, 2010, 100, 375-378.	2.3	87
101	Dark-hot resonances. Nature, 2010, 467, 541-542.	27.8	88
102	Giant Surface-Plasmon-Induced Drag Effect. , 2010, , .		0
103	Metallization of Nanofilms in Strong Adiabatic Electric Fields. Physical Review Letters, 2010, 105, 086803.	7.8	55
104	Theory of Spoof Plasmons in Real Metals. , 2010, , .		2
105	Nanoplasmonics from attoseconds to terahertz. , 2009, , .		0
106	Ultrafast coherent control of plasmon polaritons on the nanoscale. , 2009, , .		0
107	Ultrafast active plasmonics. Nature Photonics, 2009, 3, 55-58.	31.4	785
108	New Horizons of Nanoplasmonics: from SPASER to Attoseconds. , 2009, , .		0

#	Article	IF	Citations
109	Giant Surface-Plasmon-Induced Drag Effect in Metal Nanowires. Physical Review Letters, 2009, 103, 186801.	7.8	51
110	Highly efficient spatiotemporal coherent control in nanoplasmonics on a nanometer-femtosecond scale by time reversal. Physical Review B, 2008, 77, .	3.2	74
111	Spasers explained. Nature Photonics, 2008, 2, 327-329.	31.4	344
112	Nanoconcentration of terahertz radiation in plasmonic waveguides. Optics Express, 2008, 16, 18576.	3.4	101
113	Optimized nonadiabatic nanofocusing of plasmons by tapered metal rods. Journal of Applied Physics, 2008, 104, .	2.5	101
114	Ultrafast nanoplasmonics under coherent control. New Journal of Physics, 2008, 10, 025031.	2.9	71
115	Electrodynamic effects in plasmonic nanolenses. Physical Review B, 2008, 77, .	3.2	47
116	Fundamental causality and a criterion of negative refraction with low optical losses. , 2007, , .		2
117	Slow propagation, anomalous absorption, and total external reflection of surface plasmon polaritons in nanolayer systems. , 2007, , .		0
118	Toward Full Spatiotemporal Control on the Nanoscale. Nano Letters, 2007, 7, 3145-3149.	9.1	105
119	Plasmonic enhancing nanoantennas for photodetection. Infrared Physics and Technology, 2007, 50, 177-181.	2.9	15
120	Attosecond nanoplasmonic-field microscope. Nature Photonics, 2007, 1, 539-544.	31.4	317
121	Criterion for Negative Refraction with Low Optical Losses from a Fundamental Principle of Causality. Physical Review Letters, 2007, 98, .	7.8	199
122	Absolute phase effect in ultrafast optical responses of metal nanostructures. Applied Physics A: Materials Science and Processing, 2007, 89, 247-250.	2.3	19
123	Full Coherent Control on Nanoscale. , 2007, , .		0
124	Nanolocalized Nonlinear Photoprocesses under Coherent Control. Springer Series in Chemical Physics, 2007, , 645-647.	0.2	0
125	Electromagnetic Theory of SERS. , 2006, , 47-65.		68
126	Slow Propagation, Anomalous Absorption, and Total External Reflection of Surface Plasmon Polaritons in Nanolayer Systems. Nano Letters, 2006, 6, 2604-2608.	9.1	49

#	Article	IF	Citations
127	Octupolar metal nanoparticles as optically driven, coherently controlled nanorotors. Chemical Physics Letters, 2006, 433, 130-135.	2.6	11
128	Nanolocalized nonlinear electron photoemission under coherent control. , 2006, , .		0
129	Nanolocalized Nonlinear Photoprocesses under Coherent Control. , 2006, , .		0
130	Electromagnetic Theory of SERS. , 2006, , 47-66.		2
131	Ultrafast, nonlinear, and active nanoplasmonics. , 2005, , .		1
132	Giant fluctuations of second harmonic generation on nanostructured surfaces. Chemical Physics, 2005, 318, 156-162.	1.9	7
133	Nanolocalized Nonlinear Electron Photoemission under Coherent Control. Nano Letters, 2005, 5, 2325-2329.	9.1	31
134	Surface plasmon amplification by stimulated emission in nanolenses. Physical Review B, 2005, 71, .	3.2	104
135	Enhanced second harmonic generation in a self-similar chain of metal nanospheres. Physical Review B, 2005, 72, .	3.2	81
136	SPASER as Ultrafast Nanoscale Phenomenon and Device. Springer Series in Chemical Physics, 2005, , 676-678.	0.2	0
137	Imperfect Perfect Lens. Nano Letters, 2005, 5, 339-343.	9.1	82
138	Surface plasmon lasers and ultrafast nonlinear nanoplasmonic effects. , 2004, , FThS4.		0
139	Enhanced Second-Harmonic Generation by Metal Surfaces with Nanoscale Roughness: Nanoscale Dephasing, Depolarization, and Correlations. Physical Review Letters, 2004, 92, 057402.	7.8	157
140	Nanofocusing of Optical Energy in Tapered Plasmonic Waveguides. Physical Review Letters, 2004, 93, 137404.	7.8	1,125
141	Coherent control of nanoscale localization of ultrafast optical excitation in nanosystems. Physical Review B, 2004, 69, .	3.2	95
142	Dipolar emitters at nanoscale proximity of metal surfaces: Giant enhancement of relaxation in microscopic theory. Physical Review B, 2004, 69, .	3.2	149
143	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
144	Femtosecond energy concentration in nanosystems: coherent control. Physica B: Condensed Matter, 2003, 338, 361-365.	2.7	5

#	Article	IF	Citations
145	Self-Similar Chain of Metal Nanospheres as an Efficient Nanolens. Physical Review Letters, 2003, 91, 227402.	7.8	719
146	Femtosecond Energy Concentration in Nanosystems Coherently Controlled by Excitation Phase. Springer Series in Chemical Physics, 2003, , 496-498.	0.2	0
147	Self-consistent random-phase approximation for interacting electrons in quantum wells and intersubband absorption. Physical Review B, 2002, 66, .	3.2	17
148	Coherent Control of Femtosecond Energy Localization in Nanosystems. Physical Review Letters, 2002, 88, 067402.	7.8	280
149	Localization versus Delocalization of Surface Plasmons in Nanosystems: Can One State Have Both Characteristics?. Physical Review Letters, 2001, 87, 167401.	7.8	341
150	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
151	Giant attosecond fluctuations of local optical fields in disordered nanostructured media. Physical Review B, 2000, 62, 10494-10497.	3.2	22
152	Femtosecond and attosecond giant optical responses and fluctuations in disordered clusters, nanocomposites, and rough surfaces. , 2000, , .		0
153	Linear and nonlinear optical susceptibilities of Maxwell Garnett composites: Dipolar spectral theory. Physical Review B, 1999, 60, 17071-17083.	3.2	37
154	LOCAL FIELDS' LOCALIZATION AND CHAOS AND NONLINEAR-OPTICAL ENHANCEMENT IN COMPOSITES. , 1999, , 244-272.		0
155	Inhomogeneous eigenmode localization, chaos, and correlations in large disordered clusters. Physical Review E, 1997, 56, 6494-6507.	2.1	106
156	Chaos and Spatial Correlations for Dipolar Eigenproblems. Physical Review Letters, 1997, 79, 4562-4565.	7.8	48
157	Optical absorption and localization of eigenmodes in disordered clusters. Physical Review B, 1995, 51, 185-195.	3.2	32
158	Giant fluctuations of local optical fields in fractal clusters. Physical Review Letters, 1994, 72, 2486-2489.	7.8	119
159	Resonant excitations and nonlinear optics of fractals. Physica A: Statistical Mechanics and Its Applications, 1992, 185, 181-186.	2.6	50
160	Enhanced Raman scattering by fractal clusters: Scale-invariant theory. Physical Review B, 1992, 46, 2821-2830.	3.2	260
161	Theory and numerical simulation of optical properties of fractal clusters. Physical Review B, 1991, 43, 8183-8195.	3.2	183
162	A fluctuating fractal nanoworld. Physics Magazine, 0, 3, .	0.1	3