Stephen K Gray

List of Publications by Year
in descending order

131	11,786	36303 51	26613 107
papers	citations	h-index	g-index

135	135	135	11937
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Distance Dependence of FÃ¶rster Resonance Energy Transfer Rates in 2D Perovskite Quantum Wells via Control of Organic Spacer Length. Journal of the American Chemical Society, 2021, 143, 4244-4252.	13.7	54
2	Spectrally Resolved Ultrafast Exciton Transfer in Mixed Perovskite Quantum Wells. Journal of Physical Chemistry Letters, 2019, 10, 419-426.	4.6	74
3	Plexcitons: The Role of Oscillator Strengths and Spectral Widths in Determining Strong Coupling. ACS Nano, 2018, 12, 402-415.	14.6	71
4	Size-Dependent Biexciton Quantum Yields and Carrier Dynamics of Quasi-Two-Dimensional Core/Shell Nanoplatelets. ACS Nano, 2017, 11, 9119-9127.	14.6	66
5	Refractive index sensing and surface-enhanced Raman spectroscopy using silverâ€“gold layered bimetallic plasmonic crystals. Beilstein Journal of Nanotechnology, 2017, 8, 2492-2503.	2.8	4
6	Near-field dielectric scattering promotes optical absorption by platinum nanoparticles. Nature Photonics, 2016, 10, 473-482.	31.4	298
7	Origins and optimization of entanglement in plasmonically coupled quantum dots. Physical Review A, 2016, 94, .	2.5	30
8	Entanglement of two, three, or four plasmonically coupled quantum dots. Physical Review B, 2015, 92, .	3.2	54
9	Exciton size and quantum transport in nanoplatelets. Journal of Chemical Physics, 2015, 143, 224106.	3.0	5
10	Reversible Modulation of Surface Plasmons in Gold Nanoparticles Enabled by Surface Redox Chemistry. Angewandte Chemie - International Edition, 2015, 54, 8948-8951.	13.8	20
11	Picosecond energy transfer and multiexciton transfer outpaces Auger recombination in binaryÂCdSe nanoplatelet solids. Nature Materials, 2015, 14, 484-489.	27.5	211
12	Aluminium plasmonics. Journal Physics D: Applied Physics, 2015, 48, 184001.	2.8	218
13	Plasmon-based photopolymerization: near-field probing, advanced photonic nanostructures and nanophotochemistry. Journal of Optics (United Kingdom), 2014, 16, 114002.	2.2	21
14	Inhomogeneous Surface Plasmon Polaritons. ACS Photonics, 2014, 1, 739-745.	6.6	19
15	Interfaced Metal Heterodimers in the Quantum Size Regime. Nano Letters, 2013, 13, 3958-3964.	9.1	53
16	Theory and Modeling of Plasmonic Structures. Journal of Physical Chemistry C, 2013, 117, 1983-1994.	3.1	34
17	Plasmonics in the ultraviolet with the poor metals Al, Ga, In, Sn, Tl, Pb, and Bi. Physical Chemistry Chemical Physics, 2013, 15, 5415-5423.	2.8	307
18	Ultrafast reversal of a Fano resonance in a plasmon-exciton system. Physical Review B, 2013, 88, .	3.2	62

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19	Bi-fidelity fitting and optimization. Journal of Chemical Physics, 2012, 136, 074102.	3.0	7
20	Functional Nanoimprinted Plasmonic Crystals for Chemical Sensing and Imaging. , 2012, , 199-227.		1
21	Orientational Interpolation of the Optical Spectra of Nonspherical Nanoparticles. Journal of Physical Chemistry C, 2012, 116, 12712-12724.	3.1	3
22	Mapping the Electromagnetic Near-Field Enhancements of Gold Nanocubes. Journal of Physical Chemistry C, 2012, 116, 24734-24740.	3.1	41
23	Spatial Confinement of Electromagnetic Hot and Cold Spots in Gold Nanocubes. ACS Nano, 2012, 6, 1299-1307.	14.6	75
24	Computer science and mathematics for chemistry-related applications. Journal of Mathematical Chemistry, 2012, 50, 379-380.	1.5	3
25	Soft Embossing of Nanoscale Optical and Plasmonic Structures in Glass. ACS Nano, 2011, 5, 5763-5774.	14.6	30
26	Surface chemistry: a non-negligible parameter in determining optical properties of small colloidal metal nanoparticles. Physical Chemistry Chemical Physics, 2011, 13, 11814.	2.8	40
27	Fundamental behavior of electric field enhancements in the gaps between closely spaced nanostructures. Physical Review B, 2011, 83, .	3.2	51
28	Functional Nanostructured Plasmonic Materials. Advanced Materials, 2010, 22, 1102-1110.	21.0	109
29	Reversing the size-dependence of surface plasmon resonances. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 14530-14534.	7.1	408
30	The use of aluminum nanostructures as platforms for metal enhanced fluorescence of the intrinsic emission of biomolecules in the ultra-violet. Proceedings of SPIE, 2010, 7577, 75770O.	0.8	3
31	Controlling Plasmonic Wave Packets in Silver Nanowires. Nano Letters, 2010, 10, 3389-3394.	9.1	36
32	Nonlocal Dielectric Effects in Coreâ^'Shell Nanowires. Journal of Physical Chemistry C, 2010, 114, 15903-15908.	3.1	33
33	Self-Consistent Model of Light-Induced Molecular Motion Around Metallic Nanostructures. Journal of Physical Chemistry Letters, 2010, 1, 2228-2232.	4.6	11
34	Surrogate-Based Modeling of the Optical Response of Metallic Nanostructures. Journal of Physical Chemistry C, 2010, 114, 20741-20748.	3.1	7
35	Quantum-dot-induced transparency in a nanoscale plasmonic resonator. Optics Express, 2010, 18, 23633.	3.4	198
36	Remote grating-assisted excitation of â€¨narrow-band surface plasmons. Optics Express, 2010, 18, 23857.	3.4	14

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37	Calculating nonlocal optical properties of structures with arbitrary shape. Physical Review B, 2010, 82, .	3.2	112
38	On the Feasibility of Using the Intrinsic Fluorescence of Nucleotides for DNA Sequencing. Journal of Physical Chemistry C, 2010, 114, 7448-7461.	3.1	25
39	Molded plasmonic crystals for detecting and spatially imaging surface bound species by surface-enhanced Raman scattering. Applied Physics Letters, 2009, 94, 243109.	3.3	36
40	Plasmonic Electromagnetic Hot Spots Temporally Addressed by Photoinduced Molecular Displacement. Journal of Physical Chemistry A, 2009, 113, 4647-4651.	2.5	22
41	Nonlocal Optical Response of Metal Nanostructures with Arbitrary Shape. Physical Review Letters, 2009, 103, 097403.	7.8	258
42	Aluminum Nanoparticles as Substrates for Metal-Enhanced Fluorescence in the Ultraviolet for the Label-Free Detection of Biomolecules. Analytical Chemistry, 2009, 81, 1397-1403.	6.5	192
43	High-Fidelity Nano-Hole-Enhanced Raman Spectroscopy. Journal of Physical Chemistry C, 2009, 113, 11190-11197.	3.1	29
44	Confining Standing Waves in Optical Corrals. ACS Nano, 2009, 3, 615-620.	14.6	66
45	Multispectral Thin Film Biosensing and Quantitative Imaging Using 3D Plasmonic Crystals. Analytical Chemistry, 2009, 81, 5980-5989.	6.5	39
46	SERS enhancements via periodic arrays of gold nanoparticles on silver film structures. Optics Express, 2009, 17, 8669.	3.4	47
47	Excitation of Dark Plasmons in Metal Nanoparticles by a Localized Emitter. Physical Review Letters, 2009, 102, 107401.	7.8	201
48	Correlating the Structure, Optical Spectra, and Electrodynamics of Single Silver Nanocubes. Journal of Physical Chemistry C, 2009, 113, 2731-2735.	3.1	171
49	Optimization of 3D Plasmonic Crystal Structures for Refractive Index Sensing. Journal of Physical Chemistry C, 2009, 113, 10493-10499.	3.1	34
50	Multiscale Model for Photoinduced Molecular Motion in Azo Polymers. ACS Nano, 2009, 3, 1573-1579.	14.6	112
51	Real wavepacket code for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mi mathvariant="normal">ABC</mml:mi><mml:mo>+</mml:mo><mml:mi mathvariant="normal">D</mml:mi><mml:mo>â†’</mml:mo><mml:mi mathvariant="normal">AB</mml:mi><mml:mo>+</mml:mo><mml:mi mathvariant="normal">CD</mml:mi></mml:math> reactive scattering. Computer Physics	7.5	19
52	Seeing Molecules by Eye: Surface Plasmon Resonance Imaging at Visible Wavelengths with High Spatial Resolution and Submonolayer Sensitivity. Angewandte Chemie - International Edition, 2008, 47, 5013-5017.	13.8	62
53	DIFFREALWAVE: A parallel real wavepacket code for the quantum mechanical calculation of reactive state-to-state differential cross sections in atom plus diatom collisions. Computer Physics Communications, 2008, 179, 569-578.	7.5	43
54	Theory and modeling of light interactions with metallic nanostructures. Journal of Physics Condensed Matter, 2008, 20, 323201.	1.8	26

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55	Classical Trajectory Studies of the D + H₂ â†' HD + H Reaction Confined in Carbon Nanotubes: Parallel Trajectories. Journal of Physical Chemistry C, 2008, 112, 15260-15266.	3.1	7
56	Systematic Computational Study of the Effect of Silver Nanoparticle Dimers on the Coupled Emission from Nearby Fluorophores. Journal of Physical Chemistry C, 2008, 112, 11236-11249.	3.1	77
57	Nanostructured Plasmonic Sensors. Chemical Reviews, 2008, 108, 494-521.	47.7	2,245
58	Near-Field Polarization Effects in Molecular-Motion-Induced Photochemical Imaging. Journal of Physical Chemistry C, 2008, 112, 4111-4116.	3.1	47
59	Chemical Reactivity within Carbon Nanotubes:â€‰ A Quantum Mechanical Study of the D + H₂ â†' HD + H Reaction. Journal of Physical Chemistry C, 2008, 112, 2654-2659.	3.1	28
60	Quantum Mechanical Capture/Phase Space Theory Calculation of the Rate Constants for the Complex-Forming CH + H₂ Reaction. Journal of Physical Chemistry A, 2008, 112, 12588-12596.	2.5	4
61	Quantum dynamics study of the K+HF(v=0â€“2,j=0)â†'KF+H reaction and comparison with quasiclassical trajectory results. Journal of Chemical Physics, 2008, 128, 144302.	3.0	7
62	Enhancing surface plasmon polariton propagation lengths via coupling to asymmetric waveguide structures. Physical Review B, 2008, 77, .	3.2	20
63	Dephasing of electromagnetic fields in scattering from an isolated slit in a gold film. Proceedings of SPIE, 2008, , .	0.8	8
64	Tailoring the parameters of nanohole arrays in gold films for sensing applications. Proceedings of SPIE, 2007, 6641, 9.	0.8	12
65	Optical properties of rodlike and bipyramidal gold nanoparticles from three-dimensional computations. Physical Review B, 2007, 76, .	3.2	127
66	Computational study of fluorescence scattering by silver nanoparticles. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 2259.	2.1	47
67	Heterodyne apertureless near-field scanning optical microscopy on periodic gold nanowells. Optics Express, 2007, 15, 4098.	3.4	10
68	Tailoring the sensing capabilities of nanohole arrays in gold films with Rayleigh anomaly-surface plasmon polaritons. Optics Express, 2007, 15, 18119.	3.4	179
69	Multigrid FDTD with Chombo. Computer Physics Communications, 2007, 176, 109-120.	7.5	8
70	Substrate effects on surface plasmons in single nanoholes. Chemical Physics Letters, 2007, 435, 123-126.	2.6	22
71	Surface Plasmon-Enhanced Spectroscopy and Photochemistry. Plasmonics, 2007, 2, 143-146.	3.4	40
72	Quantitative multispectral biosensing and 1D imaging using quasi-3D plasmonic crystals. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17143-17148.	7.1	321

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73	Theoretical Study of the Complex-Forming CH + H2â†' CH2+ H Reactionâ€. Journal of Physical Chemistry A, 2006, 110, 5542-5548.	2.5	16
74	Apertureless scanning near-field optical microscopy: a comparison between homodyne and heterodyne approaches. Journal of the Optical Society of America B: Optical Physics, 2006, 23, 823.	2.1	80
75	State-to-state reactive differential cross sections for the H+H2â†'H2+H reaction on five different potential energy surfaces employing a new quantum wavepacket computer code: DIFFREALWAVE. Journal of Chemical Physics, 2006, 125, 164303.	3.0	85
76	Time dependent quantum dynamics study of the O++H2(v=0,j=0)â†'OH++H ion-molecule reaction and isotopic variants (D2,HD). Journal of Chemical Physics, 2006, 125, 164305.	3.0	36
77	Quantum dynamics study of the dissociative photodetachment of HOCOâ^'. Journal of Chemical Physics, 2006, 125, 164312.	3.0	23
78	An OpenMP/MPI approach to the parallelization of iterative four-atom quantum mechanics. Computer Physics Communications, 2005, 166, 94-108.	7.5	14
79	Surface Plasmon Standing Waves in Large-Area Subwavelength Hole Arrays. Nano Letters, 2005, 5, 1963-1967.	9.1	100
80	Near-Field Photochemical Imaging of Noble Metal Nanostructures. Nano Letters, 2005, 5, 615-619.	9.1	210
81	Surface plasmon generation and light transmission by isolated nanoholes and arrays of nanoholes in thin metal films. Optics Express, 2005, 13, 3150.	3.4	466
82	Subwavelength light bending by metal slit structures. Optics Express, 2005, 13, 9652.	3.4	185
83	A new expression for the direct quantum mechanical evaluation of the thermal rate constant. Journal of Chemical Physics, 2004, 120, 9060-9070.	3.0	3
84	Optical near-field enhancement around lithographic metallic nanostructures using an azo-dye polymer: direct observation and realization of sub-wavelength complex structures. Materials Research Society Symposia Proceedings, 2004, 838, 187.	0.1	0
85	Quantum dynamics of vibrationally activated OHâ€"CO reactant complexes. Journal of Chemical Physics, 2004, 121, 823-828.	3.0	17
86	Quantum wave packet and quasiclassical trajectory studies of OH+CO: Influence of the reactant channel well on thermal rate constants. Journal of Chemical Physics, 2004, 120, 1231-1238.	3.0	71
87	Sinc wave packets: New form of wave packet for time-dependent quantum mechanical reactive scattering calculations. International Journal of Quantum Chemistry, 2003, 92, 205-211.	2.0	42
88	Propagation of light in metallic nanowire arrays:â€ƒFinite-difference time-domain studies of silver cylinders. Physical Review B, 2003, 68, .	3.2	205
89	Optical Scattering from Isolated Metal Nanoparticles and Arrays. Journal of Physical Chemistry B, 2003, 107, 14191-14198.	2.6	28
90	Quantum States of Molecular Hydrogen and Its Isotopes in Single-Walled Carbon Nanotubes. Journal of Physical Chemistry B, 2003, 107, 12989-12995.	2.6	40

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91	Quantum reactive scattering calculations of cross sections and rate constants for the N(2D)+O2(Xâ€‰3Î£gâ¯)â†'O(3P)+NO(Xâ€‰2Î) reaction. Journal of Chemical Physics, 2003, 118, 3111-3123.	3.0	38
92	THE EQUILIBRIUM CONSTANTS FOR MOLECULAR HYDROGEN ADSORPTION IN CARBON NANOTUBES BASED ON ITERATIVELY DETERMINED NANO-CONFINED BOUND STATES. Journal of Theoretical and Computational Chemistry, 2003, 02, 621-625.	1.8	11
93	A Quantum Dynamics Study of D2 + OH â†' DOH + D on the WSLFH Potential Energy Function. Journal of Physical Chemistry A, 2003, 107, 7132-7137.	2.5	18
94	A quantum dynamics study of H2+OHâ†'H2O+H employing the Wuâ€"Schatzâ€"Lendvayâ€"Fangâ€"Harding potential function and a four-atom implementation of the real wave packet method. Journal of Chemical Physics, 2002, 117, 1604-1613.	3.0	78
95	CHEMICAL REACTION DYNAMICS WITH REAL WAVE PACKETS. Journal of Theoretical and Computational Chemistry, 2002, 01, 373-379.	1.8	1
96	Highly Excited Bound and Low-Lying Resonance States of H2Oâ€. Journal of Physical Chemistry A, 2001, 105, 2634-2641.	2.5	27
97	Wave Packet Calculation of Cross Sections, Product State Distributions, and Branching Ratios for the O(1D) + HCl Reaction. Journal of Physical Chemistry A, 2001, 105, 5743-5750.	2.5	30
98	Quantum Mechanical Calculation of Reaction Probabilities and Branching Ratios for the O(1D) + HD â†' OH(OD) + D(H) Reaction on the Xl*f* 1Aâ€˜and 11Aâ€˜â€˜Adiabatic Potential Energy Surfacesâ€. Journal of Physical Chemistry A, 2001, 105, 2330-2339.	2.5	50
99	Dispersion fitted finite difference method with applications to molecular quantum mechanics. Journal of Chemical Physics, 2001, 115, 8331-8344.	3.0	44
100	Wave packet dynamics of the N(4S)+O2(Xâ€Š3Î£gâ¯)â†'NO(Xâ€Š2Î)+O(3P) reaction on the Xâ€Š2Aâ€² potential energy surface. Journal of Chemical Physics, 2001, 115, 3208-3214.	3.0	17
101	A transition state real wave packet approach for obtaining the cumulative reaction probability. Journal of Chemical Physics, 2000, 112, 2623-2633.	3.0	14
102	A comparative study of the quantum dynamics and rate constants of the O(3P)+HCl reaction described by two potential surfaces. Journal of Chemical Physics, 2000, 113, 227-236.	3.0	31
103	Quantum mechanical calculation of product state distributions for the O(1D)+H2â†'OH+H reaction on the ground electronic state surface. Journal of Chemical Physics, 2000, 113, 9658-9667.	3.0	50
104	Theoretical study of the potential energy surfaces and bound states of HCP. Journal of Chemical Physics, 2000, 112, 5866-5876.	3.0	9
105	Probing the effect of the H2 rotational state in O(1D)+H2â†'OH+H: Theoretical dynamics including nonadiabatic effects and a crossed molecular beam study. Journal of Chemical Physics, 2000, 113, 7330-7344.	3.0	96
106	Quantum and quasiclassical reactive scattering of O(1D)+HCl using an ab initio potential. Chemical Physics Letters, 1999, 315, 275-281.	2.6	36
107	Quantum Wave Packet Study of Nonadiabatic Effects in O(1D) + H2â†' OH + H. Journal of Physical Chemistry A, 1999, 103, 9448-9459.	2.5	72
108	Flux analysis for calculating reaction probabilities with real wave packets. Chemical Physics Letters, 1998, 293, 270-276.	2.6	138

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109	Quantum dynamics with real wave packets, including application to three-dimensional (J=0)D+H2â†'HD+H reactive scattering. Journal of Chemical Physics, 1998, 108, 950-962.	3.0	399
110	Accurate variational calculations and analysis of the HOCl vibrational energy spectrum. Journal of Chemical Physics, 1998, 109, 10273-10283.	3.0	75
111	The effect of angular momentum on the unimolecular dissociation HCOâ†'H+CO. Journal of Chemical Physics, 1997, 107, 7773-7786.	3.0	28
112	Symplectic integrators tailored to the timeâ€dependent SchrÃ¶dinger equation. Journal of Chemical Physics, 1996, 104, 7099-7112.	3.0	134
113	Quantum dynamics of ArI2vibrational predissociation including low total angular momenta: The role of intramolecular vibrational energy redistribution. Journal of Chemical Physics, 1996, 104, 4999-5011.	3.0	48
114	RADICAL CHEMISTRY WITH WAVE PACKETS. Advanced Series in Physical Chemistry, 1996, , 504-535.	1.5	0
115	Quantum dynamics of a planar model for the complex forming OH+COâ†'H+CO2 reaction. Journal of Chemical Physics, 1995, 102, 8807-8817.	3.0	96
116	Symplectic integrators for the multichannel SchrÃ¶dinger equation. Journal of Chemical Physics, 1995, 102, 9214-9227.	3.0	41
117	Classical Hamiltonian structures in wave packet dynamics. Journal of Chemical Physics, 1994, 100, 5011-5022.	3.0	64
118	Quantum dynamics of van der Waals clusters: Model results for He2Cl2 and Ne2Cl2 fragmentation. Journal of Chemical Physics, 1993, 98, 5396-5407.	3.0	41
119	Wave packet dynamics of resonance decay: An iterative equation approach with application to HCOâ†'H+CO. Journal of Chemical Physics, 1992, 96, 6543-6554.	3.0	148
120	Fragmentation mechanisms from threeâ€dimensional wave packet studies: Vibrational predissociation of NeCl2, HeCl2, NeICl, and HeICl. Journal of Chemical Physics, 1991, 94, 2817-2832.	3.0	98
121	Rotationâ€"vibration interactions in formaldehyde: Results for low vibrational excitations. Journal of Chemical Physics, 1991, 94, 195-207.	3.0	42
122	Classical Dynamics of Van der Waals Molecules. NATO ASI Series Series B: Physics, 1990, , 81-90.	0.2	1
123	Coriolis induced vibration and rotation mixing in formaldehyde. Journal of Chemical Physics, 1989, 90, 5420-5433.	3.0	54
124	Wave packet dynamics of van der Waals molecules: Fragmentation of NeCl2with three degrees of freedom. Journal of Chemical Physics, 1989, 91, 7671-7684.	3.0	96
125	Intramolecular and Fragmentation Dynamics of Van der Waals Complexes. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1988, 92, 236-242.	0.9	17
126	Phase space bottlenecks and statistical theories of isomerization reactions. Journal of Chemical Physics, 1987, 86, 2020-2035.	3.0	75

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127	A periodically forced oscillator model of van der Waals fragmentation: Classical and quantum dynamics. Journal of Chemical Physics, 1987, 87, 2051-2061.	3.0	39
128	Unimolecular reactions and phase space bottlenecks. Journal of Chemical Physics, 1986, 84, 5389-5411.	3.0	278
129	Fractal behavior in classical collisional energy transfer. Journal of Chemical Physics, 1986, 84, 2649-2652.	3.0	118
130	The classical mechanics of vibrational predissociation: A model based study of phase space structure and its influence on fragmentation rates. Journal of Chemical Physics, 1986, 84, 3745-3752.	3.0	73
131	A scattering resonance description of very low energy collision induced vibrational relaxation. Journal of Chemical Physics, 1985, 83, 2818-2828.	3.0	23