

# Charles A Wight

## List of Publications by Year in descending order

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108  
papers

5,130  
citations

147566

31  
h-index

88477

70  
g-index

116  
all docs

116  
docs citations

116  
times ranked

3908  
citing authors

#	ARTICLE	IF	CITATIONS
1	Model-free and model-fitting approaches to kinetic analysis of isothermal and nonisothermal data. <i>Thermochimica Acta</i> , 1999, 340-341, 53-68.	1.2	1,111
2	Kinetics of the Thermal and Thermo-Oxidative Degradation of Polystyrene, Polyethylene and Poly(propylene). <i>Macromolecular Chemistry and Physics</i> , 2001, 202, 775-784.	1.1	617
3	Isothermal and non-isothermal kinetics of thermally stimulated reactions of solids. <i>International Reviews in Physical Chemistry</i> , 1998, 17, 407-433.	0.9	460
4	Kinetics of Thermal Decomposition of Cubic Ammonium Perchlorate. <i>Chemistry of Materials</i> , 1999, 11, 3386-3393.	3.2	246
5	Isothermal and Nonisothermal Reaction Kinetics in Solids: In Search of Ways toward Consensus. <i>Journal of Physical Chemistry A</i> , 1997, 101, 8279-8284.	1.1	227
6	Kinetic Study of Stabilizing Effect of Oxygen on Thermal Degradation of Poly(methyl methacrylate). <i>Journal of Physical Chemistry B</i> , 1999, 103, 8087-8092.	1.2	154
7	Ammonium Dinitramide: Kinetics and Mechanism of Thermal Decomposition. <i>Journal of Physical Chemistry A</i> , 1997, 101, 5653-5658.	1.1	107
8	On microwave discharge sources of new chemical species for matrix isolation spectroscopy and the identification of charged species. <i>Journal of Chemical Physics</i> , 1976, 65, 1244-1249.	1.2	106
9	Thermal Dissociation Kinetics of Solid and Liquid Ammonium Nitrate. <i>Chemistry of Materials</i> , 2001, 13, 960-966.	3.2	96
10	Estimating Realistic Confidence Intervals for the Activation Energy Determined from Thermoanalytical Measurements. <i>Analytical Chemistry</i> , 2000, 72, 3171-3175.	3.2	89
11	Explosive Thermal Decomposition Mechanism of RDX. <i>The Journal of Physical Chemistry</i> , 1994, 98, 5441-5444.	2.9	84
12	Crystallization Kinetics of Amorphous Nifedipine Studied by Model-Fitting and Model-Free Approaches. <i>Journal of Pharmaceutical Sciences</i> , 2003, 92, 1779-1792.	1.6	83
13	Vibrational state distributions and absolute excitation efficiencies for $T \rightarrow V$ transfer collisions of NO and CO with H atoms produced by excimer laser photolysis. <i>Journal of Chemical Physics</i> , 1983, 79, 4823-4829.	1.2	73
14	Competitive Vaporization and Decomposition of Liquid RDX. <i>Journal of Physical Chemistry B</i> , 2000, 104, 2570-2574.	1.2	62
15	Excimer laser photolysis studies of translational $\rightarrow$ vibrational energy transfer in collisions of H and D atoms with CO. <i>Journal of Chemical Physics</i> , 1983, 78, 4875-4886.	1.2	55
16	Thermal decomposition of solid RDX begins with nitrogen-nitrogen bond scission. <i>Journal of the American Chemical Society</i> , 1992, 114, 8303-8304.	6.6	53
17	Transient thin film laser pyrolysis of RDX. <i>The Journal of Physical Chemistry</i> , 1993, 97, 9149-9153.	2.9	52
18	Thermal decomposition kinetics of PBAN-binder and composite solid rocket propellants. <i>Combustion and Flame</i> , 1999, 119, 174-181.	2.8	48

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19	Model-free treatment of the dehydration kinetics of nedocromil sodium trihydrate. <i>Journal of Pharmaceutical Sciences</i> , 2003, 92, 1367-1376.	1.6	48
20	A two-laser pulse-and-probe study of $T^{\infty}, V$ energy transfer collisions of $H+NO$ at 0.95 and 2.2 eV. <i>Journal of Chemical Physics</i> , 1985, 83, 660-667.	1.2	46
21	Theoretical and experimental studies of the structure and vibrational spectra of NTO. <i>Journal of Molecular Structure</i> , 1996, 384, 87-99.	1.8	46
22	Thermal Decomposition of Ammonium Dinitramide at Moderate and High Temperatures. <i>Journal of Physical Chemistry A</i> , 1997, 101, 7217-7221.	1.1	46
23	Thermal Decomposition Mechanism of NTO. <i>The Journal of Physical Chemistry</i> , 1996, 100, 8802-8806.	2.9	44
24	Inhomogeneous broadening of infrared and Raman spectral bands of amorphous and polycrystalline thin films. <i>Journal of Chemical Physics</i> , 1993, 99, 3374-3379.	1.2	42
25	Stabilizing effect of oxygen on thermal degradation of poly(methyl methacrylate). <i>Macromolecular Rapid Communications</i> , 1999, 20, 480-483.	2.0	42
26	Photochemistry of ozone in solid mixtures with argon. <i>Journal of Chemical Physics</i> , 1994, 101, 292-298.	1.2	41
27	Autocatalytic thermal decomposition kinetics of TNT. <i>Thermochimica Acta</i> , 2002, 388, 175-181.	1.2	37
28	Infrared spectra of gas-phase ions and their use in elucidating reaction mechanisms. Identification of $C_7H_7^-$ structural isomers by multiphoton electron detachment using a low-power infrared laser. <i>Journal of the American Chemical Society</i> , 1981, 103, 6499-6501.	6.6	36
29	Laser-induced fluorescence and resonance Raman spectra of interhalogen diatomics isolated in inert matrices at 12 K. <i>Journal of Molecular Spectroscopy</i> , 1975, 56, 239-250.	0.4	35
30	Dehydration kinetics of neotame monohydrate. <i>Journal of Pharmaceutical Sciences</i> , 2002, 91, 1423-1431.	1.6	35
31	Infrared line shapes of clusters and microcrystals: Vibrational modes mixed by dipole interactions. <i>Journal of Chemical Physics</i> , 1994, 100, 972-977.	1.2	32
32	Hard to swallow dry: Kinetics and mechanism of the anhydrous thermal decomposition of acetylsalicylic acid. <i>Journal of Pharmaceutical Sciences</i> , 2002, 91, 800-809.	1.6	30
33	Diffusion-limited geminate recombination of $O+O_2$ in solid xenon. <i>Journal of Chemical Physics</i> , 1996, 104, 85-94.	1.2	28
34	Thermal Activation of the High Explosive NTO: Sublimation, Decomposition, and Autocatalysis. <i>Journal of Physical Chemistry B</i> , 2002, 106, 4022-4026.	1.2	28
35	Photochemistry of solid ozone. <i>The Journal of Physical Chemistry</i> , 1989, 93, 509-511.	2.9	27
36	Thermal Decomposition Kinetics of Hydrazinium Cerium 2,3-Pyrazinedicarboxylate Hydrate: A New Precursor for $CeO_2$ . <i>Journal of Physical Chemistry B</i> , 2005, 109, 6126-6129.	1.2	27

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37	Vibrational energy disposal in reactive and inelastic collisions of H(D)+HCl(DCl) at 1-3 eV. Journal of Chemical Physics, 1984, 81, 3951-3957.	1.2	26
38	Excited-state proton-transfer polymerization of amorphous formaldehyde. Journal of the American Chemical Society, 1989, 111, 1900-1901.	6.6	26
39	Laser multiphoton ionization and photoelectron spectroscopy of Co(CO)3NO and Fe(CO)5. Journal of Chemical Physics, 1990, 93, 6186-6199.	1.2	26
40	Laser-Raman and emission spectra of the dibromide molecular anion in the M+Br2- species. Inorganic Chemistry, 1976, 15, 2147-2150.	1.9	25
41	Laser Photodissociation and Thermal Pyrolysis of Energetic Polymers. Journal of Physical Chemistry B, 1997, 101, 2126-2131.	1.2	25
42	Chemical Speciation and Dynamics in the Surface Combustion Zone of Energetic Materials. Journal of Propulsion and Power, 2002, 18, 824-834.	1.3	21
43	Dipole mechanism of line broadening in amorphous solids. Journal of Chemical Physics, 1995, 102, 67-74.	1.2	20
44	Infrared Spectroscopic Observation of the Stabilized Intermediate Complex FO3 Formed by Reaction of Mobile Fluorine Atoms with Ozone Molecules Trapped in an Argon Matrix. Journal of Physical Chemistry A, 1999, 103, 7972-7977.	1.1	20
45	Synthesis, Thermal Stability and Impact Stability of Novel Tetranitro-Dipyridotetraazapentalene Derivatives. Propellants, Explosives, Pyrotechnics, 2000, 25, 75-80.	1.0	20
46	Formation of $\dot{\text{C}}_2$ -Fluoroethyl Radical and Closed-Shell Products in Reactions of Photogenerated Fluorine Atoms with Ethene in Solid Argon. The Journal of Physical Chemistry, 1996, 100, 4496-4502.	2.9	18
47	Migration of translationally excited fluorine atoms in solid argon and their reactions with small guest molecules. Chemical Physics Letters, 1997, 274, 23-28.	1.2	18
48	Endothermic Formation of a Chemical Bond by Entropic Stabilization: A Difluoronitroxide Radical in Solid Argon. Journal of the American Chemical Society, 1999, 121, 405-410.	6.6	18
49	Infrared laser photochemistry of vibrationally excited cyanobenzene cation prepared by internal conversion following electronic excitation. Chemical Physics Letters, 1981, 77, 30-35.	1.2	17
50	Addition reactions of translationally hot fluorine atoms as a probe of long-range migration in crystalline argon: F+CO. Chemical Physics Letters, 1998, 293, 547-554.	1.2	17
51	Photolysis of ozone and reactions of O(1D) atoms in solid nitrogen. Chemical Physics, 1994, 189, 307-314.	0.9	16
52	Laser-generated shock waves in thin films of energetic materials. Journal of Applied Physics, 1995, 78, 7022-7025.	1.1	16
53	Shock-Initiated Chemistry of Energetic Materials. The Journal of Physical Chemistry, 1995, 99, 6584-6588.	2.9	16
54	Photofragment spectroscopy of cobalt tricarbonylnitrosyl and its trialkylphosphine derivatives. Journal of Chemical Physics, 1989, 90, 1694-1700.	1.2	15

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55	Infrared and EPR Spectra of the Difluoronitroxide Radical. <i>Journal of the American Chemical Society</i> , 1998, 120, 11520-11521.	6.6	15
56	An Eulerian-Lagrangian computational model for deflagration and detonation of high explosives. <i>Combustion and Flame</i> , 2012, 159, 2491-2499.	2.8	15
57	Nitric oxide photofragment rotational distribution from UV dissociation of cyclopentadienylnickel nitrosyl. <i>Journal of Chemical Physics</i> , 1988, 88, 7418-7423.	1.2	14
58	Laser multiphoton dissociation-multiphoton ionization and photoelectron spectroscopy of Fe(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> , Co(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> , and Ni(C <sub>5</sub> H <sub>5</sub> ) <sub>2</sub> . <i>Journal of Chemical Physics</i> , 1992, 97, 3115-3125.	1.2	13
59	Laser Photolysis of Matrix-Isolated Methyl Nitrate: Experimental and Theoretical Characterization of the Infrared Spectrum of Imine Peroxide (HNOO). <i>Journal of the American Chemical Society</i> , 1998, 120, 12327-12333.	6.6	13
60	Thermal Decomposition of a Melt-Castable High Explosive: Isoconversional Analysis of TNAZ. <i>Journal of Physical Chemistry B</i> , 2002, 106, 2791-2795.	1.2	13
61	Vacuum-ultraviolet photoionization of bromoform and its chlorine substituted counterparts during condensation with argon at 15 K. <i>Journal of Molecular Spectroscopy</i> , 1978, 73, 120-143.	0.4	12
62	Multiphoton electron detachment studies of C <sub>7</sub> H <sub>7</sub> <sup>+</sup> using a low-power infrared laser. Competition of radiative and collisional relaxation with vibrational excitation. <i>Chemical Physics</i> , 1989, 134, 375-384.	0.9	12
63	Photochlorination of simple alkanes in cryogenic solids. <i>The Journal of Physical Chemistry</i> , 1990, 94, 2487-2492.	2.9	12
64	Free radical chain reactions of chlorine with cyclobutane in the solid state: Evidence for radical migration via H atom transfer. <i>Journal of Chemical Physics</i> , 1988, 88, 2847-2848.	1.2	11
65	Laser-initiated polymerization of solid formaldehyde. <i>The Journal of Physical Chemistry</i> , 1989, 93, 2143-2147.	2.9	11
66	Photodissociation of cobalt tricarbonylnitrosyl and its trialkylphosphine derivatives in the visible region: evidence for impulsive fragmentation of the nitrosyl ligand. <i>The Journal of Physical Chemistry</i> , 1990, 94, 4935-4940.	2.9	11
67	Pure Component Analysis of Chain Length Distributions from Solid-State Polymerization of Formaldehyde. <i>Applied Spectroscopy</i> , 1992, 46, 1799-1803.	1.2	11
68	Conformational Isomerization of 1,2-Difluoroethane in Solid Argon: Cage-Modified Reaction Barriers. <i>The Journal of Physical Chemistry</i> , 1996, 100, 14958-14961.	2.9	11
69	Laser-initiated chain reactions of chlorine with propane and cyclopropane in amorphous films at 77 K. <i>Journal of the American Chemical Society</i> , 1987, 109, 6223-6229.	6.6	10
70	One-Dimensional Models. <i>Advances in Chemical Physics</i> , 2007, , 55-95.	0.3	10
71	Explosive Thermal Decomposition Mechanism of NTO. <i>Materials Research Society Symposia Proceedings</i> , 1995, 418, 379.	0.1	9
72	Photofragment spectroscopy of $\eta^5$ -cyclopentadienylnickel nitrosyl. <i>Chemical Physics Letters</i> , 1986, 132, 511-515.	1.2	8

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73	Infrared fluorescence study of E $\rightarrow$ V energy transfer from Br*(4s <sup>2</sup> P <sub>1/2</sub> ) to nitrosyl bromide. Journal of Chemical Physics, 1987, 86, 2787-2792.	1.2	8
74	EPR and infrared spectra of the HFCN free radical stabilised in solid argon. Mendeleev Communications, 2001, 11, 64-66.	0.6	8
75	Infrared laser photodetachment of electrons from vibrationally excited allyl anions. The Journal of Physical Chemistry, 1984, 88, 4426-4430.	2.9	7
76	Photofragment spectroscopy of nitrosobenzene. Chemical Physics Letters, 1989, 154, 458-462.	1.2	7
77	Laser-initiated chain reactions and microexplosions in solid solutions of simple alkenes and chlorine. The Journal of Physical Chemistry, 1992, 96, 1288-1293.	2.9	7
78	Infrared and EPR Spectroscopic Observation of Novel Open-Shell Species: The Fluoroiminomethyl Radical (FC=NH) in Solid Argon. Journal of the American Chemical Society, 2001, 123, 5156-5157.	6.6	7
79	Infrared fluorescence studies of near-resonant electronic-to-vibrational energy-transfer collisions: atomic bromine(4P <sub>1/2</sub> ) + nitric oxide. The Journal of Physical Chemistry, 1986, 90, 2683-2687.	2.9	6
80	Infrared spectra of butenyl anions: multiphoton electron detachment as a photochemical probe of isomeric structures of gas phase anions. International Journal of Mass Spectrometry and Ion Processes, 1990, 100, 445-455.	1.9	6
81	HFCN open-shell isomers in solid argon. I. Spectroscopy of the ground and excited states of HFC=N radical. Journal of Chemical Physics, 2002, 116, 10307-10317.	1.2	6
82	Photochemical Formation and Reaction of Radical Pairs from NH <sub>3</sub> F <sub>2</sub> Complexes Isolated in Solid Argon. Journal of Physical Chemistry A, 2002, 106, 9756-9760.	1.1	6
83	Laser-initiated chain reactions and microexplosions in solid solutions of methylcyclopropane and chlorine. Chemical Physics, 1991, 156, 141-148.	0.9	4
84	Magnetic field effect on reactions of radical pairs possessing large spin-orbit coupling constants. Journal of the American Chemical Society, 1992, 114, 9235-9236.	6.6	4
85	Multiscale modeling of high explosives for transportation accidents. , 2012, , .		4
86	Laser-initiated free-radical chlorination of propane in amorphous thin films: temperature dependence from 15 to 77 K. The Journal of Physical Chemistry, 1988, 92, 2821-2824.	2.9	3
87	Photochemical Chain Reactions in Amorphous Solids. Laser Chemistry, 1988, 9, 155-170.	0.5	3
88	Photopolymerization of amorphous formaldehyde: a mechanistic study. Journal of Photochemistry and Photobiology A: Chemistry, 1991, 60, 251-260.	2.0	3
89	Dipole broadened line shape of impurity chromophores isolated in a transparent matrix. Journal of Chemical Physics, 1995, 103, 9563-9567.	1.2	3
90	HFCN open-shell isomers in solid argon. II. Excited-state tunneling isomerization HFC=N $\leftrightarrow$ FC=NH. Journal of Chemical Physics, 2002, 116, 10318-10324.	1.2	3

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91	The influence of an applied heat flux on the violence of reaction of an explosive device. , 2013, , .		3
92	Thin Film Infrared Laser Pyrolysis Studies of Thermal Decomposition Mechanisms in Nitramine Propellants. Materials Research Society Symposia Proceedings, 1992, 296, 47.	0.1	2
93	Hard to swallow dry: formation of linear and cyclic oligomers in the anhydrous thermal decomposition of acetylsalicylic acid. Perkin Transactions II RSC, 2001, , 436-437.	1.1	2
94	Applying High-performance Computing to Petascale Explosive Simulations. Procedia Computer Science, 2013, 18, 2259-2268.	1.2	2
95	Selectivity of isomeric product formation in solid state photochlorination reactions of methylcyclopentane and methylcyclohexane. Journal of Photochemistry and Photobiology A: Chemistry, 1992, 66, 193-203.	2.0	1
96	A statistical model of solid state chain reactions. Chemical Physics, 1992, 162, 393-400.	0.9	1
97	Infrared and EPR spectra of F2NO radicals stabilised in solid argon. Mendeleev Communications, 1998, 8, 181-183.	0.6	1
98	Vibration-Rotation Tunneling Spectroscopy of Molecules and Dimers. Advances in Chemical Physics, 2007, , 261-307.	0.3	1
99	Use of Condensed-Phase Reaction Models in Combustion Simulation of Energetic Materials. Journal of Propulsion and Power, 2008, 24, 175-183.	1.3	1
100	Laser-induced reaction and polymerization of formaldehyde in low-temperature amorphous solids. AIP Conference Proceedings, 1989, , .	0.3	0
101	Laser multiphoton dissociation and multiphoton ionization of VOCl3. Chemical Physics, 1992, 165, 143-146.	0.9	0
102	Detonation Chemistry Of Glycidyl Azide Polymer. Materials Research Society Symposia Proceedings, 1995, 418, 363.	0.1	0
103	Heavy Particle Transfer. Advances in Chemical Physics, 2007, , 309-336.	0.3	0
104	Hydrogen Transfer. Advances in Chemical Physics, 2007, , 151-207.	0.3	0
105	Tunneling Rotation. Advances in Chemical Physics, 2007, , 209-260.	0.3	0
106	From Thermal Activation to Tunneling. Advances in Chemical Physics, 2007, , 15-53.	0.3	0
107	Chemical Dynamics in the Presence of a Heat Bath. Advances in Chemical Physics, 2007, , 117-149.	0.3	0
108	Two-Dimensional Tunneling. Advances in Chemical Physics, 2007, , 97-116.	0.3	0