

# Charles A Wight

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

107  
papers

4,476  
citations

30  
h-index

65  
g-index

116  
ext. papers

4,773  
ext. citations

4.9  
avg, IF

5.34  
L-index

#	Paper	IF	Citations
107	Applying High-performance Computing to Petascale Explosive Simulations. <i>Procedia Computer Science</i> , <b>2013</b> , 18, 2259-2268	1.6	2
106	The influence of an applied heat flux on the violence of reaction of an explosive device <b>2013</b> ,		3
105	Multiscale modeling of high explosives for transportation accidents <b>2012</b> ,		3
104	An Eulerian-Lagrangian computational model for deflagration and detonation of high explosives. <i>Combustion and Flame</i> , <b>2012</b> , 159, 2491-2499	5.3	15
103	Use of Condensed-Phase Reaction Models in Combustion Simulation of Energetic Materials. <i>Journal of Propulsion and Power</i> , <b>2008</b> , 24, 175-183	1.8	0
102	From Thermal Activation to Tunneling. <i>Advances in Chemical Physics</i> , <b>2007</b> , 15-53		
101	Chemical Dynamics in the Presence of a Heat Bath. <i>Advances in Chemical Physics</i> , <b>2007</b> , 117-149		
100	Two-Dimensional Tunneling. <i>Advances in Chemical Physics</i> , <b>2007</b> , 97-116		
99	Vibration-Rotation Tunneling Spectroscopy of Molecules and Dimers. <i>Advances in Chemical Physics</i> , <b>2007</b> , 261-307		
98	One-Dimensional Models. <i>Advances in Chemical Physics</i> , <b>2007</b> , 55-95		10
97	Heavy Particle Transfer. <i>Advances in Chemical Physics</i> , <b>2007</b> , 309-336		
96	Hydrogen Transfer. <i>Advances in Chemical Physics</i> , <b>2007</b> , 151-207		
95	Tunneling Rotation. <i>Advances in Chemical Physics</i> , <b>2007</b> , 209-260		
94	Thermal decomposition kinetics of hydrazinium cerium 2,3-Pyrazinedicarboxylate hydrate: a new precursor for CeO <sub>2</sub> . <i>Journal of Physical Chemistry B</i> , <b>2005</b> , 109, 6126-9	3.4	27
93	Model-free treatment of the dehydration kinetics of nedocromil sodium trihydrate. <i>Journal of Pharmaceutical Sciences</i> , <b>2003</b> , 92, 1367-76	3.9	38
92	Crystallization kinetics of amorphous nifedipine studied by model-fitting and model-free approaches. <i>Journal of Pharmaceutical Sciences</i> , <b>2003</b> , 92, 1779-92	3.9	72
91	Hard to swallow dry: kinetics and mechanism of the anhydrous thermal decomposition of acetylsalicylic acid. <i>Journal of Pharmaceutical Sciences</i> , <b>2002</b> , 91, 800-9	3.9	25

90	Dehydration kinetics of neotame monohydrate. <i>Journal of Pharmaceutical Sciences</i> , <b>2002</b> , 91, 1423-31	3.9	31
89	Autocatalytic thermal decomposition kinetics of TNT. <i>Thermochimica Acta</i> , <b>2002</b> , 388, 175-181	2.9	31
88	HFCN open-shell isomers in solid argon. II. Excited-state tunneling isomerization HFC=N $\leftrightarrow$ FCBNH. <i>Journal of Chemical Physics</i> , <b>2002</b> , 116, 10318-10324	3.9	3
87	HFCN open-shell isomers in solid argon. I. Spectroscopy of the ground and excited states of HFC=N radical. <i>Journal of Chemical Physics</i> , <b>2002</b> , 116, 10307-10317	3.9	6
86	Thermal Decomposition of a Melt-Castable High Explosive: Isoconversional Analysis of TNAZ. <i>Journal of Physical Chemistry B</i> , <b>2002</b> , 106, 2791-2795	3.4	10
85	Photochemical Formation and Reaction of Radical Pairs from NH <sub>3</sub> B <sub>2</sub> Complexes Isolated in Solid Argon. <i>Journal of Physical Chemistry A</i> , <b>2002</b> , 106, 9756-9760	2.8	5
84	Chemical Speciation and Dynamics in the Surface Combustion Zone of Energetic Materials. <i>Journal of Propulsion and Power</i> , <b>2002</b> , 18, 824-834	1.8	19
83	Thermal Activation of the High Explosive NTO: Sublimation, Decomposition, and Autocatalysis. <i>Journal of Physical Chemistry B</i> , <b>2002</b> , 106, 4022-4026	3.4	22
82	Kinetics of the Thermal and Thermo-Oxidative Degradation of Polystyrene, Polyethylene and Poly(propylene). <i>Macromolecular Chemistry and Physics</i> , <b>2001</b> , 202, 775-784	2.6	527
81	EPR and infrared spectra of the HFCN free radical stabilised in solid argon. <i>Mendeleev Communications</i> , <b>2001</b> , 11, 64-66	1.9	5
80	Hard to swallow dry: formation of linear and cyclic oligomers in the anhydrous thermal decomposition of acetylsalicylic acid. <i>Perkin Transactions II RSC</i> , <b>2001</b> , 436-437		2
79	Infrared and EPR spectroscopic observation of novel open-shell species: the fluoroiminomethyl radical (FC* $\equiv$ NH) in solid argon. <i>Journal of the American Chemical Society</i> , <b>2001</b> , 123, 5156-7	16.4	7
78	Thermal Dissociation Kinetics of Solid and Liquid Ammonium Nitrate. <i>Chemistry of Materials</i> , <b>2001</b> , 13, 960-966	9.6	87
77	Synthesis, Thermal Stability and Impact Stability of Novel Tetranitro-Dipyridotetraazapentalene Derivatives. <i>Propellants, Explosives, Pyrotechnics</i> , <b>2000</b> , 25, 75-80	1.7	18
76	Competitive Vaporization and Decomposition of Liquid RDX. <i>Journal of Physical Chemistry B</i> , <b>2000</b> , 104, 2570-2574	3.4	50
75	Estimating realistic confidence intervals for the activation energy determined from thermoanalytical measurements. <i>Analytical Chemistry</i> , <b>2000</b> , 72, 3171-5	7.8	75
74	Model-free and model-fitting approaches to kinetic analysis of isothermal and nonisothermal data. <i>Thermochimica Acta</i> , <b>1999</b> , 340-341, 53-68	2.9	943
73	Thermal decomposition kinetics of PBAN-binder and composite solid rocket propellants. <i>Combustion and Flame</i> , <b>1999</b> , 119, 174-181	5.3	43

72	Stabilizing effect of oxygen on thermal degradation of poly(methyl methacrylate). <i>Macromolecular Rapid Communications</i> , <b>1999</b> , 20, 480-483	4.8	35
71	Kinetic Study of Stabilizing Effect of Oxygen on Thermal Degradation of Poly(methyl methacrylate). <i>Journal of Physical Chemistry B</i> , <b>1999</b> , 103, 8087-8092	3.4	130
70	Kinetics of Thermal Decomposition of Cubic Ammonium Perchlorate. <i>Chemistry of Materials</i> , <b>1999</b> , 11, 3386-3393	9.6	213
69	Infrared Spectroscopic Observation of the Stabilized Intermediate Complex FO <sub>3</sub> Formed by Reaction of Mobile Fluorine Atoms with Ozone Molecules Trapped in an Argon Matrix. <i>Journal of Physical Chemistry A</i> , <b>1999</b> , 103, 7972-7977	2.8	14
68	Endothermic Formation of a Chemical Bond by Entropic Stabilization: Difluoronitroxide Radical in Solid Argon. <i>Journal of the American Chemical Society</i> , <b>1999</b> , 121, 405-410	16.4	16
67	Addition reactions of translationally hot fluorine atoms as a probe of long-range migration in crystalline argon: F+CO. <i>Chemical Physics Letters</i> , <b>1998</b> , 293, 547-554	2.5	14
66	Infrared and EPR spectra of F <sub>2</sub> NO radicals stabilised in solid argon. <i>Mendeleev Communications</i> , <b>1998</b> , 8, 181-183	1.9	0
65	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> , <b>1998</b> , 120, 12327-12333	16.4	11
64	Infrared and EPR Spectra of the Difluoronitroxide Radical. <i>Journal of the American Chemical Society</i> , <b>1998</b> , 120, 11520-11521	16.4	14
63	Isothermal and non-isothermal kinetics of thermally stimulated reactions of solids. <i>International Reviews in Physical Chemistry</i> , <b>1998</b> , 17, 407-433	7	396
62	Laser Photodissociation and Thermal Pyrolysis of Energetic Polymers. <i>Journal of Physical Chemistry B</i> , <b>1997</b> , 101, 2126-2131	3.4	22
61	Thermal Decomposition of Ammonium Dinitramide at Moderate and High Temperatures. <i>Journal of Physical Chemistry A</i> , <b>1997</b> , 101, 7217-7221	2.8	42
60	Ammonium Dinitramide: Kinetics and Mechanism of Thermal Decomposition. <i>Journal of Physical Chemistry A</i> , <b>1997</b> , 101, 5653-5658	2.8	93
59	Isothermal and Nonisothermal Reaction Kinetics in Solids: In Search of Ways toward Consensus. <i>Journal of Physical Chemistry A</i> , <b>1997</b> , 101, 8279-8284	2.8	208
58	Migration of translationally excited fluorine atoms in solid argon and their reactions with small guest molecules. <i>Chemical Physics Letters</i> , <b>1997</b> , 274, 23-28	2.5	14
57	Conformational Isomerization of 1,2-Difluoroethane in Solid Argon: Cage-Modified Reaction Barriers. <i>The Journal of Physical Chemistry</i> , <b>1996</b> , 100, 14958-14961		11
56	Formation of $\beta$ -Fluoroethyl Radical and Closed-Shell Products in Reactions of Photogenerated Fluorine Atoms with Ethene in Solid Argon. <i>The Journal of Physical Chemistry</i> , <b>1996</b> , 100, 4496-4502		16
55	Thermal Decomposition Mechanism of NTO. <i>The Journal of Physical Chemistry</i> , <b>1996</b> , 100, 8802-8806		38

54	Theoretical and experimental studies of the structure and vibrational spectra of NTO. <i>Journal of Molecular Structure</i> , <b>1996</b> , 384, 87-99	3.4	40
53	Diffusion-limited geminate recombination of O+O <sub>2</sub> in solid xenon. <i>Journal of Chemical Physics</i> , <b>1996</b> , 104, 85-94	3.9	24
52	Laser-generated shock waves in thin films of energetic materials. <i>Journal of Applied Physics</i> , <b>1995</b> , 78, 7022-7025	2.5	11
51	Dipole mechanism of line broadening in amorphous solids. <i>Journal of Chemical Physics</i> , <b>1995</b> , 102, 67-74	3.9	16
50	Shock-Initiated Chemistry of Energetic Materials. <i>The Journal of Physical Chemistry</i> , <b>1995</b> , 99, 6584-6588		16
49	Dipole broadened line shape of impurity chromophores isolated in a transparent matrix. <i>Journal of Chemical Physics</i> , <b>1995</b> , 103, 9563-9567	3.9	3
48	Explosive Thermal Decomposition Mechanism of NTO. <i>Materials Research Society Symposia Proceedings</i> , <b>1995</b> , 418, 379		6
47	Detonation Chemistry of Glycidyl Azide Polymer. <i>Materials Research Society Symposia Proceedings</i> , <b>1995</b> , 418, 363		
46	Infrared line shapes of clusters and microcrystals: Vibrational modes mixed by dipole interactions. <i>Journal of Chemical Physics</i> , <b>1994</b> , 100, 972-977	3.9	30
45	Photochemistry of ozone in solid mixtures with argon. <i>Journal of Chemical Physics</i> , <b>1994</b> , 101, 292-298	3.9	40
44	Photolysis of ozone and reactions of O(1D) atoms in solid nitrogen. <i>Chemical Physics</i> , <b>1994</b> , 189, 307-314	2.3	16
43	Explosive Thermal Decomposition Mechanism of RDX. <i>The Journal of Physical Chemistry</i> , <b>1994</b> , 98, 5441-5444		78
42	Inhomogeneous broadening of infrared and Raman spectral bands of amorphous and polycrystalline thin films. <i>Journal of Chemical Physics</i> , <b>1993</b> , 99, 3374-3379	3.9	39
41	Transient thin film laser pyrolysis of RDX. <i>The Journal of Physical Chemistry</i> , <b>1993</b> , 97, 9149-9153		46
40	Laser-initiated chain reactions and microexplosions in solid solutions of simple alkenes and chlorine. <i>The Journal of Physical Chemistry</i> , <b>1992</b> , 96, 1288-1293		5
39	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> , <b>1992</b> , 97, 3115-3125	3.9	12
38	Thin Film Infrared Laser Pyrolysis Studies of Thermal Decomposition Mechanisms in Nitramine Propellants. <i>Materials Research Society Symposia Proceedings</i> , <b>1992</b> , 296, 47		2
37	Magnetic field effect on reactions of radical pairs possessing large spin-orbit coupling constants. <i>Journal of the American Chemical Society</i> , <b>1992</b> , 114, 9235-9236	16.4	3

36	Thermal decomposition of solid RDX begins with nitrogen-nitrogen bond scission. <i>Journal of the American Chemical Society</i> , <b>1992</b> , 114, 8303-8304	16.4	49
35	Pure Component Analysis of Chain Length Distributions from Solid-State Polymerization of Formaldehyde. <i>Applied Spectroscopy</i> , <b>1992</b> , 46, 1799-1803	3.1	11
34	Selectivity of isomeric product formation in solid state photochlorination reactions of methylcyclopentane and methylcyclohexane. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , <b>1992</b> , 66, 193-203	4.7	0
33	A statistical model of solid state chain reactions. <i>Chemical Physics</i> , <b>1992</b> , 162, 393-400	2.3	1
32	Laser multiphoton dissociation and multiphoton ionization of VOCl <sub>3</sub> . <i>Chemical Physics</i> , <b>1992</b> , 165, 143-146	4.6	3
31	Laser-initiated chain reactions and microexplosions in solid solutions of methylcyclopropane and chlorine. <i>Chemical Physics</i> , <b>1991</b> , 156, 141-148	2.3	3
30	Photopolymerization of amorphous formaldehyde: a mechanistic study. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , <b>1991</b> , 60, 251-260	4.7	2
29	Photochlorination of simple alkanes in cryogenic solids. <i>The Journal of Physical Chemistry</i> , <b>1990</b> , 94, 2487-2492	10	
28	Infrared spectra of butenyl anions: multiphoton electron detachment as a photochemical probe of isomeric structures of gas phase anions. <i>International Journal of Mass Spectrometry and Ion Processes</i> , <b>1990</b> , 100, 445-455		5
27	Laser multiphoton ionization and photoelectron spectroscopy of Co(CO) <sub>3</sub> NO and Fe(CO) <sub>5</sub> . <i>Journal of Chemical Physics</i> , <b>1990</b> , 93, 6186-6199	3.9	24
26	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> , <b>1990</b> , 94, 4935-4940		9
25	Photofragment spectroscopy of cobalt tricarbonylnitrosyl and its trialkylphosphine derivatives. <i>Journal of Chemical Physics</i> , <b>1989</b> , 90, 1694-1700	3.9	12
24	Laser-initiated polymerization of solid formaldehyde. <i>The Journal of Physical Chemistry</i> , <b>1989</b> , 93, 2143-2147		11
23	Photochemistry of solid ozone. <i>The Journal of Physical Chemistry</i> , <b>1989</b> , 93, 509-511		26
22	Photofragment spectroscopy of nitrosobenzene. <i>Chemical Physics Letters</i> , <b>1989</b> , 154, 458-462	2.5	5
21	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> , <b>1989</b> , 134, 375-384	2.3	11
20	Excited-state proton-transfer polymerization of amorphous formaldehyde. <i>Journal of the American Chemical Society</i> , <b>1989</b> , 111, 1900-1901	16.4	22
19	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> , <b>1988</b> , 88, 2847-2848	3.9	7

18	Nitric oxide photofragment rotational distribution from UV dissociation of cyclopentadienylnickel nitrosyl. <i>Journal of Chemical Physics</i> , <b>1988</b> , 88, 7418-7423	3.9	11
17	Laser-initiated free-radical chlorination of propane in amorphous thin films: temperature dependence from 15 to 77 K. <i>The Journal of Physical Chemistry</i> , <b>1988</b> , 92, 2821-2824		2
16	Photochemical Chain Reactions in Amorphous Solids. <i>Laser Chemistry</i> , <b>1988</b> , 9, 155-170		3
15	Infrared fluorescence study of E $\nu$ energy transfer from Br*(4 2P $_{1/2}$ ) to nitrosyl bromide. <i>Journal of Chemical Physics</i> , <b>1987</b> , 86, 2787-2792	3.9	8
14	Laser-initiated chain reactions of chlorine with propane and cyclopropane in amorphous films at 77 K. <i>Journal of the American Chemical Society</i> , <b>1987</b> , 109, 6223-6229	16.4	9
13	Infrared fluorescence studies of near-resonant electronic-to-vibrational energy-transfer collisions: atomic bromine(42P $_{1/2}$ ) + nitric oxide. <i>The Journal of Physical Chemistry</i> , <b>1986</b> , 90, 2683-2687		6
12	Photofragment spectroscopy of $\eta^5$ -cyclopentadienylnickel nitrosyl. <i>Chemical Physics Letters</i> , <b>1986</b> , 132, 511-515	2.5	7
11	A two-laser pulse-and-probe study of T-R, V energy transfer collisions of H+NO at 0.95 and 2.2 eV. <i>Journal of Chemical Physics</i> , <b>1985</b> , 83, 660-667	3.9	46
10	Vibrational energy disposal in reactive and inelastic collisions of H(D)+HCl(DCl) at 1B eV. <i>Journal of Chemical Physics</i> , <b>1984</b> , 81, 3951-3957	3.9	25
9	Infrared laser photodetachment of electrons from vibrationally excited allyl anions. <i>The Journal of Physical Chemistry</i> , <b>1984</b> , 88, 4426-4430		6
8	Excimer laser photolysis studies of translational-to-vibrational energy transfer in collisions of H and D atoms with CO. <i>Journal of Chemical Physics</i> , <b>1983</b> , 78, 4875-4886	3.9	55
7	Vibrational state distributions and absolute excitation efficiencies for T-V transfer collisions of NO and CO with H atoms produced by excimer laser photolysis. <i>Journal of Chemical Physics</i> , <b>1983</b> , 79, 4823-4829	3.9	72
6	Infrared spectra of gas-phase ions and their use in elucidating reaction mechanisms. Identification of C $_7$ H $_7^-$ structural isomers by multiphoton electron detachment using a low-power infrared laser. <i>Journal of the American Chemical Society</i> , <b>1981</b> , 103, 6499-6501	16.4	30
5	Infrared laser photochemistry of vibrationally excited cyanobenzene cation prepared by internal conversion following electronic excitation. <i>Chemical Physics Letters</i> , <b>1981</b> , 77, 30-35	2.5	16
4	Vacuum-ultraviolet photoionization of bromoform and its chlorine substituted counterparts during condensation with argon at 15 K. <i>Journal of Molecular Spectroscopy</i> , <b>1978</b> , 73, 120-143	1.3	11
3	Laser-Raman and emission spectra of the dibromide molecular anion in the M+Br $_2^-$ species. <i>Inorganic Chemistry</i> , <b>1976</b> , 15, 2147-2150	5.1	24
2	On microwave discharge sources of new chemical species for matrix-isolation spectroscopy and the identification of charged species. <i>Journal of Chemical Physics</i> , <b>1976</b> , 65, 1244-1249	3.9	95
1	Laser-induced fluorescence and resonance Raman spectra of interhalogen diatomics isolated in inert matrices at 12 K. <i>Journal of Molecular Spectroscopy</i> , <b>1975</b> , 56, 239-250	1.3	35

