Ronald K Hanson

List of Publications by Year
in descending order

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83 papers	2,977 citations	147801 31 h-index	175258 52 g-index
83 all docs	83 docs citations	83 times ranked	1585 citing authors

#	Article	IF	Citations
1	Planar laser-fluorescence imaging of combustion gases. Applied Physics B, Photophysics and Laser Chemistry, 1990, 50, 441-454.	1.5	252
2	Nonideal effects behind reflected shock waves in a high-pressure shock tube. Shock Waves, 2001, 10, 405-420.	1.9	189
3	Absorption and fluorescence of toluene vapor at elevated temperatures. Physical Chemistry Chemical Physics, 2004, 6, 2940.	2.8	140
4	Quantitative detection of HCO behind shock waves: The thermal decomposition of HCO. Physical Chemistry Chemical Physics, 2002, 4, 5778-5788.	2.8	107
5	The use of driver inserts to reduce non-ideal pressure variations behind reflected shock waves. Shock Waves, 2009, 19, 113-123.	1.9	98
6	High-Temperature Thermal Decomposition of Isobutane and n-Butane Behind Shock Waves. Journal of Physical Chemistry A, 2004, 108, 4247-4253.	2.5	94
7	A shock tube study of the reactions of NH with NO, O2, and O. International Journal of Chemical Kinetics, 1991, 23, 173-196.	1.6	79
8	Direct measurements of the reaction OH + CH2O ? HCO + H2O at high temperatures. International Journal of Chemical Kinetics, 2005, 37, 98-109.	1.6	76
9	Experimental study and modeling of the reaction H + O2 + Mâ†’ HO2 + M (M = Ar, N2, H2O) at elevated pressures and temperatures between 1050 and 1250 K. Physical Chemistry Chemical Physics, 2001, 3, 2337-2342.	2.8	73
10	IR laser absorption diagnostic for C₂H₄ in shock tube kinetics studies. International Journal of Chemical Kinetics, 2012, 44, 423-432.	1.6	72
11	A shock tube study of the OH + OH ? H2O + O reaction. International Journal of Chemical Kinetics, 1994, 26, 389-401.	1.6	68
12	Reaction kinetics of NH in the shock tube pyrolysis of HNCO. International Journal of Chemical Kinetics, 1989, 21, 1049-1067.	1.6	64
13	CH and C-atom time histories in dilute hydrocarbon pyrolysis: Measurements and kinetics calculations. International Journal of Chemical Kinetics, 1992, 24, 517-532.	1.6	64
14	The pressure dependence of the thermal decomposition of N2O. International Journal of Chemical Kinetics, 1996, 28, 599-608.	1.6	62
15	Dependence of Calculated Postshock Thermodynamic Variables on Vibrational Equilibrium and Input Uncertainty. Journal of Thermophysics and Heat Transfer, 2017, 31, 586-608.	1.6	61
16	LIF Spectroscopy of NO and O2in High-Pressure Flames. Combustion Science and Technology, 1996, 118, 257-283.	2.3	57
17	Shock Tube Study of Syngas Ignition in Rich CO₂ Mixtures and Determination of the Rate of H + O₂ + CO₂ â†’ HO₂ + CO₂. Energy & Fuels, 2011, 25, 990-997.	5.1	53
18	Validation of a thermal decomposition mechanism of formaldehyde by detection of CH2 O and HCO behind shock waves. International Journal of Chemical Kinetics, 2004, 36, 157-169.	1.6	52

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19	Shock Tube Study of Methylcyclohexane Ignition over a Wide Range of Pressure and Temperature. Energy & Fuels, 2009, 23, 175-185.	5.1	52
20	A shock tube study of CO + OH ? CO2 + H and HNCO + OH ? products via simultaneous laser absorption measurements of OH and CO2. International Journal of Chemical Kinetics, 1996, 28, 361-372.	1.6	51
21	Multi-species laser absorption sensors for in situ monitoring of syngas composition. Applied Physics B: Lasers and Optics, 2014, 115, 9-24.	2.2	50
22	Shock tube study of cyanogen oxidation kinetics. International Journal of Chemical Kinetics, 1984, 16, 231-250.	1.6	48
23	Real-time, in situ, continuous monitoring of CO in a pulverized-coal-fired power plant with a 2.3Âμm laser absorption sensor. Applied Physics B: Lasers and Optics, 2013, 110, 359-365.	2.2	48
24	Direct measurements of the reaction H + CH2O ? H2 + HCO behind shock waves by means of Vis-UV detection of formaldehyde. International Journal of Chemical Kinetics, 2002, 34, 374-386.	1.6	45
25	A Shock Tube Study of H₂ + OH â†' H₂O + H Using OH Laser Absorption. International Journal of Chemical Kinetics, 2013, 45, 363-373.	1.6	41
26	A shock tube study of reactions of CN with HCN, OH, and H2 using CN and OH laser absorption. International Journal of Chemical Kinetics, 1996, 28, 245-258.	1.6	40
27	Contact surface tailoring condition for shock tubes with different driver and driven section diameters. Shock Waves, 2009, 19, 331-336.	1.9	40
28	Measurement of the rate coefficient of the reaction CH+O2 ? products in the temperature range 2200 to 2600 K. International Journal of Chemical Kinetics, 1997, 29, 781-789.	1.6	34
29	Coupled vibration-dissociation time-histories and rate measurements in shock-heated, nondilute O2 and O2â€"Ar mixtures from 6000 to 14â€‰000â€‰K. Physics of Fluids, 2021, 33, .	4.0	33
30	A shock tube study of H + HNCO â†' NH2+ CO. International Journal of Chemical Kinetics, 1991, 23, 655-668.	1.6	32
31	Vibrational relaxation time measurements in shock-heated oxygen and air from 2000 K to 9000 K using ultraviolet laser absorption. Physics of Fluids, 2020, 32, .	4.0	31
32	Shock-tube measurements of coupled vibrationâ€"dissociation time-histories and rate parameters in oxygen and argon mixtures from 5000 K to 10 000 K. Physics of Fluids, 2020, 32, .	4.0	31
33	Shockâ€tube study of carbon monoxide dissociation kinetics. Journal of Chemical Physics, 1974, 60, 4970-4976.	3.0	30
34	Simultaneous laser absorption measurements of CN and OH in a shock tube study of HCN + OH ? products. International Journal of Chemical Kinetics, 1995, 27, 1075-1087.	1.6	29
35	A Shock Tube Study of the Product Branching Ratio of the NH2 + NO Reaction at High Temperatures. Journal of Physical Chemistry A, 2002, 106, 9233-9235.	2.5	28
36	Two-color laser absorption near 5 Î¼m for temperature and nitric oxide sensing in high-temperature gases. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 203, 572-581.	2.3	28

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37	A shock tube study of reactions of atomic oxygen with isocyanic acid. International Journal of Chemical Kinetics, 1992, 24, 279-295.	1.6	26
38	Real Gas Corrections in Shock Tube Studies at High Pressures. Israel Journal of Chemistry, 1996, 36, 321-326.	2.3	25
39	Highâ€temperature shock tube study of the reactions CH₃ + OH â†' products and CH₃OH + Ar â†' products. International Journal of Chemical Kinetics, 2008, 40, 488-495.	1.6	25
40	Oxygen Vibrational Relaxation Times: Shock Tube/Laser Absorption Measurements. Journal of Thermophysics and Heat Transfer, 2016, 30, 791-798.	1.6	25
41	Continuous wave dye-laser technique for simultaneous, spatially resolved measurements of temperature, pressure, and velocity of NO in an underexpanded free jet. Applied Optics, 1993, 32, 4074.	2.1	24
42	Quantification of Supersonic Impulse Flow Conditions via High-Bandwidth Wavelength Modulation Absorption Spectroscopy. AIAA Journal, 2015, 53, 2978-2987.	2.6	24
43	A Shock Tube Study of Benzylamine Decomposition:Â Overall Rate Coefficient and Heat of Formation of the Benzyl Radical. Journal of Physical Chemistry A, 2002, 106, 6094-6098.	2.5	23
44	A shock tube study of the reaction NH2 + CH4 ? NH3 + CH3 and comparison with transition state theory. International Journal of Chemical Kinetics, 2003, 35, 304-309.	1.6	23
45	Improved Shock Tube Measurement of the CH₄ + Ar = CH₃ + H + Ar Rate Constant using UV Cavity-Enhanced Absorption Spectroscopy of CH₃. Journal of Physical Chemistry A, 2016, 120, 5427-5434.	2.5	23
46	Shock-Tube Measurement of Acetone Dissociation Using Cavity-Enhanced Absorption Spectroscopy of CO. Journal of Physical Chemistry A, 2015, 119, 7257-7262.	2.5	20
47	Single- and dual-band collection toluene PLIF thermometry in supersonic flows. Experiments in Fluids, 2013, 54, 1.	2.4	19
48	High temperature determination of the rate coefficient for the reaction H2O + CN ? HCN + OH. International Journal of Chemical Kinetics, 1984, 16, 1609-1621.	1.6	18
49	Shock Tube Measurement of the C₂H₄ + H â‡" C₂H₃ + H₂ Rate Constant. Journal of Physical Chemistry A, 2019, 123, 15-20.	2.5	18
50	Analysis of laser absorption gas sensors employing scanned-wavelength modulation spectroscopy with 1f-phase detection. Applied Physics B: Lasers and Optics, 2020, 126, 1.	2.2	18
51	Shock-tube determination of the rate coefficient for the reaction CN + HCN ? C2N2 + H. International Journal of Chemical Kinetics, 1983, 15, 1237-1241.	1.6	17
52	Shock tube study of the thermal decomposition of cyanogen. Journal of Chemical Physics, 1984, 80, 4982-4985.	3.0	17
53	Shock Tube Study of Dimethylamine Oxidation. International Journal of Chemical Kinetics, 2015, 47, 19-26.	1.6	16
54	Kinetics of Excited Oxygen Formation in Shock-Heated O₂â€"Ar Mixtures. Journal of Physical Chemistry A, 2016, 120, 8234-8243.	2.5	16

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55	Ultraviolet absorption cross-section measurements of shock-heated O2 from 2,000â€“8,400 K using a tunable laser. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 247, 106959.	2.3	16
56	Demonstration of non-absorbing interference rejection using wavelength modulation spectroscopy in high-pressure shock tubes. Applied Physics B: Lasers and Optics, 2019, 125, 1.	2.2	15
57	Shock-wave reflexion in a relaxing gas. Journal of Fluid Mechanics, 1971, 45, 721-746.	3.4	14
58	Hypersonic Scramjet Testing via Diode Laser Absorption in a Reflected Shock Tunnel. Journal of Propulsion and Power, 2014, 30, 1586-1594.	2.2	14
59	Combined Ab Initio, Kinetic Modeling, and Shock Tube Study of the Thermal Decomposition of Ethyl Formate. Journal of Physical Chemistry A, 2017, 121, 6568-6579.	2.5	14
60	Shock-induced behavior in micron-sized water aerosols. Physics of Fluids, 2007, 19, 056104.	4.0	13
61	Broad-linewidth laser absorption measurements of oxygen between 211 and 235nm at high temperatures. Journal of Quantitative Spectroscopy and Radiative Transfer, 2011, 112, 2698-2703.	2.3	13
62	Fiberoptic Absorption/Fluorescence Combustion Diagnostics. Combustion Science and Technology, 1986, 50, 307-322.	2.3	12
63	Measurements of Oxygen Dissociation Using Laser Absorption. Journal of Thermophysics and Heat Transfer, 2016, 30, 274-278.	1.6	12
64	Multispecies laser measurements of n-butanol pyrolysis behind reflected shock waves. International Journal of Chemical Kinetics, 2012, 44, 303-311.	1.6	11
65	Shock Tube Measurement for the Dissociation Rate Constant of Acetaldehyde Using Sensitive CO Diagnostics. Journal of Physical Chemistry A, 2016, 120, 6895-6901.	2.5	11
66	The pyrolysis of propane. International Journal of Chemical Kinetics, 2020, 52, 725-738.	1.6	11
67	Spectrally-resolved absorption cross-section measurements of shock-heated <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> for the development of a vibrational temperature diagnostic. Journal of Quantitative Spectroscopy and Radiative Transfer, 2021, 270, 107704.	2.3	11
68	Secondary Diaphragm Thickness Effects and Improved Pressure Measurements in an Expansion Tube. AIAA Journal, 2014, 52, 451-456.	2.6	10
69	Shock Tube Measurement of the CH₃ + C₂H₆ â†’ CH₄ + C₂H₅ Rate Constant. Journal of Physical Chemistry A, 2019, 123, 9096-9101.	2.5	10
70	Two-color frequency-multiplexed IMS technique for gas thermometry at elevated pressures. Applied Physics B: Lasers and Optics, 2020, 126, 1.	2.2	9
71	Spectrally-resolved ultraviolet absorption measurements of shock-heated NO from 2000 K to 6000 K for the development of a two-color rotational temperature diagnostic. Journal of Quantitative Spectroscopy and Radiative Transfer, 2022, 280, 108073.	2.3	9
72	Near-infrared diode laser hydrogen fluoride monitor for dielectric etch. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2004, 22, 2479-2486.	2.1	8

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73	Shock Tube Measurement of the High-Temperature Rate Constant for OH + CH3 â†’ Products. Journal of Physical Chemistry A, 2015, 119, 8799-8805.	2.5	8
74	Collisional excitation kinetics for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">O</mml:mi><mml:mo>(</mml:mo><mml:mn>3</mml:mn><mml:mi>s</mml:mi><mml:mspace) Tj ETQq0 0 0 rg	2.1	7
75	<mm Imageâ€intensified photodiode array as a fluorescence detector in cwâ€laser experiments. Review of Scientific Instruments, 1990, 61, 1808-1815.	1.3	3
76	A two-wavelength ethylene-absorption temperature diagnostic. Measurement Science and Technology, 2019, 30, 035206.	2.6	3
77	Determination of the JP10 + OH â†’ Product Reaction Rate with Measured Fuel Concentrations in Shock Tube Experiments. Journal of Physical Chemistry A, 2020, 124, 3026-3030.	2.5	3
78	Nitric Oxide Vibrational Relaxation and Decomposition Rate Measurements in Shock-Heated NO-Ar and NO-N2Mixtures. , 2022, , .		3
79	Flame image velocimetry: seedless characterization of post-reflected-shock velocities in a shock-tube. Experiments in Fluids, 2022, 63, 1.	2.4	3
80	A Second-Generation Aerosol Shock Tube for Combustion Research. , 2010, , .		2
81	Radial distribution measurement of SiH* in a low-pressure silane plasma. Plasma Chemistry and Plasma Processing, 1988, 8, 1-8.	2.4	1
82	Digital Fluorescence Imaging of Gaseous Flows. Materials Research Society Symposia Proceedings, 1988, 117, 227.	0.1	1
83	Modeling of spatial distortions in a highâ€speed image converter camera. Review of Scientific Instruments, 1993, 64, 2901-2904.	1.3	1