

# Michael Moldover

## List of Publications by Year in descending order

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120  
papers

6,375  
citations

44069

48  
h-index

71685

76  
g-index

123  
all docs

123  
docs citations

123  
times ranked

1835  
citing authors

#	ARTICLE	IF	CITATIONS
1	Ab Initio Calculations for Helium: A Standard for Transport Property Measurements. Physical Review Letters, 1995, 74, 1586-1589.	7.8	324
2	An Interface Phase Transition: Complete to Partial Wetting. Science, 1980, 207, 1073-1075.	12.6	276
3	Gravity effects in fluids near the gas-liquid critical point. Reviews of Modern Physics, 1979, 51, 79-99.	45.6	236
4	Thermodynamic Anomalies at Critical Points of Fluids. Annual Review of Physical Chemistry, 1981, 32, 233-265.	10.8	178
5	Interfacial tension of fluids near critical points and two-scale-factor universality. Physical Review A, 1985, 31, 1022-1033.	2.5	170
6	Gas-filled spherical resonators: Theory and experiment. Journal of the Acoustical Society of America, 1986, 79, 253-272.	1.1	167
7	Ising Critical Exponents in Real Fluids: An Experiment. Physical Review Letters, 1976, 37, 29-32.	7.8	145
8	Acoustic gas thermometry. Metrologia, 2014, 51, R1-R19.	1.2	142
9	Ab initio values of the thermophysical properties of helium as standards. Journal of Research of the National Institute of Standards and Technology, 2000, 105, 667.	1.2	139
10	Measurement of the Universal Gas Constant Using a Spherical Acoustic Resonator. Physical Review Letters, 1988, 60, 249-252.	7.8	133
11	Polarizability of Helium and Gas Metrology. Physical Review Letters, 2007, 98, 254504.	7.8	124
12	Acoustic thermometry: new results from 273 K to 77 K and progress towards 4 K. Metrologia, 2006, 43, 142-162.	1.2	119
13	Present Estimates of the Differences Between Thermodynamic Temperatures and the ITS-90. International Journal of Thermophysics, 2011, 32, 12-25.	2.1	115
14	First-order wetting transition at a liquid-vapor interface. Journal of Chemical Physics, 1983, 79, 379-387.	3.0	108
15	Critical exponent for the viscosity of four binary liquids. Journal of Chemical Physics, 1988, 89, 3694-3704.	3.0	101
16	Scaling of the Specific-Heat Singularity of He-4 Near Its Critical Point. Physical Review, 1969, 182, 342-352.	2.7	100
17	Universal amplitude ratios and the interfacial tension near consolute points of binary liquid mixtures. Journal of Chemical Physics, 1986, 85, 418-427.	3.0	100
18	Thickness of the Liquid-Vapor Wetting Layer. Physical Review Letters, 1982, 48, 185-188.	7.8	98

#	ARTICLE	IF	CITATIONS
19	Thermophysical properties of gaseous refrigerants from speed of sound measurements. I. Apparatus, model, and results for 1,1,1,2-tetrafluoroethane R134a. <i>Journal of Chemical Physics</i> , 1990, 93, 2741-2753.	3.0	97
20	Dielectric Permittivity of Eight Gases Measured with Cross Capacitors. <i>International Journal of Thermophysics</i> , 2003, 24, 375-403.	2.1	94
21	Reference Viscosities of H <sub>2</sub> , CH <sub>4</sub> , Ar, and Xe at Low Densities. <i>International Journal of Thermophysics</i> , 2007, 28, 1085-1110.	2.1	90
22	Compressed and Saturated Liquid Densities for 18 Halogenated Organic Compounds. <i>Journal of Chemical &amp; Engineering Data</i> , 1997, 42, 160-168.	1.9	87
23	Critical points of mixtures: An analogy with pure fluids. <i>AIChE Journal</i> , 1978, 24, 267-278.	3.6	83
24	Partially halogenated hydrocarbons CHFCl-, CF <sub>3</sub> -, CF <sub>3</sub> -, CH <sub>3</sub> , CF <sub>3</sub> -, CHF-, CHF <sub>2</sub> , CF <sub>3</sub> -, CH <sub>2</sub> -, CF <sub>3</sub> , CHF <sub>2</sub> -, CF <sub>2</sub> -, CH <sub>2</sub> F, CF <sub>3</sub> -, CH <sub>2</sub> -, CHF <sub>2</sub> , CF <sub>3</sub> -, O-, CHF <sub>2</sub> : critical temperature, refractive indices, surface tension and estimates of liquid, vapor and critical densities. <i>Fluid Phase Equilibria</i> , 1996, 122, 187-206.	2.5	77
25	Precision acoustic measurements with a spherical resonator: Ar and C <sub>2</sub> H <sub>4</sub> . <i>Journal of Chemical Physics</i> , 1981, 74, 4062-4077.	3.0	76
26	Quasi-spherical cavity resonators for metrology based on the relative dielectric permittivity of gases. <i>Review of Scientific Instruments</i> , 2004, 75, 3307-3317.	1.3	66
27	Specific Heat of He <sub>3</sub> and He <sub>4</sub> in the Neighborhood of Their Critical Points. <i>Physical Review Letters</i> , 1965, 15, 54-56.	7.8	65
28	Thermodynamic temperatures of the triple points of mercury and gallium and in the interval 217 K to 303 K. <i>Journal of Research of the National Institute of Standards and Technology</i> , 1999, 104, 11.	1.2	64
29	Frequency-dependent viscosity of xenon near the critical point. <i>Physical Review E</i> , 1999, 60, 4079-4098.	2.1	63
30	Precondensation phenomena in acoustic measurements. <i>Journal of Chemical Physics</i> , 1982, 77, 455-465.	3.0	62
31	Critical exponent for the viscosity of carbon dioxide and xenon. <i>Journal of Chemical Physics</i> , 1990, 93, 1926-1938.	3.0	62
32	Visual observation of the critical temperature and density: CO <sub>2</sub> and C <sub>2</sub> H <sub>4</sub> . <i>Journal of Chemical Physics</i> , 1974, 61, 1766-1778.	3.0	59
33	Progress Toward Redetermining the Boltzmann Constant with a Fixed-Path-Length Cylindrical Resonator. <i>International Journal of Thermophysics</i> , 2011, 32, 1297-1329.	2.1	59
34	New measurement of the Boltzmann constant $k$ by acoustic thermometry of helium-4 gas. <i>Metrologia</i> , 2017, 54, 856-873.	1.2	59
35	Designing quasi-spherical resonators for acoustic thermometry. <i>Metrologia</i> , 2004, 41, 295-304.	1.2	58
36	Preparative Steps Towards the New Definition of the Kelvin in Terms of the Boltzmann Constant. <i>International Journal of Thermophysics</i> , 2007, 28, 1753-1765.	2.1	58

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37	Observation of Anomalously Large Supercooling in Carbon Dioxide. <i>Physical Review Letters</i> , 1975, 34, 639-642.	7.8	57
38	Measurement of the ratio of the speed of sound to the speed of light. <i>Physical Review A</i> , 1986, 34, 3341-3344.	2.5	56
39	Viscoelasticity of Xenon near the Critical Point. <i>Physical Review Letters</i> , 1999, 82, 920-923.	7.8	56
40	Two-scale-factor universality near the critical point of fluids. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1978, 66, 44-46.	2.1	54
41	Quantitative characterization of the viscosity of a microemulsion. <i>Journal of Chemical Physics</i> , 1987, 87, 3687-3691.	3.0	54
42	Improved determination of the Boltzmann constant using a single, fixed-length cylindrical cavity. <i>Metrologia</i> , 2013, 50, 417-432.	1.2	53
43	What controls the thicknesses of wetting layers?. <i>Journal of the Chemical Society, Faraday Transactions 2</i> , 1986, 82, 1701.	1.1	52
44	Specific Heat of He <sup>3</sup> -He <sup>4</sup> Mixtures Very Near the $\lambda$ Line. <i>Physical Review Letters</i> , 1969, 23, 749-752.	7.8	51
45	Interfacial tension and vapor-liquid equilibria in the critical region of mixtures. <i>Journal of Chemical Physics</i> , 1988, 88, 7772-7780.	3.0	51
46	Practical determination of gas densities from the speed of sound using square-well potentials. <i>International Journal of Thermophysics</i> , 1996, 17, 1305-1324.	2.1	51
47	The Viscosity of Seven Gases Measured with a Greenspan Viscometer. <i>International Journal of Thermophysics</i> , 2003, 24, 1441-1474.	2.1	50
48	Advances in thermometry. <i>Nature Physics</i> , 2016, 12, 7-11.	16.7	49
49	The Boltzmann project. <i>Metrologia</i> , 2018, 55, R1-R20.	1.2	49
50	Capillary rise, wetting layers, and critical phenomena in confined geometry. <i>Journal of Chemical Physics</i> , 1984, 80, 528-535.	3.0	48
51	Reentrant radio-frequency resonator for automated phase equilibria and dielectric measurements in fluids. <i>Review of Scientific Instruments</i> , 1996, 67, 4294-4303.	1.3	48
52	Thermodynamic Properties of Sulfur Hexafluoride. <i>International Journal of Thermophysics</i> , 2000, 21, 739-765.	2.1	48
53	Equilibration near the liquid-vapor critical point in microgravity. <i>Physical Review E</i> , 1998, 57, 436-448.	2.1	47
54	Specific heat of He <sup>4</sup> and He <sup>3</sup> -He <sup>4</sup> mixtures at their $\lambda$ transition. <i>Physical Review B</i> , 1975, 12, 93-113.	3.2	46

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55	A search for the prewetting line. <i>Journal of Chemical Physics</i> , 1986, 84, 4563-4568.	3.0	46
56	Acoustic Thermometry Results from 271 to 552ÅK. <i>International Journal of Thermophysics</i> , 2007, 28, 1789-1799.	2.1	46
57	Accurate Acoustic Thermometry I: The Triple Point of Gallium. <i>Metrologia</i> , 1988, 25, 165-187.	1.2	45
58	Thermophysical properties of gaseous refrigerants from speed-of-sound measurements. III. Results for 1,1-dichloro-2,2-trifluoroethane (CHCl <sub>2</sub> CF <sub>3</sub> ) and 1,2-dichloro-1,2-trifluoroethane (CHClF <sub>2</sub> CF <sub>2</sub> ). <i>Journal of Chemical Physics</i> , 1991, 95, 5236-5242.	3.0	43
59	Transport properties of argon at zero density from viscosity-ratio measurements. <i>Metrologia</i> , 2006, 43, 247-258.	1.2	43
60	Virial equation of state of helium, xenon, and helium-xenon mixtures from speed-of-sound and Burnett-Pit measurements. <i>International Journal of Thermophysics</i> , 1997, 18, 579-634.	2.1	40
61	Title is missing!. <i>International Journal of Thermophysics</i> , 1998, 19, 1359-1380.	2.1	40
62	Metastable Thermodynamic States Near the Critical Point of He <sub>3</sub> . <i>Physical Review Letters</i> , 1971, 27, 1421-1424.	7.8	39
63	Alternative refrigerants difluoromethane and pentafluoroethane: critical temperature, refractive index, surface tension, and estimates of liquid, vapor, and critical densities. <i>Journal of Chemical &amp; Engineering Data</i> , 1994, 39, 39-44.	1.9	39
64	Second-Order Nature of the Spin-Reorientation Phase Transitions in YbFeO <sub>3</sub> . <i>Physical Review Letters</i> , 1971, 26, 1257-1259.	7.8	37
65	Universality, revisions of and corrections to scaling in fluids. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1978, 65, 223-225.	2.1	36
66	Thermoacoustic boundary layers near the liquid-vapor critical point. <i>Physical Review E</i> , 2004, 70, 021201.	2.1	36
67	Thermal Relaxation near the Critical Point. <i>Physical Review A</i> , 1972, 6, 1915-1920.	2.5	35
68	Surface tension of refrigerants R123 and R134a. <i>Journal of Chemical &amp; Engineering Data</i> , 1990, 35, 6-8.	1.9	35
69	Wetting Layers and Dispersion Forces for a Fluid in Contact with a Vertical Wall. <i>Physical Review Letters</i> , 1985, 54, 707-710.	7.8	33
70	Thermodynamic properties of CF <sub>3</sub> -, CHF <sub>2</sub> -, CHF <sub>2</sub> , 1,1,1,2,3,3-hexafluoropropane. <i>Fluid Phase Equilibria</i> , 1996, 122, 131-155.	2.5	32
71	Accurate acoustic measurements in gases under difficult conditions. <i>Review of Scientific Instruments</i> , 1991, 62, 2213-2217.	1.3	31
72	Turbidity very near the critical point of methanol-cyclohexane mixtures. <i>Physical Review A</i> , 1984, 29, 2048-2053.	2.5	30

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73	Resonators for accurate dielectric measurements in conducting liquids. Review of Scientific Instruments, 1998, 69, 255-260.	1.3	29
74	Title is missing!. International Journal of Thermophysics, 2001, 22, 859-885.	2.1	29
75	Wetting, multilayer adsorption, and interface phase transitions. Physica D: Nonlinear Phenomena, 1984, 12, 351-359.	2.8	28
76	Cylindrical Acoustic Resonator for the Re-determination of the Boltzmann Constant. International Journal of Thermophysics, 2010, 31, 1273-1293.	2.1	28
77	Perturbations From Ducts on the Modes of Acoustic Thermometers. Journal of Research of the National Institute of Standards and Technology, 2009, 114, 263.	1.2	28
78	The liquid-vapor interface of a binary liquid mixture near the consolute point. Journal of Chemical Physics, 1985, 83, 1829-1834.	3.0	27
79	Thermodynamic properties of CHF <sub>2</sub> -CF <sub>2</sub> -CH <sub>2</sub> F, 1,1,2,2,3-pentafluoropropane. International Journal of Refrigeration, 1996, 19, 285-294.	3.4	27
80	A differential transformer as a position detector in a magnetic densimeter. Review of Scientific Instruments, 1974, 45, 1462-1463.	1.3	26
81	Microwave Measurements of the Thermal Expansion of a Spherical Cavity. Metrologia, 1988, 25, 211-219.	1.2	26
82	Thermophysical properties of gaseous refrigerants from speed of sound measurements. II. Results for 1,1-dichloro-1-fluoroethane (CCl <sub>2</sub> FCH <sub>3</sub> ). Journal of Chemical Physics, 1991, 95, 5230-5235.	3.0	25
83	Thermodynamic properties of CHF <sub>2</sub> -O-CHF <sub>2</sub> , bis(difluoromethyl) ether. Fluid Phase Equilibria, 1992, 81, 285-305.	2.5	25
84	Determination of the Boltzmann constant with cylindrical acoustic gas thermometry: new and previous results combined. Metrologia, 2017, 54, 748-762.	1.2	25
85	Greenspan acoustic viscometer for gases. Review of Scientific Instruments, 1996, 67, 1850-1857.	1.3	24
86	High-temperature high-pressure oscillating tube densimeter. Review of Scientific Instruments, 1996, 67, 251-256.	1.3	24
87	Phase border and density determinations in the critical region of (carbon dioxide+ethane) determined from dielectric permittivity measurements. Journal of Chemical Thermodynamics, 1997, 29, 1481-1494.	2.0	24
88	Thermodynamic Properties of HFC-338mccq, CF <sub>3</sub> CF <sub>2</sub> CF <sub>2</sub> CH <sub>2</sub> F, 1,1,1,2,2,3,3,4-Octafluorobutane. Journal of Chemical & Engineering Data, 1997, 42, 488-496.	1.9	22
89	Electrostriction of a near-critical fluid in microgravity. Physical Review E, 1999, 59, 5862-5869.	2.1	22
90	Toroidal cross capacitor for measuring the dielectric constant of gases. Review of Scientific Instruments, 2000, 71, 2914-2921.	1.3	21

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91	An Improved Greenspan Acoustic Viscometer. <i>International Journal of Thermophysics</i> , 2000, 21, 983-997.	2.1	20
92	Theory of the Greenspan viscometer. <i>Journal of the Acoustical Society of America</i> , 2003, 114, 166-173.	1.1	20
93	Structure of the vapor-liquid interface near the critical point. <i>Journal of Chemical Physics</i> , 1993, 99, 582-589.	3.0	17
94	Progress in Primary Acoustic Thermometry at NIST: 273 K to 505 K. <i>AIP Conference Proceedings</i> , 2003, , .	0.4	17
95	Bulk viscosity of stirred xenon near the critical point. <i>Physical Review E</i> , 2005, 72, 051201.	2.1	15
96	The Kelvin and temperature measurements. <i>Journal of Research of the National Institute of Standards and Technology</i> , 2001, 106, 105.	1.2	15
97	Correlations among acoustic measurements of the Boltzmann constant. <i>Metrologia</i> , 2015, 52, S376-S384.	1.2	14
98	Test of a virtual cylindrical acoustic resonator for determining the Boltzmann constant. <i>Metrologia</i> , 2015, 52, S343-S352.	1.2	14
99	Electrostriction of Near-Critical SF <sub>6</sub> in Microgravity. <i>Physical Review Letters</i> , 1999, 82, 5253-5256.	7.8	12
100	The Dielectric Permittivity of Saturated Liquid Carbon Dioxide and Propane Measured Using Cross Capacitors. <i>International Journal of Thermophysics</i> , 2005, 26, 563-576.	2.1	12
101	Viscosity and density of two alkali metal mixtures. <i>Journal of Physics F: Metal Physics</i> , 1987, 17, 1861-1866.	1.6	11
102	Measurement of Microkelvin Temperature Differences in a Critical-Point Thermostat. <i>International Journal of Thermophysics</i> , 1998, 19, 481-490.	2.1	10
103	Comment on "Molecular Dynamics Simulations of a Fluid near Its Critical Point". <i>Physical Review Letters</i> , 2005, 94, 069601.	7.8	8
104	Microwave determination of the volume of a pressure vessel. <i>Measurement Science and Technology</i> , 2015, 26, 015304.	2.6	8
105	"Weighing" a gas with microwave and acoustic resonances. <i>Metrologia</i> , 2015, 52, 337-352.	1.2	8
106	Bulk Viscosity, Thermoacoustic Boundary Layers, and Adsorption near the Critical Point of Xenon. <i>Physical Review Letters</i> , 2006, 97, 104502.	7.8	7
107	Implementation of scaling and extended scaling equations of state for the critical point of fluids. <i>Journal of Research of the National Bureau of Standards (United States)</i> , 1978, 83, 329.	0.4	7
108	Viscosity measurements near a critical point using a novel torsion oscillator. <i>International Journal of Thermophysics</i> , 1986, 7, 675-686.	2.1	6

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109	Spherical acoustic resonators in the undergraduate laboratory. American Journal of Physics, 1989, 57, 129-133.	0.7	6
110	Techniques for Primary Acoustic Thermometry to 800 K. AIP Conference Proceedings, 2003, , .	0.4	5
111	Versatile cells for optical studies in fluids. Review of Scientific Instruments, 1975, 46, 1699-1700.	1.3	4
112	Spherical Acoustic Resonators. Topics in Current Physics, 1989, , 61-83.	0.5	4
113	Room temperature acoustic transducers for high-temperature thermometry. , 2013, , .		3
114	Detecting leaks in gas-filled pressure vessels using acoustic resonances. Review of Scientific Instruments, 2016, 87, 054901.	1.3	3
115	Investigation on Sapphire Rod Resonator Perturbation. , 2013, , .		2
116	Determination of the molar mass of argon from high-precision acoustic comparisons. Metrologia, 2017, 54, 339-347.	1.2	2
117	Cost of Elementary Laboratory and Lecture Instruction at a Large University. American Journal of Physics, 1971, 39, 454-455.	0.7	1
118	STUDIES OF THIN FILMS IN BINARY FLUID MIXTURES USING ELLIPSOMETRY. Annals of the New York Academy of Sciences, 1983, 404, 350-350.	3.8	1
119	Towards implementing the new kelvin. Measurement: Journal of the International Measurement Confederation, 2015, 74, 113-115.	5.0	1
120	Dimension Optimization for a Sapphire Rod Resonator Cavity. , 2013, , .		0