

Jan Sengers

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8260773/publications.pdf>

Version: 2024-02-01

148
papers

8,641
citations

34105

52
h-index

46799

89
g-index

155
all docs

155
docs citations

155
times ranked

3029
citing authors

#	ARTICLE	IF	CITATIONS
1	Mass Diffusion and Thermodiffusion in Multicomponent Fluid Mixtures. International Journal of Thermophysics, 2022, 43, 1.	2.1	1
2	New International Formulation for the Thermal Conductivity of Heavy Water. Journal of Physical and Chemical Reference Data, 2022, 51, .	4.2	6
3	New International Formulation for the Viscosity of Heavy Water. Journal of Physical and Chemical Reference Data, 2021, 50, .	4.2	11
4	Frame-invariant Fick diffusion matrices of multicomponent fluid mixtures. Physical Chemistry Chemical Physics, 2020, 22, 17597-17604.	2.8	6
5	Encountering Surprises in Thermophysics. International Journal of Thermophysics, 2020, 41, 1.	2.1	8
6	Nonequilibrium Casimir pressures in liquids under shear. European Physical Journal E, 2019, 42, 106.	1.6	1
7	Physical origin of the expansion of polymer coils in a binary solvent in the vicinity of its demixing critical point. Molecular Physics, 2019, 117, 3806-3811.	1.7	3
8	Work probability distribution for a ferromagnet with long-ranged and short-ranged correlations. Physical Review E, 2018, 97, 042109.	2.1	0
9	Mesoscopic Diffusion of Poly(ethylene oxide) in Pure and Mixed Solvents. Journal of Physical Chemistry B, 2018, 122, 3454-3464.	2.6	9
10	Unusual Transformation of Polymer Coils in a Mixed Solvent Close to the Critical Point. Physical Review Letters, 2018, 121, 207802.	7.8	15
11	Contrasting Work Fluctuations and Distributions in Systems with Short-Range and Long-Range Correlations. Physical Review Letters, 2017, 119, 030603.	7.8	2
12	Non-local fluctuation phenomena in liquids. European Physical Journal E, 2016, 39, 125.	1.6	37
13	Physical origin of nonequilibrium fluctuation-induced forces in fluids. Physical Review E, 2016, 93, 012148.	2.1	27
14	Nonequilibrium fluctuation-induced Casimir pressures in liquid mixtures. Physical Review E, 2016, 93, 032117.	2.1	15
15	Work, work fluctuations, and the work distribution in a thermal nonequilibrium steady state. Physical Review E, 2016, 94, 052128.	2.1	6
16	Nonequilibrium Casimir-like Forces in Liquid Mixtures. Physical Review Letters, 2015, 115, 035901.	7.8	37
17	Non-equilibrium concentration fluctuations in binary liquids with realistic boundary conditions. European Physical Journal E, 2015, 38, 99.	1.6	15
18	Incorporating critical divergence of isochoric heat capacity into the soft-SAFT equation of state. AIChE Journal, 2015, 61, 3073-3080.	3.6	15

#	ARTICLE	IF	CITATIONS
19	Comment on Gibbs Density Surface of Fluid Argon, L.V. Woodcock, Int. J. Thermophys. (2014) 35:1770â€“1784. International Journal of Thermophysics, 2015, 36, 3001-3004.	2.1	12
20	Communication: Minimum in the thermal conductivity of supercooled water: A computer simulation study. Journal of Chemical Physics, 2014, 140, 161104.	3.0	16
21	Fluctuation-induced pressures in fluids in thermal nonequilibrium steady states. Physical Review E, 2014, 89, 022145.	2.1	20
22	Equation of State for Supercooled Water at Pressures up to 400 MPa. Journal of Physical and Chemical Reference Data, 2014, 43, .	4.2	88
23	Simplified Model for the Critical Thermal-Conductivity Enhancement in Molecular Fluids. International Journal of Thermophysics, 2013, 34, 191-212.	2.1	80
24	A Note on the Critical Enhancement of Transport Properties and Correlation Length of Fluids. International Journal of Thermophysics, 2013, 34, 2046-2052.	2.1	3
25	Fluctuating hydrodynamics and concentration fluctuations in ternary mixtures. Comptes Rendus - Mecanique, 2013, 341, 399-404.	2.1	13
26	Giant Casimir Effect in Fluids in Nonequilibrium Steady States. Physical Review Letters, 2013, 110, 235902.	7.8	41
27	Hydrodynamic Fluctuations in Laminar Fluid Flow. II. Fluctuating Squire Equation. Journal of Statistical Physics, 2013, 150, 540-558.	1.2	7
28	Thermodynamics of supercooled water. Journal of Chemical Physics, 2012, 136, 094507.	3.0	197
29	New International Formulation for the Thermal Conductivity of H ₂ O. Journal of Physical and Chemical Reference Data, 2012, 41, .	4.2	172
30	Thermodynamics of Liquidâ€“Liquid Criticality in Supercooled Water in a Mean-Field Approximation. International Journal of Thermophysics, 2012, 33, 758-773.	2.1	13
31	Critical Locus of Aqueous Solutions of Sodium Chloride Revisited. International Journal of Thermophysics, 2012, 33, 943-958.	2.1	4
32	Critical Behavior of the Dielectric Constant in Asymmetric Fluids. Journal of Physical Chemistry B, 2011, 115, 14000-14007.	2.6	17
33	Concentration fluctuations in non-isothermal reaction-diffusion systems. II. The nonlinear case. Journal of Chemical Physics, 2011, 135, 124516.	3.0	11
34	Mesoscale Inhomogeneities in Aqueous Solutions of 3-Methylpyridine and Tertiary Butyl Alcohol. Journal of Chemical & Engineering Data, 2011, 56, 1238-1248.	1.9	62
35	Hydrodynamic Fluctuations in Laminar Fluid Flow. I. Fluctuating Orr-Sommerfeld Equation. Journal of Statistical Physics, 2011, 144, 774-792.	1.2	11
36	Chapter 10. Thermodynamic Behaviour of Fluids near Critical Points. , 2010, , 321-367.		32

#	ARTICLE	IF	CITATIONS
37	Asymmetric criticality in weakly compressible liquid mixtures. Journal of Chemical Physics, 2010, 132, 154502.	3.0	83
38	Nonequilibrium velocity fluctuations and energy amplification in planar Couette flow. Physical Review E, 2009, 79, 046308.	2.1	9
39	Viscosity of H ₂ O in the Critical Region. International Journal of Thermophysics, 2009, 30, 374-384.	2.1	15
40	Thermal Diffusivity of H ₂ O Near the Critical Point. International Journal of Thermophysics, 2009, 30, 1453-1465.	2.1	9
41	Experimental Critical-Exponent Values for Fluids. Journal of Statistical Physics, 2009, 137, 857-877.	1.2	149
42	New International Formulation for the Viscosity of H ₂ O. Journal of Physical and Chemical Reference Data, 2009, 38, 101-125.	4.2	330
43	Thermal Conductivity of Mixtures of Carbon Dioxide and Ethane in the Critical Region. International Journal of Thermophysics, 2008, 29, 1205-1221.	2.1	5
44	Principle of isomorphism and complete scaling for binary-fluid criticality. Physical Review E, 2008, 77, 031127.	2.1	103
45	Transverse-velocity fluctuations in a liquid under steady shear. Physical Review E, 2008, 77, 026306.	2.1	11
46	Thermal Fluctuations in Non-Equilibrium Thermodynamics. Journal of Non-Equilibrium Thermodynamics, 2007, 32, .	4.2	14
47	Simulating critical dynamics in liquid mixtures: Short-range and long-range contributions. Journal of Chemical Physics, 2007, 127, 144506.	3.0	17
48	Dynamics of critical fluctuations in polymer solutions. Physical Review E, 2007, 76, 021804.	2.1	25
49	A Note on the Critical Locus of Mixtures of Carbon Dioxide and Ethane. International Journal of Thermophysics, 2007, 28, 1181-1187.	2.1	11
50	Static and dynamic critical behavior of a symmetrical binary fluid: A computer simulation. Journal of Chemical Physics, 2006, 125, 024506.	3.0	85
51	The nature of singular coexistence-curve diameters of liquid-liquid phase equilibria. Chemical Physics Letters, 2006, 424, 414-419.	2.6	80
52	Long-wavelength nonequilibrium concentration fluctuations induced by the Soret effect. Physical Review E, 2006, 74, 046305.	2.1	29
53	Scaling, tricriticality, and crossover in polymer solutions. Molecular Physics, 2005, 103, 3061-3070.	1.7	19
54	Competition of mesoscales and crossover to theta-point tricriticality in near-critical polymer solutions. Journal of Chemical Physics, 2005, 123, 164901.	3.0	43

#	ARTICLE	IF	CITATIONS
55	Dynamics of fluctuations in a fluid below the onset of Rayleigh-B�nard convection. Physical Review E, 2004, 69, 021106.	2.1	39
56	Probing structural relaxation in complex fluids by critical fluctuations. JETP Letters, 2004, 79, 117-120.	1.4	4
57	Nonequilibrium fluctuations in the Rayleigh-B�nard problem for binary fluid mixtures. European Physical Journal E, 2004, 15, 319-333.	1.6	32
58	On the Physical Origin of Long-Ranged Fluctuations in Fluids in Thermal Nonequilibrium States. Journal of Statistical Physics, 2004, 115, 1341-1359.	1.2	51
59	Near-critical behavior of aqueous systems. , 2004, , 29-71.		39
60	Crossover Critical Behavior in the Three-Dimensional Ising Model. Journal of Statistical Physics, 2003, 110, 591-609.	1.2	38
61	Surface Texture Design to Generate Specific Sizes and Shapes of UHMWPE Wear Particles. Materialwissenschaft Und Werkstofftechnik, 2003, 34, 976-988.	0.9	16
62	Boundary effects on the nonequilibrium structure factor of fluids below the Rayleigh-B�nard instability. Physical Review E, 2002, 66, 036305.	2.1	24
63	Thermodynamic properties of mixtures of H ₂ O and D ₂ O in the critical region. Journal of Chemical Physics, 2002, 116, 4597-4610.	3.0	28
64	Long-Time Tails, Weak Localization, and Classical and Quantum Critical Behavior. Journal of Statistical Physics, 2002, 109, 373-405.	1.2	29
65	Crossover criticality in ionic solutions. Journal of Chemical Physics, 2001, 114, 3133-3148.	3.0	94
66	Light scattering and crossover critical phenomena in polymer solutions. Applied Optics, 2001, 40, 4160.	2.1	27
67	Fluctuations in fluids in thermal nonequilibrium states below the convective Rayleigh-B�nard instability. Physica A: Statistical Mechanics and Its Applications, 2001, 300, 25-52.	2.6	30
68	Crossover parametric equation of state for Ising-like systems. Physical Review E, 2001, 64, 026125.	2.1	68
69	Novel Phase-Transition Behavior in an Aqueous Electrolyte Solution. International Journal of Thermophysics, 2000, 21, 1321-1338.	2.1	20
70	Experimental Evidence for Crossover to Mean-Field Tricritical Behavior in a Concentrated Salt Solution. Physical Review Letters, 2000, 85, 2336-2339.	7.8	65
71	Thermodynamic properties of H ₂ O and D ₂ O in the critical region. Journal of Chemical Physics, 2000, 113, 4985.	3.0	50
72	Light scattering from nonequilibrium concentration fluctuations in a polymer solution. Journal of Chemical Physics, 2000, 112, 9139-9150.	3.0	25

#	ARTICLE	IF	CITATIONS
73	Critical Locus of Aqueous Solutions of Sodium Chloride. International Journal of Thermophysics, 1999, 20, 1529-1545.	2.1	15
74	Title is missing!. International Journal of Thermophysics, 1999, 20, 1339-1366.	2.1	3
75	Thermal and mass diffusion in a semidilute good solvent-polymer solution. Journal of Chemical Physics, 1999, 111, 2270-2282.	3.0	119
76	Thermodynamic properties of sulfurhexafluoride in the critical region. Journal of Chemical Physics, 1999, 111, 1551-1560.	3.0	45
77	Crossover from Ising to mean-field critical behavior in an aqueous electrolyte solution. Physical Review E, 1998, 58, 2188-2200.	2.1	77
78	The thermal conductivity of an equimolar methane-ethane mixture in the critical region. Journal of Chemical Physics, 1998, 109, 717-736.	3.0	20
79	Sharp Crossover of the Susceptibility in Polymer Solutions near the Critical Demixing Point. Physical Review Letters, 1997, 79, 5266-5269.	7.8	89
80	Finite thermal conductivity at the vapor-liquid critical line of a binary fluid mixture. Physical Review E, 1997, 56, R4943-R4946.	2.1	8
81	Prediction of thermodynamic and transport properties in the one-phase region of methane + n-hexane mixtures near their critical end points. Fluid Phase Equilibria, 1997, 128, 67-96.	2.5	22
82	Shear effects in a micellar solution near the critical point. International Journal of Thermophysics, 1997, 18, 379-386.	2.1	7
83	A compact photon-correlation spectrometer for research and education. International Journal of Thermophysics, 1997, 18, 1237-1248.	2.1	59
84	The thermal conductivity of methane in the critical region. Journal of Chemical Physics, 1996, 105, 10535-10555.	3.0	28
85	Optical measurement of the Soret coefficient and the diffusion coefficient of liquid mixtures. Journal of Chemical Physics, 1996, 104, 6881-6892.	3.0	164
86	The transport properties of fluid mixtures near the vapor-liquid critical line. Journal of Chemical Physics, 1996, 104, 3026-3047.	3.0	48
87	Crossover equation of state for the thermodynamic properties of mixtures of methane and ethane in the critical region. International Journal of Thermophysics, 1996, 17, 909-944.	2.1	43
88	Anisimov et al. Reply:. Physical Review Letters, 1996, 76, 4095-4095.	7.8	35
89	Nature of Crossover between Ising-like and Mean-Field Critical Behavior in Fluids and Fluid Mixtures. Physical Review Letters, 1995, 75, 3146-3149.	7.8	132
90	Non-asymptotic critical behavior of the transport properties of fluids. Journal of Chemical Physics, 1995, 103, 7482-7501.	3.0	93

#	ARTICLE	IF	CITATIONS
91	Crossover between vapor-liquid and consolute critical phenomena. Physical Review E, 1995, 51, 1199-1215.	2.1	126
92	The transport properties of ethane. II. Thermal conductivity. International Journal of Thermophysics, 1994, 15, 33-66.	2.1	41
93	The thermal conductivity of argon in the critical region. Journal of Chemical Physics, 1994, 101, 6944-6963.	3.0	33
94	Generic Long-Range Correlations in Molecular Fluids. Annual Review of Physical Chemistry, 1994, 45, 213-239.	10.8	205
95	Effects of Critical Fluctuations on the Thermodynamic and Transport Properties of Supercritical Fluids. , 1994, , 231-271.		34
96	A tribute to Joseph Kestin (1913?1993). International Journal of Thermophysics, 1993, 14, 613-618.	2.1	1
97	Transport properties of 1,1,1,2-tetrafluoroethane (R134a). International Journal of Thermophysics, 1993, 14, 951-988.	2.1	82
98	An improved parametric crossover model for the thermodynamic properties of fluids in the critical region. International Journal of Thermophysics, 1993, 14, 1-32.	2.1	83
99	Global thermodynamic behavior of fluid mixtures in the critical region. Physical Review E, 1993, 47, 388-402.	2.1	63
100	Experimental studies of the rheology of a simple liquid mixture during phase separation. Physical Review E, 1993, 48, 357-376.	2.1	26
101	Light-scattering measurements of nonequilibrium fluctuations in a liquid mixture. Physical Review E, 1993, 47, 1026-1034.	2.1	68
102	Shear-induced critical dynamics in a nonionic micellar solution. Physical Review Letters, 1992, 68, 3579-3582.	7.8	21
103	Rayleigh scattering in a liquid far from thermal equilibrium. Physical Review A, 1992, 45, 714-724.	2.5	76
104	A parametric model for the global thermodynamic behavior of fluids in the critical region. Journal of Chemical Physics, 1992, 97, 2705-2717.	3.0	31
105	Viscosity of liquid toluene at temperatures from 25 to 150.degree.C and at pressures up to 30 MPa. Journal of Chemical & Engineering Data, 1992, 37, 349-355.	1.9	50
106	Surface tension of normal pentane, hexane, heptane, and octane. International Journal of Thermophysics, 1992, 13, 453-464.	2.1	63
107	Critical parameters of mixtures of carbon dioxide and ethane. International Journal of Thermophysics, 1992, 13, 1043-1052.	2.1	19
108	Light-scattering measurements of entropy and viscous fluctuations in a liquid far from thermal equilibrium. Physical Review A, 1990, 41, 816-824.	2.5	72

#	ARTICLE	IF	CITATIONS
109	Crossover from singular critical to regular classical thermodynamic behavior of fluids. Physical Review A, 1990, 41, 3161-3177.	2.5	168
110	Global thermodynamic behavior of fluids in the critical region. Physical Review A, 1990, 42, 4470-4484.	2.5	154
111	The thermal conductivity of ethane in the critical region. Journal of Chemical Physics, 1990, 92, 5454-5462.	3.0	58
112	Fluctuations in fluids out of thermal equilibrium. Journal of Statistical Physics, 1989, 57, 531-547.	1.2	69
113	A simplified representation for the thermal conductivity of fluids in the critical region. International Journal of Thermophysics, 1989, 10, 417-426.	2.1	127
114	Double scattering in critically opalescent fluids. Physical Review A, 1988, 38, 885-896.	2.5	58
115	Crossover from Singular to Regular Behavior of the Transport Properties of Fluids in the Critical Region. Physical Review Letters, 1988, 61, 15-18.	7.8	150
116	Crossover from singular to regular thermodynamic behavior of fluids in the critical region. Physical Review B, 1987, 36, 877-880.	3.2	42
117	New International Formulations for the Thermodynamic Properties of Light and Heavy Water. Journal of Physical and Chemical Reference Data, 1986, 15, 305-320.	4.2	62
118	Improved International Formulations for the Viscosity and Thermal Conductivity of Water Substance. Journal of Physical and Chemical Reference Data, 1986, 15, 1291-1314.	4.2	285
119	Thermodynamic Behavior of Fluids Near the Critical Point. Annual Review of Physical Chemistry, 1986, 37, 189-222.	10.8	624
120	Critical phenomena in gases in the presence of gravity. International Journal of Thermophysics, 1985, 6, 545-559.	2.1	15
121	Transport properties of fluids near critical points. International Journal of Thermophysics, 1985, 6, 203-232.	2.1	187
122	Thermophysical Properties of Fluid D2O. Journal of Physical and Chemical Reference Data, 1984, 13, 601-609.	4.2	41
123	Representative Equations for the Thermal Conductivity of Water Substance. Journal of Physical and Chemical Reference Data, 1984, 13, 893-933.	4.2	63
124	A universal representation of the thermodynamic properties of fluids in the critical region. International Journal of Thermophysics, 1984, 5, 195-208.	2.1	44
125	Thermodynamic Properties of Steam in the Critical Region. Journal of Physical and Chemical Reference Data, 1983, 12, 1-28.	4.2	101
126	Time dependence of critical concentration fluctuations in a binary liquid. Physical Review A, 1983, 27, 1071-1085.	2.5	47

#	ARTICLE	IF	CITATIONS
127	Logarithmic Density Dependence of the Transport Properties of Gases. Physical Review Letters, 1983, 51, 2163-2166.	7.8	18
128	Dynamic scaling function for critical fluctuations in classical fluids. Physical Review A, 1983, 28, 1567-1578.	2.5	145
129	Universality of Critical Phenomena in Classical Fluids. , 1982, , 95-135.		9
130	Crossover function for the critical viscosity of a classical fluid. Physical Review A, 1981, 24, 1469-1475.	2.5	119
131	Viscosity of steam in the critical region. International Journal of Thermophysics, 1980, 1, 33-50.	2.1	13
132	An Improved Representative Equation for the Dynamic Viscosity of Water Substance. Journal of Physical and Chemical Reference Data, 1980, 9, 1255-1290.	4.2	124
133	Dynamical Scaling and Critical-Point Universality of Fluids. Physical Review Letters, 1980, 45, 259-262.	7.8	46
134	Gravity effects in fluids near the gas-liquid critical point. Reviews of Modern Physics, 1979, 51, 79-99.	45.6	236
135	Correlation function near the critical mixing point of a binary liquid. Physical Review A, 1979, 19, 866-882.	2.5	107
136	Experimental Determination of the Critical Correlation Function for a Binary Liquid Mixture: Evidence for Universality. Physical Review Letters, 1976, 37, 1481-1484.	7.8	46
137	Universality of critical behavior in gases. Physical Review A, 1975, 12, 2622-2627.	2.5	52
138	Droplet growth in a dilute vapor. Journal of Chemical Physics, 1974, 61, 2800-2807.	3.0	11
139	Drag coefficients and the generalized Boltzmann equation. Physics of Fluids, 1973, 16, 2347.	1.4	14
140	Kinetic Theory of Droplet Growth in Nucleation. Journal of Chemical Physics, 1972, 57, 1441-1458.	3.0	17
141	Three-Particle Collision Integrals for a Gas of Hard Spheres. Journal of Chemical Physics, 1972, 56, 5583-5601.	3.0	43
142	Scaling of the Thermal Conductivity Near the Gas-Liquid Critical Point. Physical Review Letters, 1971, 26, 70-73.	7.8	110
143	Three-Particle Collisions in a Gas of Hard Spheres. Physical Review A, 1970, 2, 2461-2471.	2.5	16
144	Density Dependence of Experimental Transport Coefficients of Gases. Journal of Chemical Physics, 1969, 50, 857-870.	3.0	50

#	ARTICLE	IF	CITATIONS
145	The Critical Region. Chemical & Engineering News, 1968, 46, 104-121.	0.1	29
146	Triple Collision Contribution to the Transport Coefficients of a Rigid Sphere Gas. Physics of Fluids, 1966, 9, 1333.	1.4	37
147	Divergence in the Density Expansion of the Transport Coefficients of a Two-Dimensional Gas. Physics of Fluids, 1966, 9, 1685.	1.4	42
148	On the Kinetic Theory of Dense Fluids. IX. The Fluid of Rigid Spheres with a Square-Well Attraction. Journal of Chemical Physics, 1961, 35, 2210-2233.	3.0	118