

Byung Chan Eu

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6378808/publications.pdf>

Version: 2024-02-01

126
papers

1,994
citations

257101

24
h-index

360668

35
g-index

128
all docs

128
docs citations

128
times ranked

387
citing authors

#	ARTICLE	IF	CITATIONS
1	A modified moment method and irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1980, 73, 2958-2969.	1.2	146
2	Generalized hydrodynamics and shock waves. <i>Physical Review E</i> , 1997, 56, 2981-2992.	0.8	72
3	The generic van der Waals equation of state and self-diffusion coefficients of liquids. <i>Journal of Chemical Physics</i> , 2001, 115, 2634-2640.	1.2	48
4	Theory of non-Newtonian viscosity and normal stress coefficients of fluids. <i>Journal of Chemical Physics</i> , 1984, 81, 2756-2770.	1.2	44
5	Nonlinear transport processes and fluid dynamics: Cylindrical Couette flow of Lennard-Jones fluids. <i>Physical Review A</i> , 1988, 38, 2492-2507.	1.0	41
6	The modified moment method, irreversible thermodynamics, and the nonlinear viscosity of a dense fluid. <i>Journal of Chemical Physics</i> , 1981, 74, 6362-6372.	1.2	40
7	Density and temperature dependence of the bulk viscosity of molecular liquids: Carbon dioxide and nitrogen. <i>Journal of Chemical Physics</i> , 2001, 114, 10436-10447.	1.2	39
8	Relation of Tracer Diffusion Coefficient and Solvent Self-Diffusion Coefficient. <i>Journal of Physical Chemistry A</i> , 2002, 106, 11841-11845.	1.1	39
9	On the integrability of differential forms related to nonequilibrium entropy and irreversible thermodynamics. <i>Journal of Mathematical Physics</i> , 1993, 34, 3012-3029.	0.5	38
10	2315-2324.	1.2	34
11	Nonlinear transport processes in gases. <i>Journal of Chemical Physics</i> , 1981, 74, 3006-3015.	1.2	33
12	Generalized hydrodynamics, normal-stress effects, and velocity slips in the cylindrical Couette flow of Lennard-Jones fluids. <i>Physical Review A</i> , 1989, 39, 728-744.	1.0	33
13	Boltzmann entropy, relative entropy, and related quantities in thermodynamic space. <i>Journal of Chemical Physics</i> , 1995, 102, 7169-7179.	1.2	31
14	Franck-Condon transitions and chemical reactions. <i>Molecular Physics</i> , 1976, 31, 1261-1276.	0.8	30
15	Density fluctuations and shear viscosity of molecular liquids: Carbon dioxide and nitrogen. <i>Journal of Chemical Physics</i> , 2000, 112, 7118-7131.	1.2	29
16	Non-newtonian shear viscosity, normal stress coefficients and corresponding states in rheology. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1984, 101, 338-342.	0.9	28
17	Integral equations of the correlation functions for polymeric liquids. <i>Journal of Chemical Physics</i> , 1993, 99, 4084-4102.	1.2	28
18	Theory of thermal conductivity of dense simple fluids. <i>Journal of Chemical Physics</i> , 2001, 115, 9370-9381.	1.2	28

#	ARTICLE	IF	CITATIONS
19	Postmaximum energy dependence of the cross sections of the $K + CH_3I \rightarrow KI + CH_3$ reaction. <i>Journal of Chemical Physics</i> , 1974, 60, 1178-1179.	1.2	27
20	Theory of Inelastic Collisions: Uniform Asymptotic (WKB) Solutions and Semiclassical S-Matrix Elements for Two-Channel Problems. <i>Journal of Chemical Physics</i> , 1971, 55, 5600-5609.	1.2	26
21	Application of the integral equation theory of polymers: Distribution function, chemical potential, and mean expansion coefficient. <i>Journal of Chemical Physics</i> , 1993, 99, 4103-4111.	1.2	26
22	Generalized Hydrodynamic Theory of Shock Waves: Mach-Number Dependence of Inverse Shock Width for Nitrogen Gas. <i>Physical Review Letters</i> , 2001, 86, 4294-4297.	2.9	26
23	Direct observation of a nonequilibrium velocity distribution function in a system with a thermally activated chemical reaction. <i>Journal of Chemical Physics</i> , 1992, 97, 6695-6699.	1.2	25
24	The Boltzmann equation and nonequilibrium ensemble method. <i>Journal of Chemical Physics</i> , 1995, 103, 10652-10662.	1.2	25
25	Theory of Inelastic Collisions. II. The Proof of Conjectured Rules for the WKB-Type General Solutions. <i>Journal of Chemical Physics</i> , 1970, 52, 3903-3911.	1.2	24
26	Theory of Inelastic Collisions: Uniform Asymptotic (WKB) Solutions and Semiclassical Scattering Matrix Elements for Multichannel Problems. <i>Journal of Chemical Physics</i> , 1972, 56, 2507-2516.	1.2	24
27	Generalization of the Hagen-Poiseuille velocity profile to non-Newtonian fluids and measurement of their viscosity. <i>American Journal of Physics</i> , 1990, 58, 83-84.	0.3	24
28	Statistical-mechanical theory of rheology: Lennard-Jones fluids. <i>Journal of Chemical Physics</i> , 2005, 123, 234507.	1.2	24
29	A nonanalytic model for the generic van der Waals equation of state and the critical behavior of simple fluids. <i>Journal of Chemical Physics</i> , 2001, 114, 10899-10909.	1.2	22
30	Molecular representation of molar domain (volume), evolution equations, and linear constitutive relations for volume transport. <i>Journal of Chemical Physics</i> , 2008, 129, 094502.	1.2	22
31	Quantum Mechanical Analysis of the Elastic Scattering of Reactive Systems. <i>Journal of Chemical Physics</i> , 1970, 52, 3021-3037.	1.2	21
32	On the energy dependence of reaction cross sections near threshold. <i>Journal of Chemical Physics</i> , 1975, 63, 592-593.	1.2	21
33	Theory of Inelastic Collisions: The WKB-Type General Solutions. <i>Journal of Chemical Physics</i> , 1970, 52, 1882-1893.	1.2	20
34	On the WKB Approximation in Time-Dependent Scattering Theory Including Rearrangement Processes. <i>Journal of Chemical Physics</i> , 1972, 57, 2531-2537.	1.2	20
35	Theory of dynamic shear viscosity and normal stress coefficients of dense fluids. <i>Molecular Physics</i> , 1986, 59, 1145-1164.	0.8	20
36	Generalized hydrodynamics approach to the Knudsen problem. <i>Physical Review A</i> , 1989, 40, 6395-6402.	1.0	20

#	ARTICLE	IF	CITATIONS
37	Integral equation theory of polymers: Translational invariance approximation and properties of an isolated linear polymer in solution. <i>Journal of Chemical Physics</i> , 1994, 100, 5922-5935.	1.2	20
38	Hyperbolic Reaction-Diffusion Equations, Patterns, and Phase Speeds for the Brusselator. <i>The Journal of Physical Chemistry</i> , 1996, 100, 18900-18910.	2.9	20
39	Theory of viscoelasticity of fluids. <i>Journal of Chemical Physics</i> , 1985, 82, 4683-4689.	1.2	19
40	Generalized hydrodynamic theory of shock waves in rigid diatomic gases. <i>Physical Review E</i> , 2001, 64, 046303.	0.8	19
41	On the corotating frame and evolution equations in kinetic theory. <i>Journal of Chemical Physics</i> , 1985, 82, 3773-3778.	1.2	18
42	Kinetic theory and irreversible thermodynamics of dense fluids subject to an external field. <i>Journal of Chemical Physics</i> , 1987, 87, 1220-1237.	1.2	18
43	Generalized hydrodynamics and Reynolds-number dependence of steady-flow properties in the cylindrical Couette flow of Lennard-Jones fluids. <i>Physical Review A</i> , 1989, 40, 946-958.	1.0	18
44	Classical Theory of Scattering: Three-Body Problems. <i>Journal of Chemical Physics</i> , 1971, 54, 559-565.	1.2	17
45	Kinetic equations for reacting chemical system: Exchange reaction. <i>Journal of Chemical Physics</i> , 1975, 63, 303-315.	1.2	17
46	Kinetic theory and irreversible thermodynamics of nonlinear transport processes in quantum systems. <i>Journal of Chemical Physics</i> , 1984, 80, 2123-2140.	1.2	17
47	Kinetic theory of nonlinear transport processes in dilute ionized gases subject to an electromagnetic field. <i>Journal of Chemical Physics</i> , 1985, 82, 4283-4302.	1.2	17
48	Theory of nonlinear transport processes and irreversible thermodynamics in multicomponent dense fluids. <i>Journal of Chemical Physics</i> , 1981, 74, 4663-4674.	1.2	16
49	Self-consistent integral-equation theory of chain-molecular liquids: Structure and thermodynamics. <i>Journal of Chemical Physics</i> , 1995, 103, 2140-2156.	1.2	16
50	Theory of the thermal conductivity of molecular liquids: Nitrogen and carbon dioxide. <i>Journal of Chemical Physics</i> , 2002, 117, 4386-4398.	1.2	16
51	Self-diffusion coefficient of liquid nitrogen. <i>Molecular Physics</i> , 2002, 100, 3281-3283.	0.8	16
52	Molecular theory of barycentric velocity: Monatomic fluids. <i>Journal of Chemical Physics</i> , 2008, 128, 204507.	1.2	16
53	Volume transport and generalized hydrodynamic equations for monatomic fluids. <i>Journal of Chemical Physics</i> , 2008, 129, 134509.	1.2	16
54	Generic van der Waals equation of state for polymers, modified free volume theory, and the self-diffusion coefficient of polymeric liquids. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2010, 389, 2325-2338.	1.2	16

#	ARTICLE	IF	CITATIONS
55	Cluster Expansion and Autocorrelation Functions: Self-Diffusion Coefficient. <i>Journal of Chemical Physics</i> , 1971, 55, 4613-4628.	1.2	15
56	A closure for the Ornstein-Zernike relation that gives rise to the thermodynamic consistency. <i>Journal of Chemical Physics</i> , 1999, 111, 3327-3338.	1.2	15
57	Thermodynamically consistent equation of state of hard sphere fluids. <i>Journal of Chemical Physics</i> , 2003, 118, 2264-2269.	1.2	15
58	Estimate of classical binary collision operator. <i>Journal of Chemical Physics</i> , 1973, 58, 1352-1359.	1.2	14
59	On the extended Gibbs relations and nonlinear irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1981, 74, 2998-3005.	1.2	14
60	Shear-rate dependence of viscosity for simple fluids. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1983, 96, 29-32.	0.9	14
61	Relations between Transport Coefficients and Their Density and Temperature Dependence. <i>Journal of Physical Chemistry A</i> , 2006, 110, 831-842.	1.1	14
62	A uniform WKB approximation for spheroidal wave functions. <i>Journal of Chemical Physics</i> , 1983, 78, 4887-4895.	1.2	13
63	Nonequilibrium grand ensemble method for dense fluids. <i>Journal of Chemical Physics</i> , 1997, 107, 222-236.	1.2	13
64	Theory of inelastic collision: Extension to multiple turning point problems of uniform WKB theory. <i>Journal of Chemical Physics</i> , 1973, 59, 4705-4713.	1.2	12
65	On the relation between the collision operator in the Liouville representation and the Lippmann-Schwinger transition operator. <i>Journal of Chemical Physics</i> , 1975, 63, 298-302.	1.2	12
66	Theory of nonlinear transport processes in a dilute gaseous mixture. <i>Journal of Chemical Physics</i> , 1981, 74, 6376-6387.	1.2	12
67	Nonlinear transport processes and irreversible thermodynamics of a mixture of ionized and neutral gases subject to an electric field. <i>Journal of Chemical Physics</i> , 1982, 76, 2618-2631.	1.2	12
68	On the estimate of the three-body contribution to time-correlation functions for transport coefficients. I. <i>Journal of Chemical Physics</i> , 1974, 60, 1906-1913.	1.2	11
69	The modified moment method and theory of nonlinear transport processes in gases: Third order cumulant approximation. <i>Journal of Chemical Physics</i> , 1981, 75, 4031-4039.	1.2	11
70	Nonequilibrium partition function in the presence of heat flow. <i>Journal of Chemical Physics</i> , 2001, 115, 8481-8488.	1.2	11
71	A three-state uniform WKB theory analysis of the inelastic processes of the He ⁺ -Ne system. <i>Molecular Physics</i> , 1976, 32, 19-22.	0.8	10
72	On the modified moment method and irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1986, 85, 1592-1602.	1.2	10

#	ARTICLE	IF	CITATIONS
73	Fluctuations and relative Boltzmann entropy. <i>Journal of Chemical Physics</i> , 1997, 106, 2388-2399.	1.2	10
74	Rotational inelastic scattering of Li-N ₂ and Li-CO systems. <i>Molecular Physics</i> , 1974, 27, 401-423.	0.8	9
75	Improved solutions to the equation of motion in the uniform WKB theory for two-channel problems. <i>Journal of Chemical Physics</i> , 1974, 61, 1172-1179.	1.2	9
76	Self-consistent integral equation theory of chain molecular liquids. II. Improved intermolecular equations. <i>Journal of Chemical Physics</i> , 1996, 105, 4323-4341.	1.2	9
77	Remarks on the information entropy maximization method and extended thermodynamics. <i>Journal of Chemical Physics</i> , 1998, 108, 5834-5844.	1.2	9
78	Generalized Thermodynamics of Global Irreversible Processes in a Finite Macroscopic System. <i>Journal of Physical Chemistry B</i> , 1999, 103, 8583-8594.	1.2	9
79	On a Derivation of a Boltzmann Equation for Homogeneous Systems. <i>Journal of Chemical Physics</i> , 1971, 54, 4246-4251.	1.2	8
80	Approximate S-matrix elements for three-state curve-crossing problem. <i>Molecular Physics</i> , 1976, 32, 1-17.	0.8	8
81	Normal-stress effects in tube flow of a non-Newtonian fluid. <i>Physical Review A</i> , 1989, 40, 1497-1506.	1.0	8
82	Conformation and thermodynamic properties of repeated block copolymers. <i>Journal of Chemical Physics</i> , 1995, 102, 2261-2276.	1.2	8
83	Integral equation theory of molecular liquids: Kirkwood hierarchy approach to diatomic and polyatomic liquids. <i>Journal of Chemical Physics</i> , 1996, 104, 300-313.	1.2	8
84	Semiclassical theory of rearrangement and exchange collisions. <i>Journal of Chemical Physics</i> , 1973, 58, 472-478.	1.2	7
85	The uniform WKB theory of multichannel predissociation and inelastic scattering. <i>Journal of Chemical Physics</i> , 1979, 70, 4986-4994.	1.2	7
86	Quantum theory of large amplitude vibrational motions in a one-dimensional Morse chain. <i>Journal of Chemical Physics</i> , 1980, 73, 2405-2411.	1.2	7
87	Scattering off an ellipsoid: A semiclassical theory. <i>Journal of Chemical Physics</i> , 1983, 78, 4896-4904.	1.2	7
88	Current instability, limit cycles, and entropy production surface. <i>Journal of Chemical Physics</i> , 1984, 81, 4401-4413.	1.2	7
89	Limit cycles and discontinuous entropy production changes in the reversible Oregonator. <i>Journal of Chemical Physics</i> , 1990, 93, 7929-7935.	1.2	7
90	On the Onsager Variation Principle and its Generalization for Nonlinear Irreversible Thermodynamics. , 1996, 44, 41-62.		6

#	ARTICLE	IF	CITATIONS
91	Voids, generic van der Waals equation of state, and transport coefficients of liquids. <i>Physical Chemistry Chemical Physics</i> , 2007, 9, 6171.	1.3	6
92	Comment on Keizer's critique on extended irreversible thermodynamics. <i>Journal of Statistical Physics</i> , 1984, 37, 485-490.	0.5	5
93	Polymer kirkwood integral equations: Structure and equation of state of polymeric liquids. <i>AIChE Journal</i> , 1996, 42, 2960-2966.	1.8	5
94	Quantum effects in heat and mass transport processes. <i>Journal of Chemical Physics</i> , 1996, 104, 1105-1110.	1.2	5
95	Irreversible Thermodynamics of Neural Networks: Calortropy Production in Logic Operations. <i>Journal of Physical Chemistry B</i> , 2001, 105, 7104-7114.	1.2	5
96	Generalized hydrodynamics in the transient regime and irreversible thermodynamics. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2004, 362, 1553-1565.	1.6	5
97	On the estimate of the three-body contribution to time-correlation functions for transport coefficients. II. <i>Journal of Chemical Physics</i> , 1974, 60, 1914-1926.	1.2	4
98	Semiclassical theory of predissociation: Uniform semiclassical wavefunction approach. <i>Journal of Chemical Physics</i> , 1978, 69, 1553-1568.	1.2	4
99	Some identities and relations for transport coefficients of dense fluids. <i>Journal of Chemical Physics</i> , 1988, 89, 485-493.	1.2	4
100	Self-consistent field equations in the distribution function theory of polymeric liquids. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1995, 33, 2319-2329.	2.4	4
101	Correction for the Uniform WKB Wave Functions and the WKB Phase Shifts. <i>Canadian Journal of Physics</i> , 1974, 52, 1805-1815.	0.4	3
102	On the Chapman-Enskog solution method for mixtures. <i>Journal of Chemical Physics</i> , 1981, 74, 6373-6375.	1.2	3
103	Irreversible thermodynamics of nonlinear transport processes and instability: Application to the current fluctuation phenomena in semiconductors. <i>Journal of Chemical Physics</i> , 1984, 80, 2063-2075.	1.2	3
104	Reply to: Comment on On the corotating frame and evolution equations in kinetic theory. <i>Journal of Chemical Physics</i> , 1986, 85, 2342-2343.	1.2	3
105	Ornstein-Zernike derivative relations and thermodynamic functions. <i>Journal of Chemical Physics</i> , 1992, 96, 558-564.	1.2	3
106	Theory of nonequilibrium effects on the conformation of polymers. <i>Journal of Chemical Physics</i> , 1995, 102, 585-604.	1.2	3
107	Note on the nonequilibrium partition function and generalized potentials. <i>Journal of Chemical Physics</i> , 1996, 105, 5525-5528.	1.2	3
108	Scaling and structural properties of a polymer in a simple solvent: a study based on integral equations. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 1998, 36, 3025-3033.	2.4	3

#	ARTICLE	IF	CITATIONS
109	Model protein conformations via pair correlation functions, distance matrix, and embedding algorithm. <i>Journal of Chemical Physics</i> , 1998, 108, 1664-1675.	1.2	3
110	Relative Boltzmann entropy, evolution equations for fluctuations of thermodynamic intensive variables, and a statistical mechanical representation of the zeroth law of thermodynamics. <i>Journal of Chemical Physics</i> , 2006, 125, 064110.	1.2	3
111	Linear response theory and the mechanical energy relaxations of solid high polymer systems. <i>Journal of Chemical Physics</i> , 1977, 67, 1344-1351.	1.2	2
112	Remarks on the modified moment method and irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1982, 77, 2696-2697.	1.2	2
113	Kinetic theory and irreversible thermodynamics for dilute polar gases in an electric field. <i>Molecular Physics</i> , 1982, 46, 949-967.	0.8	2
114	<i>Journal of Chemical Physics</i> , 1983, 78, 2809-2810.	1.2	2
115	Modified Padé approximants and equation of state. <i>Journal of Chemical Physics</i> , 1992, 96, 5334-5339.	1.2	2
116	Modified Robertson projection operator method and irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1999, 111, 1354-1365.	1.2	2
117	Nonlinear viscosity derived by means of Grad's moment method. <i>Physical Review E</i> , 2002, 65, 031202.	0.8	2
118	A Perturbation Method for the Ornstein-Zernike Equation and the Generic van der Waals Equation of State for a Square Well Potential Model. <i>Journal of Physical Chemistry B</i> , 2007, 111, 3716-3726.	1.2	2
119	Normal stress effects on Knudsen flow. <i>Physics of Fluids</i> , 2018, 30, 013103.	1.6	2
120	Kinetic theory of dense fluids subject to an electric field and the Onsager-Fuoss theory of ionic conductivity. <i>Journal of Chemical Physics</i> , 1987, 87, 1238-1244.	1.2	1
121	A projection operator and self-consistent field equations for reduced nonequilibrium distribution functions. <i>Journal of Chemical Physics</i> , 1998, 109, 6272-6279.	1.2	1
122	Response to "Comment on 'Remarks on the information entropy maximization method and extended thermodynamics'". <i>J. Chem. Phys.</i> 111, 6144 (1999)]. <i>Journal of Chemical Physics</i> , 1999, 111, 6146-6147.	1.2	1
123	Self-diffusion coefficient of a simple liquid in the subcritical regime of temperature. <i>Molecular Physics</i> , 2011, 109, 2385-2394.	0.8	1
124	The Debye-Waller factor and the phonon frequency spectrum in molecule surface scattering. <i>Journal of Chemical Physics</i> , 1988, 89, 3389-3390.	1.2	0
125	Response to review of kinetic theory and irreversible thermodynamics. <i>Journal of Statistical Physics</i> , 1994, 76, 1511-1515.	0.5	0
126	Thermodynamically consistent generalized hydrodynamic theory of thermal conduction and integral equations of thermal conductivity of simple fluids in electromagnetic fields. <i>AIP Advances</i> , 2021, 11, 125222.	0.6	0