

# Byung Chan Eu

## List of Publications by Year in descending order

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citations

257101

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128  
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128  
docs citations

128  
times ranked

387  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermodynamically consistent generalized hydrodynamic theory of thermal conduction and integral equations of thermal conductivity of simple fluids in electromagnetic fields. AIP Advances, 2021, 11, 125222.	0.6	0
2	Normal stress effects on Knudsen flow. Physics of Fluids, 2018, 30, 013103.	1.6	2
3	Self-diffusion coefficient of a simple liquid in the subcritical regime of temperature. Molecular Physics, 2011, 109, 2385-2394.	0.8	1
4	Generic van der Waals equation of state for polymers, modified free volume theory, and the self-diffusion coefficient of polymeric liquids. Physica A: Statistical Mechanics and Its Applications, 2010, 389, 2325-2338.	1.2	16
5	Molecular theory of barycentric velocity: Monatomic fluids. Journal of Chemical Physics, 2008, 128, 204507.	1.2	16
6	Molecular representation of molar domain (volume), evolution equations, and linear constitutive relations for volume transport. Journal of Chemical Physics, 2008, 129, 094502.	1.2	22
7	Volume transport and generalized hydrodynamic equations for monatomic fluids. Journal of Chemical Physics, 2008, 129, 134509.	1.2	16
8	Voids, generic van der Waals equation of state, and transport coefficients of liquids. Physical Chemistry Chemical Physics, 2007, 9, 6171.	1.3	6
9	A Perturbation Method for the Ornstein-Zernike Equation and the Generic van der Waals Equation of State for a Square Well Potential Model. Journal of Physical Chemistry B, 2007, 111, 3716-3726.	1.2	2
10	Relations between Transport Coefficients and Their Density and Temperature Dependence. Journal of Physical Chemistry A, 2006, 110, 831-842.	1.1	14
11	Relative Boltzmann entropy, evolution equations for fluctuations of thermodynamic intensive variables, and a statistical mechanical representation of the zeroth law of thermodynamics. Journal of Chemical Physics, 2006, 125, 064110.	1.2	3
12	Statistical-mechanical theory of rheology: Lennard-Jones fluids. Journal of Chemical Physics, 2005, 123, 234507.	1.2	24
13	Generalized hydrodynamics in the transient regime and irreversible thermodynamics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2004, 362, 1553-1565.	1.6	5
14	Thermodynamically consistent equation of state of hard sphere fluids. Journal of Chemical Physics, 2003, 118, 2264-2269.	1.2	15
15	Theory of the thermal conductivity of molecular liquids: Nitrogen and carbon dioxide. Journal of Chemical Physics, 2002, 117, 4386-4398.	1.2	16
16	Nonlinear viscosity derived by means of Grad's moment method. Physical Review E, 2002, 65, 031202.	0.8	2
17	Self-diffusion coefficient of liquid nitrogen. Molecular Physics, 2002, 100, 3281-3283.	0.8	16
18	Relation of Tracer Diffusion Coefficient and Solvent Self-Diffusion Coefficient. Journal of Physical Chemistry A, 2002, 106, 11841-11845.	1.1	39

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19	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
20	Theory of thermal conductivity of dense simple fluids. <i>Journal of Chemical Physics</i> , 2001, 115, 9370-9381.	1.2	28
21	Irreversible Thermodynamics of Neural Networks: Calortropy Production in Logic Operations. <i>Journal of Physical Chemistry B</i> , 2001, 105, 7104-7114.	1.2	5
22	Nonequilibrium partition function in the presence of heat flow. <i>Journal of Chemical Physics</i> , 2001, 115, 8481-8488.	1.2	11
23	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
24	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
25	Generalized hydrodynamic theory of shock waves in rigid diatomic gases. <i>Physical Review E</i> , 2001, 64, 046303.	0.8	19
26	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
27	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
28	Modified Robertson projection operator method and irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1999, 111, 1354-1365.	1.2	2
29	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
30	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
31	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. <sup>2</sup>		1
32	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
33	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
34	Remarks on the information entropy maximization method and extended thermodynamics. <i>Journal of Chemical Physics</i> , 1998, 108, 5834-5844.	1.2	9
35	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
36	Nonequilibrium grand ensemble method for dense fluids. <i>Journal of Chemical Physics</i> , 1997, 107, 222-236.	1.2	13

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37	Fluctuations and relative Boltzmann entropy. <i>Journal of Chemical Physics</i> , 1997, 106, 2388-2399.	1.2	10
38	Generalized hydrodynamics and shock waves. <i>Physical Review E</i> , 1997, 56, 2981-2992.	0.8	72
39	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
40	Polymer kirkwood integral equations: Structure and equation of state of polymeric liquids. <i>AICHE Journal</i> , 1996, 42, 2960-2966.	1.8	5
41	On the Onsager Variation Principle and its Generalization for Nonlinear Irreversible Thermodynamics. <i>Journal of Chemical Physics</i> , 1996, 44, 41-62.		6
42	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
43	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
44	Quantum effects in heat and mass transport processes. <i>Journal of Chemical Physics</i> , 1996, 104, 1105-1110.	1.2	5
45	Note on the nonequilibrium partition function and generalized potentials. <i>Journal of Chemical Physics</i> , 1996, 105, 5525-5528.	1.2	3
46	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
47	Conformation and thermodynamic properties of repeated block copolymers. <i>Journal of Chemical Physics</i> , 1995, 102, 2261-2276.	1.2	8
48	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
49	The Boltzmann equation and nonequilibrium ensemble method. <i>Journal of Chemical Physics</i> , 1995, 103, 10652-10662.	1.2	25
50	Theory of nonequilibrium effects on the conformation of polymers. <i>Journal of Chemical Physics</i> , 1995, 102, 585-604.	1.2	3
51	Boltzmann entropy, relative entropy, and related quantities in thermodynamic space. <i>Journal of Chemical Physics</i> , 1995, 102, 7169-7179.	1.2	31
52	Response to review of kinetic theory and irreversible thermodynamics. <i>Journal of Statistical Physics</i> , 1994, 76, 1511-1515.	0.5	0
53	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
54	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

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55	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
56	Integral equations of the correlation functions for polymeric liquids. <i>Journal of Chemical Physics</i> , 1993, 99, 4084-4102.	1.2	28
57	Ornstein-Zernike derivative relations and thermodynamic functions. <i>Journal of Chemical Physics</i> , 1992, 96, 558-564.	1.2	3
58	Modified Padé approximants and equation of state. <i>Journal of Chemical Physics</i> , 1992, 96, 5334-5339.	1.2	2
59	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
60	Limit cycles and discontinuous entropy production changes in the reversible Oregonator. <i>Journal of Chemical Physics</i> , 1990, 93, 7929-7935.	1.2	7
61	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
62	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
63	Normal-stress effects in tube flow of a non-Newtonian fluid. <i>Physical Review A</i> , 1989, 40, 1497-1506.	1.0	8
64	Generalized hydrodynamics approach to the Knudsen problem. <i>Physical Review A</i> , 1989, 40, 6395-6402.	1.0	20
65	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
66	Some identities and relations for transport coefficients of dense fluids. <i>Journal of Chemical Physics</i> , 1988, 89, 485-493.	1.2	4
67	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
68	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
69	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
70	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
71	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
72	Theory of dynamic shear viscosity and normal stress coefficients of dense fluids. <i>Molecular Physics</i> , 1986, 59, 1145-1164.	0.8	20

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73	On the modified moment method and irreversible thermodynamics. Journal of Chemical Physics, 1986, 85, 1592-1602.	1.2	10
74	Kinetic theory of nonlinear transport processes in dilute ionized gases subject to an electromagnetic field. Journal of Chemical Physics, 1985, 82, 4283-4302.	1.2	17
75	Theory of viscoelasticity of fluids. Journal of Chemical Physics, 1985, 82, 4683-4689.	1.2	19
76	On the corotating frame and evolution equations in kinetic theory. Journal of Chemical Physics, 1985, 82, 3773-3778.	1.2	18
77	Irreversible thermodynamics of nonlinear transport processes and instability: Application to the current fluctuation phenomena in semiconductors. Journal of Chemical Physics, 1984, 80, 2063-2075.	1.2	3
78	Kinetic theory and irreversible thermodynamics of nonlinear transport processes in quantum systems. Journal of Chemical Physics, 1984, 80, 2123-2140.	1.2	17
79	Current instability, limit cycles, and entropy production surface. Journal of Chemical Physics, 1984, 81, 4401-4413.	1.2	7
80	Non-newtonian shear viscosity, normal stress coefficients and corresponding states in rheology. Physics Letters, Section A: General, Atomic and Solid State Physics, 1984, 101, 338-342.	0.9	28
81	Comment on Keizer's critique on extended irreversible thermodynamics. Journal of Statistical Physics, 1984, 37, 485-490.	0.5	5
82	Theory of non-Newtonian viscosity and normal stress coefficients of fluids. Journal of Chemical Physics, 1984, 81, 2756-2770.	1.2	44
83	Shear-rate dependence of viscosity for simple fluids. Physics Letters, Section A: General, Atomic and Solid State Physics, 1983, 96, 29-32.	0.9	14
84	2315-2324.	1.2	34
85	A uniform WKB approximation for spheroidal wave functions. Journal of Chemical Physics, 1983, 78, 4887-4895.	1.2	13
86	Scattering off an ellipsoid: A semiclassical theory. Journal of Chemical Physics, 1983, 78, 4896-4904.	1.2	7
87	Journal of Chemical Physics, 1983, 78, 2809-2810.	1.2	2
88	Nonlinear transport processes and irreversible thermodynamics of a mixture of ionized and neutral gases subject to an electric field. Journal of Chemical Physics, 1982, 76, 2618-2631.	1.2	12
89	Remarks on the modified moment method and irreversible thermodynamics. Journal of Chemical Physics, 1982, 77, 2696-2697.	1.2	2
90	Kinetic theory and irreversible thermodynamics for dilute polar gases in an electric field. Molecular Physics, 1982, 46, 949-967.	0.8	2

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91	On the Chapman-Enskog solution method for mixtures. <i>Journal of Chemical Physics</i> , 1981, 74, 6373-6375.	1.2	3
92	Nonlinear transport processes in gases. <i>Journal of Chemical Physics</i> , 1981, 74, 3006-3015.	1.2	33
93	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
94	On the extended Gibbs relations and nonlinear irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1981, 74, 2998-3005.	1.2	14
95	Theory of nonlinear transport processes in a dilute gaseous mixture. <i>Journal of Chemical Physics</i> , 1981, 74, 6376-6387.	1.2	12
96	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
97	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
98	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
99	A modified moment method and irreversible thermodynamics. <i>Journal of Chemical Physics</i> , 1980, 73, 2958-2969.	1.2	146
100	The uniform WKB theory of multichannel predissociation and inelastic scattering. <i>Journal of Chemical Physics</i> , 1979, 70, 4986-4994.	1.2	7
101	Semiclassical theory of predissociation: Uniform semiclassical wavefunction approach. <i>Journal of Chemical Physics</i> , 1978, 69, 1553-1568.	1.2	4
102	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
103	A three-state uniform WKB theory analysis of the inelastic processes of the He <sup>+</sup> -Ne system. <i>Molecular Physics</i> , 1976, 32, 19-22.	0.8	10
104	Franck-Condon transitions and chemical reactions. <i>Molecular Physics</i> , 1976, 31, 1261-1276.	0.8	30
105	Approximate S-matrix elements for three-state curve-crossing problem. <i>Molecular Physics</i> , 1976, 32, 1-17.	0.8	8
106	On the energy dependence of reaction cross sections near threshold. <i>Journal of Chemical Physics</i> , 1975, 63, 592-593.	1.2	21
107	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
108	Kinetic equations for reacting chemical system: Exchange reaction. <i>Journal of Chemical Physics</i> , 1975, 63, 303-315.	1.2	17

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109	Postmaximum energy dependence of the cross sections of the $K + CH_3I \rightarrow KI + CH_3$ reaction. Journal of Chemical Physics, 1974, 60, 1178-1179.	1.2	27
110	On the estimate of the three-body contribution to time-correlation functions for transport coefficients. I. Journal of Chemical Physics, 1974, 60, 1906-1913.	1.2	11
111	Rotational inelastic scattering of Li-N <sub>2</sub> and Li-CO systems. Molecular Physics, 1974, 27, 401-423.	0.8	9
112	Improved solutions to the equation of motion in the uniform WKB theory for two-channel problems. Journal of Chemical Physics, 1974, 61, 1172-1179.	1.2	9
113	On the estimate of the three-body contribution to time-correlation functions for transport coefficients. II. Journal of Chemical Physics, 1974, 60, 1914-1926.	1.2	4
114	Correction for the Uniform WKB Wave Functions and the WKB Phase Shifts. Canadian Journal of Physics, 1974, 52, 1805-1815.	0.4	3
115	Estimate of classical binary collision operator. Journal of Chemical Physics, 1973, 58, 1352-1359.	1.2	14
116	Semiclassical theory of rearrangement and exchange collisions. Journal of Chemical Physics, 1973, 58, 472-478.	1.2	7
117	Theory of inelastic collision: Extension to multiple turning point problems of uniform WKB theory. Journal of Chemical Physics, 1973, 59, 4705-4713.	1.2	12
118	Theory of Inelastic Collisions: Uniform Asymptotic (WKB) Solutions and Semiclassical Scattering Matrix Elements for Multichannel Problems. Journal of Chemical Physics, 1972, 56, 2507-2516.	1.2	24
119	On the WKB Approximation in Time-Dependent Scattering Theory Including Rearrangement Processes. Journal of Chemical Physics, 1972, 57, 2531-2537.	1.2	20
120	Classical Theory of Scattering: Three-Body Problems. Journal of Chemical Physics, 1971, 54, 559-565.	1.2	17
121	On a Derivation of a Boltzmann Equation for Homogeneous Systems. Journal of Chemical Physics, 1971, 54, 4246-4251.	1.2	8
122	Theory of Inelastic Collisions: Uniform Asymptotic (WKB) Solutions and Semiclassical Scattering Matrix Elements for Two-Channel Problems. Journal of Chemical Physics, 1971, 55, 5600-5609.	1.2	26
123	Cluster Expansion and Autocorrelation Functions: Self-Diffusion Coefficient. Journal of Chemical Physics, 1971, 55, 4613-4628.	1.2	15
124	Quantum Mechanical Analysis of the Elastic Scattering of Reactive Systems. Journal of Chemical Physics, 1970, 52, 3021-3037.	1.2	21
125	Theory of Inelastic Collisions. II. The Proof of Conjectured Rules for the WKB-Type General Solutions. Journal of Chemical Physics, 1970, 52, 3903-3911.	1.2	24
126	Theory of Inelastic Collisions: The WKB-Type General Solutions. Journal of Chemical Physics, 1970, 52, 1882-1893.	1.2	20