

# Tai-Ping Liu

## List of Publications by Year in descending order

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50  
papers

2,626  
citations

218677

26  
h-index

223800

46  
g-index

51  
all docs

51  
docs citations

51  
times ranked

398  
citing authors

#	ARTICLE	IF	CITATIONS
1	L <sub>1</sub> Stability Estimates for n- n Conservation Laws. Archive for Rational Mechanics and Analysis, 1999, 149, 1-22.	2.4	218
2	Boltzmann Equation: Micro-Macro Decompositions and Positivity of Shock Profiles. Communications in Mathematical Physics, 2004, 246, 133-179.	2.2	201
3	The Pointwise Estimates of Diffusion Wave for the Navier-Stokes Systems in Odd Multi-Dimensions. Communications in Mathematical Physics, 1998, 196, 145-173.	2.2	192
4	Energy method for Boltzmann equation. Physica D: Nonlinear Phenomena, 2004, 188, 178-192.	2.8	176
5	The deterministic version of the Glimm scheme. Communications in Mathematical Physics, 1977, 57, 135-148.	2.2	156
6	Nonlinear stability of rarefaction waves for compressible Navier Stokes equations. Communications in Mathematical Physics, 1988, 118, 451-465.	2.2	141
7	Pointwise convergence to shock waves for viscous conservation laws. Communications on Pure and Applied Mathematics, 1997, 50, 1113-1182.	3.1	128
8	Compressible flow with damping and vacuum. Japan Journal of Industrial and Applied Mathematics, 1996, 13, 25-32.	0.9	116
9	Linear and nonlinear large-time behavior of solutions of general systems of hyperbolic conservation laws. Communications on Pure and Applied Mathematics, 1977, 30, 767-796.	3.1	108
10	The Green's function and large-time behavior of solutions for the one-dimensional Boltzmann equation. Communications on Pure and Applied Mathematics, 2004, 57, 1543-1608.	3.1	103
11	Supersonic flow onto a solid wedge. Communications on Pure and Applied Mathematics, 2008, 61, 1347-1448.	3.1	102
12	Well-posedness theory for hyperbolic conservation laws. Communications on Pure and Applied Mathematics, 1999, 52, 1553-1586.	3.1	89
13	Propagation of a Stationary Shock Layer in the Presence of a Boundary. Archive for Rational Mechanics and Analysis, 1997, 139, 57-82.	2.4	77
14	Nonlinear stability of overcompressive shock waves in a rotationally invariant system of viscous conservation laws. Communications in Mathematical Physics, 1993, 153, 147-158.	2.2	70
15	Nonlinear Stability of Rarefaction Waves for the Boltzmann Equation. Archive for Rational Mechanics and Analysis, 2006, 181, 333-371.	2.4	60
16	Nonlinear Stability of a Self-Similar 3-Dimensional Gas Flow. Communications in Mathematical Physics, 1999, 204, 525-549.	2.2	56
17	Invariant Manifolds for Steady Boltzmann Flows and Applications. Archive for Rational Mechanics and Analysis, 2013, 209, 869-997.	2.4	49
18	L <sub>1</sub> stability for 2D systems of hyperbolic conservation laws. Journal of the American Mathematical Society, 1999, 12, 729-774.	3.9	45

#	ARTICLE	IF	CITATIONS
19	Initial-boundary value problem for one-dimensional wave solutions of the Boltzmann equation. Communications on Pure and Applied Mathematics, 2007, 60, 295-356.	3.1	42
20	Time-Asymptotic Behavior of Wave Propagation Around a Viscous Shock Profile. Communications in Mathematical Physics, 2009, 290, 23-82.	2.2	42
21	Uniqueness of weak solutions of the Cauchy problem for general $2 \times 2$ conservation laws. Journal of Differential Equations, 1976, 20, 369-388.	2.2	41
22	THE ELLIPTICITY PRINCIPLE FOR SELF-SIMILAR POTENTIAL FLOWS. Journal of Hyperbolic Differential Equations, 2005, 02, 909-917.	0.5	38
23	Shock waves in conservation laws with physical viscosity. Memoirs of the American Mathematical Society, 2015, 234, 0-0.	0.9	34
24	A new entropy functional for a scalar conservation law. Communications on Pure and Applied Mathematics, 1999, 52, 1427-1442.	3.1	33
25	Thermal transpiration for the linearized Boltzmann equation. Communications on Pure and Applied Mathematics, 2007, 60, 147-163.	3.1	30
26	Entropy Production and Admissibility of Shocks. Acta Mathematicae Applicatae Sinica, 2003, 19, 1-12.	0.7	28
27	Weak Solutions of General Systems of Hyperbolic Conservation Laws. Communications in Mathematical Physics, 2002, 230, 289-327.	2.2	26
28	EXISTENCE OF BOUNDARY LAYER SOLUTIONS TO THE BOLTZMANN EQUATION. Analysis and Applications, 2004, 02, 337-363.	2.2	26
29	Continuum shock profiles for discrete conservation laws I: Construction. Communications on Pure and Applied Mathematics, 1999, 52, 85-127.	3.1	24
30	Wave propagation for the compressible Navier-Stokes equations. Journal of Hyperbolic Differential Equations, 2015, 12, 385-445.	0.5	22
31	Nonlinear Stability of Weak Detonation Waves for a Combustion Model. Communications in Mathematical Physics, 1999, 204, 551-586.	2.2	21
32	Large-Time Behavior of Solutions for the Boltzmann Equation with Hard potentials. Communications in Mathematical Physics, 2006, 269, 17-37.	2.2	17
33	Multi-dimensional Wave Propagation Over a Burgers Shock Profile. Archive for Rational Mechanics and Analysis, 2018, 229, 231-337.	2.4	17
34	Free Molecular Flow with Boundary Effect. Communications in Mathematical Physics, 2013, 318, 375-409.	2.2	15
35	Pointwise convergence to shock waves for viscous conservation laws. Communications on Pure and Applied Mathematics, 1997, 50, 1113-1182.	3.1	14
36	Boundary Singularity for Thermal Transpiration Problem of the Linearized Boltzmann Equation. Archive for Rational Mechanics and Analysis, 2014, 212, 575-595.	2.4	13

#	ARTICLE	IF	CITATIONS
37	Continuum shock profiles for discrete conservation laws II: Stability. Communications on Pure and Applied Mathematics, 1999, 52, 1047-1073.	3.1	11
38	Equilibrating Effects of Boundary and Collision in Rarefied Gases. Communications in Mathematical Physics, 2014, 328, 421-480.	2.2	10
39	<scp>Navierâ€Stokes</scp> Equations in Gas Dynamics: Green's Function, Singularity, and <scp>Wellâ€Posedness</scp>. Communications on Pure and Applied Mathematics, 2022, 75, 223-348.	3.1	10
40	On green's function for hyperbolic-parabolic systems. Acta Mathematica Scientia, 2009, 29, 1556-1572.	1.0	7
41	Singularity of the Velocity Distribution Function in Molecular Velocity Space. Communications in Mathematical Physics, 2016, 341, 105-134.	2.2	5
42	Continuum shock profiles for discrete conservation laws I: Construction. Communications on Pure and Applied Mathematics, 1999, 52, 85-127.	3.1	5
43	Boundary Wave Propagator for Compressible Navierâ€Stokes Equations. Foundations of Computational Mathematics, 2014, 14, 1287-1335.	2.5	3
44	Shock waves in Euler equations for compressible medium. Journal of Hyperbolic Differential Equations, 2021, 18, 761-787.	0.5	3
45	Aspects of dissipation for compressible fluids and kinetic theory. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20120347.	3.4	1
46	Viscous Scalar Rarefaction Waves. SIAM Journal on Mathematical Analysis, 2017, 49, 2061-2100.	1.9	1
47	Well-Posedness Theory for Hyperbolic Systems of Conservation Laws. , 2001, , 1-24.		0
48	On Nonlinear Stability of Viscous Shock Waves with Physical Viscosity. Series in Contemporary Applied Mathematics, 2012, , 60-71.	0.8	0
49	Kinetic Theory and Gas Dynamics, Some Historical Perspectives. Springer INdAM Series, 2014, , 263-276.	0.5	0
50	Letter to the editors in chief. Kinetic and Related Models, 2018, 11, 215-217.	0.9	0