

Roberto Mauri

List of Publications by Year in descending order

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103
papers

2,421
citations

159585

30
h-index

223800

46
g-index

104
all docs

104
docs citations

104
times ranked

1381
citing authors

#	ARTICLE	IF	CITATIONS
1	Dispersion, convection, and reaction in porous media. <i>Physics of Fluids A, Fluid Dynamics</i> , 1991, 3, 743-756.	1.6	102
2	Steady and unsteady regimes in a T-shaped micro-mixer: Synergic experimental and numerical investigation. <i>Chemical Engineering Journal</i> , 2018, 341, 414-431.	12.7	93
3	Shear-induced resuspension in a couette device. <i>International Journal of Multiphase Flow</i> , 1993, 19, 797-802.	3.4	86
4	Water-ethanol mixing in T-shaped microdevices. <i>Chemical Engineering Science</i> , 2013, 95, 174-183.	3.8	84
5	Effect of inlet conditions on the engulfment pattern in a T-shaped micro-mixer. <i>Chemical Engineering Journal</i> , 2012, 185-186, 300-313.	12.7	83
6	Dispersion and Convection in Periodic Porous Media. <i>SIAM Journal on Applied Mathematics</i> , 1986, 46, 1018-1023.	1.8	76
7	Two-dimensional model of phase segregation in liquid binary mixtures. <i>Physical Review E</i> , 1999, 60, 6968-6977.	2.1	73
8	Flow regimes in T-shaped micro-mixers. <i>Computers and Chemical Engineering</i> , 2015, 76, 150-159.	3.8	69
9	Longitudinal shear-induced diffusion of spheres in a dilute suspension. <i>Journal of Fluid Mechanics</i> , 1992, 240, 651.	3.4	68
10	Phase Field Approach to Multiphase Flow Modeling. <i>Milan Journal of Mathematics</i> , 2011, 79, 597-642.	1.1	65
11	Spinodal decomposition in binary mixtures. <i>Physical Review E</i> , 1996, 53, 2613-2623.	2.1	64
12	The transverse shear-induced liquid and particle tracer diffusivities of a dilute suspension of spheres undergoing a simple shear flow. <i>Journal of Fluid Mechanics</i> , 1996, 327, 255-272.	3.4	61
13	Boundary conditions for darcy's flow through porous media. <i>International Journal of Multiphase Flow</i> , 1983, 9, 561-574.	3.4	57
14	Diffusion-driven phase separation of deeply quenched mixtures. <i>Physical Review E</i> , 1998, 58, 7691-7699.	2.1	57
15	Diffusiophoresis of two-dimensional liquid droplets in a phase-separating system. <i>Physical Review E</i> , 1999, 60, 2037-2044.	2.1	56
16	Liquid-Liquid Extraction Using the Composition-Induced Phase Separation Process. <i>Industrial & Engineering Chemistry Research</i> , 1996, 35, 2360-2368.	3.7	46
17	Phase Separation of Liquid Mixtures in the Presence of Surfactants. <i>Industrial & Engineering Chemistry Research</i> , 1999, 38, 2418-2424.	3.7	46
18	An Overview of Flow Features and Mixing in Micro T and Arrow Mixers. <i>Industrial & Engineering Chemistry Research</i> , 2020, 59, 3669-3686.	3.7	46

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19	Numerical Study of Split T-shaped Micromixers. <i>Chemical Engineering and Technology</i> , 2012, 35, 1291-1299.	1.5	42
20	Electrochemical-thermal P2D aging model of a LiCoO ₂ /graphite cell: Capacity fade simulations. <i>Journal of Energy Storage</i> , 2018, 20, 289-297.	8.1	40
21	Enhanced heat transport during phase separation of liquid binary mixtures. <i>Physics of Fluids</i> , 2007, 19, .	4.0	39
22	Modeling soft interface dominated systems: A comparison of phase field and Gibbs dividing surface models. <i>Physics Reports</i> , 2017, 675, 1-54.	25.6	39
23	On the measurement of the relative viscosity of suspensions. <i>Journal of Rheology</i> , 1994, 38, 1285-1296.	2.6	38
24	Two-dimensional model of phase segregation in liquid binary mixtures with an initial concentration gradient. <i>Chemical Engineering Science</i> , 2000, 55, 6109-6118.	3.8	38
25	Transverse shear-induced gradient diffusion in a dilute suspension of spheres. <i>Journal of Fluid Mechanics</i> , 1998, 357, 279-287.	3.4	37
26	Phase Separation of Initially Inhomogeneous Liquid Mixtures. <i>Industrial & Engineering Chemistry Research</i> , 2001, 40, 2004-2010.	3.7	37
27	Nucleation and spinodal decomposition of liquid mixtures. <i>Physics of Fluids</i> , 2005, 17, 034107.	4.0	35
28	Diffuse-interface modeling of phase segregation in liquid mixtures. <i>International Journal of Multiphase Flow</i> , 2008, 34, 987-995.	3.4	33
29	Unsteady mixing of binary liquid mixtures with composition-dependent viscosity. <i>Chemical Engineering Science</i> , 2017, 164, 333-343.	3.8	32
30	Numerical investigation of flow regimes in T-shaped micromixers: Benchmark between finite volume and spectral element methods. <i>Canadian Journal of Chemical Engineering</i> , 2019, 97, 528-541.	1.7	32
31	Mixing of macroscopically quiescent liquid mixtures. <i>Physics of Fluids</i> , 2006, 18, 044107.	4.0	31
32	Solvent extraction of chromium and cadmium from contaminated soils. <i>AIChE Journal</i> , 2001, 47, 509-512.	3.6	30
33	Effects of quenching rate and viscosity on spinodal decomposition. <i>Physical Review E</i> , 2006, 74, 011507.	2.1	29
34	Diffuse-interface modeling of liquid-vapor phase separation in a van der Waals fluid. <i>Physics of Fluids</i> , 2009, 21, .	4.0	29
35	Mixing of binary fluids with composition-dependent viscosity in a T-shaped micro-device. <i>Chemical Engineering Science</i> , 2015, 123, 300-310.	3.8	29
36	The role of flow features and chemical kinetics on the reaction yield in a T-shaped micro-reactor. <i>Chemical Engineering Journal</i> , 2020, 396, 125223.	12.7	29

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37	Lagrangian approach to time-dependent laminar dispersion in rectangular conduits. Part 1. Two-dimensional flows. <i>Journal of Fluid Mechanics</i> , 1988, 190, 201-215.	3.4	25
38	Thermocapillary migration of a bidisperse suspension of bubbles. <i>Journal of Fluid Mechanics</i> , 1994, 261, 47-64.	3.4	24
39	Convection-driven phase segregation of deeply quenched liquid mixtures. <i>Journal of Chemical Physics</i> , 2003, 118, 8841-8846.	3.0	23
40	Drop Size Evolution during the Phase Separation of Liquid Mixtures. <i>Industrial & Engineering Chemistry Research</i> , 2004, 43, 349-353.	3.7	23
41	Violation of the fluctuation-dissipation theorem in confined driven colloids. <i>Europhysics Letters</i> , 2006, 76, 1022-1028.	2.0	23
42	Experimental Evidence of the Motion of a Single Out-of-Equilibrium Drop. <i>Langmuir</i> , 2007, 23, 7459-7461.	3.5	23
43	Effect of stratification on the mixing and reaction yield in a T-shaped micro-mixer. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	22
44	Spinodal decomposition of binary mixtures with composition-dependent heat conductivities. <i>Chemical Engineering Science</i> , 2008, 63, 2402-2407.	3.8	21
45	Applications of Wiener's Path Integral for the Diffusion of Brownian Particles in Shear Flows. <i>SIAM Journal on Applied Mathematics</i> , 1986, 46, 49-55.	1.8	18
46	Spinodal decomposition of chemically reactive binary mixtures. <i>Physical Review E</i> , 2016, 94, 022605.	2.1	18
47	Liquid mixture convection during phase separation in a temperature gradient. <i>Physics of Fluids</i> , 2011, 23, .	4.0	17
48	Large-scale, unidirectional convection during phase separation of a density-matched liquid mixture. <i>Physics of Fluids</i> , 2005, 17, 094109.	4.0	16
49	Widom line prediction by the Soave-Redlich-Kwong and Peng-Robinson equations of state. <i>Journal of Supercritical Fluids</i> , 2018, 133, 367-371.	3.2	16
50	Investigation on steady regimes in a X-shaped micromixer fed with water and ethanol. <i>Chemical Engineering Science</i> , 2022, 248, 117254.	3.8	15
51	Lagrangian self-diffusion of Brownian particles in periodic flow fields. <i>Physics of Fluids</i> , 1995, 7, 275-284.	4.0	14
52	Time-Dependent Dispersion of Small Particles in Rectangular Conduits. <i>SIAM Journal on Applied Mathematics</i> , 1991, 51, 1538-1555.	1.8	12
53	Mixing of viscous liquid mixtures. <i>Chemical Engineering Science</i> , 2004, 59, 2065-2069.	3.8	12
54	Phase separation of viscous ternary liquid mixtures. <i>Chemical Engineering Science</i> , 2012, 80, 270-278.	3.8	12

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55	Phase-field modeling of interfacial dynamics in emulsion flows: Nonequilibrium surface tension. <i>International Journal of Multiphase Flow</i> , 2016, 85, 164-172.	3.4	12
56	Dynamics of phase separation of sheared inertialess binary mixtures. <i>Physics of Fluids</i> , 2020, 32, .	4.0	11
57	Heat and mass transport in random velocity fields with application to dispersion in porous media. <i>Journal of Engineering Mathematics</i> , 1995, 29, 77-89.	1.2	10
58	Onset of instability in sheared gas fluidized beds. <i>AIChE Journal</i> , 1997, 43, 1362-1365.	3.6	10
59	Dynamic transition of dendrite orientation in the diffusive spinodal decomposition of binary mixtures under a thermal gradient. <i>Chemical Engineering Science</i> , 2019, 203, 450-463.	3.8	9
60	Phase Separation of Liquid Mixtures. , 2002, , 139-152.		9
61	A new application of the reciprocity relations to the study of fluid flows through fixed beds. <i>Journal of Engineering Mathematics</i> , 1998, 33, 103-112.	1.2	8
62	Heat and mass transport in nonhomogeneous random velocity fields. <i>Physical Review E</i> , 2003, 68, 066306.	2.1	8
63	Cellular Automata Model of Phase Transition in Binary Mixtures. <i>Industrial & Engineering Chemistry Research</i> , 2006, 45, 2892-2896.	3.7	8
64	Buoyancy-driven detachment of a wall-bound pendant drop: Interface shape at pinchoff and nonequilibrium surface tension. <i>Physical Review E</i> , 2015, 92, 032401.	2.1	8
65	Flow regimes, mixing and reaction yield of a mixture in an X-microreactor. <i>Chemical Engineering Journal</i> , 2022, 437, 135113.	12.7	8
66	The constitutive relation of suspensions of noncolloidal particles in viscous fluids. <i>Physics of Fluids</i> , 2003, 15, 1888-1896.	4.0	7
67	Transport Phenomena in Multiphase Flows. <i>Fluid Mechanics and Its Applications</i> , 2015, , .	0.2	7
68	Critical conditions for the buoyancy-driven detachment of a wall-bound pendant drop. <i>Physics of Fluids</i> , 2016, 28, .	4.0	7
69	Phase-field modeling of mixing/demixing of regular binary mixtures with a composition-dependent viscosity. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	7
70	Dissolution or Growth of a Liquid Drop via Phase-Field Ternary Mixture Model Based on the Non-Random, Two-Liquid Equation. <i>Entropy</i> , 2018, 20, 125.	2.2	7
71	A Study on the Effect of Flow Unsteadiness on the Yield of a Chemical Reaction in a T Micro-Reactor. <i>Micromachines</i> , 2021, 12, 242.	2.9	7
72	Dynamics of phase separation of sheared binary mixtures after a nonisothermal quenching. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	6

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73	Mixing Improvement in a T-Shaped Micro-Junction through Small Rectangular Cavities. <i>Micromachines</i> , 2022, 13, 159.	2.9	6
74	ON THE PROPAGATOR OF THE STOKES EQUATION AND A DYNAMICAL DEFINITION OF VISCOSITY. <i>Chemical Engineering Communications</i> , 1996, 148-150, 385-390.	2.6	5
75	The longitudinal drift velocity of a sheared dilute suspension of spheres. <i>International Journal of Multiphase Flow</i> , 1999, 25, 875-885.	3.4	5
76	The onset of particle segregation in plane Couette flows of concentrated suspensions. <i>International Journal of Multiphase Flow</i> , 2002, 28, 127-136.	3.4	5
77	Diffusion-Driven Dissolution or Growth of a Liquid Drop Embedded in a Continuous Phase of Another Liquid via Phase-Field Ternary Mixture Model. <i>Langmuir</i> , 2017, 33, 13125-13132.	3.5	5
78	Constitutive Relations of Thermal and Mass Diffusion. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2020, 45, 27-38.	4.2	5
79	Non-local phase field revisited. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2021, 2021, 063212.	2.3	5
80	Volume of mixing effect on fluid counter-diffusion. <i>Physics of Fluids</i> , 2013, 25, 082101.	4.0	4
81	Retardation of the phase segregation of liquid mixtures with a critical point of miscibility. <i>AICHE Journal</i> , 2018, 64, 4047-4052.	3.6	4
82	Effects of flow unsteadiness and chemical kinetics on the reaction yield in a T-microreactor. <i>Chemical Engineering Research and Design</i> , 2022, 179, 1-15.	5.6	4
83	Transport Properties of EVAL-Starch- β Amylase Membranes. <i>Biomacromolecules</i> , 2005, 6, 1389-1396.	5.4	3
84	Hydrodynamic Green functions: paradoxes in unsteady Stokes conditions and infinite propagation velocity in incompressible viscous models. <i>Meccanica</i> , 2022, 57, 1055-1069.	2.0	3
85	A Non-local Phase Field Model of Bohm's Quantum Potential. <i>Foundations of Physics</i> , 2021, 51, 1.	1.3	2
86	Fluctuations of non-conservative systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007, 2007, P03002-P03002.	2.3	1
87	Multiphase Flows. <i>Soft and Biological Matter</i> , 2013, , 107-132.	0.3	1
88	Effective Transport Properties. <i>Soft and Biological Matter</i> , 2013, , 133-151.	0.3	1
89	The Principle of Minimal Resistance in Non-equilibrium Thermodynamics. <i>Foundations of Physics</i> , 2016, 46, 393-408.	1.3	1
90	Triphase Separation of a Ternary Symmetric Highly Viscous Mixture. <i>Entropy</i> , 2018, 20, 936.	2.2	1

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91	The detachment of a wall-bound pendant drop suspended in a sheared fluid and subjected to an external force field. <i>Physics of Fluids</i> , 0, , .	4.0	1
92	BROWNIAN MOTION OF CONTINUOUS DEFORMABLE BODIES. <i>Chemical Engineering Communications</i> , 1996, 148-150, 73-84.	2.6	0
93	THERMOCAPILLARY MIGRATION IN DILUTE POLYDISPERSE SUSPENSIONS OF BUBBLES. <i>Chemical Engineering Communications</i> , 2001, 185, 17-21.	2.6	0
94	Fokker-Planck Equation. <i>Soft and Biological Matter</i> , 2013, , 35-48.	0.3	0
95	Multiple Scale Analysis. <i>Soft and Biological Matter</i> , 2013, , 153-179.	0.3	0
96	Nonequilibrium surface tension. <i>AIP Conference Proceedings</i> , 2015, , .	0.4	0
97	Flow through porous media: a momentum tracer approach. <i>Meccanica</i> , 2017, 52, 2715-2734.	2.0	0
98	Advanced Microstructures for Electrochemical Energy Systems: A Modelling Perspective. , 2019, , .		0
99	Phase segregation of metastable quenched liquid mixtures and the effect of the quenching rate. <i>Physics and Chemistry of Liquids</i> , 2019, 57, 251-258.	1.2	0
100	Diffuse Interface (D.I.) Model for Multiphase Flows. , 2012, , 1-72.		0
101	Phase separation of viscous ternary liquid mixtures. , 2012, , 73-91.		0
102	Shear-Induced Particle Diffusion in Dilute Suspensions: Some Recent Theoretical Results. , 1995, , 69-72.		0
103	Lagrangian self-diffusion of Brownian particles in periodic flow fields. <i>International Journal of Multiphase Flow</i> , 1996, 22, 139.	3.4	0