

Mark Sussman

List of Publications by Year in descending order

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70
papers

9,177
citations

201674

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144013

57
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all docs

72
docs citations

72
times ranked

4192
citing authors

#	ARTICLE	IF	CITATIONS
1	A New Method for Estimating Bubble Diameter at Different Gravity Levels for Nucleate Pool Boiling. Journal of Heat Transfer, 2022, 144, .	2.1	3
2	A Novel Supermesh Method for Computing Solutions to the Multi-material Stefan Problem with Complex Deforming Interfaces and Microstructure. Journal of Scientific Computing, 2022, 91, 1.	2.3	2
3	Depletable micro-layer for nucleate boiling simulations in micro-gravity conditions: A new approach. International Journal of Heat and Mass Transfer, 2022, 190, 122642.	4.8	4
4	Simulation of drop impact on substrate with micro-wells. Physics of Fluids, 2022, 34, .	4.0	7
5	Fluid-structure interaction of thin flexible bodies in multi-material multi-phase systems. Journal of Computational Physics, 2021, 429, 110008.	3.8	8
6	A moment-of-fluid method for diffusion equations on irregular domains in multi-material systems. Journal of Computational Physics, 2020, 402, 109017.	3.8	5
7	Numerical investigation of surface curvature effect on the self-propelled capability of coalesced drops. Physics of Fluids, 2020, 32, 122117.	4.0	8
8	A Space-Time Discontinuous Galerkin Spectral Element Method for Nonlinear Hyperbolic Problems. International Journal of Computational Methods, 2019, 16, 1850093.	1.3	7
9	A Hierarchical Space-Time Spectral Element and Moment-of-Fluid Method for Improved Capturing of Vortical Structures in Incompressible Multi-phase/Multi-material Flows. Journal of Scientific Computing, 2019, 81, 1527-1566.	2.3	4
10	Comparison of simulation and experiments for multimode aerodynamic breakup of a liquid metal column in a shock-induced cross-flow. Physics of Fluids, 2019, 31, .	4.0	14
11	A three-dimensional numerical study on the dynamics and deformation of a bubble rising in a hybrid Carreau and FENE-CR modeled polymeric liquid. Journal of Non-Newtonian Fluid Mechanics, 2019, 265, 66-78.	2.4	18
12	New Multi-implicit Space-Time Spectral Element Methods for Advection-Diffusion-Reaction Problems. Journal of Scientific Computing, 2019, 78, 653-686.	2.3	5
13	10.1063/1.5099589.3. , 2019, , .		0
14	10.1063/1.5099589.1. , 2019, , .		0
15	A space-time discontinuous Galerkin spectral element method for the Stefan problem. Discrete and Continuous Dynamical Systems - Series B, 2018, 23, 3595-3622.	0.9	4
16	Interaction of an Oscillating Flexible Plate and Nucleate Pool Boiling Vapor Bubble: Fluid-Structure Interaction in a Multimaterial Multiphase System. , 2018, , .		4
17	Experimental and Numerical Investigation of Icing Process of a Liquid Droplet. , 2017, , .		3
18	A numerical study of the thermal transient in high-pressure diesel injection. International Journal of Multiphase Flow, 2017, 88, 205-221.	3.4	25

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19	Investigation of drop impact on dry and wet surfaces with consideration of surrounding air. <i>Physics of Fluids</i> , 2016, 28, .	4.0	67
20	An Adaptive Coupled Level Set and Moment-of-Fluid Method for Simulating Droplet Impact and Solidification on Solid Surfaces with Application to Aircraft Icing. , 2016, , .		6
21	Density-Scaled Balanced Continuum Surface Force Model with a Level Set Based Curvature Interpolation Technique. <i>International Journal of Computational Methods</i> , 2016, 13, 1641004.	1.3	5
22	Incompressible multiphase flow and encapsulation simulations using the moment-of-fluid method. <i>International Journal for Numerical Methods in Fluids</i> , 2015, 79, 456-490.	1.6	31
23	Filament capturing with the Multimaterial Moment-of-Fluid method. <i>Journal of Computational Physics</i> , 2015, 285, 149-172.	3.8	27
24	Influence of the viscosity ratio on drop dynamics and breakup for a drop rising in an immiscible low-viscosity liquid. <i>Journal of Fluid Mechanics</i> , 2014, 752, 383-409.	3.4	12
25	An embedded level set method for sharp-interface multiphase simulations of Diesel injectors. <i>International Journal of Multiphase Flow</i> , 2014, 59, 1-14.	3.4	44
26	Compressible, multiphase semi-implicit method with moment of fluid interface representation. <i>Journal of Computational Physics</i> , 2014, 279, 182-217.	3.8	66
27	A Coupled Level Set-Moment of Fluid Method for Incompressible Two-Phase Flows. <i>Journal of Scientific Computing</i> , 2013, 54, 454-491.	2.3	68
28	Simulations of Gas-Liquid Two-Phase Jet Flows Using the Moment of Fluid Method. , 2013, , .		0
29	Numerical Simulations of a Bubble Rising through a Shear-Thickening Fluid. <i>Journal of Chemical Engineering of Japan</i> , 2012, 45, 713-720.	0.6	12
30	The buoyancy-driven motion of a single skirted bubble or drop rising through a viscous liquid. <i>Physics of Fluids</i> , 2012, 24, .	4.0	33
31	A hybrid level set-volume constraint method for incompressible two-phase flow. <i>Journal of Computational Physics</i> , 2012, 231, 6438-6471.	3.8	52
32	A method for overcoming the surface tension time step constraint in multiphase flows II. <i>International Journal for Numerical Methods in Fluids</i> , 2012, 68, 1343-1361.	1.6	17
33	Numerical Analysis of Gas-Liquid Bubble Flow in a Horizontal Rectangular Channel. <i>Journal of Chemical Engineering of Japan</i> , 2012, 45, 102-106.	0.6	1
34	High-Fidelity Simulation of Atomization and Evaporation in a Liquid Jet in Cross-flow. , 2011, , .		4
35	Robust numerical analysis of the dynamic bubble formation process in a viscous liquid. <i>International Journal of Multiphase Flow</i> , 2011, 37, 1059-1071.	3.4	40
36	A Second Order JFNK-Based IMEX Method for Single and Multi-Phase Flows. , 2011, , 549-554.		3

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37	The sensitivity of drop motion due to the density and viscosity ratio. <i>Physics of Fluids</i> , 2010, 22, .	4.0	28
38	A computational study of the dynamic motion of a bubble rising in Carreau model fluids. <i>Fluid Dynamics Research</i> , 2010, 42, 025501.	1.3	17
39	Towards an Efficient, High-Fidelity Methodology for Liquid Jet Atomization Computations. , 2010, , .		23
40	Simulation of two-phase flow with sub-scale droplet and bubble effects. <i>Computer Graphics Forum</i> , 2009, 28, 229-238.	3.0	45
41	A Stable and Efficient Method for Treating Surface Tension in Incompressible Two-Phase Flow. <i>SIAM Journal of Scientific Computing</i> , 2009, 31, 2447-2471.	2.8	83
42	Three-Dimensional Simulations of the Dynamic Motion of Single Drops Rising in Viscoelastic FENE-CR Model Fluids. <i>Journal of Chemical Engineering of Japan</i> , 2009, 42, 705-712.	0.6	7
43	Atrioventricular Blood Flow Simulation Based on Patient-Specific Data. <i>Lecture Notes in Computer Science</i> , 2009, , 386-395.	1.3	6
44	Three-Dimensional Simulations of Vortex Ring Formation from Falling Drops in an Immiscible Viscous Liquid. <i>Journal of Chemical Engineering of Japan</i> , 2009, 42, 648-655.	0.6	4
45	An Improved Sharp Interface Method for Viscoelastic and Viscous Two-Phase Flows. <i>Journal of Scientific Computing</i> , 2008, 35, 43-61.	2.3	38
46	Adaptive solution techniques for simulating underwater explosions and implosions. <i>Journal of Computational Physics</i> , 2008, 227, 2083-2104.	3.8	44
47	Interaction of two-phase flow with animated models. <i>Graphical Models</i> , 2008, 70, 33-42.	2.4	8
48	Three-Dimensional Numerical Simulations of a Rising Bubble in a Viscoelastic FENE-CR Model Fluid. <i>AIP Conference Proceedings</i> , 2008, , .	0.4	10
49	Direct Numerical Simulation of the Slow Formation Process of Single Bubbles in a Viscous Liquid. <i>Journal of Chemical Engineering of Japan</i> , 2007, 40, 939-943.	0.6	13
50	A sharp interface method for incompressible two-phase flows. <i>Journal of Computational Physics</i> , 2007, 221, 469-505.	3.8	327
51	Textured Liquids based on the Marker Level Set. <i>Computer Graphics Forum</i> , 2007, 26, 457-466.	3.0	38
52	Simulation of Charge and Mass Distributions of Indium Droplets Created by Field Emission. , 2006, , .		2
53	Three-Dimensional Computations of the Motion of a Newtonian Drop Rising through Immiscible Quiescent Shear-Thinning Liquids. <i>Journal of Chemical Engineering of Japan</i> , 2006, 39, 394-400.	0.6	10
54	A parallelized, adaptive algorithm for multiphase flows in general geometries. <i>Computers and Structures</i> , 2005, 83, 435-444.	4.4	70

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55	A computational study of the effect of initial bubble conditions on the motion of a gas bubble rising in viscous liquids. <i>International Journal of Multiphase Flow</i> , 2005, 31, 223-237.	3.4	79
56	A second order primitive preconditioner for solving all speed multi-phase flows. <i>Journal of Computational Physics</i> , 2005, 209, 477-503.	3.8	43
57	Boundary Integral Formulation of Electric Fields in Level Set Simulations of Charged Droplets. , 2005, , .		1
58	Three-Dimensional Numerical Simulations of the Effect of Initial Bubble Conditions on the Motion of a Bubble Rising in Viscous Liquids. <i>Journal of Chemical Engineering of Japan</i> , 2005, 38, 878-882.	0.6	6
59	Animation and control of breaking waves. <i>Computer Animation and Simulation</i> , 2004, , .	0.0	48
60	Three-Dimensional Numerical Simulations of the Motion of a Gas Bubble Rising in Viscous Liquids. <i>Journal of Chemical Engineering of Japan</i> , 2004, 37, 968-975.	0.6	14
61	A Discontinuous Spectral Element Method for the Level Set Equation. <i>Journal of Scientific Computing</i> , 2003, 19, 479-500.	2.3	33
62	A second order coupled level set and volume-of-fluid method for computing growth and collapse of vapor bubbles. <i>Journal of Computational Physics</i> , 2003, 187, 110-136.	3.8	451
63	An Adaptive Mesh Algorithm for Free Surface Flows in General Geometries. , 2001, , .		9
64	A Coupled Level Set and Volume-of-Fluid Method for Computing 3D and Axisymmetric Incompressible Two-Phase Flows. <i>Journal of Computational Physics</i> , 2000, 162, 301-337.	3.8	1,317
65	An Adaptive Level Set Approach for Incompressible Two-Phase Flows. <i>Journal of Computational Physics</i> , 1999, 148, 81-124.	3.8	560
66	An Efficient, Interface-Preserving Level Set Redistancing Algorithm and Its Application to Interfacial Incompressible Fluid Flow. <i>SIAM Journal of Scientific Computing</i> , 1999, 20, 1165-1191.	2.8	493
67	An improved level set method for incompressible two-phase flows. <i>Computers and Fluids</i> , 1998, 27, 663-680.	2.5	648
68	Axisymmetric free boundary problems. <i>Journal of Fluid Mechanics</i> , 1997, 341, 269-294.	3.4	204
69	A Level Set Approach for Computing Solutions to Incompressible Two-Phase Flow. <i>Journal of Computational Physics</i> , 1994, 114, 146-159.	3.8	3,887
70	A High-Fidelity Study of High-Pressure Diesel Injection. , 0, , .		2