Shahriar Afkhami

List of Publications by Year
in descending order

61	1,915	23	42
papers	citations	h-index	g-index
		279798	265206

62	62	62	1855
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A mesh-dependent model for applying dynamic contact angles to VOF simulations. Journal of Computational Physics, 2009, 228, 5370-5389.	3.8	190
2	Deformation of a hydrophobic ferrofluid droplet suspended in a viscous medium under uniform magnetic fields. Journal of Fluid Mechanics, 2010, 663, 358-384.	3.4	160
3	Fatigue characteristics of steels manufactured by selective laser melting. International Journal of Fatigue, 2019, 122, 72-83.	5.7	124
4	Obstructed Breakup of Slender Drops in a Microfluidic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>T</mml:mi></mml:math>Junction. Physical Review Letters, 2012, 108, 264502.	7.8	93
5	Field-induced motion of ferrofluid droplets through immiscible viscous media. Journal of Fluid Mechanics, 2008, 610, 363-380.	3.4	86
6	Height functions for applying contact angles to 2D VOF simulations. International Journal for Numerical Methods in Fluids, 2008, 57, 453-472.	1.6	85
7	Solutal Marangoni flows of miscible liquids drive transport without surface contamination. Nature Physics, 2017, 13, 1105-1110.	16.7	85
8	Effects of heat input on the mechanical properties of butt-welded high and ultra-high strength steels. Engineering Structures, 2019, 198, 109460.	5.3	75
9	Numerical investigation of elongated drops in a microfluidic T-junction. Physics of Fluids, 2011, 23, .	4.0	72
10	Height functions for applying contact angles to 3D VOF simulations. International Journal for Numerical Methods in Fluids, 2009, 61, 827-847.	1.6	70
11	Effects of manufacturing parameters and mechanical post-processing on stainless steel 316L processed by laser powder bed fusion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 802, 140660.	5.6	66
12	Mechanical properties and microstructural evaluation of the heat-affected zone in ultra-high strength steels. Thin-Walled Structures, 2020, 157, 107072.	5.3	42
13	Influence of viscoelasticity on drop deformation and orientation in shear flow. Part 2: Dynamics. Journal of Non-Newtonian Fluid Mechanics, 2009, 156, 44-57.	2.4	41
14	Transition in a numerical model of contact line dynamics and forced dewetting. Journal of Computational Physics, 2018, 374, 1061-1093.	3.8	41
15	Hierarchical Nanoparticle Ensembles Synthesized by Liquid Phase Directed Self-Assembly. Nano Letters, 2014, 14, 774-782.	9.1	40
16	Influence of viscoelasticity on drop deformation and orientation in shear flow. Journal of Non-Newtonian Fluid Mechanics, 2009, 156, 29-43.	2.4	38
17	Simulations of microlayer formation in nucleate boiling. International Journal of Heat and Mass Transfer, 2018, 127, 1271-1284.	4.8	37
18	A volume of fluid method for simulating fluid/fluid interfaces in contact with solid boundaries. Journal of Computational Physics, 2015, 294, 243-257.	3.8	36

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19	Numerical Simulation of Ejected Molten Metal Nanoparticles Liquified by Laser Irradiation: Interplay of Geometry and Dewetting. Physical Review Letters, 2013, 111, 034501.	7.8	33
20	Direct numerical simulation of variable surface tension flows using a Volume-of-Fluid method. Journal of Computational Physics, 2018, 352, 615-636.	3.8	29
21	On the motion of superparamagnetic particles in magnetic drug targeting. Acta Mechanica, 2012, 223, 505-527.	2.1	26
22	Directed Assembly of One- and Two-Dimensional Nanoparticle Arrays from Pulsed Laser Induced Dewetting of Square Waveforms. ACS Applied Materials & Interfaces, 2013, 5, 4450-4456.	8.0	26
23	Modeling Superparamagnetic Particles in Blood Flow for Applications in Magnetic Drug Targeting. Fluids, 2017, 2, 29.	1.7	26
24	Interfacial instability of thin ferrofluid films under a magnetic field. Journal of Fluid Mechanics, 2014, 755, .	3.4	22
25	Ferrofluids and magnetically guided superparamagnetic particles in flows: a review of simulations and modeling. Journal of Engineering Mathematics, 2017, 107, 231-251.	1.2	22
26	Interaction of a pair of ferrofluid drops inÂaÂrotating magnetic field. Journal of Fluid Mechanics, 2018, 846, 121-142.	3.4	20
27	Weldability of cold-formed high strength and ultra-high strength steels. Journal of Constructional Steel Research, 2019, 158, 86-98.	3.9	20
28	Thermomechanical simulation of the heat-affected zones in welded ultra-high strength steels: Microstructure and mechanical properties. Materials and Design, 2022, 213, 110336.	7.0	20
29	An experimental and numerical investigation of the dynamics of microconfined droplets in systems with one viscoelastic phase. Journal of Non-Newtonian Fluid Mechanics, 2011, 166, 52-62.	2.4	19
30	Effects of manufacturing parameters, heat treatment, and machining on the physical and mechanical properties of 13Cr10Ni1Â·7Mo2Al0Â·4Mn0Â·4Si steel processed by laser powder bed fusion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 832, 142402.	5.6	19
31	Comparison of Navier-Stokes simulations with long-wave theory: Study of wetting and dewetting. Physics of Fluids, 2013, 25, 112103.	4.0	18
32	A numerical approach for the direct computation of flows including fluid-solid interaction: Modeling contact angle, film rupture, and dewetting. Physics of Fluids, 2016, 28, .	4.0	18
33	Utilizing the theory of critical distances in conjunction with crystal plasticity for low-cycle notch fatigue analysis of S960 MC high-strength steel. International Journal of Fatigue, 2018, 117, 257-273.	5.7	18
34	A comparison of viscoelastic stress wakes for two-dimensional and three-dimensional Newtonian drop deformations in a viscoelastic matrix under shear. Physics of Fluids, 2009, 21, .	4.0	16
35	Instability of Nano- and Microscale Liquid Metal Filaments: Transition from Single Droplet Collapse to Multidroplet Breakup. Langmuir, 2015, 31, 13609-13617.	3.5	15
36	A volume-of-fluid formulation for the study of co-flowing fluids governed by the Hele-Shaw equations. Physics of Fluids, 2013, 25, .	4.0	14

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37	Substrate melting during laser heating of nanoscale metal films. International Journal of Heat and Mass Transfer, 2017, 113, 237-245.	4.8	14
38	Interfacial dynamics of thin viscoelastic films and drops. Journal of Non-Newtonian Fluid Mechanics, 2016, 237, 26-38.	2.4	13
39	Exploiting the Marangoni Effect To Initiate Instabilities and Direct the Assembly of Liquid Metal Filaments. Langmuir, 2017, 33, 8123-8128.	3.5	12
40	Challenges of numerical simulation of dynamic wetting phenomena: a review. Current Opinion in Colloid and Interface Science, 2022, 57, 101523.	7.4	12
41	Effective parameters on the fatigue life of metals processed by powder bed fusion technique: A short review. Procedia Manufacturing, 2019, 36, 3-10.	1.9	11
42	Pore-scale direct numerical simulation of Haines jumps in a porous media model. European Physical Journal: Special Topics, 2020, 229, 1785-1798.	2.6	11
43	On the influence of initial geometry on the evolution of fluid filaments. Physics of Fluids, 2015, 27, .	4.0	10
44	Influence of thermal effects on stability of nanoscale films and filaments on thermally conductive substrates. Physics of Fluids, 2018, 30, .	4.0	10
45	Breakup of finite-size liquid filaments: Transition from no-breakup to breakup including substrate effectsâ‹†. European Physical Journal E, 2019, 42, 18.	1.6	9
46	Capillary focusing close to a topographic step: shape and instability of confined liquid filaments. Microfluidics and Nanofluidics, 2015, 18, 911-917.	2.2	8
47	Interfacial deformation and jetting of a magnetic fluid. Computers and Fluids, 2016, 124, 149-156.	2.5	8
48	Fatigue performance of stainless tool steel CX processed by laser powder bed fusion. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 841, 143031.	5.6	7
49	Thin viscoelastic dewetting films of Jeffreys type subjected to gravity and substrate interactions. European Physical Journal E, 2019, 42, 12.	1.6	5
50	Numerical Modeling of Ferrofluid Droplets in Magnetic Fields. AIP Conference Proceedings, 2008, , .	0.4	4
51	Challenges in nanoscale physics of wetting phenomena. European Physical Journal: Special Topics, 2020, 229, 1735-1738.	2.6	4
52	Data related to the microstructural identification and analyzing the mechanical properties of maraging stainless steel 13Cr10Ni1.7Mo2Al0.4Mn0.4Si (commercially known as CX) processed by laser powder bed fusion method. Data in Brief, 2022, 41, 107856.	1.0	4
53	On the dewetting of liquefied metal nanostructures. Journal of Engineering Mathematics, 2015, 94, 5-18.	1.2	3
54	Numerical simulations of nearly incompressible viscoelastic membranes. Computers and Fluids, 2018, 175, 36-47.	2.5	2

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55	Dynamics of an Ellipse-Shaped Meniscus on a Substrate-Supported Drop under an Electric Field. Fluids, 2019, 4, 200.	1.7	2
56	Effects of notch-load interactions on the mechanical performance of 3D printed tool steel 18Ni300. Additive Manufacturing, 2021, 47, 102260.	3.0	2
57	Numerical simulation of superparamagnetic nanoparticle motion in blood vessels for magnetic drug delivery. Physical Review E, 2022, 106, .	2.1	2
58	Numerical Investigation of the Influence of Viscoelasticity on Drop Deformation in Shear. AIP Conference Proceedings, 2008, , .	0.4	0
59	On capillary self-focusing in a microfluidic system. Fluid Dynamics Research, 2016, 48, 061427.	1.3	0
60	Editorial for Special Issue â€œDrop, Bubble and Particle Dynamics in Complex Fluidsâ€. Fluids, 2020, 5, 4.	1.7	0
61	Effects of TIG welding process on microstructure, electrical resistance and mechanical properties of Nichrome 8020. Metallic Materials, 2021, 54, 289-296.	0.3	0