Shahriar Afkhami

List of Publications by Year
in descending order

61 papers	1,915 citations	279798 23 h-index	265206 42 g-index
62 all docs	62 docs citations	62 times ranked	1855 citing authors

#	Article	IF	Citations
1	Challenges of numerical simulation of dynamic wetting phenomena: a review. Current Opinion in Colloid and Interface Science, 2022, 57, 101523.	7.4	12
2	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
3	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
4	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
5	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
6	Numerical simulation of superparamagnetic nanoparticle motion in blood vessels for magnetic drug delivery. Physical Review E, 2022, 106, .	2.1	2
7	Effects of notch-load interactions on the mechanical performance of 3D printed tool steel 18Ni300. Additive Manufacturing, 2021, 47, 102260.	3.0	2
8	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
9	Effects of TIG welding process on microstructure, electrical resistance and mechanical properties of Nichrome 8020. Metallic Materials, 2021, 54, 289-296.	0.3	0
10	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
11	Mechanical properties and microstructural evaluation of the heat-affected zone in ultra-high strength steels. Thin-Walled Structures, 2020, 157, 107072.	5.3	42
12	Editorial for Special Issue â€œDrop, Bubble and Particle Dynamics in Complex Fluidsâ€. Fluids, 2020, 5, 4.	1.7	0
13	Challenges in nanoscale physics of wetting phenomena. European Physical Journal: Special Topics, 2020, 229, 1735-1738.	2.6	4
14	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
15	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
16	Thin viscoelastic dewetting films of Jeffreys type subjected to gravity and substrate interactions. European Physical Journal E, 2019, 42, 12.	1.6	5
17	Weldability of cold-formed high strength and ultra-high strength steels. Journal of Constructional Steel Research, 2019, 158, 86-98.	3.9	20
18	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

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19	Dynamics of an Ellipse-Shaped Meniscus on a Substrate-Supported Drop under an Electric Field. Fluids, 2019, 4, 200.	1.7	2
20	Fatigue characteristics of steels manufactured by selective laser melting. International Journal of Fatigue, 2019, 122, 72-83.	5.7	124
21	Influence of thermal effects on stability of nanoscale films and filaments on thermally conductive substrates. Physics of Fluids, 2018, 30, .	4.0	10
22	Interaction of a pair of ferrofluid drops inÂaÂrotating magnetic field. Journal of Fluid Mechanics, 2018, 846, 121-142.	3.4	20
23	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
24	Numerical simulations of nearly incompressible viscoelastic membranes. Computers and Fluids, 2018, 175, 36-47.	2.5	2
25	Simulations of microlayer formation in nucleate boiling. International Journal of Heat and Mass Transfer, 2018, 127, 1271-1284.	4.8	37
26	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
27	Transition in a numerical model of contact line dynamics and forced dewetting. Journal of Computational Physics, 2018, 374, 1061-1093.	3.8	41
28	Substrate melting during laser heating of nanoscale metal films. International Journal of Heat and Mass Transfer, 2017, 113, 237-245.	4.8	14
29	Solutal Marangoni flows of miscible liquids drive transport without surface contamination. Nature Physics, 2017, 13, 1105-1110.	16.7	85
30	Exploiting the Marangoni Effect To Initiate Instabilities and Direct the Assembly of Liquid Metal Filaments. Langmuir, 2017, 33, 8123-8128.	3.5	12
31	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
32	Modeling Superparamagnetic Particles in Blood Flow for Applications in Magnetic Drug Targeting. Fluids, 2017, 2, 29.	1.7	26
33	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
34	On capillary self-focusing in a microfluidic system. Fluid Dynamics Research, 2016, 48, 061427.	1.3	0
35	Interfacial dynamics of thin viscoelastic films and drops. Journal of Non-Newtonian Fluid Mechanics, 2016, 237, 26-38.	2.4	13
36	Interfacial deformation and jetting of a magnetic fluid. Computers and Fluids, 2016, 124, 149-156.	2.5	8

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37	On the influence of initial geometry on the evolution of fluid filaments. Physics of Fluids, 2015, 27, .	4.0	10
38	Capillary focusing close to a topographic step: shape and instability of confined liquid filaments. Microfluidics and Nanofluidics, 2015, 18, 911-917.	2.2	8
39	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
40	Instability of Nano- and Microscale Liquid Metal Filaments: Transition from Single Droplet Collapse to Multidroplet Breakup. Langmuir, 2015, 31, 13609-13617.	3.5	15
41	On the dewetting of liquefied metal nanostructures. Journal of Engineering Mathematics, 2015, 94, 5-18.	1.2	3
42	Interfacial instability of thin ferrofluid films under a magnetic field. Journal of Fluid Mechanics, 2014, 755, .	3.4	22
43	Hierarchical Nanoparticle Ensembles Synthesized by Liquid Phase Directed Self-Assembly. Nano Letters, 2014, 14, 774-782.	9.1	40
44	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
45	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
46	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
47	Comparison of Navier-Stokes simulations with long-wave theory: Study of wetting and dewetting. Physics of Fluids, 2013, 25, 112103.	4.0	18
48	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
49	On the motion of superparamagnetic particles in magnetic drug targeting. Acta Mechanica, 2012, 223, 505-527.	2.1	26
50	Numerical investigation of elongated drops in a microfluidic T-junction. Physics of Fluids, 2011, 23, .	4.0	72
51	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
52	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
53	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
54	Height functions for applying contact angles to 3D VOF simulations. International Journal for Numerical Methods in Fluids, 2009, 61, 827-847.	1.6	70

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55	A mesh-dependent model for applying dynamic contact angles to VOF simulations. Journal of Computational Physics, 2009, 228, 5370-5389.	3.8	190
56	Influence of viscoelasticity on drop deformation and orientation in shear flow. Journal of Non-Newtonian Fluid Mechanics, 2009, 156, 29-43.	2.4	38
57	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
58	Height functions for applying contact angles to 2D VOF simulations. International Journal for Numerical Methods in Fluids, 2008, 57, 453-472.	1.6	85
59	Numerical Investigation of the Influence of Viscoelasticity on Drop Deformation in Shear. AIP Conference Proceedings, 2008, , .	0.4	0
60	Numerical Modeling of Ferrofluid Droplets in Magnetic Fields. AIP Conference Proceedings, 2008, , .	0.4	4
61	Field-induced motion of ferrofluid droplets through immiscible viscous media. Journal of Fluid Mechanics, 2008, 610, 363-380.	3.4	86