Ranganathan Kumar

List of Publications by Year
in descending order

75 papers	2,523 citations	218381 26 h-index	197535 49 g-index
76 all docs	76 docs citations	76 times ranked	2124 citing authors

#	Article	IF	Citations
1	Pool boiling heat transfer experiments in silicaâ€“water nano-fluids. International Journal of Heat and Mass Transfer, 2004, 47, 407-411.	2.5	485
2	Effect of geometry on droplet formation in the squeezing regime in a microfluidic T-junction. Microfluidics and Nanofluidics, 2010, 8, 799-812.	1.0	153
3	Role of ions in pool boiling heat transfer of pure and silica nanofluids. Applied Physics Letters, 2005, 87, 233107.	1.5	139
4	Thermocapillarity in Microfluidicsâ€”A Review. Micromachines, 2016, 7, 13.	1.4	128
5	Droplet formation and stability of flows in a microfluidic T-junction. Applied Physics Letters, 2009, 94, .	1.5	104
6	Flow regime transition at high capillary numbers in a microfluidic T-junction: Viscosity contrast and geometry effect. Physics of Fluids, 2010, 22, .	1.6	99
7	Effects of viscosity, interfacial tension, and flow geometry on droplet formation in a microfluidic T-junction. Microfluidics and Nanofluidics, 2014, 16, 441-453.	1.0	98
8	Breakup and coalescence characteristics of a hollow cone swirling spray. Physics of Fluids, 2012, 24, .	1.6	87
9	Effect of viscosity and surface tension on breakup and coalescence of bicomponent sprays. Chemical Engineering Science, 2015, 131, 243-255.	1.9	75
10	Droplet impact on deep liquid pools: Rayleigh jet to formation of secondary droplets. Physical Review E, 2015, 92, 053022.	0.8	71
11	Heat Transfer Behavior of Silica Nanoparticles in Pool Boiling Experiment. Journal of Heat Transfer, 2008, 130, .	1.2	63
12	Insight into instabilities in burning droplets. Physics of Fluids, 2014, 26, .	1.6	54
13	Droplet formation via squeezing mechanism in a microfluidic flow-focusing device. Computers and Fluids, 2014, 100, 218-226.	1.3	46
14	Droplet actuation on a liquid layer due to thermocapillary motion: Shape effect. Applied Physics Letters, 2010, 96, .	1.5	45
15	Droplet deformation and manipulation in an electrified microfluidic channel. Applied Physics Letters, 2013, 103, .	1.5	36
16	Numerical simulation of high-pressure gas atomization of two-phase flow: Effect of gas pressure on droplet size distribution. Advanced Powder Technology, 2019, 30, 2726-2732.	2.0	34
17	Infrared thermography and numerical study of vaporization characteristics of pure and blended bio-fuel droplets. International Journal of Heat and Mass Transfer, 2010, 53, 3862-3873.	2.5	33
18	Experimental analysis of thermo-physical processes in acoustically levitated heated droplets. International Journal of Heat and Mass Transfer, 2010, 53, 5663-5674.	2.5	33

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19	Structural morphology of acoustically levitated and heated nanosilica droplet. Applied Physics Letters, 2010, 97, .	1.5	33
20	Effects of acoustic-streaming-induced flow in evaporating nanofluid droplets. Journal of Fluid Mechanics, 2012, 692, 207-219.	1.4	33
21	Particle image velocimetry and infrared thermography in a levitated droplet with nanosilica suspensions. Experiments in Fluids, 2012, 52, 795-807.	1.1	33
22	Algebraic coupled level set-volume of fluid method for surface tension dominant two-phase flows. International Journal of Multiphase Flow, 2017, 90, 13-28.	1.6	33
23	Electrospray mode transition of microdroplets with semiconductor nanoparticle suspension. Scientific Reports, 2017, 7, 5144.	1.6	33
24	Thermally induced secondary atomization of droplet in an acoustic field. Applied Physics Letters, 2012, 100, 054101.	1.5	31
25	Criteria for thermally induced atomization and catastrophic breakup of acoustically levitated droplet. International Journal of Heat and Mass Transfer, 2013, 59, 316-327.	2.5	30
26	Measurement of Surface Interfacial Tension as a Function of Temperature Using Pendant Drop Images. International Journal of Optomechatronics, 2011, 5, 393-403.	3.3	29
27	Impact of drops on the surface of immiscible liquids. Journal of Colloid and Interface Science, 2010, 350, 373-376.	5.0	26
28	Two-Dimensional Lattice Boltzmann Model for Droplet Impingement and Breakup in Low Density Ratio Liquids. Communications in Computational Physics, 2011, 10, 767-784.	0.7	22
29	Dispersion and vaporization of biofuels and conventional fuels in a crossflow pre-mixer. International Journal of Heat and Mass Transfer, 2012, 55, 336-346.	2.5	22
30	Velocity and rotation measurements in acoustically levitated droplets. Physics Letters, Section A: General, Atomic and Solid State Physics, 2012, 376, 3185-3191.	0.9	21
31	Dynamics and fracture of ligaments from a droplet on a vibrating surface. Physics of Fluids, 2013, 25, .	1.6	21
32	Droplet actuation in an electrified microfluidic network. Lab on A Chip, 2015, 15, 793-801.	3.1	21
33	Scaling analysis: Equivalence of convective and radiative heating of levitated droplet. Applied Physics Letters, 2012, 100, .	1.5	20
34	Heat Transfer Behavior of Oxide Nanoparticles in Pool Boiling Experiment. , 2006, , 185.		19
35	Thermally induced collision of droplets in an immiscible outer fluid. Scientific Reports, 2015, 5, 9531.	1.6	19
36	Vaporization and collision modeling of liquid fuel sprays in a co-axial fuel and air pre-mixer. International Journal of Heat and Mass Transfer, 2012, 55, 5322-5335.	2.5	18

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37	Nanoparticle agglomeration in an evaporating levitated droplet for different acoustic amplitudes. Journal of Applied Physics, 2013, 113, .	1.1	18
38	Spreading and atomization of droplets on a vibrating surface in a standing pressure field. Applied Physics Letters, 2012, 101, .	1.5	16
39	Modeling of agglomeration inside a droplet with nanosuspensions in an acoustic field. International Journal of Heat and Mass Transfer, 2013, 59, 161-166.	2.5	16
40	Effect of laminar velocity profile variation on mixing in microfluidic devices: The sigma micromixer. Applied Physics Letters, 2008, 93, .	1.5	15
41	Cell encapsulation modes in a flow-focusing microchannel: effects of shell fluid viscosity. Microfluidics and Nanofluidics, 2019, 23, 1.	1.0	15
42	Droplets on liquid surfaces: Dual equilibrium states and their energy barrier. Applied Physics Letters, 2013, 102, .	1.5	14
43	Counter-current motion of a droplet levitated on a liquid film undergoing Marangoni convection. International Journal of Heat and Mass Transfer, 2015, 89, 345-352.	2.5	14
44	Non-dimensional groups for electrospray modes of highly conductive and viscous nanoparticle suspensions. Scientific Reports, 2020, 10, 4405.	1.6	14
45	Diffusive mixing through velocity profile variation in microchannels. Experiments in Fluids, 2011, 50, 535-545.	1.1	13
46	Laser-induced subwavelength structures by microdroplet superlens. Optics Express, 2019, 27, 8130.	1.7	13
47	Passive mixing enhancement of microliter droplets in a thermocapillary environment. Microfluidics and Nanofluidics, 2015, 19, 1507-1513.	1.0	12
48	Geometry Effects of Axisymmetric Flow-Focusing Microchannels for Single Cell Encapsulation. Materials, 2019, 12, 2811.	1.3	12
49	Laser electrospray printing of nanoparticles on flexible and rigid substrates. Journal of Laser Applications, 2019, 31, .	0.8	11
50	Two-dimensional buoyancy driven thermal mixing in a horizontally partitioned adiabatic enclosure. Physics of Fluids, 2008, 20, .	1.6	8
51	Dispersion and Surface Characteristics of Nanosilica Suspensions. Annals of the New York Academy of Sciences, 2009, 1161, 472-483.	1.8	8
52	Discrete Droplet Manipulation on Liquid Platforms using Thermal Gradients. Procedia Chemistry, 2009, 1, 1519-1522.	0.7	8
53	COMPARISON AND CROSS-VALIDATION OF OPTICAL TECHNIQUES IN DIFFERENT SWIRL SPRAY REGIMES. Atomization and Sprays, 2013, 23, 697-724.	0.3	7
54	Effect of surface coating on droplet generation in flow-focusing microchannels. Microfluidics and Nanofluidics, 2020, 24, 1.	1.0	7

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55	Heat and mass transfer and chemical transformation in a cerium nitrate droplet. International Journal of Heat and Mass Transfer, 2013, 63, 301-312.	2.5	6
56	Marangoni circulation by UV light modulation on sessile drop for particle agglomeration. Journal of Fluid Mechanics, 2019, 873, 72-88.	1.4	6
57	Processâ€“Structureâ€“Properties Relationships of Passivating, Electronâ€Selective Contacts Formed by Atmospheric Pressure Chemical Vapor Deposition of Phosphorusâ€Doped Polysilicon. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	6
58	In situ colorimetric detection and mixing of glucoseâ€“enzyme droplets in an open-surface platform via Marangoni effect. Microfluidics and Nanofluidics, 2016, 20, 1.	1.0	5
59	Improving viability of leukemia cells by tailoring shell fluid rheology in constricted microcapillary. Scientific Reports, 2020, 10, 11570.	1.6	5
60	Effect of laser power on conductivity and morphology of silver nanoparticle thin films prepared by a laser assisted electrospray deposition method. Journal of Laser Applications, 2021, 33, 012034.	0.8	5
61	Motion of Spherical Droplets against Marangoni Flow in a Thin Liquid Film. Journal of Heat Transfer, 2014, 136, .	1.2	3
62	Enhanced heating by microdroplet lens in nanoparticle electrospray laser deposition. Journal of Laser Applications, 2021, 33, 012012.	0.8	3
63	Diffraction and thermal effect of a Bessel-Gaussian laser for Ag nanoparticle deposition. Optics Express, 2022, 30, 19246.	1.7	3
64	On the Lifetime of Non-Coalescent Levitated Droplets. , 2015, , .		2
65	Volumetric laser heating of nanosuspension microdroplets: Slow evaporation to mid-air explosion. International Journal of Heat and Mass Transfer, 2021, 177, 121433.	2.5	2
66	Silver nanoparticle electrospray laser deposition for additive manufacturing of microlayers on rigid or flexible substrates. , 2018, , .		2
67	Uniform and Gaussian Ultraviolet Light Intensity Distribution on Droplet for Selective Area Deposition of Particles. Journal of Fluids Engineering, Transactions of the ASME, 2020, 142, .	0.8	2
68	Correlations of vaporization performance of conventional and biofuel sprays in a crossflow heated chamber. International Communications in Heat and Mass Transfer, 2012, 39, 1478-1486.	2.9	1
69	Uniform alumina microspheres from temperature induced forming in a microfluidic T-junction. Applied Physics Letters, 2013, 103, 203115.	1.5	1
70	Thermal response of Bessel beam-heated microdroplets carrying nanoparticles for deposition. Journal of Laser Applications, 2021, 33, 012043.	0.8	1
71	10.1063/1.3493178.3. , 2010, , .		1
72	Concentration Distribution of Photosensitive Liquid in a Droplet Under Ultraviolet Light. Journal of Fluids Engineering, Transactions of the ASME, 2020, 142, .	0.8	1

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73	Global and Local Measurements and Proper Orthogonal Decomposition of a Swirling Conical Liquid Sheet. , 2016, , .		0
74	Dynamics of Droplet Break-Up. Energy, Environment, and Sustainability, 2018, , 369-401.	0.6	0
75	Deformation of an Encapsulated Leukemia HL60 Cell through Sudden Contractions of a Microfluidic Channel. Micromachines, 2021, 12, 355.	1.4	0