Prashant Valluri

List of Publications by Year
in descending order

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34 papers	1,036 citations	471061 17 h-index	414034 32 g-index
35 all docs	35 docs citations	35 times ranked	973 citing authors

#	Article	IF	Citations
1	Spreading and retraction dynamics of sessile evaporating droplets comprising volatile binary mixtures. Journal of Fluid Mechanics, 2021, 907, .	1.4	18
2	Dynamics of hygroscopic aqueous solution droplets undergoing evaporation or vapour absorption. Journal of Fluid Mechanics, 2021, 912, .	1.4	13
3	Adaptive mesh refinement method for the reduction of computational costs while simulating slug flow. International Communications in Heat and Mass Transfer, 2021, 129, 105702.	2.9	2
4	Interaction between multiple bubbles in microchannel flow boiling and the effects on heat transfer. International Communications in Heat and Mass Transfer, 2021, 129, 105703.	2.9	3
5	On the Effect of Substrate Viscoelasticity on the Evaporation Kinetics and Deposition Patterns of Nanosuspension Drops. Langmuir, 2020, 36, 204-213.	1.6	21
6	Chaotic orbits of tumbling ellipsoids. Journal of Fluid Mechanics, 2020, 903, .	1.4	3
7	Droplet motion on contrasting striated surfaces. Applied Physics Letters, 2020, 116, 251604.	1.5	15
8	Experimental and Numerical Investigation of Micro/Mini Channel Flow-Boiling Heat Transfer with Non-Uniform Circumferential Heat Fluxes at Different Rotational Orientations. International Journal of Heat and Mass Transfer, 2020, 158, 119948.	2.5	14
9	Stability of slowly evaporating thin liquid films of binary mixtures. Physical Review Fluids, 2020, 5, .	1.0	4
10	Cross-flow structured packing for the process intensification of post-combustion carbon dioxide capture. Chemical Engineering Science, 2018, 178, 284-296.	1.9	9
11	How does blood regulate cerebral temperatures during hypothermia?. Scientific Reports, 2018, 8, 7877.	1.6	19
12	Stability Analysis and Direct Numerical Simulation for Two-Phase Flows and Heat Transfer: A Complementary Approach. , 2018, , 239-291.		0
13	Dynamics and universal scaling law in geometrically-controlled sessile drop evaporation. Nature Communications, 2017, 8, 14783.	5.8	106
14	Ultraefficient reduced model for countercurrent two-layer flows. Physical Review Fluids, 2017, 2, .	1.0	7
15	Linear and nonlinear instability in vertical counter-current laminar gas-liquid flows. Physics of Fluids, 2016, 28, .	1.6	19
16	High-performance computational fluid dynamics: a custom-code approach. European Journal of Physics, 2016, 37, 045001.	0.3	3
17	A pilot-scale study of dynamic response scenarios for the flexible operation of post-combustion CO2 capture. International Journal of Greenhouse Gas Control, 2016, 48, 216-233.	2.3	37
18	Manufacturing of microcirculation phantoms using rapid prototyping technologies. , 2015, 2015, 5908-11.		6

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19	Evaporation of sessile drops: a three-dimensional approach. Journal of Fluid Mechanics, 2015, 772, 705-739.	1.4	96
20	Stability and Two-phase Dynamics of Evaporating Marangoni-driven Flows in Laterally-heated Liquid Layers and Sessile Droplets. Procedia IUTAM, 2015, 15, 116-123.	1.2	1
21	Direct Numerical Simulation Study of Hydrodynamic Interactions between Immersed Solids and Wall During Flow. Procedia IUTAM, 2015, 15, 150-157.	1.2	2
22	On phase change in Marangoni-driven flows and its effects on the hydrothermal-wave instabilities. Physics of Fluids, 2014, 26, .	1.6	31
23	Analysis of DNA Binding and Nucleotide Flipping Kinetics Using Two-Color Two-Photon Fluorescence Lifetime Imaging Microscopy. Analytical Chemistry, 2014, 86, 10732-10740.	3.2	12
24	Linear instability, nonlinear instability and ligament dynamics in three-dimensional laminar two-layer liquidâ€“liquid flows. Journal of Fluid Mechanics, 2014, 750, 464-506.	1.4	31
25	Linear and nonlinear stability of hydrothermal waves in planar liquid layers driven by thermocapillarity. Physics of Fluids, 2013, 25, .	1.6	28
26	Convective Rolls and Hydrothermal Waves in Evaporating Sessile Drops. Langmuir, 2012, 28, 11433-11439.	1.6	82
27	Linear and nonlinear spatio-temporal instability in laminar two-layer flows. Journal of Fluid Mechanics, 2010, 656, 458-480.	1.4	49
28	Linear stability analysis and numerical simulation of miscible two-layer channel flow. Physics of Fluids, 2009, 21, .	1.6	89
29	Pressure-driven miscible two-fluid channel flow with density gradients. Physics of Fluids, 2009, 21, .	1.6	58
30	Numerical simulation of the onset of slug initiation in laminar horizontal channel flow. International Journal of Multiphase Flow, 2008, 34, 206-225.	1.6	31
31	Three-dimensional molecular mapping in a microfluidic mixing device using fluorescence lifetime imaging. Optics Letters, 2008, 33, 1887.	1.7	26
32	Linear instability of pressure-driven channel flow of a Newtonian and a Herschel-Bulkley fluid. Physics of Fluids, 2007, 19, .	1.6	90
33	Thin film flow over structured packings at moderate Reynolds numbers. Chemical Engineering Science, 2005, 60, 1965-1975.	1.9	93
34	MODELLING HYDRODYNAMICS AND MASS TRANSFER IN STRUCTURED PACKINGS - A REVIEW. Multiphase Science and Technology, 2002, 14, 46.	0.2	12