Bernhard Weigand

List of Publications by Year
in descending order

112	2,648	218677	233421
papers	citations	26 h-index	45 g-index

113	113	113	1600
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Multiple Jet Impingement - A Review. Heat Transfer Research, 2011, 42, 101-142.	1.6	219
2	Direct numerical simulation of evaporating droplets. Journal of Computational Physics, 2008, 227, 5215-5237.	3.8	164
3	Experimental and Numerical Investigation of Heat Transfer Characteristics of Inline and Staggered Arrays of Impinging Jets. Journal of Heat Transfer, 2010, 132, .	2.1	121
4	Effect of viscosity on droplet-droplet collision outcome: Experimental study and numerical comparison. Physics of Fluids, 2007, 19, .	4.0	115
5	LES simulations of an impinging jet: On the origin of the second peak in the Nusselt number distribution. International Journal of Heat and Mass Transfer, 2013, 57, 356-368.	4.8	111
6	Experimental and numerical investigation of impingement heat transfer on a flat and micro-rib roughened plate with different crossflow schemes. International Journal of Thermal Sciences, 2011, 50, 1293-1307.	4.9	89
7	Experimental and Numerical Study of Heat Transfer and Flow Friction in Channels With Dimples of Different Shapes. Journal of Heat Transfer, 2015, 137, .	2.1	88
8	Validation and Analysis of Numerical Results for a Varying Aspect Ratio Two-Pass Internal Cooling Channel. Journal of Heat Transfer, 2011, 133, .	2.1	71
9	An Experimental and Numerical Study of Heat Transfer From Arrays of Impinging Jets With Surface Ribs. Journal of Heat Transfer, 2012, 134, .	2.1	60
10	The Transient Liquid Crystal Technique: Influence of Surface Curvature and Finite Wall Thickness. Journal of Turbomachinery, 2005, 127, 175-182.	1.7	57
11	Heat transfer and pressure loss in swirl tubes with one and multiple tangential jets pertinent to gas turbine internal cooling. International Journal of Heat and Mass Transfer, 2017, 106, 1356-1367.	4.8	46
12	Numerical investigation of flow and heat transfer in a swirl tube. International Journal of Thermal Sciences, 2015, 96, 319-330.	4.9	45
13	Experimental and numerical investigation of narrow impingement cooling channels. International Journal of Heat and Mass Transfer, 2013, 67, 1208-1219.	4.8	44
14	Buoyancy induced turbulence modulation in pipe flow at supercritical pressure under cooling conditions. Physics of Fluids, 2018, 30, .	4.0	43
15	Flow turbulence topology in regular porous media: From macroscopic to microscopic scale with direct numerical simulation. Physics of Fluids, 2018, 30, .	4.0	41
16	Microscopic velocity field measurements inside a regular porous medium adjacent to a low Reynolds number channel flow. Physics of Fluids, 2019, 31, .	4.0	39
17	Experimental and Numerical Heat Transfer Investigation of an Impinging Jet Array on a Target Plate Roughened by Cubic Micro Pin Fins1. Journal of Turbomachinery, 2016, 138, .	1.7	38
18	Experimental and numerical heat transfer investigation of an impingement jet array with V-ribs on the target plate and on the impingement plate. International Journal of Heat and Fluid Flow, 2017, 68, 126-138.	2.4	34

#	Article	IF	Citations
19	Heat transfer and pressure loss characteristics in a swirl cooling tube with dimples on the tube inner surface. International Journal of Heat and Mass Transfer, 2019, 128, 54-65.	4.8	34
20	Flow and heat transfer measurements in a swirl chamber with different outlet geometries. Experiments in Fluids, 2015, 56, 1.	2.4	33
21	A benchmark study for the crown-type splashing dynamics of one- and two-component droplet wallâ€“film interactions. Experiments in Fluids, 2017, 58, 1.	2.4	32
22	Velocity distributions in trapped and mobilized non-wetting phase ganglia in porous media. Scientific Reports, 2018, 8, 13228.	3.3	32
23	Droplet mobilization at the walls of a microfluidic channel. Physics of Fluids, 2020, 32, .	4.0	32
24	Effect of Varying Jet Diameter on the Heat Transfer Distributions of Narrow Impingement Channels. Journal of Turbomachinery, 2015, 137, .	1.7	31
25	Flow and heat transfer measurements in swirl tubes with one and multiple tangential inlet jets for internal gas turbine blade cooling. International Journal of Heat and Fluid Flow, 2018, 73, 174-187.	2.4	30
26	Detailed Heat Transfer Distributions of Narrow Impingement Channels for Cast-In Turbine Airfoils. Journal of Turbomachinery, 2014, 136, .	1.7	29
27	Large-Eddy Simulations and Heat-Flux Modeling in a Turbulent Impinging Jet. Numerical Heat Transfer; Part A: Applications, 2009, 55, 906-930.	2.1	28
28	Electrohydrodynamic simulation of electrically controlled droplet generation. International Journal of Heat and Fluid Flow, 2017, 64, 120-128.	2.4	27
29	Prediction of Contact Angles and Density Profiles of Sessile Droplets Using Classical Density Functional Theory Based on the PCP-SAFT Equation of State. Langmuir, 2018, 34, 12519-12531.	3.5	26
30	Splashing characteristics of diesel exhaust fluid (AdBlue) droplets impacting on urea-water solution films. Experimental Thermal and Fluid Science, 2019, 102, 152-162.	2.7	26
31	Heat transfer investigation of an array of jets impinging on a target plate with detached ribs. International Journal of Heat and Fluid Flow, 2019, 78, 108420.	2.4	25
32	Heat Transfer Technology for Internal Passages of Airâ€Cooled Blades for Heavyâ€Duty Gas Turbines. Annals of the New York Academy of Sciences, 2001, 934, 179-193.	3.8	24
33	Hole Staggering Effect on the Cooling Performance of Narrow Impingement Channels Using the Transient Liquid Crystal Technique. Journal of Heat Transfer, 2014, 136, .	2.1	23
34	Temperature and velocity determination of shock-heated flows with non-resonant heterodyne laser-induced thermal acoustics. Applied Physics B: Lasers and Optics, 2015, 121, 235-248.	2.2	23
35	Numerical analysis of the flow pattern in convergent vortex tubes for cyclone cooling applications. International Journal of Heat and Fluid Flow, 2021, 90, 108806.	2.4	23
36	Fluid injection with supercritical reservoir conditions: Overview on morphology and mixing. Journal of Supercritical Fluids, 2021, 169, 105097.	3.2	22

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37	CLASSIFICATION OF IMPACT MORPHOLOGY AND SPLASHING/DEPOSITION LIMIT FOR N-HEXADECANE. Atomization and Sprays, 2016, 26, 983-1007.	0.8	22
38	Flow and heat transfer in swirl tubes â€" A review. International Journal of Heat and Mass Transfer, 2022, 187, 122455.	4.8	22
39	Speed of sound measurements and mixing characterization of underexpanded fuel jets with supercritical reservoir condition using laser-induced thermal acoustics. Experiments in Fluids, 2016, 57, 1.	2.4	21
40	Analysis of electroosmotic flow and Joule heating effect in a hydrophobic channel. Chemical Engineering Science, 2018, 176, 165-179.	3.8	21
41	Detailed investigation of staggered jet impingement array cooling performance with cubic micro pin fin roughened target plate. Applied Thermal Engineering, 2020, 171, 115095.	6.0	21
42	An experimental and theoretical study of solidification in a free-convection flow inside a vertical annular enclosure. International Journal of Heat and Mass Transfer, 2012, 55, 655-664.	4.8	20
43	Numerical simulation of a drop impact on a superhydrophobic surface with a wire. Physics of Fluids, 2019, 31, .	4.0	19
44	Mixing and charge transfer in a nanofluidic system due to a patterned surface. Applied Mathematical Modelling, 2018, 54, 483-501.	4.2	18
45	On the Efficiency of Electrochemical Devices from the Perspective of Endoreversible Thermodynamics. Journal of Non-Equilibrium Thermodynamics, 2019, 44, 425-437.	4.2	18
46	URANS of turbulent flow and heat transfer in divergent swirl tubes using the k-Ï‰ SST turbulence model with curvature correction. International Journal of Heat and Mass Transfer, 2020, 159, 120088.	4.8	18
47	Similarity solutions of the entropy transport equation. International Journal of Thermal Sciences, 2009, 48, 1863-1869.	4.9	17
48	Enhanced mixing and flow reversal in a modulated microchannel. International Journal of Mechanical Sciences, 2019, 155, 430-439.	6.7	17
49	Turbulence, pseudo-turbulence, and local flow topology in dispersed bubbly flow. Physics of Fluids, 2020, 32, .	4.0	17
50	Heat Transfer Enhancement by Jet Impingement on a Flat Surface with Detached-Ribs under Cross-flow Conditions. Numerical Heat Transfer; Part A: Applications, 2013, 63, 921-940.	2.1	16
51	Induced mixing electrokinetics in a charged corrugated nano-channel: towards a controlled ionic transport. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	16
52	A (Dual) Network Model for Heat Transfer in Porous Media. Transport in Porous Media, 2021, 140, 107-141.	2.6	16
53	Relaminarized and recovered turbulence under nonuniform body forces. Physical Review Fluids, 2020, 5, .	2.5	16
54	An Explicit Algebraic Model for Turbulent Heat Transfer in Wall-Bounded Flow With Streamline Curvature. Journal of Heat Transfer, 2007, 129, 425-433.	2.1	15

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55	An experimental and theoretical study of the solidification process of phase change materials in a horizontal annular enclosure. Applied Thermal Engineering, 2019, 161, 114140.	6.0	15
56	Transport of Turbulence Across Permeable Interface in a Turbulent Channel Flow: Interface-Resolved Direct Numerical Simulation. Transport in Porous Media, 2021, 136, 165-189.	2.6	15
57	A computational and experimental study of thermal energy separation by swirl. International Journal of Heat and Mass Transfer, 2018, 124, 11-19.	4.8	14
58	A High Order Sharp-Interface Method with Local Time Stepping for Compressible Multiphase Flows. Communications in Computational Physics, 2011, 9, 205-230.	1.7	13
59	A systematic experimental study on the evaporation rate of supercooled water droplets at subzero temperatures and varying relative humidity. Experiments in Fluids, 2017, 58, 1.	2.4	13
60	Heat release at the wetting front during capillary filling of cellulosic micro-substrates. Journal of Colloid and Interface Science, 2017, 504, 751-757.	9.4	13
61	An experimental heat transfer investigation of an impingement jet array with turbulators on both target plate and impingement plate. Applied Thermal Engineering, 2020, 166, 114661.	6.0	13
62	Information transfer between turbulent boundary layers and porous media. Journal of Fluid Mechanics, 2021, 920, .	3.4	13
63	Instability and transition in an elementary porous medium. Physical Review Fluids, 2020, 5, .	2.5	13
64	Thermal investigation of an internally cooled strut injector for scramjet application at moderate and hot gas conditions. Acta Astronautica, 2017, 132, 177-191.	3.2	12
65	Influence of wetting behavior on the morphology of droplet impacts onto dry smooth surfaces. Physics of Fluids, 2021, 33, .	4.0	12
66	CFD Heat Transfer Predictions of a Single Circular Jet Impinging with Crossflow. , 2006, , .		11
67	Development of a compact explicit algebraic model for the turbulent heat fluxes and its application in heated rotating flows. International Journal of Heat and Mass Transfer, 2015, 86, 880-889.	4.8	11
68	Occurrence of temperature spikes at a wetting front during spontaneous imbibition. Scientific Reports, 2017, 7, 7268.	3.3	11
69	Flow mixing and electric potential effect of binary fluids in micro/nano channels. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2017, 512, 145-157.	4.7	11
70	Mixing characterization of highly underexpanded fluid jets with real gas expansion. Experiments in Fluids, 2018, 59, 1.	2.4	11
71	Investigation of collision-induced breakup of raindrops by numerical simulations: First results. Geophysical Research Letters, 2006, 33, n/a-n/a.	4.0	10
72	Thermokinetic transport of dilatant/pseudoplastic fluids in a hydrophobic patterned micro-slit. Physics of Fluids, 2020, 32, .	4.0	10

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73	Development of the contact layer and its role in the phase change process. International Journal of Heat and Mass Transfer, 2016, 93, 1082-1088.	4.8	9
74	Air entrapment and bubble formation during droplet impact onto a single cubic pillar. Scientific Reports, 2021, 11, 18018.	3.3	9
75	Influence of liquid miscibility and wettability on the structures produced by dropâ€“jet collisions. Journal of Fluid Mechanics, 2020, 885, .	3.4	8
76	On the crown rim expansion kinematics during droplet impact on wall-films. Experimental Thermal and Fluid Science, 2020, 118, 110168.	2.7	8
77	Miscibility and wettability: how interfacial tension influences droplet impact onto thin wall films. Journal of Fluid Mechanics, 2021, 908, .	3.4	8
78	Generalized analysis of the deposition/splashing limit for one- and two-component droplet impacts upon thin films. , 0, , .		8
79	An investigation of grouping of two falling dissimilar droplets using the homotopy analysis method. Applied Mathematical Modelling, 2022, 104, 486-498.	4.2	8
80	On the potential and challenges of laser-induced thermal acoustics for experimental investigation of macroscopic fluid phenomena. Experiments in Fluids, 2021, 62, 1.	2.4	7
81	In Situ Tracking of Wettingâ€Front Transient Heat Release on a Surfaceâ€Mounted Metalâ€“Organic Framework. Advanced Materials, 2021, 33, 2006980.	21.0	7
82	A Comparative Analysis of Mixing Performance of Power-Law Fluid in Cylindrical Microchannels With Sudden Contraction/Expansion. Journal of Fluids Engineering, Transactions of the ASME, 2020, 142, .	1.5	7
83	Modeling the Effects of System Rotation on the Turbulent Scalar Fluxes. Journal of Heat Transfer, 2010, 132, .	2.1	6
84	Influence of the thermal boundary layer on the contact layer between a liquid and a cold plate in a solidification process. Heat and Mass Transfer, 2011, 47, 1629-1635.	2.1	6
85	Time-Dependent Electroosmotic Flow with Variable Slips along Microchannel. Industrial & Engineering Chemistry Research, 2020, 59, 942-955.	3.7	6
86	Drop impact onto wetted walls: an unsteady analytical solution for modelling crown spreading. Journal of Fluid Mechanics, 2022, 938, .	3.4	6
87	The time dependent growth of a solid crust and the freeze-shut inside a cooled cylindrical nozzle subjected to laminar internal liquid flow. Heat and Mass Transfer, 2004, 40, 347-354.	2.1	5
88	Experimental and analytical investigation of the solidification around cooled cylinders subjected to free convection. International Journal of Heat and Mass Transfer, 2014, 78, 321-329.	4.8	5
89	Assessment of physical activity of the human body considering the thermodynamic system. Computer Methods in Biomechanics and Biomedical Engineering, 2016, 19, 923-933.	1.6	5
90	Accuracy of non-resonant laser-induced thermal acoustics (LITA) in a convergentâ€“divergent nozzle flow. Applied Physics B: Lasers and Optics, 2018, 124, 1.	2.2	5

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91	Bivariant species mixing and pressure drop within a hybrid periodic modulated microslit. Physics of Fluids, 2021, 33, .	4.0	5
92	Natural convection inside airships. , 2006, , .		4
93	Measurement of the lamella thickness during droplet impact onto differently wettable smooth surfaces using an extension of the LASER Pattern Shift Method with naturally occurring patterns. Review of Scientific Instruments, 2021, 92, 105111.	1.3	4
94	Effects of blade lean on internal swirl cooling at turbine blade leading edges. International Journal of Heat and Mass Transfer, 2022, 194, 123111.	4.8	4
95	Role of the Contact Layer in Continuous Casting of thin Metal Rods. Archives of Metallurgy and Materials, 2014, 59, 167-172.	0.6	3
96	A pressure-based treatment for the direct numerical simulation of compressible multi-phase flow using multiple pressure variables. Computers and Fluids, 2014, 96, 338-349.	2.5	3
97	Large-Eddy Simulations of heated flows in ribbed channels with spanwise rotation. Numerical Heat Transfer; Part A: Applications, 2018, 74, 895-916.	2.1	3
98	Mixing processes in the transonic, accelerated wake of a central injector. Physics of Fluids, 2019, 31, .	4.0	3
99	Evaporation Modeling of Water Droplets in a Transonic Compressor Cascade under Fogging Conditions. International Journal of Turbomachinery, Propulsion and Power, 2020, 5, 5.	1.1	3
100	The Effect of Patterned Micro-Structure on the Apparent Contact Angle and Three-Dimensional Contact Line. Fluids, 2021, 6, 92.	1.7	3
101	A temperature-based diagnostic approach for paper-based microfluidics. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	2
102	Direct Numerical Simulations of Grouping Effects in Droplet Streams Using Different Boundary Conditions. , 2021, 1, .		2
103	Comparison between analytical, numerical, and experimental results of grouping effects in droplet streams. , 0, , .		2
104	Experimental Investigation of Droplet Injections in the Vicinity of the Critical Point: A comparison of different model approaches. , 0, , .		2
105	Impact of a Linear Array of Hydrophilic and Superhydrophobic Spheres on a Deep Water Pool. Colloids and Interfaces, 2019, 3, 29.	2.1	1
106	A Turbulence Closure Study of the Flow and Thermal Fields in the Ekman Layer. Boundary-Layer Meteorology, 2020, 175, 25-55.	2.3	1
107	Two-Phase Flow Phenomena in Gas Turbine Compressors with a Focus on Experimental Investigation of Trailing Edge Disintegration. Aerospace, 2021, 8, 91.	2.2	1
108	An experimental and analytical study of solidification around an array of horizontal cylinders subjected to free convection flow. International Journal of Thermal Sciences, 2022, 173, 107378.	4.9	1

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109	An Analytical Study on the Mechanism of Grouping of Droplets. Fluids, 2022, 7, 172.	1.7	1
110	Metalâ€Organic Frameworks: In Situ Tracking of Wettingâ€Front Transient Heat Release on a Surfaceâ€Mounted Metalâ€“Organic Framework (Adv. Mater. 14/2021). Advanced Materials, 2021, 33, 2170109.	21.0	0
111	Heat transfer enhancement by sinusoidal-shaped disk rotating in a forced flow. Thermal Science, 2021, 25, 133-144.	1.1	0
112	Investigation of droplet grouping in monodisperse streams by direct numerical simulations. Physics of Fluids, 0, , .	4.0	0