

Bernhard Weigand

List of Publications by Year in descending order

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112
papers

2,648
citations

218677

26
h-index

233421

45
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113
all docs

113
docs citations

113
times ranked

1600
citing authors

#	ARTICLE	IF	CITATIONS
1	An experimental and analytical study of solidification around an array of horizontal cylinders subjected to free convection flow. <i>International Journal of Thermal Sciences</i> , 2022, 173, 107378.	4.9	1
2	An investigation of grouping of two falling dissimilar droplets using the homotopy analysis method. <i>Applied Mathematical Modelling</i> , 2022, 104, 486-498.	4.2	8
3	Flow and heat transfer in swirl tubes – A review. <i>International Journal of Heat and Mass Transfer</i> , 2022, 187, 122455.	4.8	22
4	Drop impact onto wetted walls: an unsteady analytical solution for modelling crown spreading. <i>Journal of Fluid Mechanics</i> , 2022, 938, .	3.4	6
5	An Analytical Study on the Mechanism of Grouping of Droplets. <i>Fluids</i> , 2022, 7, 172.	1.7	1
6	Effects of blade lean on internal swirl cooling at turbine blade leading edges. <i>International Journal of Heat and Mass Transfer</i> , 2022, 194, 123111.	4.8	4
7	On the potential and challenges of laser-induced thermal acoustics for experimental investigation of macroscopic fluid phenomena. <i>Experiments in Fluids</i> , 2021, 62, 1.	2.4	7
8	Transport of Turbulence Across Permeable Interface in a Turbulent Channel Flow: Interface-Resolved Direct Numerical Simulation. <i>Transport in Porous Media</i> , 2021, 136, 165-189.	2.6	15
9	Fluid injection with supercritical reservoir conditions: Overview on morphology and mixing. <i>Journal of Supercritical Fluids</i> , 2021, 169, 105097.	3.2	22
10	In Situ Tracking of Wetting-Front Transient Heat Release on a Surface-Mounted Metal-Organic Framework. <i>Advanced Materials</i> , 2021, 33, 2006980.	21.0	7
11	The Effect of Patterned Micro-Structure on the Apparent Contact Angle and Three-Dimensional Contact Line. <i>Fluids</i> , 2021, 6, 92.	1.7	3
12	Two-Phase Flow Phenomena in Gas Turbine Compressors with a Focus on Experimental Investigation of Trailing Edge Disintegration. <i>Aerospace</i> , 2021, 8, 91.	2.2	1
13	Metal-Organic Frameworks: In Situ Tracking of Wetting-Front Transient Heat Release on a Surface-Mounted Metal-Organic Framework (Adv. Mater. 14/2021). <i>Advanced Materials</i> , 2021, 33, 2170109.	21.0	0
14	A (Dual) Network Model for Heat Transfer in Porous Media. <i>Transport in Porous Media</i> , 2021, 140, 107-141.	2.6	16
15	Influence of wetting behavior on the morphology of droplet impacts onto dry smooth surfaces. <i>Physics of Fluids</i> , 2021, 33, .	4.0	12
16	Information transfer between turbulent boundary layers and porous media. <i>Journal of Fluid Mechanics</i> , 2021, 920, .	3.4	13
17	Direct Numerical Simulations of Grouping Effects in Droplet Streams Using Different Boundary Conditions. , 2021, 1, .		2
18	Numerical analysis of the flow pattern in convergent vortex tubes for cyclone cooling applications. <i>International Journal of Heat and Fluid Flow</i> , 2021, 90, 108806.	2.4	23

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19	Air entrapment and bubble formation during droplet impact onto a single cubic pillar. Scientific Reports, 2021, 11, 18018.	3.3	9
20	Bivariant species mixing and pressure drop within a hybrid periodic modulated microslit. Physics of Fluids, 2021, 33, .	4.0	5
21	Heat transfer enhancement by sinusoidal-shaped disk rotating in a forced flow. Thermal Science, 2021, 25, 133-144.	1.1	0
22	Miscibility and wettability: how interfacial tension influences droplet impact onto thin wall films. Journal of Fluid Mechanics, 2021, 908, .	3.4	8
23	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
24	A Turbulence Closure Study of the Flow and Thermal Fields in the Ekman Layer. Boundary-Layer Meteorology, 2020, 175, 25-55.	2.3	1
25	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
26	Influence of liquid miscibility and wettability on the structures produced by drop-jet collisions. Journal of Fluid Mechanics, 2020, 885, .	3.4	8
27	Time-Dependent Electroosmotic Flow with Variable Slips along Microchannel. Industrial & Engineering Chemistry Research, 2020, 59, 942-955.	3.7	6
28	URANS of turbulent flow and heat transfer in divergent swirl tubes using the $k\text{-}\epsilon$ SST turbulence model with curvature correction. International Journal of Heat and Mass Transfer, 2020, 159, 120088.	4.8	18
29	Turbulence, pseudo-turbulence, and local flow topology in dispersed bubbly flow. Physics of Fluids, 2020, 32, .	4.0	17
30	On the crown rim expansion kinematics during droplet impact on wall-films. Experimental Thermal and Fluid Science, 2020, 118, 110168.	2.7	8
31	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
32	Thermokinetic transport of dilatant/pseudoplastic fluids in a hydrophobic patterned micro-slit. Physics of Fluids, 2020, 32, .	4.0	10
33	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
34	Droplet mobilization at the walls of a microfluidic channel. Physics of Fluids, 2020, 32, .	4.0	32
35	Instability and transition in an elementary porous medium. Physical Review Fluids, 2020, 5, .	2.5	13
36	Relaminarized and recovered turbulence under nonuniform body forces. Physical Review Fluids, 2020, 5, .	2.5	16

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37	A Comparative Analysis of Mixing Performance of Power-Law Fluid in Cylindrical Microchannels With Sudden Contraction/Expansion. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2020, 142, .	1.5	7
38	An experimental and theoretical study of the solidification process of phase change materials in a horizontal annular enclosure. <i>Applied Thermal Engineering</i> , 2019, 161, 114140.	6.0	15
39	Heat transfer investigation of an array of jets impinging on a target plate with detached ribs. <i>International Journal of Heat and Fluid Flow</i> , 2019, 78, 108420.	2.4	25
40	Impact of a Linear Array of Hydrophilic and Superhydrophobic Spheres on a Deep Water Pool. <i>Colloids and Interfaces</i> , 2019, 3, 29.	2.1	1
41	Microscopic velocity field measurements inside a regular porous medium adjacent to a low Reynolds number channel flow. <i>Physics of Fluids</i> , 2019, 31, .	4.0	39
42	Enhanced mixing and flow reversal in a modulated microchannel. <i>International Journal of Mechanical Sciences</i> , 2019, 155, 430-439.	6.7	17
43	Numerical simulation of a drop impact on a superhydrophobic surface with a wire. <i>Physics of Fluids</i> , 2019, 31, .	4.0	19
44	On the Efficiency of Electrochemical Devices from the Perspective of Endoreversible Thermodynamics. <i>Journal of Non-Equilibrium Thermodynamics</i> , 2019, 44, 425-437.	4.2	18
45	Heat transfer and pressure loss characteristics in a swirl cooling tube with dimples on the tube inner surface. <i>International Journal of Heat and Mass Transfer</i> , 2019, 128, 54-65.	4.8	34
46	Splashing characteristics of diesel exhaust fluid (AdBlue) droplets impacting on urea-water solution films. <i>Experimental Thermal and Fluid Science</i> , 2019, 102, 152-162.	2.7	26
47	Mixing processes in the transonic, accelerated wake of a central injector. <i>Physics of Fluids</i> , 2019, 31, .	4.0	3
48	Accuracy of non-resonant laser-induced thermal acoustics (LITA) in a convergentâ€“divergent nozzle flow. <i>Applied Physics B: Lasers and Optics</i> , 2018, 124, 1.	2.2	5
49	Mixing characterization of highly underexpanded fluid jets with real gas expansion. <i>Experiments in Fluids</i> , 2018, 59, 1.	2.4	11
50	A temperature-based diagnostic approach for paper-based microfluidics. <i>Microfluidics and Nanofluidics</i> , 2018, 22, 1.	2.2	2
51	A computational and experimental study of thermal energy separation by swirl. <i>International Journal of Heat and Mass Transfer</i> , 2018, 124, 11-19.	4.8	14
52	Mixing and charge transfer in a nanofluidic system due to a patterned surface. <i>Applied Mathematical Modelling</i> , 2018, 54, 483-501.	4.2	18
53	Analysis of electroosmotic flow and Joule heating effect in a hydrophobic channel. <i>Chemical Engineering Science</i> , 2018, 176, 165-179.	3.8	21
54	Prediction of Contact Angles and Density Profiles of Sessile Droplets Using Classical Density Functional Theory Based on the PCP-SAFT Equation of State. <i>Langmuir</i> , 2018, 34, 12519-12531.	3.5	26

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55	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
56	Induced mixing electrokinetics in a charged corrugated nano-channel: towards a controlled ionic transport. Microfluidics and Nanofluidics, 2018, 22, 1.	2.2	16
57	Velocity distributions in trapped and mobilized non-wetting phase ganglia in porous media. Scientific Reports, 2018, 8, 13228.	3.3	32
58	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
59	Buoyancy induced turbulence modulation in pipe flow at supercritical pressure under cooling conditions. Physics of Fluids, 2018, 30, .	4.0	43
60	Flow turbulence topology in regular porous media: From macroscopic to microscopic scale with direct numerical simulation. Physics of Fluids, 2018, 30, .	4.0	41
61	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
62	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
63	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
64	Electrohydrodynamic simulation of electrically controlled droplet generation. International Journal of Heat and Fluid Flow, 2017, 64, 120-128.	2.4	27
65	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
66	Occurrence of temperature spikes at a wetting front during spontaneous imbibition. Scientific Reports, 2017, 7, 7268.	3.3	11
67	A benchmark study for the crown-type splashing dynamics of one- and two-component droplet wall-film interactions. Experiments in Fluids, 2017, 58, 1.	2.4	32
68	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
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	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
71	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
72	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

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73	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
74	CLASSIFICATION OF IMPACT MORPHOLOGY AND SPLASHING/DEPOSITION LIMIT FOR N-HEXADECANE. Atomization and Sprays, 2016, 26, 983-1007.	0.8	22
75	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
76	Effect of Varying Jet Diameter on the Heat Transfer Distributions of Narrow Impingement Channels. Journal of Turbomachinery, 2015, 137, .	1.7	31
77	Numerical investigation of flow and heat transfer in a swirl tube. International Journal of Thermal Sciences, 2015, 96, 319-330.	4.9	45
78	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
79	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
80	Flow and heat transfer measurements in a swirl chamber with different outlet geometries. Experiments in Fluids, 2015, 56, 1.	2.4	33
81	Role of the Contact Layer in Continuous Casting of thin Metal Rods. Archives of Metallurgy and Materials, 2014, 59, 167-172.	0.6	3
82	Detailed Heat Transfer Distributions of Narrow Impingement Channels for Cast-In Turbine Airfoils. Journal of Turbomachinery, 2014, 136, .	1.7	29
83	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
84	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
85	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
86	Experimental and numerical investigation of narrow impingement cooling channels. International Journal of Heat and Mass Transfer, 2013, 67, 1208-1219.	4.8	44
87	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
88	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
89	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
90	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

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91	Validation and Analysis of Numerical Results for a Varying Aspect Ratio Two-Pass Internal Cooling Channel. <i>Journal of Heat Transfer</i> , 2011, 133, .	2.1	71
92	Multiple Jet Impingement - A Review. <i>Heat Transfer Research</i> , 2011, 42, 101-142.	1.6	219
93	A High Order Sharp-Interface Method with Local Time Stepping for Compressible Multiphase Flows. <i>Communications in Computational Physics</i> , 2011, 9, 205-230.	1.7	13
94	Influence of the thermal boundary layer on the contact layer between a liquid and a cold plate in a solidification process. <i>Heat and Mass Transfer</i> , 2011, 47, 1629-1635.	2.1	6
95	Experimental and numerical investigation of impingement heat transfer on a flat and micro-rib roughened plate with different crossflow schemes. <i>International Journal of Thermal Sciences</i> , 2011, 50, 1293-1307.	4.9	89
96	Modeling the Effects of System Rotation on the Turbulent Scalar Fluxes. <i>Journal of Heat Transfer</i> , 2010, 132, .	2.1	6
97	Experimental and Numerical Investigation of Heat Transfer Characteristics of Inline and Staggered Arrays of Impinging Jets. <i>Journal of Heat Transfer</i> , 2010, 132, .	2.1	121
98	Similarity solutions of the entropy transport equation. <i>International Journal of Thermal Sciences</i> , 2009, 48, 1863-1869.	4.9	17
99	Large-Eddy Simulations and Heat-Flux Modeling in a Turbulent Impinging Jet. <i>Numerical Heat Transfer; Part A: Applications</i> , 2009, 55, 906-930.	2.1	28
100	Direct numerical simulation of evaporating droplets. <i>Journal of Computational Physics</i> , 2008, 227, 5215-5237.	3.8	164
101	Effect of viscosity on droplet-droplet collision outcome: Experimental study and numerical comparison. <i>Physics of Fluids</i> , 2007, 19, .	4.0	115
102	An Explicit Algebraic Model for Turbulent Heat Transfer in Wall-Bounded Flow With Streamline Curvature. <i>Journal of Heat Transfer</i> , 2007, 129, 425-433.	2.1	15
103	CFD Heat Transfer Predictions of a Single Circular Jet Impinging with Crossflow. , 2006, , .		11
104	Natural convection inside airships. , 2006, , .		4
105	Investigation of collision-induced breakup of raindrops by numerical simulations: First results. <i>Geophysical Research Letters</i> , 2006, 33, n/a-n/a.	4.0	10
106	The Transient Liquid Crystal Technique: Influence of Surface Curvature and Finite Wall Thickness. <i>Journal of Turbomachinery</i> , 2005, 127, 175-182.	1.7	57
107	The time dependent growth of a solid crust and the freeze-shut inside a cooled cylindrical nozzle subjected to laminar internal liquid flow. <i>Heat and Mass Transfer</i> , 2004, 40, 347-354.	2.1	5
108	Heat Transfer Technology for Internal Passages of Air-Cooled Blades for Heavy-Duty Gas Turbines. <i>Annals of the New York Academy of Sciences</i> , 2001, 934, 179-193.	3.8	24

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109	Generalized analysis of the deposition/splashing limit for one- and two-component droplet impacts upon thin films. , 0, , .		8
110	Comparison between analytical, numerical, and experimental results of grouping effects in droplet streams. , 0, , .		2
111	Experimental Investigation of Droplet Injections in the Vicinity of the Critical Point: A comparison of different model approaches. , 0, , .		2
112	Investigation of droplet grouping in monodisperse streams by direct numerical simulations. Physics of Fluids, 0, , .	4.0	0