Bettina Frohnapfel

List of Publications by Year
in descending order

87 papers	1,604 citations	257101 24 h-index	344852 36 g-index
93 all docs	93 docs citations	93 times ranked	1089 citing authors

#	Article	IF	Citations
1	Modelling spanwise heterogeneous roughness through a parametric forcing approach. Journal of Fluid Mechanics, 2022, 930, .	1.4	9
2	Turbulent impinging jets on rough surfaces. GAMM Mitteilungen, 2022, 45, .	2.7	6
3	Spatial resolution issues in rough wall turbulence. Experiments in Fluids, 2022, 63, 1.	1.1	3
4	Ridge-type roughness: from turbulent channel flow to internal combustion engine. Experiments in Fluids, 2022, 63, 1.	1.1	6
5	An EHL Extension of the Unsteady FBNS Algorithm. Tribology Letters, 2022, 70, .	1.2	8
6	Parametric Study on Ridges Inducing Secondary Motions in Turbulent Channel Flow. Proceedings in Applied Mathematics and Mechanics, 2021, 20, e202000139.	0.2	3
7	Coupled simulation of flow-induced viscous and elastic anisotropy of short-fiber reinforced composites. Acta Mechanica, 2021, 232, 2249-2268.	1.1	11
8	Spreading and rebound dynamics of sub-millimetre urea-water-solution droplets impinging on substrates of varying wettability. Applied Mathematical Modelling, 2021, 95, 53-73.	2.2	26
9	Reynolds-number scaling of a vorticity-annihilating boundary layer. Journal of Fluid Mechanics, 2021, 924, .	1.4	0
10	Asymptotic fiber orientation states of the quadratically closed Folgarâ€"Tucker equation and a subsequent closure improvement. Journal of Rheology, 2021, 65, 999-1022.	1.3	11
11	Bouncing drop impingement on heated hydrophobic surfaces. International Journal of Heat and Mass Transfer, 2021, 180, 121777.	2.5	20
12	Analytical modeling and dimensionless characteristics of open wet clutches in consideration of gravity. Forschung Im Ingenieurwesen/Engineering Research, 2021, 85, 849-857.	1.0	4
13	Uniform blowing and suction applied to nonuniform adverse-pressure-gradient wing boundary layers. Physical Review Fluids, 2021, 6, .	1.0	12
14	Sequential Coupling Shows Minor Effects of Fluid Dynamics on Myocardial Deformation in a Realistic Whole-Heart Model. Frontiers in Cardiovascular Medicine, 2021, 8, 768548.	1.1	7
15	Direct Numerical Simulations of Bypass Transition over Distributed Roughness. AIAA Journal, 2020, 58, 702-711.	1.5	15
16	Rearrangement of secondary flow over spanwise heterogeneous roughness. Journal of Fluid Mechanics, 2020, 885, .	1.4	46
17	Secondary flow and heat transfer in turbulent flow over streamwise ridges. International Journal of Heat and Fluid Flow, 2020, 81, 108518.	1.1	34
18	Non-dimensional characteristics of open wet clutches for advanced drag torque and aeration predictions. Tribology International, 2020, 152, 106442.	3.0	10

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19	Objective barriers to the transport of dynamically active vector fields. Journal of Fluid Mechanics, 2020, 905, .	1.4	15
20	Aerodynamic Effects of Uniform Blowing and Suction on a NACA4412 Airfoil. Flow, Turbulence and Combustion, 2020, 105, 735-759.	1.4	35
21	Sensitivity of the Stribeck curve to the pin geometry of a pin-on-disc tribometer. Tribology International, 2020, 151, 106488.	3.0	7
22	On the stages of vortex decay in an impulsively stopped, rotating cylinder. Journal of Fluid Mechanics, 2020, 885, .	1.4	5
23	A Holistic View on Urea Injection for NOx Emission Control: Impingement, Re-atomization, and Deposit Formation. Emission Control Science and Technology, 2020, 6, 228-243.	0.8	12
24	Do riblets exhibit fully rough behaviour?. Experiments in Fluids, 2020, 61, 1.	1.1	15
25	Optimization of surface textures in hydrodynamic lubrication through the adjoint method. Tribology International, 2020, 148, 106352.	3.0	20
26	Effects of Different Friction Control Techniques on Turbulence Developing Around Wings. ERCOFTAC Series, 2020, , 305-311.	0.1	0
27	Replication of left ventricular haemodynamics with a simple planar mitral valve model. Biomedizinische Technik, 2020, 65, 595-603.	0.9	6
28	Direct Numerical Simulations of a Turbulent Flow over Wall-Mounted Obstaclesâ€"A Comparison of Different Numerical Approaches. ERCOFTAC Series, 2020, , 91-96.	0.1	0
29	The influence of thermal boundary conditions on turbulent forced convection pipe flow at two Prandtl numbers. International Journal of Heat and Mass Transfer, 2019, 144, 118601.	2.5	12
30	Azimuthally inhomogeneous thermal boundary conditions in turbulent forced convection pipe flow for low to medium Prandtl numbers. International Journal of Heat and Fluid Flow, 2019, 77, 352-358.	1.1	10
31	Heat transfer and pressure drop correlations for laminar flow in an in-line and staggered array of circular cylinders. Numerical Heat Transfer; Part A: Applications, 2019, 75, 1-20.	1.2	17
32	Combined direct numerical simulation and long-wave simulation of a liquid film sheared by a turbulent gas flow in a channel. Physics of Fluids, 2019, 31, .	1.6	9
33	A Novel Twoâ€Step Model to Investigate Turbulent Gas Flows Shearing Thin Liquid Films. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900083.	0.2	2
34	Heat Transfer Modeling of Confined Bubble Evaporation in a Microchannel. Proceedings in Applied Mathematics and Mechanics, 2019, 19, e201900449.	0.2	1
35	The instantaneous structure of secondary flows in turbulent boundary layers. Journal of Fluid Mechanics, 2019, 862, 845-870.	1.4	55
36	Numerical and experimental investigation of texture shape and position in the macroscopic contact. Tribology International, 2018, 122, 46-57.	3.0	37

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37	Predicting Turbulent Spectra in Drag-reduced Flows. Flow, Turbulence and Combustion, 2018, 100, 1081-1099.	1.4	6
38	A modified Parametric Forcing Approach for modelling of roughness. International Journal of Heat and Fluid Flow, 2018, 71, 200-209.	1.1	15
39	DNS of momentum and heat transfer over rough surfaces based on realistic combustion chamber deposit geometries. International Journal of Heat and Fluid Flow, 2018, 69, 83-94.	1.1	33
40	Investigation of a turbulent convective buoyant flow of sodium over a backward- facing step. Heat and Mass Transfer, 2018, 54, 2533-2543.	1.2	11
41	Drop bouncing by micro-grooves. International Journal of Heat and Fluid Flow, 2018, 70, 271-278.	1.1	30
42	The influence of operating conditions on combustion chamber deposit surface structure, deposit thickness and thermal properties. Automotive and Engine Technology, 2018, 3, 111-127.	0.7	7
43	Global energy fluxes in turbulent channels with flow control. Journal of Fluid Mechanics, 2018, 857, 345-373.	1.4	19
44	A systematic study of turbulent heat transfer over rough walls. International Journal of Heat and Mass Transfer, 2018, 127, 1157-1168.	2.5	43
45	Direct numerical simulation of flow over dissimilar, randomly distributed roughness elements: A systematic study on the effect of surface morphology on turbulence. Physical Review Fluids, 2018, 3, .	1.0	49
46	NUMERICAL INVESTIGATION OF VAPOR BUBBLE GROWTH IN A RECTANGULAR MICROCHANNEL. , 2018, , .		1
47	REYNOLDS ANALOGY IN TURBULENT FLOWS OVER ROUGH WALLS - A DNS INVESTIGATION. , 2018, , .		1
48	Heat transfer enhancement on the liquid side of an industrially designed flat-tube heat exchanger with passive inserts â€“ Numerical investigation. Applied Thermal Engineering, 2017, 123, 573-583.	3.0	18
49	A scaling parameter for pressure losses and thermal effects in lubricant flows with viscous dissipation. Tribology International, 2017, 113, 238-244.	3.0	9
50	Turbulent Duct Flow Controlled with Spanwise Wall Oscillations. Flow, Turbulence and Combustion, 2017, 99, 787-806.	1.4	12
51	Small scale dynamics of a shearless turbulent/non-turbulent interface in dilute polymer solutions. Physics of Fluids, 2017, 29, 075102.	1.6	10
52	Toward a Universal Roughness Correlation. Journal of Fluids Engineering, Transactions of the ASME, 2017, 139, .	0.8	86
53	VLES Modeling of Flow Over Walls with Variably-shaped Roughness by Reference to Complementary DNS. Flow, Turbulence and Combustion, 2017, 99, 685-703.	1.4	3
54	Thermo-hydraulic flow in a sudden expansion. IOP Conference Series: Materials Science and Engineering, 2017, 228, 012001.	0.3	3

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55	Numerical simulation of the turbulent convective buoyant flow of sodium over a backward- facing step. Journal of Physics: Conference Series, 2016, 745, 032051.	0.3	9
56	Global effect of local skin friction dragÂreduction in spatially developing turbulent boundary layer. Journal of Fluid Mechanics, 2016, 805, 303-321.	1.4	43
57	A Numerical Study of the Shear-Less Turbulent/Non-turbulent Interface. Springer Proceedings in Physics, 2016, , 37-40.	0.1	0
58	Secondary vortices over surfaces with spanwise varying drag. Journal of Turbulence, 2016, 17, 1142-1158.	0.5	30
59	Simulation of a gaseous jet impinging on a convex heated surface â€“ effect of inlet condition. Applied Thermal Engineering, 2016, 105, 1076-1084.	3.0	7
60	Does the choice of the forcing term affect flow statistics in DNS of turbulent channel flow?. European Journal of Mechanics, B/Fluids, 2016, 55, 286-293.	1.2	34
61	A comparison of opposition control in turbulent boundary layer and turbulent channel flow. Physics of Fluids, 2015, 27, .	1.6	48
62	Spectral enstrophy budget in a shear-less flow with turbulent/non-turbulent interface. Physics of Fluids, 2015, 27, .	1.6	16
63	Experimental assessment of spanwise-oscillating dielectric electroactive surfaces for turbulent drag reduction in an air channel flow. Experiments in Fluids, 2015, 56, 1.	1.1	26
64	Turbulent flow over superhydrophobic surfaces with streamwise grooves. Journal of Fluid Mechanics, 2014, 747, 186-217.	1.4	88
65	The dielectric breakdown limit of silicone dielectric elastomer actuators. Applied Physics Letters, 2014, 104, .	1.5	88
66	Numerical simulation of turbulent duct flows with constant power input. Journal of Fluid Mechanics, 2014, 750, 191-209.	1.4	26
67	Numerical investigation of flow through a triangular duct: The coexistence of laminar and turbulent flow. International Journal of Heat and Fluid Flow, 2013, 41, 27-33.	1.1	32
68	Prediction of turbulence control for arbitrary periodic spanwise wall movement. Physics of Fluids, 2013, 25, .	1.6	14
69	Non-sinusoidal wall oscillation for drag reduction. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 565-566.	0.2	0
70	On the flow resistance of wide surface structures. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 569-570.	0.2	2
71	Erlangen pipe flow: the concept and DNS results for microflow control of near-wall turbulence. Microfluidics and Nanofluidics, 2012, 13, 429-440.	1.0	5
72	The influence of frequency-limited and noise-contaminated sensing on reactive turbulence control schemes. Journal of Turbulence, 2012, 13, N16.	0.5	0

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73	Money versus time: evaluation of flow control in terms of energy consumption and convenience. Journal of Fluid Mechanics, 2012, 700, 406-418.	1.4	41
74	Microflow-based control of near-wall fluctuations for large viscous drag reduction. Microfluidics and Nanofluidics, 2011, 11, 773-780.	1.0	3
75	Effects of spatially varying slip length on friction drag reduction in wall turbulence. Journal of Physics: Conference Series, 2011, 318, 022028.	0.3	4
76	Friction drag reduction through damping of the near-wall spanwise velocity fluctuation. International Journal of Heat and Fluid Flow, 2010, 31, 434-441.	1.1	9
77	Theoretical Considerations about Near-Wall Turbulence and Resulting Flow Control Schemes. Proceedings in Applied Mathematics and Mechanics, 2010, 10, 743-746.	0.2	0
78	Effect of Near-Wall Componental Modification of Turbulence on Its Statistical Properties. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2010, , 127-133.	0.2	0
79	Anisotropy Invariant Reynolds Stress Model of Turbulence (AIRSM) and its Application to Attached and Separated Wall-Bounded Flows. Flow, Turbulence and Combustion, 2009, 83, 81-103.	1.4	5
80	Estimation of the spanwise wall shear stress based on upstream information for wall turbulence control. Springer Proceedings in Physics, 2009, , 209-212.	0.1	1
81	Experimental investigations of turbulent drag reduction by surface-embedded grooves. Journal of Fluid Mechanics, 2007, 590, 107-116.	1.4	45
82	Two-point similarity in the round jet. Journal of Fluid Mechanics, 2007, 577, 309-330.	1.4	44
83	Interpretation of the mechanism associated with turbulent drag reduction in terms of anisotropy invariants. Journal of Fluid Mechanics, 2007, 577, 457-466.	1.4	67
84	The Role of Turbulent Dissipation for Flow Control of Near-Wall Turbulence. , 2007, , 268-275.		1
85	On the Mechanism Responsible for Turbulent Drag Reduction by Dilute Addition of High Polymers: Theory, Experiments, Simulations, and Predictions. Journal of Fluids Engineering, Transactions of the ASME, 2006, 128, 118-130.	0.8	39
86	Persistence of the laminar regime in a flat plate boundary layer at very high Reynolds number. Thermal Science, 2006, 10, 63-96.	0.5	8
87	Investigation of Blowing and Suction for Turbulent Flow Control on Airfoils. AIAA Journal, 0, , 1-15.	1.5	17