Tobias Baier

List of Publications by Year
in descending order

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50	1,261	279798	361022
papers	citations	23 h-index	35 g-index

50	50	50	1505
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Simple Fabrication of Robust Waterâ€Repellent Surfaces with Low Contactâ€Angle Hysteresis Based on Impregnation. Advanced Materials Interfaces, 2014, 1, 1300138.	3.7	101
2	Influence of the enclosed fluid on the flow over a microstructured surface in the Cassie state. Journal of Fluid Mechanics, 2014, 740, 168-195.	3.4	100
3	Temperature dependence of antiferromagnetic order in the Hubbard model. Physical Review B, 2004, 70, .	3.2	76
4	A micro-structured 5kW complete fuel processor for iso-octane as hydrogen supply system for mobile auxiliary power unitsPart IIâ€"Development of waterâ€"gas shift and preferential oxidation catalysts reactors and assembly of the fuel processor. Chemical Engineering Journal, 2008, 138, 474-489.	12.7	57
5	Particle Manipulation Based on Optically Controlled Free Surface Hydrodynamics. Angewandte Chemie - International Edition, 2013, 52, 7291-7295.	13.8	55
6	Hermetic Gas-tight Ceramic Microreactors. Chemical Engineering and Technology, 2005, 28, 465-473.	1.5	50
7	A micro-structured 5kW complete fuel processor for iso-octane as hydrogen supply system for mobile auxiliary power unitsPart I. Development of autothermal reforming catalyst and reactor. Chemical Engineering Journal, 2008, 137, 653-663.	12.7	46
8	Self-propelling uneven Leidenfrost solids. Physics of Fluids, 2013, 25, .	4.0	46
9	Propulsion mechanisms for Leidenfrost solids on ratchets. Physical Review E, 2013, 87, 021001.	2.1	44
10	Controlling the Trajectories of Nano/Micro Particles Using Light-Actuated Marangoni Flow. Nano Letters, 2018, 18, 6924-6930.	9.1	43
11	Thermally induced gas flows in ratchet channels with diffuse and specular boundaries. Scientific Reports, 2017, 7, 41412.	3.3	40
12	Temperature control of the water gas shift reaction in microstructured reactors. Chemical Engineering Science, 2007, 62, 4602-4611.	3.8	39
13	Thermocapillary flow on superhydrophobic surfaces. Physical Review E, 2010, 82, 037301.	2.1	28
14	Modelling immunomagnetic cell capture in CFD. Microfluidics and Nanofluidics, 2009, 7, 205-216.	2.2	27
15	Transport and separation of micron sized particles at isotachophoretic transition zones. Biomicrofluidics, 2011, 5, 14109.	2.4	27
16	Small onset voltages in negative corona discharges using the edges of gold and aluminum foils as nano-structured electrodes. Applied Physics Letters, 2013, 103, 023114.	3.3	27
17	Knudsen pump inspired by Crookes radiometer with a specular wall. Physical Review Fluids, 2017, 2, .	2.5	27
18	Anisotropic behaviour of the magnetoresistance in single crystalline iron films. Journal of Magnetism and Magnetic Materials, 1999, 195, 1-8.	2.3	26

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19	Determination of the Segregation Index to Sense the Mixing Quality of Pilot- and Production-Scale Microstructured Mixers. Chemical Engineering Research and Design, 2007, 85, 605-611.	5.6	26
20	Micro contactor based on isotachophoretic sample transport. Lab on A Chip, 2009, 9, 3586.	6.0	26
21	RNA amplification chip with parallel microchannels and droplet positioning using capillary valves. Microsystem Technologies, 2008, 14, 673-681.	2.0	25
22	Antiferromagnetic gap in the Hubbard model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 605, 144-150.	4.1	24
23	Hands-free sample preparation platform for nucleic acid analysis. Lab on A Chip, 2009, 9, 3399.	6.0	24
24	Towards a â€œSample-In, Answer-Outâ€•Point-of-Care Platform for Nucleic Acid Extraction and Amplification: Using an HPV E6/E7 mRNA Model System. Journal of Oncology, 2012, 2012, 1-12.	1.3	24
25	Thermally driven flows between a Leidenfrost solid and a ratchet surface. Physical Review E, 2013, 87, 063015.	2.1	24
26	Kinetic study of CO preferential oxidation over Ptâ€“Rh/Î³-Al2O3 catalyst in a micro-structured recycle reactor. Catalysis Today, 2009, 145, 90-100.	4.4	22
27	Spontaneous symmetry breaking in the colored Hubbard model. Physical Review B, 2000, 62, 15471-15479.	3.2	19
28	Enabling the enhancement of electroosmotic flow over superhydrophobic surfaces by induced charges. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2011, 376, 85-88.	4.7	19
29	Sample dispersion in isotachophoresis with Poiseuille counterflow. Physics of Fluids, 2013, 25, .	4.0	19
30	Increasing the sensitivity of microfluidics based immunoassays using isotachophoresis. Analyst, The, 2014, 139, 4564.	3.5	17
31	Transition zone dynamics in combined isotachophoretic and electro-osmotic transport. Physics of Fluids, 2009, 21, .	4.0	14
32	Inscribing wettability gradients onto polymer substrates with different stiffness using corona discharge in point-to-plane geometry. Applied Surface Science, 2015, 330, 104-110.	6.1	13
33	Influence of insoluble surfactants on shear flow over a surface in Cassie state at large PÃ©clet numbers. Journal of Fluid Mechanics, 2021, 907, .	3.4	13
34	Three-dimensional CFD modelling of a continuous immunomagnetophoretic cell capture in BioMEMs. Biochemical Engineering Journal, 2010, 51, 110-116.	3.6	12
35	Analytical approximations to the flow field induced by electroosmosis during isotachophoretic transport through a channel. Journal of Fluid Mechanics, 2011, 682, 101-119.	3.4	11
36	A Î¼-Fluidic Mixing Network. Chemical Engineering and Technology, 2005, 28, 362-366.	1.5	9

#	Article	IF	Citations
37	Isotachophoresis with emulsions. Biomicrofluidics, 2013, 7, 044103.	2.4	9
38	Gas separation in a Knudsen pump inspired by a Crookes radiometer. Microfluidics and Nanofluidics, 2020, 24, 1.	2.2	9
39	Mean-field model for heat transfer in multichannel microreactors. AICHE Journal, 2007, 53, 1006-1016.	3.6	8
40	Thermophoresis of Janus particles at large Knudsen numbers. Physical Review Fluids, 2018, 3, .	2.5	7
41	Effect of electro-osmotic flow on energy conversion on superhydrophobic surfaces. Physics of Fluids, 2013, 25, .	4.0	6
42	Drag force on spherical particle moving near a plane wall in highly rarefied gas. Journal of Fluid Mechanics, 2020, 883, .	3.4	5
43	Microfluidic centrifuge based on a counterflow configuration. Microfluidics and Nanofluidics, 2012, 12, 317-324.	2.2	4
44	Energy harvesting through gas dynamics in the free molecular flow regime between structured surfaces at different temperatures. Physical Review E, 2014, 89, 053003.	2.1	4
45	Modelling Immunomagnetic Cell Capture in CFD. , 2008, , .		3
46	On the flow resistance of wide surface structures. Proceedings in Applied Mathematics and Mechanics, 2012, 12, 569-570.	0.2	2
47	Energy conversion by surface-tension-driven charge separation. Microfluidics and Nanofluidics, 2015, 19, 721-735.	2.2	2
48	Air-propelled, herringbone-textured platelets. Physical Review Fluids, 2018, 3, .	2.5	2
49	A MEAN FIELD APPROACH TO THE COLORED HUBBARD MODEL. International Journal of Modern Physics A, 2001, 16, 2003-2008.	1.5	0
50	Corrigendum to â€œEnabling the enhancement of electroosmotic flow over superhydrophobic surfaces by induced chargesâ€•[Colloids Surf. A: Physicochem. Eng. Aspects 376 (1â€“3) (2011) 85â€“88]. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2012, 395, 284-285.	4.7	0