Markus Uhlmann

List of Publications by Year
in descending order

59 papers	3,290 citations	279487 23 h-index	205818 48 g-index
64 all docs	64 docs citations	64 times ranked	1986 citing authors

#	Article	IF	Citations
1	An immersed boundary method with direct forcing for the simulation of particulate flows. Journal of Computational Physics, 2005, 209, 448-476.	1.9	1,245
2	The Significance of Simple Invariant Solutions in Turbulent Flows. Annual Review of Fluid Mechanics, 2012, 44, 203-225.	10.8	240
3	Interface-resolved direct numerical simulation of vertical particulate channel flow in the turbulent regime. Physics of Fluids, 2008, 20, .	1.6	188
4	Turbulent shear flow over active and passive porous surfaces. Journal of Fluid Mechanics, 2001, 442, 89-117.	1.4	150
5	Reynolds number dependence of mean flow structure in square duct turbulence. Journal of Fluid Mechanics, 2010, 644, 107-122.	1.4	140
6	Sedimentation of a dilute suspension of rigid spheres at intermediate Galileo numbers: theÂeffect of clustering upon the particle motion. Journal of Fluid Mechanics, 2014, 752, 310-348.	1.4	118
7	Direct numerical simulation of horizontal open channel flow with finite-size, heavy particles at low solid volume fraction. New Journal of Physics, 2013, 15, 025031.	1.2	113
8	Direct numerical simulation of pattern formation in subaqueous sediment. Journal of Fluid Mechanics, 2014, 750, .	1.4	107
9	Marginally turbulent flow in a square duct. Journal of Fluid Mechanics, 2007, 588, 153-162.	1.4	97
10	Interface-resolved direct numerical simulation of the erosion of a sediment bed sheared by laminar channel flow. International Journal of Multiphase Flow, 2014, 67, 174-188.	1.6	92
11	Force and torque acting on particles in a transitionally rough open-channel flow. Journal of Fluid Mechanics, 2011, 684, 441-474.	1.4	77
12	Formation of sediment patterns in channel flow: minimal unstable systems and their temporalÂevolution. Journal of Fluid Mechanics, 2017, 818, 716-743.	1.4	66
13	DNS of vertical plane channel flow with finite-size particles: Voronoi analysis, acceleration statistics and particle-conditioned averaging. International Journal of Multiphase Flow, 2012, 46, 54-74.	1.6	58
14	The motion of a single heavy sphere in ambient fluid: A benchmark for interface-resolved particulate flow simulations with significant relative velocities. International Journal of Multiphase Flow, 2014, 59, 221-243.	1.6	51
15	Clustering and preferential concentration of finite-size particles in forced homogeneous-isotropic turbulence. Journal of Fluid Mechanics, 2017, 812, 991-1023.	1.4	41
16	Forcing homogeneous turbulence in direct numerical simulation of particulate flow with interface resolution and gravity. Physics of Fluids, 2015, 27, .	1.6	36
17	Linear instability of a corrugated vortex sheet â€“ a model for streak instability. Journal of Fluid Mechanics, 2003, 483, 315-342.	1.4	35
18	Traveling-waves consistent with turbulence-driven secondary flow in a square duct. Physics of Fluids, 2010, 22, .	1.6	29

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19	Kinematics and dynamics of the auto-rotation of a model winged seed. Bioinspiration and Biomimetics, 2018, 13, 036011.	1.5	27
20	Linear stability of flow in an internally heated rectangular duct. Journal of Fluid Mechanics, 2006, 551, 387.	1.4	26
21	Direct numerical simulations of ripples in an oscillatory flow. Journal of Fluid Mechanics, 2019, 863, 572-600.	1.4	26
22	Direct numerical simulation of open-channel flow over a fully rough wall at moderate relative submergence. Journal of Fluid Mechanics, 2017, 824, 722-765.	1.4	25
23	An approximate solution of the Riemann problem for a realisable second-moment turbulent closure. Shock Waves, 2002, 11, 245-269.	1.0	23
24	Interface-resolved direct numerical simulations of sediment transport in a turbulent oscillatory boundary layer. Journal of Fluid Mechanics, 2020, 885, .	1.4	23
25	Columnar structure formation of a dilute suspension of settling spherical particles in a quiescent fluid. Physical Review Fluids, 2016, 1, .	1.0	23
26	On the role of turbulent large-scale streaks in generating sediment ridges. Journal of Fluid Mechanics, 2022, 930, .	1.4	21
27	On the formation of sediment chains in an oscillatory boundary layer. Journal of Fluid Mechanics, 2016, 789, 461-480.	1.4	20
28	Turbulence- and buoyancy-driven secondary flow in a horizontal square duct heated from below. Physics of Fluids, 2011, 23, 075103.	1.6	16
29	Spatial and temporal scales of force and torque acting on wall-mounted spherical particles in open channel flow. Physics of Fluids, 2013, 25, .	1.6	16
30	Localized turbulence structures in transitional rectangular-duct flow. Journal of Fluid Mechanics, 2015, 782, 368-379.	1.4	16
31	A Numerical Study of the Flow Around a Model Winged Seed in Auto-Rotation. Flow, Turbulence and Combustion, 2018, 101, 477-497.	1.4	16
32	On the influence of forced homogeneous-isotropic turbulence on the settling and clustering of finite-size particles. Acta Mechanica, 2019, 230, 387-412.	1.1	16
33	An Approximate Roe-Type Riemann Solver for a Class of Realizable Second Order Closures. International Journal of Computational Fluid Dynamics, 2000, 13, 223-249.	0.5	12
34	Effect of surface contamination on interfacial mass transfer rate. Journal of Fluid Mechanics, 2017, 830, 5-34.	1.4	12
35	VoronoÃ¯ tessellation analysis of sets of randomly placed finite-size spheres. Physica A: Statistical Mechanics and Its Applications, 2020, 555, 124618.	1.2	12
36	Orthonormal Polynomial Wavelets on the Interval and Applications to the Analysis of Turbulent Flow Fields. SIAM Journal on Applied Mathematics, 2003, 63, 1789-1830.	0.8	10

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37	Heat and water vapor transfer in the wake of a falling ice sphere and its implication for secondary ice formation in clouds. New Journal of Physics, 2019, 21, 043043.	1.2	10
38	A single oblate spheroid settling in unbounded ambient fluid: A benchmark for simulations in steady and unsteady wake regimes. International Journal of Multiphase Flow, 2021, 136, 103519.	1.6	10
39	On the scaling of the instability of a flat sediment bed with respect to ripple-like patterns. Journal of Fluid Mechanics, 2020, 900, .	1.4	8
40	Direct numerical simulation of turbulent mass transfer at the surface of an open channel flow. Journal of Fluid Mechanics, 2022, 933, .	1.4	7
41	An Approximate Riemann Solver for Second-Moment Closures. Journal of Computational Physics, 1999, 151, 990-996.	1.9	6
42	Open-channel flow over evolving subaqueous ripples. Journal of Fluid Mechanics, 2022, 937, .	1.4	5
43	Reynolds number dependence of mean flow structure in square duct turbulence â€“ CORRIGENDUM. Journal of Fluid Mechanics, 2010, 653, 537-537.	1.4	2
44	Path instability on a sphere towed at constant speed. Journal of Fluids and Structures, 2015, 58, 99-108.	1.5	2
45	Direct Numerical Simulation of Vertical Particulate Channel Flow in the Turbulent Regime. , 2009, , 83-96.		2
46	A Numerical Study of Turbulent Stably-Stratified Plane Couette Flow. , 2011, , 251-261.		2
47	Direct Numerical Simulation of Sediment Transport in Turbulent Open Channel Flow. , 2011, , 295-306.		2
48	Can preferential concentration of finite-size particles in plane Couette turbulence be reproduced with the aid of equilibrium solutions?. Physical Review Fluids, 2020, 5, .	1.0	2
49	Performance of Various Fluid-Solid Coupling Methods for DNS of Particulate Flow. , 2006, , 215-223.		2
50	On the ice-nucleating potential of warm hydrometeors in mixed-phase clouds. Atmospheric Chemistry and Physics, 2021, 21, 561-575.	1.9	1
51	Transport of Heavy Spherical Particles in Horizontal Channel Flow. , 2008, , 351-369.		1
52	The effect of coherent structures on the secondary flow in a square duct. Springer Proceedings in Physics, 2009, , 329-332.	0.1	1
53	Interface-resolved direct numerical simulation of vertical particulate channel flow in the turbulent regime. , 0, .		1
54	Coherent Structures in Marginally Turbulent Square Duct Flow. IUTAM Symposium on Cellular, Molecular and Tissue Mechanics, 2008, , 137-142.	0.1	0

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55	A computational study of the hydrodynamic forces on a rough wall. Springer Proceedings in Physics, 2009, , 929-929.	0.1	0
56	Buoyancy effects on low-Reynolds-number turbulent flow in a horizontal square duct. , 2009, , .		0
57	Turbulent puffs in a horizontal square duct under stable temperature stratification. , 2012, , .		0
58	The Influence of the Reynolds Number on the Auto-Rotation of Samaras. ERCOFTAC Series, 2019, , 411-416.	0.1	0
59	Characterisation of Marginally Turbulent Square Duct Flow. , 2007, , 41-43.		0