Antti Ilmari Koponen

List of Publications by Year
in descending order

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60 papers	2,282 citations	331670 21 h-index	214800 47 g-index
61 all docs	61 docs citations	61 times ranked	2076 citing authors

#	Article	IF	Citations
1	Permeability and effective porosity of porous media. Physical Review E, 1997, 56, 3319-3325.	2.1	348
2	Tortuous flow in porous media. Physical Review E, 1996, 54, 406-410.	2.1	310
3	Permeability of Three-Dimensional Random Fiber Webs. Physical Review Letters, 1998, 80, 716-719.	7.8	224
4	Lattice-Boltzmann and finite-difference simulations for the permeability for three-dimensional porous media. Physical Review E, 2002, 66, 016702.	2.1	196
5	Lattice-Boltzmann hydrodynamics on parallel systems. Computer Physics Communications, 1998, 111, 14-26.	7.5	104
6	Lattice-Boltzmann Simulation of Capillary Rise Dynamics. Journal of Statistical Physics, 2002, 107, 143-158.	1.2	90
7	Simulation of liquid penetration in paper. Physical Review E, 2006, 73, 036705.	2.1	89
8	Implementation Aspects of 3D Lattice-BGK: Boundaries, Accuracy, and a New Fast Relaxation Method. Journal of Computational Physics, 1999, 150, 482-501.	3.8	82
9	Spreading dynamics of three-dimensional droplets by the lattice-Boltzmann method. Computational Materials Science, 2000, 18, 7-12.	3.0	77
10	Droplets on inclined rough surfaces. European Physical Journal E, 2007, 23, 289-293.	1.6	48
11	Bubble size and air content of wet fibre foams in axial mixing with macro-instabilities. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2013, 436, 1130-1139.	4.7	40
12	A unique microstructure of the fiber networks deposited from foamâ€“fiber suspensions. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 482, 544-553.	4.7	40
13	Simulations of Single-Fluid Flow in Porous Media. International Journal of Modern Physics C, 1998, 09, 1505-1521.	1.7	39
14	The effect of consistency on the shear rheology of aqueous suspensions of cellulose micro- and nanofibrils: a review. Cellulose, 2020, 27, 1879-1897.	4.9	32
15	Evaluation of a lattice-Boltzmann method for mercury intrusion porosimetry simulations. Future Generation Computer Systems, 2004, 20, 1003-1011.	7.5	30
16	Shear Stress in a Couette Flow of Liquid-Particle Suspensions. Journal of Statistical Physics, 2002, 107, 67-84.	1.2	28
17	The 3D structure of fabric and its relationship to liquid and vapor transport. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2004, 241, 323-333.	4.7	28
18	Experimental results on the flow rheology of fiber-laden aqueous foams. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 473, 147-155.	4.7	25

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19	Foam forming of fiber products: a review. Journal of Dispersion Science and Technology, 2022, 43, 1462-1497.	2.4	25
20	Simulations of non-spherical particles suspended in a shear flow. Computer Physics Communications, 2000, 129, 185-195.	7.5	23
21	Simulations of Water Flow Through Bordered Pits of Conifer Xylem. Journal of Statistical Physics, 2002, 107, 121-142.	1.2	23
22	Clustering and viscosity in a shear flow of a particulate suspension. Physical Review E, 2003, 68, 061403.	2.1	23
23	Foam forming of long fibers. Nordic Pulp and Paper Research Journal, 2016, 31, 239-247.	0.7	21
24	New insight into rheology and flow properties of complex fluids with Doppler optical coherence tomography. Frontiers in Chemistry, 2014, 2, 27.	3.6	19
25	Analysis of rheology and wall depletion of microfibrillated cellulose suspension using optical coherence tomography. Cellulose, 2017, 24, 4715-4728.	4.9	19
26	Rheological characterization of microfibrillated cellulose suspension using optical coherence tomography. Tappi Journal, 2015, 14, 291-302.	0.5	19
27	Response of wet foam to fibre mixing. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2015, 467, 97-106.	4.7	18
28	Pressure Drop for Low Reynolds-Number Flows Through Regular and Random Screens. Transport in Porous Media, 2009, 80, 193-208.	2.6	17
29	Pipe rheology of microfibrillated cellulose suspensions. Cellulose, 2020, 27, 141-156.	4.9	17
30	Experimental investigation of the flow dynamics and rheology of complex fluids in pipe flow by hybrid multi-scale velocimetry. Experiments in Fluids, 2017, 58, 1.	2.4	16
31	The effect of in-line foam generation on foam quality and sheet formation in foam forming. Nordic Pulp and Paper Research Journal, 2018, 33, 482-495.	0.7	16
32	The Effect of Void Structure on the Permeability of Fibrous Networks. Transport in Porous Media, 2017, 117, 247-259.	2.6	14
33	Dewatering of foam-laid and water-laid structures and the formed web properties. Cellulose, 2020, 27, 1127-1146.	4.9	14
34	Hydrodynamical forces acting on particles in a two-dimensional flow near a solid wall. Computer Physics Communications, 2000, 129, 196-206.	7.5	12
35	Intrusion of nonwetting liquid in paper. Physical Review E, 2007, 75, 036301.	2.1	12
36	Comparison of 3D structural characteristics of high and low resolution X-ray microtomographic images of paper. Nordic Pulp and Paper Research Journal, 2005, 20, 283-288.	0.7	10

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37	Accurate velocity measurements of boundary-layer flows using Doppler optical coherence tomography. Experiments in Fluids, 2015, 56, 1.	2.4	10
38	Shear localisation in interfacial particle layers and its influence on Lissajous-plots. Rheologica Acta, 2016, 55, 267-278.	2.4	10
39	Characterization of micro-fibrillated cellulose fiber suspension flow using multi scale velocity profile measurements. Nordic Pulp and Paper Research Journal, 2017, 32, 473-482.	0.7	10
40	Rheological and Flocculation Analysis of Microfibrillated Cellulose Suspension Using Optical Coherence Tomography. Applied Sciences (Switzerland), 2018, 8, 755.	2.5	10
41	Lattice-Boltzmann Simulation of Particle Suspensions in Shear Flow. Journal of Statistical Physics, 2005, 121, 149-161.	1.2	9
42	Drainage of high-consistency fiber-laden aqueous foams. Cellulose, 2020, 27, 9637-9652.	4.9	9
43	Iterative momentum relaxation for fast lattice-Boltzmann simulations. Future Generation Computer Systems, 2001, 18, 89-96.	7.5	8
44	Strain hardening in liquid-particle suspensions. Physical Review E, 2005, 72, 061402.	2.1	8
45	Analysis of Industry-Related Flows by Optical Coherence Tomographyâ€"A Review. KONA Powder and Particle Journal, 2020, 37, 42-63.	1.7	8
46	Rate-limiting mechanisms of water removal during the formation, vacuum dewatering, and wet-pressing of paper webs: A review. BioResources, 2020, 15, 9672-9755.	1.0	8
47	Real-time monitoring of bubble size distribution in a foam forming process. Tappi Journal, 2019, 18, 487-494.	0.5	7
48	The flow resistance of fiber sheet during initial dewatering. Drying Technology, 2016, 34, 1521-1533.	3.1	6
49	Mechanically ground softwood fines as a raw material for cellulosic applications. Cellulose, 2017, 24, 3869-3882.	4.9	6
50	Online measurement of floc size, viscosity, and consistency of cellulose microfibril suspensions with optical coherence tomography. Cellulose, 2021, 28, 3373-3387.	4.9	6
51	Analysis of the effects of pressure profile, furnish, and microfibrillated cellulose on the dewatering of papermaking furnishes. Tappi Journal, 2015, 14, 325-337.	0.5	4
52	Fouling dynamics in suspension flows. European Physical Journal E, 2002, 9, 97-102.	1.6	3
53	UDV measurements and CFD simulation of two-phase flow in a stirred vessel. Progress in Computational Fluid Dynamics, 2009, 9, 375.	0.2	3
54	Generation of aqueous foams and fiber foams in a stirred tank. Chemical Engineering Research and Design, 2021, 167, 15-24.	5.6	3

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55	Dispersion of 24-mm staple fibers with foam. Journal of Engineered Fibers and Fabrics, 2020, 15, 155892502094644.	1.0	2
56	Publisherâ€™s Note: Strain hardening in liquid-particle suspensions [Phys. Rev. E72, 061402 (2005)]. Physical Review E, 2006, 73, .	2.1	1
57	Process simulation-based evaluation of design and operational implications of water-laid paper machine conversion to foam technology. BioResources, 2021, 16, 5148-5186.	1.0	1
58	Dynamic generation of aqueous foams and fiber foams in a mixing tank. SN Applied Sciences, 2021, 3, 1.	2.9	1
59	Use of mechanically ground lignocellulosic native fines (LF) in the all-cellulosic composite filaments: fines properties and plasticizers. Cellulose, 2019, 26, 1041-1054.	4.9	0
60	Application of pulsed ultrasound velocity profiling for measuring flow of black liquor in recovery boiler spraying nozzles. Tappi Journal, 2015, 14, 221-226.	0.5	0