

Knut Järvenmäylä

List of Publications by Year in descending order

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139
papers

5,051
citations

81900

39
h-index

95266

68
g-index

146
all docs

146
docs citations

146
times ranked

2625
citing authors

#	ARTICLE	IF	CITATIONS
1	Transition from viscous fingers to compact displacement during unstable drainage in porous media. <i>Physical Review Fluids</i> , 2022, 7, .	2.5	7
2	Dynamics of Dendritic Ice Freezing in Confinement. <i>Crystal Growth and Design</i> , 2022, 22, 2433-2440.	3.0	3
3	Visualization by optical fluorescence of two-phase flow in a three-dimensional porous medium. <i>Journal of Physics: Conference Series</i> , 2022, 2241, 012004.	0.4	1
4	Taming the Janssen effect. <i>EPJ Web of Conferences</i> , 2021, 249, 08004.	0.3	0
5	Discharge of a 2D magnetic silo. <i>EPJ Web of Conferences</i> , 2021, 249, 03017.	0.3	0
6	Magnetic Janssen effect. <i>Nature Communications</i> , 2021, 12, 2486.	12.8	3
7	Thermal dissipation as both the strength and weakness of matter. A material failure prediction by monitoring creep. <i>Soft Matter</i> , 2021, 17, 4143-4150.	2.7	3
8	Dilation as a precursor in a continuous granular fault. <i>EPJ Web of Conferences</i> , 2021, 249, 15006.	0.3	1
9	Thermally activated intermittent dynamics of creeping crack fronts along disordered interfaces. <i>Scientific Reports</i> , 2021, 11, 20418.	3.3	4
10	Heat Emitting Damage in Skin: A Thermal Pathway for Mechanical Algesia. <i>Frontiers in Neuroscience</i> , 2021, 15, 780623.	2.8	1
11	Burst Dynamics, Upscaling and Dissipation of Slow Drainage in Porous Media. <i>Frontiers in Physics</i> , 2021, 9, .	2.1	7
12	Dissolution Phase Diagram in Radial Geometry. <i>Frontiers in Physics</i> , 2020, 8, .	2.1	9
13	How heat controls fracture: the thermodynamics of creeping and avalanching cracks. <i>Soft Matter</i> , 2020, 16, 9590-9602.	2.7	14
14	Gravitational and Finite-Size Effects On Pressure Saturation Curves During Drainage. <i>Water Resources Research</i> , 2020, 56, e2019WR026279.	4.2	8
15	Intermittent Dynamics of Slow Drainage Experiments in Porous Media: Characterization Under Different Boundary Conditions. <i>Frontiers in Physics</i> , 2020, 7, .	2.1	8
16	Editorial: Physics of Porous Media. <i>Frontiers in Physics</i> , 2020, 8, .	2.1	0
17	Capillary bulldozing of sedimented granular material confined in a millifluidic tube. <i>Physical Review Fluids</i> , 2020, 5, .	2.5	4
18	Thermal weakening of cracks and brittle-ductile transition of matter: A phase model. <i>Physical Review Materials</i> , 2020, 4, .	2.4	8

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19	Geometric universality and anomalous diffusion in frictional fingers. <i>New Journal of Physics</i> , 2019, 21, 063020.	2.9	5
20	Continuously Sheared Granular Matter Reproduces in Detail Seismicity Laws. <i>Physical Review Letters</i> , 2019, 122, 218501.	7.8	44
21	Source Localization of Microseismic Emissions During Pneumatic Fracturing. <i>Geophysical Research Letters</i> , 2019, 46, 3726-3733.	4.0	8
22	Dynamics of the Fluctuating Flying Chain. <i>Frontiers in Physics</i> , 2019, 7, .	2.1	1
23	Experimental Observation of Dissolution Finger Growth in Radial Geometry. <i>Frontiers in Physics</i> , 2019, 7, .	2.1	4
24	Thermally activated crack fronts propagating in pinning disorder: simultaneous brittle/creep behaviour depending on scale. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20170399.	3.4	5
25	Avalanches and extreme value statistics in interfacial crackling dynamics. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2019, 377, 20170394.	3.4	7
26	Connectivity enhancement due to film flow in porous media. <i>Physical Review Fluids</i> , 2019, 4, .	2.5	17
27	Pressure evolution and deformation of confined granular media during pneumatic fracturing. <i>Physical Review E</i> , 2018, 97, 012908.	2.1	14
28	Mechanisms of the Flying Chain Fountain. <i>Frontiers in Physics</i> , 2018, 6, .	2.1	5
29	Dispersion in Fractures With Ramified Dissolution Patterns. <i>Frontiers in Physics</i> , 2018, 6, .	2.1	10
30	Particle-covered drops in electric fields: drop deformation and surface particle organization. <i>Soft Matter</i> , 2018, 14, 5442-5451.	2.7	26
31	Pattern formation of frictional fingers in a gravitational potential. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	11
32	Verification of a Dynamic Scaling for the Pair Correlation Function during the Slow Drainage of a Porous Medium. <i>Physical Review Letters</i> , 2017, 119, 154503.	7.8	14
33	Size segregation of intruders in perpetual granular avalanches. <i>Journal of Fluid Mechanics</i> , 2017, 825, 502-514.	3.4	7
34	Janišević et al. Reply. <i>Physical Review Letters</i> , 2017, 119, 188901.	7.8	2
35	Pneumatic fractures in confined granular media. <i>Physical Review E</i> , 2017, 95, 062901.	2.1	11
36	Critical behavior in porous media flow. <i>Europhysics Letters</i> , 2017, 118, 14004.	2.0	17

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37	Self-Structuring of Granular material under Capillary Bulldozing. EPJ Web of Conferences, 2017, 140, 09016.	0.3	0
38	Electric Alignment of Plate Shaped Clay Aggregates in Oils. Frontiers in Physics, 2016, 4, .	2.1	2
39	Note: Localization based on estimated source energy homogeneity. Review of Scientific Instruments, 2016, 87, 096101.	1.3	6
40	Interevent Correlations from Avalanches Hiding Below the Detection Threshold. Physical Review Letters, 2016, 117, 230601.	7.8	46
41	How cracks are hot and cool: a burning issue for paper. Soft Matter, 2016, 12, 5563-5571.	2.7	14
42	Frictional Fluid Dynamics and Plug Formation in Multiphase Millifluidic Flow. Physical Review Letters, 2016, 117, 028002.	7.8	13
43	Numerical approach to frictional fingers. Physical Review E, 2015, 92, 032203.	2.1	9
44	Impact of sample geometry on the measurement of pressure saturation curves: Experiments and simulations. Water Resources Research, 2015, 51, 8900-8926.	4.2	27
45	Bridging aero-fracture evolution with the characteristics of the acoustic emissions in a porous medium. Frontiers in Physics, 2015, 3, .	2.1	9
46	Invasion patterns during two-phase flow in deformable porous media. Frontiers in Physics, 2015, 3, .	2.1	20
47	Direct velocity measurement of a turbulent shear flow in a planar Couette cell. Physical Review E, 2014, 89, 013026.	2.1	0
48	Non-Gaussian Nature of Fracture and the Survival of Fat-Tail Exponents. Physical Review Letters, 2013, 110, 145501.	7.8	28
49	Evolution of the average avalanche shape with the universality class. Nature Communications, 2013, 4, 2927.	12.8	106
50	History independence of steady state in simultaneous two-phase flow through two-dimensional porous media. Physical Review E, 2013, 88, 053004.	2.1	36
51	Dynamic aerofracture of dense granular packings. Physical Review E, 2012, 86, 061315.	2.1	29
52	Comparison of the low-frequency variations of the vertical and horizontal components of the electric background field at the sea bottom. Geophysics, 2012, 77, E391-E396.	2.6	8
53	Family-Vicsek scaling of detachment fronts in granular Rayleigh-Taylor instabilities during sedimentating granular/fluid flows. European Physical Journal: Special Topics, 2012, 204, 27-40.	2.6	19
54	Vertical and horizontal components of the electric background field at the sea bottom. Geophysics, 2012, 77, E1-E8.	2.6	6

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55	Stick slip displacement of confined granular mixtures: Bubble expansion. European Physical Journal: Special Topics, 2012, 204, 19-25.	2.6	12
56	Downscaling of fracture energy during brittle creep experiments. Journal of Geophysical Research, 2011, 116, .	3.3	9
57	Patterns and flow in frictional fluid dynamics. Nature Communications, 2011, 2, 288.	12.8	124
58	Demonstration of Ignition Radiation Temperatures in Indirect-Drive Inertial Confinement Fusion Hohlräume. Physical Review Letters, 2011, 106, 085004.	7.8	96
59	Avalanches of imbibition fronts: Towards critical pinning. Europhysics Letters, 2011, 94, 46005.	2.0	31
60	A Direct Comparison Between a Slow Pore Scale Drainage Experiment and a 2D Lattice Boltzmann Simulation. Transport in Porous Media, 2011, 86, 125-134.	2.6	19
61	Influence of Viscous Fingering on Dynamic Saturationâ€”Pressure Curves in Porous Media. Transport in Porous Media, 2011, 86, 305-324.	2.6	53
62	Average crack-front velocity during subcritical fracture propagation in a heterogeneous medium. Physical Review E, 2011, 84, 036104.	2.1	33
63	Local dynamics of a randomly pinned crack front during creep and forced propagation: An experimental study. Physical Review E, 2011, 83, 046108.	2.1	53
64	Sedimentation instabilities: Impact of the fluid compressibility and viscosity. Physical Review E, 2010, 82, 051302.	2.1	30
65	Effects of Pressure Oscillations on Drainage in an Elastic Porous Medium. Transport in Porous Media, 2010, 84, 569-585.	2.6	14
66	Size invariance of the granular Rayleigh-Taylor instability. Physical Review E, 2010, 81, 041308.	2.1	21
67	Oscillation-induced displacement patterns in a two-dimensional porous medium: A lattice Boltzmann study. Physical Review E, 2010, 82, 026305.	2.1	7
68	Mixing of a granular layer falling through a fluid. Physical Review E, 2010, 82, 011301.	2.1	31
69	Fracture roughness scaling: A case study on planar cracks. Europhysics Letters, 2010, 92, 44001.	2.0	53
70	Avalanche Prediction in a Self-Organized Pile of Beads. Physical Review Letters, 2009, 102, 078701.	7.8	69
71	Quake Catalogs from an Optical Monitoring of an Interfacial Crack Propagation. Pure and Applied Geophysics, 2009, 166, 777-799.	1.9	23
72	Steady-state, simultaneous two-phase flow in porous media: An experimental study. Physical Review E, 2009, 80, 036308.	2.1	80

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73	Steady-State Two-Phase Flow in Porous Media: Statistics and Transport Properties. <i>Physical Review Letters</i> , 2009, 102, 074502.	7.8	126
74	Granular Rayleigh-Taylor Instability. , 2009, , 577-586.		1
75	Quake Catalogs from an Optical Monitoring of an Interfacial Crack Propagation. , 2009, , 777-799.		0
76	Granular labyrinth structures in confined geometries. <i>Physical Review E</i> , 2008, 77, 021301.	2.1	29
77	Coupled air/granular flow in a linear Hele-Shaw cell. <i>Physical Review E</i> , 2008, 77, 011301.	2.1	29
78	Decompaction and fluidization of a saturated and confined granular medium by injection of a viscous liquid or gas. <i>Physical Review E</i> , 2008, 78, 051302.	2.1	44
79	Revolving rivers in sandpiles: From continuous to intermittent flows. <i>Physical Review E</i> , 2008, 77, 031305.	2.1	10
80	Uphill solitary waves in granular flows. <i>Physical Review E</i> , 2007, 75, 031303.	2.1	13
81	Statistics of fracture surfaces. <i>Physical Review E</i> , 2007, 75, 016104.	2.1	87
82	Experiments and simulations of a gravitational granular flow instability. <i>Physical Review E</i> , 2007, 76, 051306.	2.1	36
83	Labyrinth Patterns in Confined Granular-Fluid Systems. <i>Physical Review Letters</i> , 2007, 99, 038001.	7.8	65
84	Granular Rayleigh-Taylor Instability: Experiments and Simulations. <i>Physical Review Letters</i> , 2007, 99, 048001.	7.8	72
85	Phase behavior of platelet-shaped nanosilicate colloids in saline solutions – a small-angle X-ray scattering study. <i>Journal of Applied Crystallography</i> , 2007, 40, s292-s296.	4.5	6
86	Intercalation-enhanced electric polarization and chain formation of nano-layered particles. <i>Europhysics Letters</i> , 2006, 74, 438-444.	2.0	40
87	Scaling Behavior of Fragment Shapes. <i>Physical Review Letters</i> , 2006, 96, 025504.	7.8	32
88	Local Waiting Time Fluctuations along a Randomly Pinned Crack Front. <i>Physical Review Letters</i> , 2006, 96, 045501.	7.8	139
89	Pattern formation during air injection into granular materials confined in a circular Hele-Shaw cell. <i>Physical Review E</i> , 2006, 74, 011301.	2.1	72
90	Quasiperiodic Events in an Earthquake Model. <i>Physical Review Letters</i> , 2006, 96, 098501.	7.8	36

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91	SELF-AFFINE SCALING DURING INTERFACIAL CRACK FRONT PROPAGATION. , 2006, , 49-59.		1
92	Competition of gravity, capillary and viscous forces during drainage in a two-dimensional porous medium, a pore scale study. Energy, 2005, 30, 861-872.	8.8	135
93	Validity of the Janssen law in narrow granular columns. European Physical Journal E, 2005, 18, 245-252.	1.6	23
94	Influence of pore-scale disorder on viscous fingering during drainage. Europhysics Letters, 2005, 71, 583-589.	2.0	70
95	Growth activity during fingering in a porous Hele-Shaw cell. Physical Review E, 2004, 70, 026301.	2.1	106
96	Scaling and dynamics of an interfacial crack front. International Journal of Fracture, 2003, 121, 9-22.	2.2	12
97	Drainage in a Rough Gouge-Filled Fracture. Transport in Porous Media, 2003, 50, 267-305.	2.6	16
98	Slow Crack Propagation and Slip Correlations. Pure and Applied Geophysics, 2003, 160, 961-976.	1.9	21
99	Hydration transitions in a nanolayered synthetic silicate: A synchrotron x-ray scattering study. Physical Review B, 2003, 67, .	3.2	38
100	Synchrotron x-ray scattering studies of water intercalation in a layered synthetic silicate. Physical Review E, 2002, 66, 011303.	2.1	34
101	Flow paths in wetting unsaturated flow: Experiments and simulations. Physical Review E, 2002, 65, 036312.	2.1	10
102	Interface scaling in a two-dimensional porous medium under combined viscous, gravity, and capillary effects. Physical Review E, 2002, 66, 051603.	2.1	139
103	Structure Formation and Instability in a Tube of Sand. Physical Review Letters, 2001, 87, 134302.	7.8	16
104	Bubble propagation in a pipe filled with sand. Physical Review E, 2001, 64, 021509.	2.1	10
105	Dynamical Event during Slow Crack Propagation. Physical Review Letters, 2001, 87, 105502.	7.8	46
106	Propagation Of An Interfacial Crack Front In A Heterogeneous Medium: Experimental Observations. , 2001, , 353-369.		3
107	Burst dynamics during drainage displacements in porous media: Simulations and experiments. Europhysics Letters, 2000, 51, 55-61.	2.0	45
108	Grains and gas flow: Molecular dynamics with hydrodynamic interactions. Physical Review E, 2000, 61, 4054-4059.	2.1	58

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109	Viscous Stabilization of 2D Drainage Displacements with Trapping. Physical Review Letters, 2000, 84, 4589-4592.	7.8	15
110	Dynamics of stable viscous displacement in porous media. Physical Review E, 2000, 61, 2936-2946.	2.1	27
111	Geometry and dynamics of invasion percolation with correlated buoyancy. Physical Review E, 2000, 61, 3985-3995.	2.1	17
112	Modeling Granular Flows. , 2000, , 157-184.		0
113	Force measurements on static granular materials. Physical Review E, 1999, 60, 5872-5878.	2.1	113
114	Competition between correlated buoyancy and uncorrelated capillary effects during drainage. Physical Review E, 1999, 60, 7224-7234.	2.1	40
115	High resolution description of a crack front in a heterogeneous Plexiglas block. Physical Review E, 1999, 60, 1337-1343.	2.1	91
116	A Two-Dimensional Network Simulator for Two-Phase Flow in Porous Media. Transport in Porous Media, 1998, 32, 163-186.	2.6	181
117	Continuum description of granular flows: Simulation and experiment. Physical Review E, 1998, 57, 6962-6972.	2.1	11
118	Simulating temporal evolution of pressure in two-phase flow in porous media. Physical Review E, 1998, 58, 2217-2226.	2.1	64
119	Granular Flow in Hoppers and Tubes. , 1998, , 509-532.		0
120	Direct Observation of a Self-Affine Crack Propagation. Physical Review Letters, 1997, 78, 3888-3891.	7.8	153
121	Ticking hour glasses: Experimental analysis of intermittent flow. Physical Review E, 1996, 53, 2257-2264.	2.1	44
122	Intermittent behavior in slow drainage. Physical Review E, 1996, 53, 966-977.	2.1	73
123	Interfacial Crack Pinning: Effect of Nonlocal Interactions. Physical Review Letters, 1995, 74, 1787-1790.	7.8	156
124	Roughness of Two-Dimensional Cracks in Wood. Physical Review Letters, 1994, 73, 834-837.	7.8	83
125	Scaling structure of tracer dispersion fronts in porous media. Physical Review E, 1994, 49, 5431-5437.	2.1	10
126	Fast, immiscible fluid-fluid displacement in three-dimensional porous media at finite viscosity contrast. Physical Review E, 1994, 50, 2881-2890.	2.1	28

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127	Dynamics and structure of displacement fronts in two-dimensional porous media. , 1994, , 107-123.		0
128	Spatial anisotropy of velocity fluctuations on small length scales in a Taylor-Couette cell. Physical Review E, 1993, 48, 322-327.	2.1	3
129	Why hour glasses tick. Physical Review Letters, 1993, 71, 1363-1366.	7.8	96
130	Mållåy et al. reply. Physical Review Letters, 1993, 71, 205-205.	7.8	13
131	Experimental measurements of the roughness of brittle cracks. Physical Review Letters, 1992, 68, 213-215.	7.8	284
132	Dynamics of slow drainage in porous media. Physical Review Letters, 1992, 68, 2161-2164.	7.8	121
133	Displacement Structures in 2- and 3-dimensional Porous Media at Low Viscosity Contrast. Physica Scripta, 1991, T38, 95-98.	2.5	3
134	Growth Patterns and Fronts: Fluid Flow Experiments. NATO ASI Series Series B: Physics, 1990, , 63-81.	0.2	0
135	Geometrical crossover and self-similarity of DLA and viscous fingering clusters. Physica D: Nonlinear Phenomena, 1989, 38, 104-111.	2.8	25
136	Dynamics of Invasion and Dispersion Fronts. , 1989, , 307-324.		0
137	Structure of Miscible and Immiscible Displacement Fronts in Poursous Media. , 1988, , 87-91.		0
138	Viscous Fingering Fractals in Porous Media. Physical Review Letters, 1985, 55, 2688-2691.	7.8	323
139	Competing Gravitational and Viscous Effects in 3D Two-Phase Flow Investigated With a Table-Top Optical Scanner. Frontiers in Physics, 0, 10, .	2.1	0