

Arshad A Kudrolli

List of Publications by Year in descending order

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87
papers

4,829
citations

101543

36
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91884

69
g-index

97
all docs

97
docs citations

97
times ranked

3295
citing authors

#	ARTICLE	IF	CITATIONS
1	Signatures of chaos in quantum billiards: Microwave experiments. <i>Physical Review E</i> , 1994, 49, R11-R14.	2.1	364
2	Swarming and Swirling in Self-Propelled Polar Granular Rods. <i>Physical Review Letters</i> , 2008, 100, 058001.	7.8	319
3	Size separation in vibrated granular matter. <i>Reports on Progress in Physics</i> , 2004, 67, 209-247.	20.1	293
4	Cluster Formation due to Collisions in Granular Material. <i>Physical Review Letters</i> , 1997, 78, 1383-1386.	7.8	222
5	Friction in Granular Layers: Hysteresis and Precursors. <i>Physical Review Letters</i> , 1997, 79, 949-952.	7.8	208
6	Time-resolved studies of stick-slip friction in sheared granular layers. <i>Physical Review E</i> , 1998, 58, 2161-2171.	2.1	183
7	Patterns and spatiotemporal chaos in parametrically forced surface waves: a systematic survey at large aspect ratio. <i>Physica D: Nonlinear Phenomena</i> , 1996, 97, 133-154.	2.8	176
8	Superlattice patterns in surface waves. <i>Physica D: Nonlinear Phenomena</i> , 1998, 123, 99-111.	2.8	162
9	Non-Gaussian velocity distributions in excited granular matter in the absence of clustering. <i>Physical Review E</i> , 2000, 62, R1489-R1492.	2.1	137
10	Experimental Studies of Chaos and Localization in Quantum Wave Functions. <i>Physical Review Letters</i> , 1995, 75, 822-825.	7.8	129
11	Maximum angle of stability of a wet granular pile. <i>Nature Physics</i> , 2005, 1, 50-52.	16.7	128
12	Geometry of Crumpled Paper. <i>Physical Review Letters</i> , 2005, 94, 166107.	7.8	114
13	Diffusion and Mixing in Gravity-Driven Dense Granular Flows. <i>Physical Review Letters</i> , 2004, 92, 174301.	7.8	105
14	Velocity profile of granular flows inside silos and hoppers. <i>Journal of Physics Condensed Matter</i> , 2005, 17, S2533-S2548.	1.8	102
15	Maximum and minimum stable random packings of Platonic solids. <i>Physical Review E</i> , 2010, 82, 061304.	2.1	101
16	Experiments on not "hearing the shape" of drums. <i>Physical Review Letters</i> , 1994, 72, 2175-2178.	7.8	98
17	Segregation Transitions in Wet Granular Matter. <i>Physical Review Letters</i> , 2000, 85, 5102-5105.	7.8	98
18	Size segregation of granular matter in silo discharges. <i>Physical Review E</i> , 1999, 60, 7203-7209.	2.1	95

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19	Spontaneous channelization in permeable ground: theory, experiment, and observation. Journal of Fluid Mechanics, 2004, 503, 357-374.	3.4	94
20	Threshold phenomena in erosion driven by subsurface flow. Journal of Geophysical Research, 2004, 109, .	3.3	88
21	Growth laws for channel networks incised by groundwater flow. Nature Geoscience, 2009, 2, 193-196.	12.9	88
22	Helicoids, Wrinkles, and Loops in Twisted Ribbons. Physical Review Letters, 2013, 111, 174302.	7.8	79
23	Sticky sand. Nature Materials, 2008, 7, 174-175.	27.5	68
24	Nucleation and Crystal Growth in Sheared Granular Sphere Packings. Physical Review Letters, 2012, 108, 108001.	7.8	65
25	Anisotropy-driven dynamics in vibrated granular rods. Physical Review E, 2004, 70, 051312.	2.1	59
26	Erosion of a granular bed driven by laminar fluid flow. Journal of Fluid Mechanics, 2008, 605, 47-58.	3.4	58
27	Concentration Dependent Diffusion of Self-Propelled Rods. Physical Review Letters, 2010, 104, 088001.	7.8	58
28	Speed of a swimming sheet in Newtonian and viscoelastic fluids. Physical Review E, 2013, 87, 013015.	2.1	56
29	Erosive dynamics of channels incised by subsurface water flow. Journal of Geophysical Research, 2007, 112, .	3.3	54
30	Velocity Correlations in Dense Granular Flows Observed with Internal Imaging. Physical Review Letters, 2007, 98, 238001.	7.8	53
31	Spatial Correlation in Quantum Chaotic Systems with Time-Reversal Symmetry: Theory and Experiment. Physical Review Letters, 1995, 75, 2392-2395.	7.8	51
32	Failure of a granular step. Physical Review E, 2005, 71, 051302.	2.1	50
33	Localized spatiotemporal chaos in surface waves. Physical Review E, 1996, 54, R1052-R1055.	2.1	48
34	Friction of a slider on a granular layer: Nonmonotonic thickness dependence and effect of boundary conditions. Physical Review E, 2006, 73, 010301.	2.1	48
35	Aggregation of frictional particles due to capillary attraction. Physical Review E, 2011, 83, 051403.	2.1	42
36	Shape and dynamics of seepage erosion in a horizontal granular bed. Physical Review E, 2012, 86, 041304.	2.1	39

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37	Structure and dynamics of vibrated granular chains: Comparison to equilibrium polymers. <i>Physical Review E</i> , 2009, 79, 061304.	2.1	34
38	Physical test of a particle simulation model in a sheared granular system. <i>Physical Review E</i> , 2009, 80, 031305.	2.1	32
39	Geometry of valley growth. <i>Journal of Fluid Mechanics</i> , 2011, 673, 245-254.	3.4	32
40	Swarming Ring Patterns in Bacterial Colonies Exposed to Ultraviolet Radiation. <i>Physical Review Letters</i> , 2001, 87, 158102.	7.8	31
41	Lubrication effects on the flow of wet granular materials. <i>Physical Review E</i> , 2007, 76, 031302.	2.1	30
42	Heterogeneous Structure of Granular Aggregates with Capillary Interactions. <i>Physical Review Letters</i> , 2010, 105, 098002.	7.8	30
43	Extinction transition in bacterial colonies under forced convection. <i>Physical Review E</i> , 2000, 62, 1059-1062.	2.1	28
44	Curvature Condensation and Bifurcation in an Elastic Shell. <i>Physical Review Letters</i> , 2007, 98, 014301.	7.8	28
45	Flow-induced channelization in a porous medium. <i>Europhysics Letters</i> , 2012, 98, 58003.	2.0	27
46	Experimental investigation of universal parametric correlators using a vibrating plate. <i>Physical Review E</i> , 1999, 60, R3479-R3482.	2.1	25
47	Onset of erosion of a granular bed in a channel driven by fluid flow. <i>Physics of Fluids</i> , 2015, 27, 013301.	4.0	25
48	Fast decay of the velocity autocorrelation function in dense shear flow of inelastic hard spheres. <i>Europhysics Letters</i> , 2008, 84, 64003.	2.0	20
49	Tumbling Dynamics of Passive Flexible Wings. <i>Physical Review Letters</i> , 2010, 104, 184504.	7.8	20
50	Evolution of Porosity and Channelization of an Erosive Medium Driven by Fluid Flow. <i>Physical Review Letters</i> , 2016, 117, 028001.	7.8	20
51	Effect of aspect ratio on the development of order in vibrated granular rods. <i>Physical Review E</i> , 2013, 88, 052203.	2.1	19
52	Disclinations, e-cones, and their interactions in extensible sheets. <i>Soft Matter</i> , 2016, 12, 4457-4462.	2.7	19
53	Granular bed consolidation, creep, and armoring under subcritical fluid flow. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	18
54	Shocks in sand flowing in a silo. <i>Journal of Fluid Mechanics</i> , 2002, 452, 293-301.	3.4	17

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55	Spatial distribution functions of random packed granular spheres obtained by direct particle imaging. <i>Physical Review E</i> , 2010, 81, 060301.	2.1	17
56	Critical shear rate and torque stability condition for a particle resting on a surface in a fluid flow. <i>Journal of Fluid Mechanics</i> , 2016, 808, 397-409.	3.4	17
57	Drag law for an intruder in granular sediments. <i>Physical Review E</i> , 2017, 95, 032901.	2.1	16
58	Dynamic Wrinkling and Strengthening of an Elastic Filament in a Viscous Fluid. <i>Physical Review Letters</i> , 2017, 119, 088001.	7.8	16
59	Burrowing dynamics of aquatic worms in soft sediments. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 25569-25574.	7.1	16
60	Depth resolved granular transport driven by shearing fluid flow. <i>Physical Review Fluids</i> , 2017, 2, .	2.5	16
61	Micromechanics of intruder motion in wet granular medium. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	16
62	Persistence of Perfect Packing in Twisted Bundles of Elastic Filaments. <i>Physical Review Letters</i> , 2018, 120, 248002.	7.8	15
63	Building Designed Granular Towers One Drop at a Time. <i>Physical Review Letters</i> , 2011, 107, 208304.	7.8	12
64	Epitaxial growth of ordered and disordered granular sphere packings. <i>Physical Review E</i> , 2014, 90, 032203.	2.1	12
65	Four remarks on the growth of channel networks. <i>Comptes Rendus - Geoscience</i> , 2012, 344, 33-40.	1.2	10
66	Measuring geometric frustration in twisted inextensible filament bundles. <i>Physical Review E</i> , 2017, 95, 052503.	2.1	10
67	Effective drag of a rod in fluid-saturated granular beds. <i>Physical Review E</i> , 2019, 100, 022901.	2.1	10
68	Experimental Investigation of Cyclically Sheared Granular Particles with Direct Particle Tracking. <i>Progress of Theoretical Physics Supplement</i> , 2010, 184, 100-109.	0.1	7
69	Birth and decay of tensional wrinkles in hyperelastic sheets. <i>Physical Review E</i> , 2019, 100, 053003.	2.1	6
70	Comment on "Gaussian Orthogonal Ensemble Statistics in a Microwave Stadium Billiard with Chaotic Dynamics: Porter-Thomas Distribution and Algebraic Decay of Time Correlations" <i>Physical Review Letters</i> , 1996, 76, 3036-3036.	7.8	5
71	Tensional twist-folding of sheets into multilayered scrolled yarns. <i>Science Advances</i> , 2022, 8, eabi8818.	10.3	5
72	Periodic orbit analysis of an elastodynamic resonator using shape deformation. <i>Europhysics Letters</i> , 2002, 57, 341-347.	2.0	4

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73	Corner singularities and shape of stretched elastic sheets. <i>Physical Review E</i> , 2018, 98, .	2.1	4
74	Aerial mucosalivary droplet dispersal distributions with implications for disease mitigation. <i>Physical Review Research</i> , 2020, 2, .	3.6	4
75	Channel erosion due to subsurface flow. <i>Chaos</i> , 2008, 18, 041105.	2.5	3
76	Unstable Invasion of Sedimenting Granular Suspensions. <i>Physical Review Letters</i> , 2020, 125, 054501.	7.8	3
77	Drag anisotropy of cylindrical solids in fluid-saturated granular beds. <i>Physical Review Fluids</i> , 2021, 6, .	2.5	3
78	Alcove formation in dissolving cliffs driven by density inversion instability. <i>Physics of Fluids</i> , 0, , .	4.0	3
79	Pearling and arching instabilities of a granular suspension on a super-absorbing surface. <i>Soft Matter</i> , 2015, 11, 659-664.	2.7	2
80	Nonadditive drag of tandem rods drafting in granular sediments. <i>Physical Review E</i> , 2022, 105, 034901.	2.1	2
81	Mitigating exhalation puffs during oxygen therapy for respiratory disease. <i>Physics of Fluids</i> , 2021, 33, 081903.	4.0	1
82	Introduction: Fourth Annual Gallery of Nonlinear Images (Denver, Colorado, 2007). <i>Chaos</i> , 2007, 17, 041101.	2.5	0
83	Introduction: Fifth Annual Gallery of Nonlinear Images (New Orleans, Louisiana, 2008). <i>Chaos</i> , 2008, 18, .	2.5	0
84	Introduction: Sixth Annual Gallery of Nonlinear Images (Pittsburgh, Pennsylvania, 2009). <i>Chaos</i> , 2009, 19, 041101.	2.5	0
85	Introduction: Seventh Annual Gallery of Nonlinear Images (Portland, Oregon 2010). <i>Chaos</i> , 2010, 20, 041101.	2.5	0
86	Shear induced diffusion in dense granular flows. , 2010, , .		0
87	Headward growth and branching in subterranean channels. <i>Physical Review E</i> , 2017, 96, 052904.	2.1	0