Ferenc Kun

List of Publications by Year
in descending order

121 papers	3,078 citations	159585 30 h-index	182427 51 g-index
123 all docs	123 docs citations	123 times ranked	1622 citing authors

#	Article	IF	Citations
1	Transition from damage to fragmentation in collision of solids. Physical Review E, 1999, 59, 2623-2632.	2.1	167
2	On the application of a discrete model to the fracture process of cohesive granular materials. Granular Matter, 2002, 4, 77-90.	2.2	152
3	A study of fragmentation processes using a discrete element method. Computer Methods in Applied Mechanics and Engineering, 1996, 138, 3-18.	6.6	132
4	Universality behind Basquinâ€™s Law of Fatigue. Physical Review Letters, 2008, 100, 094301.	7.8	131
5	Damage in fiber bundle models. European Physical Journal B, 2000, 17, 269-279.	1.5	122
6	Fracture model with variable range of interaction. Physical Review E, 2002, 65, 046148.	2.1	119
7	Fragmentation processes in impact of spheres. Physical Review E, 2008, 77, 051302.	2.1	107
8	Fragmentation of Shells. Physical Review Letters, 2004, 93, 035504.	7.8	90
9	Aggregation kinetics and stability of structures formed by magnetic microspheres. Physical Review E, 1999, 59, R4758-R4761.	2.1	80
10	Universality of fragment shapes. Scientific Reports, 2015, 5, 9147.	3.3	79
11	Bursts in a fiber bundle model with continuous damage. Physical Review E, 2001, 64, 066122.	2.1	72
12	Evolution of Percolating Force Chains in Compressed Granular Media. Physical Review Letters, 2002, 89, 205501.	7.8	71
13	New Universality Class for the Fragmentation of Plastic Materials. Physical Review Letters, 2010, 104, 095502.	7.8	67
14	Rupture Cascades in a Discrete Element Model of a Porous Sedimentary Rock. Physical Review Letters, 2014, 112, 065501.	7.8	62
15	Mechanisms in impact fragmentation. International Journal of Fracture, 2008, 154, 105-117.	2.2	60
16	Approach to failure in porous granular materials under compression. Physical Review E, 2013, 88, 062207.	2.1	55
17	Creep rupture of viscoelastic fiber bundles. Physical Review E, 2002, 65, 032502.	2.1	54
18	Creep rupture has two universality classes. Europhysics Letters, 2003, 63, 347-353.	2.0	48

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19	Local load sharing fiber bundles with a lower cutoff of strength disorder. Physical Review E, 2006, 74, 035104.	2.1	45
20	Scaling laws for impact fragmentation of spherical solids. Physical Review E, 2012, 86, 016113.	2.1	44
21	Failure process of a bundle of plastic fibers. Physical Review E, 2006, 73, 066101.	2.1	43
22	Breakup of dipolar rings under a perpendicular magnetic field. Physical Review E, 2001, 64, 061503.	2.1	41
23	Avalanche dynamics of fiber bundle models. Physical Review E, 2009, 80, 051108.	2.1	40
24	Fragmentation of a circular disc by impact on a frictionless plate. Journal of Physics Condensed Matter, 2005, 17, S2439-S2456.	1.8	35
25	FRAGMENTATION OF COLLIDING DISCS. International Journal of Modern Physics C, 1996, 07, 837-855.	1.7	34
26	Scaling laws of creep rupture of fiber bundles. Physical Review E, 2003, 67, 061802.	2.1	34
27	From solids to granulates - Discrete element simulations of fracture and fragmentation processes in geomaterials. Lecture Notes in Physics, 2001, , 231-258.	0.7	33
28	Scaling Behavior of Fragment Shapes. Physical Review Letters, 2006, 96, 025504.	7.8	32
29	Breakup of shells under explosion and impact. Physical Review E, 2005, 71, 016108.	2.1	31
30	Fatigue failure of disordered materials. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P02003-P02003.	2.3	31
31	Size dependency of tension strength in natural fiber composites. Physica A: Statistical Mechanics and Its Applications, 2003, 325, 547-560.	2.6	30
32	Platoâ€™s cube and the natural geometry of fragmentation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 18178-18185.	7.1	30
33	Discrete element simulation of transverse cracking during the pyrolysis of carbon fibre reinforced plastics to carbon/carbon composites. Computational Materials Science, 2003, 28, 1-15.	3.0	27
34	Universality class of fiber bundles with strong heterogeneities. Europhysics Letters, 2008, 81, 54005.	2.0	27
35	Competition of strength and stress disorder in creep rupture. Physical Review E, 2012, 85, 016116.	2.1	26
36	Structure formation in binary colloids. Physical Review E, 2004, 69, 030501.	2.1	25

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37	Computer simulation of fatigue under diametrical compression. Physical Review E, 2007, 75, 046115.	2.1	25
38	Fragmentation. Physica A: Statistical Mechanics and Its Applications, 2006, 371, 59-66.	2.6	24
39	Extension of fibre bundle models for creep rupture and interface failure. International Journal of Fracture, 2006, 140, 255-265.	2.2	24
40	Continuous damage fiber bundle model for strongly disordered materials. Physical Review E, 2008, 77, 046102.	2.1	24
41	A study of transverse ply cracking using a discrete element method. Computational Materials Science, 2003, 28, 608-619.	3.0	23
42	Temporal and Spacial Evolution of Bursts in Creep Rupture. Physical Review Letters, 2013, 111, 084302.	7.8	23
43	Structure formation in a binary monolayer of dipolar particles. Physical Review E, 2005, 71, 051405.	2.1	22
44	Time evolution of damage under variable ranges of load transfer. Physical Review E, 2003, 68, 026116.	2.1	21
45	Structure of Magnetic Noise in Dynamic Fracture. Physical Review Letters, 2004, 93, 227204.	7.8	21
46	The effect of network topologies on the spreading of technological developments. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P10014.	2.3	21
47	Fiber bundle model with stick-slip dynamics. Physical Review E, 2009, 80, 027102.	2.1	21
48	Critical ruptures in a bundle of slowly relaxing fibers. Physical Review E, 2008, 77, 036102.	2.1	20
49	Brittle-to-ductile transition in a fiber bundle with strong heterogeneity. Physical Review E, 2013, 87, 042816.	2.1	20
50	Size Scaling and Bursting Activity in Thermally Activated Breakdown of Fiber Bundles. Physical Review Letters, 2008, 101, 145502.	7.8	19
51	Crackling noise in sub-critical fracture of heterogeneous materials. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P01021.	2.3	18
52	Damage development under gradual loading of composites. Journal of Materials Science, 2000, 35, 4685-4693.	3.7	16
53	Simple beam model for the shear failure of interfaces. Physical Review E, 2005, 72, 046126.	2.1	16
54	From fracture to fragmentation: Discrete element modeling. European Physical Journal: Special Topics, 2014, 223, 2369-2382.	2.6	15

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55	Fracture process of a fiber bundle with strong disorder. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 073211.	2.3	15
56	Slip avalanches in a fiber bundle model. Europhysics Letters, 2010, 89, 26008.	2.0	14
57	Attraction-driven aggregation of dipolar particles in an external magnetic field. Physical Review E, 2011, 83, 061504.	2.1	14
58	Competition of information channels in the spreading of innovations. Physical Review E, 2011, 84, 026111.	2.1	13
59	Effect of disorder on shrinkage-induced fragmentation of a thin brittle layer. Physical Review E, 2017, 96, 033006.	2.1	13
60	Attraction-limited cluster-cluster aggregation of Ising dipolar particles. Physical Review E, 2005, 72, 061403.	2.1	12
61	KertÃ©sz line of thermally activated breakdown phenomena. Physical Review E, 2010, 82, 055102.	2.1	12
62	Disorder-induced brittleâ€“toâ€“quasi-brittle transition in fiber bundles. Europhysics Letters, 2011, 95, 16004.	2.0	12
63	Time evolution of damage due to environmentally assisted aging in a fiber bundle model. Physical Review E, 2013, 88, 032802.	2.1	12
64	Emergence of energy dependence in the fragmentation of heterogeneous materials. Physical Review E, 2014, 90, 062811.	2.1	12
65	Fragmentation and shear band formation by slow compression of brittle porous media. Physical Review E, 2016, 94, 053003.	2.1	12
66	Size scaling of failure strength with fat-tailed disorder in a fiber bundle model. Physical Review E, 2017, 96, 033001.	2.1	12
67	Cellular automata for the spreading of technologies in socio-economic systems. Physica A: Statistical Mechanics and Its Applications, 2007, 383, 660-670.	2.6	11
68	Record-breaking events during the compressive failure of porous materials. Physical Review E, 2016, 93, 033006.	2.1	11
69	Record statistics of bursts signals the onset of acceleration towards failure. Scientific Reports, 2020, 10, 2508.	3.3	11
70	Multifractality and multiscaling in collision cascades. Physical Review E, 1994, 50, 2639-2645.	2.1	10
71	Break-up of dipolar rings under an external magnetic field. Physics Letters, Section A: General, Atomic and Solid State Physics, 2000, 277, 287-293.	2.1	10
72	Slow relaxation of fiber composites, variable range of interaction approach. Physica A: Statistical Mechanics and Its Applications, 2005, 347, 402-410.	2.6	10

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73	Creep rupture as a non-homogeneous Poissonian process. Scientific Reports, 2013, 3, 2688.	3.3	10
74	Record breaking bursts in a fiber bundle model of creep rupture. Frontiers in Physics, 2014, 2, .	2.1	10
75	Fractal dimension of collision cascades. Physical Review E, 1997, 55, 1508-1513.	2.1	9
76	Kinetic Monte Carlo algorithm for thermally induced breakdown of fiber bundles. Physical Review E, 2015, 91, 033305.	2.1	8
77	System-size-dependent avalanche statistics in the limit of high disorder. Physical Review E, 2019, 100, 053001.	2.1	8
78	Simulating fractal pattern formation in metal-oil electrorheological fluids. Physical Review E, 1998, 57, 3216-3220.	2.1	7
79	Pattern formation in binary colloids. Philosophical Magazine, 2006, 86, 2011-2031.	1.6	7
80	Damage process of a fiber bundle with a strain gradient. Physical Review E, 2008, 77, 016608.	2.1	7
81	Crackling noise in three-point bending of heterogeneous materials. Physical Review E, 2011, 83, 046115.	2.1	7
82	Microstructure of damage in thermally activated fracture of Lennard-Jones systems. Physical Review E, 2011, 83, 066108.	2.1	7
83	Time evolution of damage in thermally induced creep rupture. Europhysics Letters, 2012, 97, 26006.	2.0	7
84	Avalanche dynamics in higher-dimensional fiber bundle models. Physical Review E, 2018, 98, .	2.1	7
85	Effect of disorder on the spatial structure of damage in slowly compressed porous rocks. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20170393.	3.4	7
86	Transition from localized to mean field behaviour of cascading failures in the fiber bundle model on complex networks. Chaos, Solitons and Fractals, 2022, 159, 112190.	5.1	6
87	Thermodynamics of a binary monolayer of Ising dipolar particles. Physical Review E, 2007, 76, 051116.	2.1	4
88	Percolation-induced conductor-insulator transition in a system of metal spheres in a dielectric fluid. Physical Review E, 2011, 83, 041405.	2.1	4
89	Effect of disorder on temporal fluctuations in drying-induced cracking. Physical Review E, 2011, 84, 041114.	2.1	4
90	Fractal frontiers of bursts and cracks in a fiber bundle model of creep rupture. Physical Review E, 2015, 92, 062402.	2.1	4

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91	Curvature flows, scaling laws and the geometry of attrition under impacts. Scientific Reports, 2021, 11, 20661.	3.3	4
92	Approach to failure through record breaking avalanches in a heterogeneous stress field. Physica A: Statistical Mechanics and Its Applications, 2022, 594, 127015.	2.6	4
93	Restructuring of force networks. European Physical Journal E, 2002, 9, 261-264.	1.6	3
94	Study on the fragmentation of shells. International Journal of Fracture, 2006, 140, 243-254.	2.2	3
95	Structure and kinetics of heteroaggregation in binary dipolar monolayers. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P09015-P09015.	2.3	3
96	Cluster-cluster aggregation of Ising dipolar particles under thermal noise. Physical Review E, 2009, 80, 021402.	2.1	3
97	Damage growth in fibre bundle models with localized load sharing and environmentally-assisted ageing. Journal of Physics: Conference Series, 2013, 410, 012064.	0.4	3
98	Statistical features of magnetic noise in mixed-type impact fracture. Applied Physics Letters, 2015, 106, 064102.	3.3	3
99	The Effect of Disorder on Crackling Noise in Fracture Phenomena. Progress of Theoretical Physics Supplement, 2010, 184, 385-399.	0.1	2
100	Mass-velocity correlation in impact induced fragmentation of heterogeneous solids. Granular Matter, 2016, 18, 1.	2.2	2
101	Evolution of anisotropic crack patterns in shrinking material layers. Soft Matter, 2021, 17, 10005-10015.	2.7	2
102	Fibre bundle models for creep rupture analysis of polymer matrix composites. , 2011, , 327-349.		1
103	Blending stiffness and strength disorder can stabilize fracture. Physical Review E, 2016, 93, 033002.	2.1	1
104	Crackling Noise in Digital and Real Rocksâ€"Implications for Forecasting Catastrophic Failure in Porous Granular Media. Understanding Complex Systems, 2017, , 77-97.	0.6	1
105	Time-dependent fracture under unloading in a fiber bundle model. Physical Review E, 2018, 98, 023004.	2.1	1
106	Stick-Slip Dynamics in Fiber Bundle Models with Variable Stiffness and Slip Number. Frontiers in Physics, 2021, 9, .	2.1	1
107	Editorial: The Fiber Bundle. Frontiers in Physics, 2021, 9, .	2.1	1
108	Temporal evolution of failure avalanches of the fiber bundle model on complex networks. Chaos, 2022, 32, 063121.	2.5	1

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109	Internal anisotropy of collision cascades. Physical Review E, 1997, 56, 2019-2024.	2.1	0
110	Molecular crystalline states in dipolar monolayers. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P11014-P11014.	2.3	0
111	Fibre Models. AIP Conference Proceedings, 2007, , .	0.4	0
112	Thermodynamics of a binary monolayer of Ising dipolar particles. II. Effect of relative moment. Physical Review E, 2008, 78, 041118.	2.1	0
113	Size distribution and waiting times for the avalanches of the Cell Network Model of Fracture. Computer Physics Communications, 2011, 182, 1824-1827.	7.5	0
114	Temporal and Spatial Evolution of Bursts in a Fiber Bundle Model of Creep Rupture. Key Engineering Materials, 0, 592-593, 773-776.	0.4	0
115	Creep rupture due to thermally induced cracking. Materials Research Society Symposia Proceedings, 2013, 1535, 5701.	0.1	0
116	Mass-Velocity Correlation in Impact Fragmentation. Key Engineering Materials, 0, 592-593, 141-144.	0.4	0
117	Transition from Straight to Fractal Cracks due to Projectile Penetration. Key Engineering Materials, 0, 592-593, 765-768.	0.4	0
118	Impact-induced transition from damage to perforation. Physical Review E, 2020, 102, 042116.	2.1	0
119	Restructuring of Force Networks. , 2004, , 327-340.		0
120	111 Lifetime and burst size in thermally activated breakdown. The Proceedings of the Computational Mechanics Conference, 2009, 2009.22, 384-385.	0.0	0
121	A Stochastic Interface Model for the Fracture of Bars. , 2006, , 517-518.		0