Thorsten PÃ¶schel

List of Publications by Year
in descending order

135 papers	5,349 citations	126907 33 h-index	102487 66 g-index
140 all docs	140 docs citations	140 times ranked	2681 citing authors

#	Article	IF	Citations
1	Transport coefficients for granular gases of electrically charged particles. Journal of Fluid Mechanics, 2022, 935, .	3.4	1
2	Collective motion of granular matter subjected to swirling excitation. Physical Review E, 2022, 105, L022902.	2.1	3
3	Soft particles reinforce robotic grippers: robotic grippers based on granular jamming of soft particles. Granular Matter, 2022, 24, 1.	2.2	15
4	Scale and water effects on the friction angles of two granular soils with different roughness. Powder Technology, 2021, 377, 813-826.	4.2	20
5	Can Minkowski tensors of a simply connected porous microstructure characterize its permeability?. Physics of Fluids, 2021, 33, 042010.	4.0	3
6	A robust numerical method for granular hydrodynamics in three dimensions. Journal of Fluid Mechanics, 2021, 917, .	3.4	0
7	Surfactants and rotelles in active chiral fluids. Science Advances, 2021, 7, .	10.3	24
8	Fluctuations and like-torque clusters at the onset of the discontinuous shear thickening transition in granular materials. Communications Physics, 2021, 4, .	5.3	6
9	Insufficient evidence for ageing in protein dynamics. Nature Physics, 2021, 17, 773-774.	16.7	3
10	Spontaneous formation of density waves in granular matter under swirling excitation. Physics of Fluids, 2021, 33, .	4.0	3
11	10.1063/5.0056143.1. , 2021, , .		0
12	Fingerprints of viscoelastic subdiffusion in random environments: Revisiting some experimental data and their interpretations. Physical Review E, 2021, 104, 034125.	2.1	10
13	Nonequilibrium Phase Transition to Anomalous Diffusion and Transport in a Basic Model of Nonlinear Brownian Motion. Physical Review Letters, 2021, 127, 110601.	7.8	12
14	Fragmentation and abrasion in granular matter systems. Computational Particle Mechanics, 2021, 8, 1003-1004.	3.0	0
15	Migrating Shear Bands in Shaken Granular Matter. Physical Review Letters, 2020, 125, 048001.	7.8	5
16	Impact in granular matter: Force at the base of a container made with one movable wall. Physical Review E, 2020, 102, 012903.	2.1	2
17	Hydrodynamic memory can boost enormously driven nonlinear diffusion and transport. Physical Review E, 2020, 102, 012139.	2.1	13
18	Granular Leidenfrost effect in microgravity. Granular Matter, 2020, 22, 1.	2.2	6

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19	Growing Old Too Early: Skeletal Muscle Single Fiber Biomechanics in Ageing R349P Desmin Knock-in Mice Using the MyoRobot Technology. International Journal of Molecular Sciences, 2020, 21, 5501.	4.1	3
20	Influence of particle shape in additive manufacturing: Discrete element simulations of polyamide 11 and polyamide 12. Additive Manufacturing, 2020, 36, 101421.	3.0	7
21	Granular dampers in microgravity: sharp transition between modes of operation. Granular Matter, 2020, 22, 1.	2.2	11
22	A first-order segregation phenomenon in fluid-immersed granular systems. Powder Technology, 2020, 373, 357-361.	4.2	1
23	Misconceptions about gyroscopic stabilization. American Journal of Physics, 2020, 88, 175-181.	0.7	0
24	Robust event-driven particle tracking in complex geometries. Computer Physics Communications, 2020, 254, 107229.	7.5	3
25	Packing structure of semiflexible rings. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 3382-3387.	7.1	17
26	Impact on granular bed: validation of discrete element modeling results by means of two-dimensional finite element analysis. Granular Matter, 2020, 22, 1.	2.2	9
27	Packings of micron-sized spherical particles â€“ Insights from bulk density determination, X-ray microtomography and discrete element simulations. Advanced Powder Technology, 2020, 31, 2293-2304.	4.1	34
28	Finite-range viscoelastic subdiffusion in disordered systems with inclusion of inertial effects. New Journal of Physics, 2020, 22, 113018.	2.9	12
29	Janssen effect in dynamic particulate systems. Physical Review E, 2019, 100, 022902.	2.1	11
30	Micromechanical Behavior of DNAâ€1A Lunar Regolith Simulant in Comparison to Ottawa Sand. Journal of Geophysical Research: Solid Earth, 2019, 124, 8077-8100.	3.4	27
31	Rapid Impact of Nanoparticles on Surfaces. , 2019, , 517-563.		0
32	Stochastic Nature of Particle Collisions and its Impact on Granular Material Properties. , 2019, , 565-590.		1
33	The MyoRobot technology discloses a premature biomechanical decay of skeletal muscle fiber bundles derived from R349P desminopathy mice. Scientific Reports, 2019, 9, 10769.	3.3	6
34	Inelastic collapse of perfectly inelastic particles. Communications Physics, 2019, 2, .	5.3	2
35	Interactions of a short hyaluronan chain with a phospholipid membrane. Colloids and Surfaces B: Biointerfaces, 2019, 184, 110539.	5.0	15
36	How to measure the volume fraction of granular assemblies using x-ray radiography. Powder Technology, 2019, 356, 439-442.	4.2	5

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37	MyoRobot 2.0: An advanced biomechatronics platform for automated, environmentally controlled skeletal muscle single fiber biomechanics assessment employing inbuilt real-time optical imaging. Biosensors and Bioelectronics, 2019, 138, 111284.	10.1	11
38	Ping-pong ball cannon: Why do barrel and balls fly in the same direction?. American Journal of Physics, 2019, 87, 255-263.	0.7	3
39	Correction of beam hardening in X-ray radiograms. Review of Scientific Instruments, 2019, 90, 025108.	1.3	23
40	X-ray tomography in micro-gravity. Review of Scientific Instruments, 2019, 90, 105103.	1.3	5
41	Isotropy of sphere packings in a cylindrical confinement. Chemical Engineering Journal, 2019, 377, 119820.	12.7	10
42	Increasing temperature of cooling granular gases. Nature Communications, 2018, 9, 797.	12.8	39
43	Systematic Onset of Periodic Patterns in Random Disk Packings. Physical Review Letters, 2018, 120, 148002.	7.8	1
44	Limitation of stochastic rotation dynamics to represent hydrodynamic interaction between colloidal particles. Physics of Fluids, 2018, 30, .	4.0	6
45	Rotating robots move collectively and self-organize. Nature Communications, 2018, 9, 931.	12.8	116
46	The MyoRobot: A novel automated biomechatronics system to assess voltage/Ca2+ biosensors and active/passive biomechanics in muscle and biomaterials. Biosensors and Bioelectronics, 2018, 102, 589-599.	10.1	24
47	An instrument for studying granular media in low-gravity environment. Review of Scientific Instruments, 2018, 89, 075103.	1.3	18
48	Orientation-dependent properties of nanoparticle impact. Physical Review E, 2018, 98, 022902.	2.1	8
49	Instability of smoothed particle hydrodynamics applied to Poiseuille flows. Computers and Mathematics With Applications, 2018, 76, 1447-1457.	2.7	2
50	Weight of an hourglassâ€"Theory and experiment in quantitative comparison. American Journal of Physics, 2017, 85, 98-107.	0.7	3
51	Liquidlike sloshing dynamics of monodisperse granulate. Physical Review E, 2017, 96, 040901.	2.1	3
52	Effect of particle shape on the efficiency of granular dampers. EPJ Web of Conferences, 2017, 140, 06006.	0.3	0
53	Particle-based simulations of powder coating in additive manufacturing suggest increase in powder bed roughness with coating speed. EPJ Web of Conferences, 2017, 140, 15013.	0.3	5
54	Velocity Distribution of a Homogeneously Driven Two-Dimensional Granular Gas. Physical Review Letters, 2017, 118, 198003.	7.8	64

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55	Homogenization of granular pipe flow by means of helical inner-wall texture. EPJ Web of Conferences, 2017, 140, 03069.	0.3	1
56	Origin of Granular Capillarity Revealed by Particle-Based Simulations. Physical Review Letters, 2017, 118, 218001.	7.8	34
57	Vertical motion of particles in vibration-induced granular capillarity. EPJ Web of Conferences, 2017, 140, 16008.	0.3	4
58	Homogeneous cooling state of dilute granular gases of charged particles. Physics of Fluids, 2017, 29, 083303.	4.0	6
59	Isotropic stochastic rotation dynamics. Physical Review Fluids, 2017, 2, .	2.5	4
60	Granular dampers: does particle shape matter?. New Journal of Physics, 2016, 18, 073049.	2.9	33
61	Can we obtain the coefficient of restitution from the sound of a bouncing ball?. Physical Review E, 2016, 93, 032901.	2.1	15
62	Dissipation of Energy by Dry Granular Matter in a Rotating Cylinder. Scientific Reports, 2016, 6, 26833.	3.3	9
63	Subharmonic instability of a self-organized granular jet. Scientific Reports, 2016, 6, 22520.	3.3	0
64	Ratcheting and tumbling motion of Vibrots. New Journal of Physics, 2016, 18, 123001.	2.9	31
65	Heaping and secondary flows in sheared granular materials. New Journal of Physics, 2016, 18, 113006.	2.9	17
66	Fractal substructure of a nanopowder generated by repeated fragmentation and sedimentation: the rÃ1le of the dust. Granular Matter, 2016, 18, 1.	2.2	1
67	Stable algorithm for event detection in event-driven particle dynamics: logical states. Computational Particle Mechanics, 2016, 3, 383-388.	3.0	5
68	The microscopic structure of mono-disperse granular heaps and sediments of particles on inclined surfaces. Soft Matter, 2016, 12, 3184-3188.	2.7	7
69	Steepest descent ballistic deposition of complex shaped particles. Journal of Computational Physics, 2016, 308, 421-437.	3.8	11
70	Particle-based simulation of powder application in additive manufacturing. Powder Technology, 2016, 288, 96-102.	4.2	271
71	Hydrodynamics of binary mixtures of granular gases with stochastic coefficient of restitution. Journal of Fluid Mechanics, 2015, 781, 595-621.	3.4	10
72	Residual Defect Density in Random Disks Deposits. Scientific Reports, 2015, 5, 12703.	3.3	2

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73	Absence of Subharmonic Response in Vibrated Granular Systems under Microgravity Conditions. Physical Review Applied, 2015, 3, .	3.8	12
74	Fluidization of a horizontally driven granular monolayer. Physical Review E, 2015, 91, 062213.	2.1	13
75	Self-organized shocks in the sedimentation of a granular gas. Physical Review E, 2015, 91, 062214.	2.1	4
76	Two-dimensional airflow modeling underpredicts the wind velocity over dunes. Scientific Reports, 2015, 5, 16572.	3.3	16
77	Helical inner-wall texture prevents jamming in granular pipe flows. Soft Matter, 2015, 11, 4295-4305.	2.7	28
78	Structure of a three-dimensional nano-powder subjected to repeated fragmentation and sedimentation. New Journal of Physics, 2015, 17, 013024.	2.9	2
79	Positron emission particle tracking in fluidized beds with secondary gas injection. Powder Technology, 2015, 279, 113-122.	4.2	23
80	Probing the validity of an effective-one-particle description of granular dampers in microgravity. Granular Matter, 2015, 17, 73-82.	2.2	16
81	Morphodynamic modeling of aeolian dunes: Review and future plans. European Physical Journal: Special Topics, 2014, 223, 2269-2283.	2.6	37
82	Stochastic behavior of the coefficient of normal restitution. Physical Review E, 2014, 89, 022205.	2.1	20
83	Origins of barchan dune asymmetry: Insights from numerical simulations. Aeolian Research, 2014, 12, 121-133.	2.7	66
84	Coefficient of restitution of aspherical particles. Physical Review E, 2014, 90, 052204.	2.1	17
85	Stable algorithm for event detection in event-driven particle dynamics. Computational Particle Mechanics, 2014, 1, 191-198.	3.0	17
86	Introduction of a New Technique to Measure the Coefficient of Restitution for Nanoparticles. Chemie-Ingenieur-Technik, 2014, 86, 365-374.	0.8	11
87	Granular jet impact: probing the ideal fluid description. Journal of Fluid Mechanics, 2014, 751, 601-626.	3.4	14
88	Attractive particle interaction forces and packing density of fine glass powders. Scientific Reports, 2014, 4, 6227.	3.3	138
89	Pattern formation in a horizontally shaken granular submonolayer. Granular Matter, 2013, 15, 377-387.	2.2	20
90	Complex Velocity Dependence of the Coefficient of Restitution of a Bouncing Ball. Physical Review Letters, 2013, 110, 254301.	7.8	28

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91	Energy Dissipation in Driven Granular Matter in the Absence of Gravity. Physical Review Letters, 2013, 111, 018001.	7.8	89
92	Micro-mechanics and dynamics of cohesive particle systems. Granular Matter, 2013, 15, 389-390.	2.2	4
93	Relaxation of a spring with an attached granular damper. New Journal of Physics, 2013, 15, 093023.	2.9	13
94	Characteristics of large three-dimensional heaps of particles produced by ballistic deposition from extended sources. Philosophical Magazine, 2013, 93, 4090-4107.	1.6	5
95	Collective granular dynamics in a shaken container at low gravity conditions. , 2013, , .		6
96	Event-driven DEM of soft spheres. , 2013, , .		1
97	Numerical modeling of the wind flow over a transverse dune. Scientific Reports, 2013, 3, 2858.	3.3	46
98	Recurrent inflation and collapse in horizontally shaken granular materials. Physical Review E, 2012, 85, 031307.	2.1	8
99	Nonuniformities in the Angle of Repose and Packing Fraction of Large Heaps of Particles. Physical Review Letters, 2012, 109, 128001.	7.8	15
100	Hydrodynamics at the Navier-Stokes level applied to fast, transient, supersonic granular flows. , 2012, , .		0
101	Granular dampers for the reduction of vibrations of an oscillatory saw. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 4442-4447.	2.6	48
102	Oblique impact of frictionless spheres: on the limitations of hard sphere models for granular dynamics. Granular Matter, 2012, 14, 115-120.	2.2	23
103	Coefficient of restitution as a fluctuating quantity. Physical Review E, 2011, 84, 041306.	2.1	49
104	Movers and shakers: Granular damping in microgravity. Physical Review E, 2011, 84, 011301.	2.1	61
105	Collision of viscoelastic spheres: Compact expressions for the coefficient of normal restitution. Physical Review E, 2011, 84, 021302.	2.1	38
106	Correlation of spin and velocity in the homogeneous cooling state of a granular gas of rough particles. European Physical Journal: Special Topics, 2009, 179, 91-111.	2.6	23
107	Coefficient of tangential restitution for viscoelastic spheres. European Physical Journal E, 2008, 27, 107-114.	1.6	56
108	Coefficient of restitution for viscoelastic spheres: The effect of delayed recovery. Physical Review E, 2008, 78, 051304.	2.1	87

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109	Fractal Substructure of a Nanopowder. Physical Review Letters, 2008, 100, 218002.	7.8	22
110	Granular hydrodynamics and pattern formation in vertically oscillated granular disk layers. Journal of Fluid Mechanics, 2008, 597, 119-144.	3.4	27
111	Translations and Rotations Are Correlated in Granular Gases. Physical Review Letters, 2007, 98, 128001.	7.8	65
112	Collision dynamics of granular particles with adhesion. Physical Review E, 2007, 76, 051302.	2.1	134
113	Coefficient of restitution and linearâ€“dashpot model revisited. Granular Matter, 2007, 9, 465-469.	2.2	145
114	Breakdown of the Sonine expansion for the velocity distribution of granular gases. Europhysics Letters, 2006, 74, 424-430.	2.0	53
115	Impact of high-energy tails on granular gas properties. Physical Review E, 2006, 74, 041302.	2.1	15
116	Transient Structures in a Granular Gas. Physical Review Letters, 2004, 93, 134301.	7.8	62
117	Long-time behavior of granular gases with impact-velocity dependent coefficient of restitution. Physica A: Statistical Mechanics and Its Applications, 2003, 325, 274-283.	2.6	31
118	Close-Packed Floating Clusters: Granular Hydrodynamics Beyond the Freezing Point?. Physical Review Letters, 2003, 91, 024301.	7.8	84
119	Hydrodynamics and transport coefficients for dilute granular gases. Physical Review E, 2003, 67, 061304.	2.1	43
120	VIOLATION OF MOLECULAR CHAOS IN DISSIPATIVE GASES. International Journal of Modern Physics C, 2002, 13, 1263-1272.	1.7	69
121	Vertically shaken column of spheres. Onset of fluidization. European Physical Journal E, 2001, 4, 233-239.	1.6	11
122	Convection in horizontally shaken granular material. European Physical Journal E, 2000, 1, 55-59.	1.6	17
123	Deviation from Maxwell distribution in granular gases with constant restitution coefficient. Physical Review E, 2000, 61, 2809-2812.	2.1	80
124	Velocity distribution in granular gases of viscoelastic particles. Physical Review E, 2000, 61, 5573-5587.	2.1	92
125	Onset of fluidization in vertically shaken granular material. Physical Review E, 2000, 62, 1361-1367.	2.1	18
126	Coefficient of restitution of colliding viscoelastic spheres. Physical Review E, 1999, 60, 4465-4472.	2.1	309

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127	Dissipative properties of vibrated granular materials. Physical Review E, 1999, 59, 4422-4425.	2.1	113
128	Coefficient of normal restitution of viscous particles and cooling rate of granular gases. Physical Review E, 1998, 57, 650-654.	2.1	194
129	Langevin equation approach to granular flow in a narrow pipe. Journal of Statistical Physics, 1997, 86, 421-430.	1.2	20
130	The granular phase diagram. Journal of Statistical Physics, 1997, 86, 1385-1395.	1.2	231
131	Model for collisions in granular gases. Physical Review E, 1996, 53, 5382-5392.	2.1	695
132	Swirling granular matter: From rotation to reptation. Physical Review E, 1996, 54, R4560-R4563.	2.1	20
133	Molecular Dynamics of Arbitrarily Shaped Granular Particles. Journal De Physique, I, 1995, 5, 1431-1455.	1.2	37
134	Numerical investigations of the evolution of sandpiles. Physica A: Statistical Mechanics and Its Applications, 1994, 202, 390-401.	2.6	45
135	Recurrent clogging and density waves in granular material flowing through a narrow pipe. Journal De Physique, I, 1994, 4, 499-506.	1.2	37