Matthias Sperl

List of Publications by Year in descending order

53 papers	1,973 citations	331642 21 h-index	243610 44 g-index
53 all docs	53 docs citations	53 times ranked	1557 citing authors

#	Article	IF	Citations
1	Jamming Transition in Granular Systems. Physical Review Letters, 2007, 98, 058001.	7.8	398
2	Higher-order glass-transition singularities in colloidal systems with attractive interactions. Physical Review E, 2000, 63, 011401.	2.1	367
3	Experiments on corn pressure in silo cells â€“ translation and comment of Janssen's paper from 1895. Granular Matter, 2006, 8, 59-65.	2.2	203
4	Nearly Logarithmic Decay of Correlations in Glass-Forming Liquids. Physical Review Letters, 2004, 92, 105701.	7.8	82
5	Dynamic glass transition in two dimensions. Physical Review E, 2007, 76, 011508.	2.1	71
6	Pressure and motion of dry sand: translation of Hagenâ€™s paper from 1852. Granular Matter, 2007, 9, 141-144.	2.2	71
7	Logarithmic relaxation in a colloidal system. Physical Review E, 2003, 68, 031405.	2.1	65
8	Glass Transition for Driven Granular Fluids. Physical Review Letters, 2010, 104, 225701.	7.8	59
9	Jamming for a 2D granular material. Soft Matter, 2010, 6, 2982.	2.7	57
10	EAC-1A: A novel large-volume lunar regolith simulant. Scientific Reports, 2020, 10, 5473.	3.3	40
11	Feasibility study on additive manufacturing of recyclable objects for space applications. Additive Manufacturing, 2018, 24, 400-404.	3.0	35
12	Double origin of stochastic granular tribocharging. Soft Matter, 2018, 14, 4987-4995.	2.7	35
13	Fluctuations, correlations and transitions in granular materials: statistical mechanics for a non-conventional system. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 493-504.	3.4	34
14	Spatial Distributions of Local Elastic Moduli Near the Jamming Transition. Physical Review Letters, 2016, 116, 068302.	7.8	34
15	Nearly logarithmic decay in the colloidal hard-sphere system. Physical Review E, 2005, 71, 060401.	2.1	33
16	Cole-Cole law for critical dynamics in glass-forming liquids. Physical Review E, 2006, 74, 011503.	2.1	33
17	Velocity Distribution of a Homogeneously Cooling Granular Gas. Physical Review Letters, 2020, 124, 208007.	7.8	27
18	Disconnected Glass-Glass Transitions and Diffusion Anomalies in a Model with Two Repulsive Length Scales. Physical Review Letters, 2010, 104, 145701.	7.8	26

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19	Glass transition in driven granular fluids: A mode-coupling approach. Physical Review E, 2013, 87, 022207.	2.1	26
20	Dynamics in colloidal liquids near a crossing of glass- and gel-transition lines. Physical Review E, 2004, 69, 011401.	2.1	25
21	Active microrheology of driven granular particles. Physical Review E, 2014, 89, 042209.	2.1	25
22	Investigation on Wetting and Melting Behavior of Lunar Regolith Simulant for Additive Manufacturing Application. Microgravity Science and Technology, 2019, 31, 161-167.	1.4	23
23	An instrument for studying granular media in low-gravity environment. Review of Scientific Instruments, 2018, 89, 075103.	1.3	18
24	Multiple Glass Singularities and Isodynamics in a Core-Softened Model for Glass-Forming Systems. Physical Review Letters, 2014, 113, 258302.	7.8	17
25	Monitoring three-dimensional packings in microgravity. Granular Matter, 2014, 16, 165-173.	2.2	15
26	Single-particle dynamics in dense granular fluids under driving. Europhysics Letters, 2012, 98, 28001.	2.0	14
27	Thinning and thickening in active microrheology. Physical Review E, 2016, 93, 022606.	2.1	14
28	Rheology of Inelastic Hard Spheres at Finite Density and Shear Rate. Physical Review Letters, 2018, 121, 148002.	7.8	11
29	Acoustic waves in granular packings at low confinement pressure. Review of Scientific Instruments, 2020, 91, 033906.	1.3	11
30	Dense fluidized granular media in microgravity. Npj Microgravity, 2017, 3, 27.	3.7	8
31	Magnetically excited granular matter in low gravity. Review of Scientific Instruments, 2019, 90, 054501.	1.3	8
32	Additional Transition Line in Jammed Asymmetric Bidisperse Granular Packings. Physical Review Letters, 2020, 125, 215501.	7.8	8
33	Integration through transients approach to the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î¼</mml:mi><mml:mo>(</mml:mo><mml:mi) Tj ETQq Review E, 2020, 102, 032602.	2.1	8
34	Soft matter dynamics: A versatile microgravity platform to study dynamics in soft matter. Review of Scientific Instruments, 2021, 92, 124503.	1.3	7
35	Glassy dynamics of Brownian particles with velocity-dependent friction. Physical Review E, 2016, 94, 032602.	2.1	6
36	Effects of variable gravity conditions on additive manufacture by fused filament fabrication using polylactic acid thermoplastic filament. Additive Manufacturing, 2019, 28, 814-820.	3.0	6

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37	Experimental and numerical study on energy dissipation in freely cooling granular gases under microgravity. Chinese Physics B, 2018, 27, 084501.	1.4	5
38	Magnetic excitation of a granular gas as a bulk thermostat. Npj Microgravity, 2019, 5, 19.	3.7	5
39	Force chains in crystalline and frustrated packing visualized by stress-birefringent spheres. Soft Matter, 2021, 17, 4317-4327.	2.7	5
40	Rheology of granular liquids in extensional flows: Beyond the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Î¼</mml:mi><mml:mo>(</mml:mo><mml:mi) Tj ETQq0 0 E, 2021, 104, 014604.	2.1	5
41	Integration through transients for inelastic hard sphere fluids. Physical Review Fluids, 2020, 5, .	2.5	5
42	Higher-Order Singularities without Glass-Glass Transitions. Progress of Theoretical Physics Supplement, 2010, 184, 211-221.	0.1	4
43	Driven granular fluids. European Physical Journal: Special Topics, 2017, 226, 3079-3094.	2.6	4
44	Temperature expansions in the square-shoulder fluid. II. Thermodynamics. Journal of Chemical Physics, 2020, 152, 124113.	3.0	4
45	Granular ionic crystals in a small nutshell. Soft Matter, 2019, 15, 7179-7186.	2.7	3
46	Characteristics of a Magnetic Bulk Thermostat for Granular Gas Investigations in Microgravity. Microgravity Science and Technology, 2021, 33, 1.	1.4	3
47	Granular cooling of ellipsoidal particles in microgravity. Npj Microgravity, 2022, 8, 11.	3.7	3
48	Temperature expansions in the square-shoulder fluid. I. The Wienerâ€“Hopf function. Journal of Chemical Physics, 2020, 152, 124112.	3.0	2
49	Magnetically heated granular gas in a low-gravity environment. EPJ Web of Conferences, 2021, 249, 04002.	0.3	2
50	Asymptotic description of schematic models for CKN. Journal of Non-Crystalline Solids, 2006, 352, 4851-4856.	3.1	1
51	Drop Tower Setup for Dynamic Light Scattering in Dense Gas-Fluidized Granular Media. Microgravity Science and Technology, 2016, 28, 413-420.	1.4	1
52	Kinetic theory for strong uniform shear flow of granular media at high density. EPJ Web of Conferences, 2017, 140, 03064.	0.3	1
53	Singularities for dynamical arrest in disordered systems. Proceedings in Applied Mathematics and Mechanics, 2007, 7, 1090609-1090610.	0.2	0