

Xiaojing Zheng

List of Publications by Year in descending order

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117
papers

2,099
citations

257450

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h-index

315739

38
g-index

119
all docs

119
docs citations

119
times ranked

1100
citing authors

#	ARTICLE	IF	CITATIONS
1	Very large scale motions in the atmospheric surface layer: a field investigation. <i>Journal of Fluid Mechanics</i> , 2016, 802, 464-489.	3.4	111
2	Mechanics of Wind-blown Sand Movements. <i>Environmental Science and Engineering</i> , 2009, , .	0.2	107
3	A nonlinear constitutive model for magnetostrictive materials. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2005, 21, 278-285.	3.4	86
4	A general expression of magnetic force for soft ferromagnetic plates in complex magnetic fields. <i>International Journal of Engineering Science</i> , 1997, 35, 1405-1417.	5.0	67
5	A general nonlinear magnetomechanical model for ferromagnetic materials under a constant weak magnetic field. <i>Journal of Applied Physics</i> , 2016, 119, .	2.5	67
6	A one-dimension coupled hysteresis model for giant magnetostrictive materials. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 309, 263-271.	2.3	57
7	A nonlinear magneto-thermo-elastic coupled hysteretic constitutive model for magnetostrictive alloys. <i>Journal of Magnetism and Magnetic Materials</i> , 2012, 324, 1954-1961.	2.3	55
8	Vertical profiles of mass flux for windblown sand movement at steady state. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	49
9	Experimental researches on magneto-thermo-mechanical characterization of Terfenol-D. <i>Acta Mechanica Solida Sinica</i> , 2007, 20, 283-288.	1.9	47
10	Thermo-magneto-elastoplastic coupling model of metal magnetic memory testing method for ferromagnetic materials. <i>Journal of Applied Physics</i> , 2018, 123, .	2.5	47
11	Wall-attached and wall-detached eddies in wall-bounded turbulent flows. <i>Journal of Fluid Mechanics</i> , 2020, 885, .	3.4	45
12	Numerical simulation on coupling behavior of Terfenol-D rods. <i>International Journal of Solids and Structures</i> , 2006, 43, 1613-1623.	2.7	44
13	Attenuation of an electromagnetic wave by charged dust particles in a sandstorm. <i>Applied Optics</i> , 2010, 49, 6756.	2.1	39
14	Large-scale coherent structures of suspended dust concentration in the neutral atmospheric surface layer: A large-eddy simulation study. <i>Physics of Fluids</i> , 2018, 30, .	4.0	38
15	Amplitude modulation between multi-scale turbulent motions in high-Reynolds-number atmospheric surface layers. <i>Journal of Fluid Mechanics</i> , 2019, 861, 585-607.	3.4	35
16	The comparison between the Mie theory and the Rayleigh approximation to calculate the EM scattering by partially charged sand. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2012, 113, 251-258.	2.3	34
17	Investigation on very large scale motions (VLSMs) and their influence in a dust storm. <i>Science China: Physics, Mechanics and Astronomy</i> , 2013, 56, 306-314.	5.1	34
18	Very large scale motions and PM10 concentration in a high-Re boundary layer. <i>Physics of Fluids</i> , 2017, 29, .	4.0	32

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19	Transition Cooling Height of High-Temperature Superconductor Levitation System. IEEE Transactions on Applied Superconductivity, 2007, 17, 3862-3866.	1.7	29
20	Influence of interface energy and grain boundary on the elastic modulus of nanocrystalline materials. Acta Mechanica, 2010, 213, 223-234.	2.1	29
21	An electromagnetic method for removing the communication blackout with a space vehicle upon re-entry into the atmosphere. Journal of Applied Physics, 2017, 121, .	2.5	27
22	Quantitative Inversion of Stress and Crack in Ferromagnetic Materials Based on Metal Magnetic Memory Method. IEEE Transactions on Magnetics, 2018, 54, 1-11.	2.1	27
23	Large scale structures of turbulent flows in the atmospheric surface layer with and without sand. Physics of Fluids, 2020, 32, .	4.0	26
24	Theoretical analysis of electric field effect on Young's modulus of nanowires. Applied Physics Letters, 2006, 89, 153110.	3.3	25
25	Theoretical modeling of relative humidity on contact electrification of sand particles. Scientific Reports, 2014, 4, 4399.	3.3	25
26	Theoretical model of the electric field produced by charged particles in windblown sand flux. Journal of Geophysical Research, 2004, 109, .	3.3	24
27	Dynamic stability of a cantilever conductive plate in transverse impulsive magnetic field. International Journal of Solids and Structures, 2005, 42, 2417-2430.	2.7	24
28	Micromechanics of magnetostrictive composites. International Journal of Engineering Science, 2014, 81, 82-99.	5.0	24
29	The Scale Characteristics and Formation Mechanism of Aeolian Sand Streamers Based on Large Eddy Simulation. Journal of Geophysical Research D: Atmospheres, 2019, 124, 11372-11388.	3.3	23
30	Spatial length scales of large-scale structures in atmospheric surface layers. Physical Review Fluids, 2017, 2, .	2.5	22
31	The resonance frequency shift characteristic of Terfenol-D rods for magnetostrictive actuators. Smart Materials and Structures, 2012, 21, 045020.	3.5	21
32	Theoretical prediction of liftoff angular velocity distributions of sand particles in windblown sand flux. Journal of Geophysical Research, 2006, 111, .	3.3	20
33	Experimental analysis of sand particles' lift-off and incident velocities in wind-blown sand flux. Acta Mechanica Sinica/Lixue Xuebao, 2006, 21, 564-573.	3.4	20
34	Evaluation of the electrical properties of dust storms by multi-parameter observations and theoretical calculations. Earth and Planetary Science Letters, 2017, 461, 141-150.	4.4	20
35	A comparative study on the large-scale-resolving capability of wall-modeled large-eddy simulation. Physics of Fluids, 2020, 32, .	4.0	20
36	Influence of particle rotation on the oblique penetration in granular media. Physical Review E, 2012, 86, 061304.	2.1	18

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37	The scaling and dynamics of a projectile obliquely impacting a granular medium. <i>European Physical Journal E</i> , 2012, 35, 7.	1.6	18
38	Large-scale structures of wall-bounded turbulence in single- and two-phase flows: advancing understanding of the atmospheric surface layer during sandstorms. <i>Flow</i> , 2021, 1, .	2.6	18
39	Modulation of turbulence by saltating particles on erodible bed surface. <i>Journal of Fluid Mechanics</i> , 2021, 918, .	3.4	18
40	Numerical simulations of a dust devil and the electric field in it. <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	17
41	Simulation of the electrification of wind-blown sand. <i>European Physical Journal E</i> , 2012, 35, 1-8.	1.6	17
42	Effect of surface stress on the stiffness of micro/nanocantilevers: Nanowire elastic modulus measured by nano-scale tensile and vibrational techniques. <i>Journal of Applied Physics</i> , 2013, 113, 013508.	2.5	17
43	An anisotropic magneto-mechanical model of ferromagnetic materials for the magnetic memory testing method. <i>Journal of Applied Physics</i> , 2019, 125, .	2.5	17
44	Energy contributions by inner and outer motions in turbulent channel flows. <i>Physical Review Fluids</i> , 2018, 3, .	2.5	17
45	Multiscale mechanical behaviors in discrete materials: a review. <i>Acta Mechanica Solida Sinica</i> , 2010, 23, 579-591.	1.9	16
46	Quantifying the large-scale electrification equilibrium effects in dust storms using field observations at Qingtu Lake Observatory. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 17087-17097.	4.9	16
47	Laboratory measurement of saltating sand particles' angular velocities and simulation of its effect on saltation trajectory. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	15
48	A Dynamic Hysteresis Constitutive Relation for Giant Magnetostrictive Materials. <i>Mechanics of Advanced Materials and Structures</i> , 2009, 16, 516-521.	2.6	15
49	Unsteady saltation on Mars. <i>Icarus</i> , 2015, 260, 161-166.	2.5	15
50	Experimental study on the effects of particle-wall interactions on VLSM in sand-laden flows. <i>Journal of Fluid Mechanics</i> , 2021, 914, .	3.4	15
51	A laboratory test of the electrification phenomenon in wind-blown sand flux. <i>Science Bulletin</i> , 2001, 46, 417-420.	1.7	14
52	Electric field in windblown sand flux with thermal diffusion. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	14
53	Effects of hysteresis losses on dynamic behavior of magnetostrictive actuators. <i>Journal of Applied Physics</i> , 2011, 110, 093908.	2.5	14
54	Aerodynamic Analysis of an Airfoil With Leading Edge Pitting Erosion. <i>Journal of Solar Energy Engineering, Transactions of the ASME</i> , 2017, 139, .	1.8	14

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55	The model of active vibration control based on giant magnetostrictive materials. <i>Smart Materials and Structures</i> , 2019, 28, 085028.	3.5	14
56	A scaling improved inner-outer decomposition of near-wall turbulent motions. <i>Physics of Fluids</i> , 2021, 33, .	4.0	14
57	A three-dimensional strain model for the superconducting properties of strained International Thermonuclear Experimental Reactor Nb ₃ Sn strands. <i>Journal of Applied Physics</i> , 2012, 112, .	2.5	13
58	Numerical modeling of wind-blown sand on Mars. <i>European Physical Journal E</i> , 2014, 37, 36.	1.6	12
59	Large eddy simulation of high-Reynolds-number atmospheric boundary layer flow with improved near-wall correction. <i>Applied Mathematics and Mechanics (English Edition)</i> , 2020, 41, 33-50.	3.6	11
60	The Influence of Surface Stress Fluctuation on Saltation Sand Transport Around Threshold. <i>Journal of Geophysical Research F: Earth Surface</i> , 2020, 125, e2019JF005246.	2.8	11
61	Experimental investigation of the effects of particle near-wall motions on turbulence statistics in particle-laden flows. <i>Journal of Fluid Mechanics</i> , 2022, 943, .	3.4	11
62	Molecular dynamics simulation of the elastic properties of metal nanowires in a transverse electric field. <i>Nanotechnology</i> , 2007, 18, 385703.	2.6	10
63	A probability density function of liftoff velocities in mixed-size wind sand flux. <i>Science in China Series G: Physics, Mechanics and Astronomy</i> , 2008, 51, 976-985.	0.2	10
64	Characteristics of near-surface turbulence during a dust storm passing Minqin on March 19, 2010. <i>Science Bulletin</i> , 2010, 55, 3107-3112.	1.7	10
65	Theoretical prediction of electric fields in wind-blown sand. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 4494-4502.	3.3	10
66	Saltation transport rate in unsteady wind variations. <i>European Physical Journal E</i> , 2014, 37, 40.	1.6	10
67	Radial and Hoop Compressive Stresses in a Long Cylindrical Superconductor with Viscous Flux Flow. <i>Journal of Superconductivity and Novel Magnetism</i> , 2015, 28, 2255-2258.	1.8	10
68	The effect of gravity on turbulence modulation in particle-laden horizontal open channel flow. <i>Physics of Fluids</i> , 2021, 33, .	4.0	10
69	Effects of charged sand on electromagnetic wave propagation and its scattering field. <i>Science in China Series G: Physics, Mechanics and Astronomy</i> , 2006, 49, 77-87.	0.2	9
70	DPTM simulation of aeolian sand ripple. <i>Science in China Series G: Physics, Mechanics and Astronomy</i> , 2008, 51, 328-336.	0.2	9
71	Modification of the elastic properties of nanostructures with surface charges in applied electric fields. <i>European Journal of Mechanics, A/Solids</i> , 2010, 29, 337-347.	3.7	9
72	Multi-contact behaviors among Nb ₃ Sn strands associated with load cycles in a CS1 cable cross section. <i>Physica C: Superconductivity and Its Applications</i> , 2015, 508, 56-61.	1.2	9

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73	Effects of Leading Edge Defect on the Aerodynamic and Flow Characteristics of an S809 Airfoil. PLoS ONE, 2016, 11, e0163443.	2.5	9
74	Effects of the mid-air collision on sand saltation. Science in China Series G: Physics, Mechanics and Astronomy, 2008, 51, 1416-1426.	0.2	8
75	A three-dimensional analysis on lift-off velocities of sand grains in wind-blown sand flux. Earth Surface Processes and Landforms, 2008, 33, 1824-1838.	2.5	8
76	Transverse surface mechanical behavior and modified elastic modulus for charged nanostructures. Europhysics Letters, 2008, 83, 66007.	2.0	8
77	Elastic property of fcc metal nanowires via an atomic-scale analysis. Applied Physics Letters, 2008, 92, 231908.	3.3	8
78	Three-Dimensional Representation of Large-Scale Structures Based on Observations in Atmospheric Surface Layers. Journal of Geophysical Research D: Atmospheres, 2019, 124, 10753-10771.	3.3	8
79	Applicability of Taylor's Hypothesis for Estimating the Mean Streamwise Length Scale of Large-Scale Structures in the Near-Neutral Atmospheric Surface Layer. Boundary-Layer Meteorology, 2019, 172, 215-237.	2.3	8
80	Scale-dependent inclination angle of turbulent structures in stratified atmospheric surface layers. Journal of Fluid Mechanics, 2022, 942, .	3.4	8
81	Experimental study of morphology scaling of a projectile obliquely impacting into loose granular media. Granular Matter, 2013, 15, 725-734.	2.2	7
82	A viscoelastic constitutive model for magneto-mechanical coupling of magnetorheological elastomers. Smart Materials and Structures, 2017, 26, 115017.	3.5	7
83	Gusty wind disturbances and large-scale turbulent structures in the neutral atmospheric surface layer. Science China: Physics, Mechanics and Astronomy, 2019, 62, 1.	5.1	7
84	An investigation of particles effects on wall-normal velocity fluctuations in sand-laden atmospheric surface layer flows. Physics of Fluids, 2021, 33, .	4.0	7
85	Particle resolved simulation of sediment transport by a hybrid parallel approach. International Journal of Multiphase Flow, 2022, 152, 104072.	3.4	7
86	Saltation and suspension of wind-blown particle movement. Science in China Series G: Physics, Mechanics and Astronomy, 2008, 51, 1586-1596.	0.2	6
87	Electric field effects on Young's modulus of nanowires. Acta Mechanica Solida Sinica, 2009, 22, 511-523.	1.9	6
88	Criticality of post-impact motions of a projectile obliquely impacting a granular medium. Powder Technology, 2016, 301, 1044-1053.	4.2	6
89	Application of High-Order Compact Difference Scheme in the Computation of Incompressible Wall-Bounded Turbulent Flows. Computation, 2018, 6, 31.	2.0	6
90	A new beginning for Acta Mechanica Sinica. Acta Mechanica Sinica/Lixue Xuebao, 2021, 37, 1-1.	3.4	6

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91	Study of coherent structures and heat flux transportation under different stratification stability conditions in the atmospheric surface layer. <i>Physics of Fluids</i> , 2021, 33, .	4.0	6
92	Turbulent/Synoptic Separation and Coherent Structures in the Atmospheric Surface Layer for a Range of Surface Roughness. <i>Boundary-Layer Meteorology</i> , 2022, 182, 75-93.	2.3	6
93	Evolution of turbulent kinetic energy during the entire sandstorm process. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 8787-8803.	4.9	5
94	Multi-field coupling behavior of simply-supported conductive plate under the condition of a transverse strong impulsive magnetic field. <i>Acta Mechanica Solida Sinica</i> , 2006, 19, 203-211.	1.9	4
95	A simple phenomenological model for characterizing the coupled effect of strain states and temperature on the normal-state electrical resistivity in Nb ₃ Sn superconductors. <i>Journal of Applied Physics</i> , 2013, 114, 033905.	2.5	4
96	Numerical Simulation of the Mechanical Properties of the Nb ₃ Sn CICCs Under Transverse Cyclic Loads. <i>IEEE Transactions on Applied Superconductivity</i> , 2014, 24, 134-139.	1.7	4
97	An investigation for influence of intense thermal convection events on wall turbulence in the near-neutral atmospheric surface layer. <i>Physics of Fluids</i> , 2019, 31, 105106.	4.0	4
98	Characterization of Wind-blown Sand With Near-Wall Motions and Turbulence: From Grain-Scale Distributions to Sediment Transport. <i>Journal of Geophysical Research F: Earth Surface</i> , 2021, 126, e2021JF006234.	2.8	4
99	Differences of turbulence modulation by heavy particles on solid wall and erodible bed surface. <i>Physics of Fluids</i> , 2021, 33, 113305.	4.0	4
100	Probability of rebound and eject of sand particles in wind-blown sand movement. <i>Acta Mechanica Sinica/Lixue Xuebao</i> , 2007, 23, 471-475.	3.4	3
101	Transition region where the large-scale and very large scale motions coexist in atmospheric surface layer: wind tunnel investigation. <i>Journal of Turbulence</i> , 2014, 15, 172-185.	1.4	3
102	Effects of density ratio and diameter ratio on penetration of rotation projectile obliquely impacting a granular medium. <i>Engineering Computations</i> , 2015, 32, 1025-1040.	1.4	3
103	On dust concentration profile above an area source in a neutral atmospheric surface layer. <i>Environmental Fluid Mechanics</i> , 2017, 17, 1171-1188.	1.6	3
104	Effect of packing fraction on dynamic characteristics of granular materials under oblique impact. <i>Powder Technology</i> , 2018, 339, 211-222.	4.2	3
105	Multiscale Computational Method for Dynamic Thermo-Mechanical Problems of Composite Structures with Diverse Periodic Configurations in Different Subdomains. <i>Journal of Scientific Computing</i> , 2019, 79, 1630-1666.	2.3	3
106	Logarithmic energy profile of the streamwise velocity for wall-attached eddies along the spanwise direction in turbulent boundary layer. <i>Physics of Fluids</i> , 2021, 33, 105119.	4.0	3
107	Charging efficiency improvement by structuring lithium battery electrodes. <i>Journal of Applied Physics</i> , 2012, 111, .	2.5	2
108	The critical frequency of the large-scale vortices and the background turbulence in desert area. <i>Atmospheric Research</i> , 2014, 143, 293-300.	4.1	2

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109	Numerical investigation on transverse heat transfer properties in cross section of full size Nb3Sn CICC ITER conductor. AIP Advances, 2015, 5, 057124.	1.3	2
110	Evolution of windblown sand flux and dune field " Trans-scale modeling and simulation. Theoretical and Applied Mechanics Letters, 2011, 1, 042001.	2.8	1
111	Theoretical and experimental investigations on the resonance frequency shift characteristic of a ferromagnetic plate. European Journal of Mechanics, A/Solids, 2015, 50, 112-119.	3.7	1
112	MAGNETIC FORCE MODELS FOR MAGNETIZABLE ELASTIC BODIES IN THE MAGNETIC FIELD. , 2011, , 353-383.		1
113	High-frequency observation during sand and dust storms at the Qingtu Lake Observatory. Earth System Science Data, 2021, 13, 5819-5830.	9.9	1
114	Optimal track seeking control of dual-stage actuator for high density hard disk drives. Acta Mechanica Solida Sinica, 2006, 19, 297-306.	1.9	0
115	Monte Carlo simulation of the electromagnetic wave propagation in the duststorm. Science in China Series G: Physics, Mechanics and Astronomy, 2008, 51, 1001-1009.	0.2	0
116	Field Observations on the Turbulent Features of the Near-surface Flow Fields and Dust Transport During Dust Storms. Procedia IUTAM, 2015, 17, 13-19.	1.2	0
117	A mathematical conjecture associates Martian TARs with sand ripples. Open Geosciences, 2022, 14, 178-184.	1.7	0