

John M Gray

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

87
papers

3,664
citations

33
h-index

59
g-index

94
ext. papers

4,205
ext. citations

3.5
avg, IF

5.99
L-index

#	Paper	IF	Citations
87	Gravity-driven free surface flow of granular avalanches over complex basal topography. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 1999 , 455, 1841-1874	4.4	304
86	Shock waves, dead zones and particle-free regions in rapid granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2003 , 491, 161-181	3.7	227
85	Grain-size segregation and levee formation in geophysical mass flows. <i>Journal of Geophysical Research</i> , 2012 , 117, n/a-n/a		177
84	A theory for particle size segregation in shallow granular free-surface flows. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2005 , 461, 1447-1473	2.4	176
83	Particle-size segregation and diffusive remixing in shallow granular avalanches. <i>Journal of Fluid Mechanics</i> , 2006 , 569, 365	3.7	131
82	Granular flow in partially filled slowly rotating drums. <i>Journal of Fluid Mechanics</i> , 2001 , 441, 1-29	3.7	128
81	Particle Segregation in Dense Granular Flows. <i>Annual Review of Fluid Mechanics</i> , 2018 , 50, 407-433	2.2	124
80	A depth-averaged -rheology for shallow granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2014 , 755, 503-534	3.7	118
79	Channelized free-surface flow of cohesionless granular avalanches in a chute with shallow lateral curvature. <i>Journal of Fluid Mechanics</i> , 1999 , 392, 73-100	3.7	115
78	Pattern formation in granular avalanches. <i>Continuum Mechanics and Thermodynamics</i> , 1997 , 9, 341-345	3.5	111
77	Shock-Capturing and Front-Tracking Methods for Granular Avalanches. <i>Journal of Computational Physics</i> , 2002 , 175, 269-301	4.1	104
76	Segregation, recirculation and deposition of coarse particles near two-dimensional avalanche fronts. <i>Journal of Fluid Mechanics</i> , 2009 , 629, 387-423	3.7	99
75	Well-posed and ill-posed behaviour of the -rheology for granular flow. <i>Journal of Fluid Mechanics</i> , 2015 , 779, 794-818	3.7	98
74	Experimental investigation into segregating granular flows down chutes. <i>Physics of Fluids</i> , 2011 , 23, 013301	4.1	94
73	Multi-component particle-size segregation in shallow granular avalanches. <i>Journal of Fluid Mechanics</i> , 2011 , 678, 535-588	3.7	93
72	Underlying Asymmetry within Particle Size Segregation. <i>Physical Review Letters</i> , 2015 , 114, 238001	7.4	76
71	Large particle segregation, transport and accumulation in granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2010 , 652, 105-137	3.7	76

70	Fine-grained linings of leveed channels facilitate runout of granular flows. <i>Earth and Planetary Science Letters</i> , 2014 , 385, 172-180	5.3	69
69	A three-phase mixture theory for particle size segregation in shallow granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2006 , 550, 1	3.7	68
68	Gravity-driven granular free-surface flow around a circular cylinder. <i>Journal of Fluid Mechanics</i> , 2013 , 720, 314-337	3.7	61
67	Weak, strong and detached oblique shocks in gravity-driven granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2007 , 579, 113-136	3.7	60
66	Erosion-deposition waves in shallow granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2015 , 762, 35-67	3.7	54
65	Segregation-induced fingering instabilities in granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2012 , 709, 543-580	3.7	54
64	A two-dimensional depth-averaged μ -rheology for dense granular avalanches. <i>Journal of Fluid Mechanics</i> , 2016 , 787, 367-395	3.7	54
63	Flow of dense avalanches past obstructions. <i>Annals of Glaciology</i> , 2001 , 32, 281-284	2.5	50
62	Well-posed continuum equations for granular flow with compressibility and μ -rheology. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2017 , 473, 20160846	2.4	45
61	Asymmetric flux models for particle-size segregation in granular avalanches. <i>Journal of Fluid Mechanics</i> , 2014 , 757, 297-329	3.7	44
60	Granular jets and hydraulic jumps on an inclined plane. <i>Journal of Fluid Mechanics</i> , 2011 , 675, 87-116	3.7	44
59	Partial regularisation of the incompressible μ -rheology for granular flow. <i>Journal of Fluid Mechanics</i> , 2017 , 828, 5-32	3.7	43
58	Particle-size and -density segregation in granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2015 , 779, 622-668	3.7	42
57	Pattern selection by a granular wave in a rotating drum. <i>Physical Review E</i> , 2006 , 73, 061302	2.4	40
56	Deflecting dams and the formation of oblique shocks in snow avalanches at Flateyri, Iceland. <i>Journal of Geophysical Research</i> , 2007 , 112,		36
55	Breaking size segregation waves and particle recirculation in granular avalanches. <i>Journal of Fluid Mechanics</i> , 2008 , 596, 261-284	3.7	33
54	Segregation-induced finger formation in granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2016 , 809, 168-212	3.7	33
53	Multiple solutions for granular flow over a smooth two-dimensional bump. <i>Journal of Fluid Mechanics</i> , 2017 , 815, 77-116	3.7	31

52	Particle-size segregation in dense granular avalanches. <i>Comptes Rendus Physique</i> , 2015 , 16, 73-85	1.4	29
51	Time-dependent solutions for particle-size segregation in shallow granular avalanches. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2006 , 462, 947-972	2.4	29
50	Granular avalanches on the Moon: Mass-wasting conditions, processes, and features. <i>Journal of Geophysical Research E: Planets</i> , 2017 , 122, 1893-1925	4.1	28
49	Formation of levees, troughs and elevated channels by avalanches on erodible slopes. <i>Journal of Fluid Mechanics</i> , 2017 , 823, 278-315	3.7	22
48	Loss of Hyperbolicity and Ill-posedness of the Viscous-Plastic Sea Ice Rheology in Uniaxial Divergent Flow. <i>Journal of Physical Oceanography</i> , 1999 , 29, 2920-2929	2.4	22
47	Self-channelisation and levee formation in monodisperse granular flows. <i>Journal of Fluid Mechanics</i> , 2019 , 876, 591-641	3.7	20
46	Stable solutions of a scalar conservation law for particle-size segregation in dense granular avalanches. <i>European Journal of Applied Mathematics</i> , 2008 , 19, 61-86	1	20
45	Asymmetric breaking size-segregation waves in dense granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2016 , 794, 460-505	3.7	20
44	Constitutive relations for compressible granular flow in the inertial regime. <i>Journal of Fluid Mechanics</i> , 2019 , 874, 926-951	3.7	18
43	Large particle segregation, transport and accumulation in granular free-surface flows [ERRATUM]. <i>Journal of Fluid Mechanics</i> , 2010 , 657, 539-539	3.7	18
42	Stability of the Viscous-Plastic Sea Ice Rheology. <i>Journal of Physical Oceanography</i> , 1995 , 25, 971-978	2.4	18
41	Arrested coarsening of granular roll waves. <i>Physics of Fluids</i> , 2014 , 26, 123305	4.4	16
40	An accurate shock-capturing finite-difference method to solve the Savage-Hutter equations in avalanche dynamics. <i>Annals of Glaciology</i> , 2001 , 32, 263-267	2.5	16
39	Coupling rheology and segregation in granular flows. <i>Journal of Fluid Mechanics</i> , 2021 , 909,	3.7	16
38	Physik granularer Lawinen. <i>Physik Journal</i> , 1998 , 54, 37-43		15
37	The kinematics of bidisperse granular roll waves. <i>Journal of Fluid Mechanics</i> , 2018 , 848, 836-875	3.7	14
36	A dry snow pack model. <i>Cold Regions Science and Technology</i> , 1994 , 22, 135-148	3.8	13
35	Particle Image Velocimetry (PIV) for Granular Avalanches on Inclined Planes. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2003 , 195-218	0.3	13

34	Water movement in wet snow. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 1996 , 354, 465-500	3	12
33	Limiting stress states in granular avalanches. <i>Annals of Glaciology</i> , 1998 , 26, 272-276	2.5	12
32	Dense Granular Avalanches: Mathematical Description and Experimental Validation 2001 , 339-366		12
31	The compaction of polar snow packs. <i>Cold Regions Science and Technology</i> , 1995 , 23, 109-119	3.8	11
30	Frictional hysteresis and particle deposition in granular free-surface flows. <i>Journal of Fluid Mechanics</i> , 2019 , 875, 1058-1095	3.7	10
29	Methods of similitude in granular avalanche flows 1999 , 415-428		10
28	Phase change interactions and singular fronts. <i>Continuum Mechanics and Thermodynamics</i> , 1995 , 7, 387-414	3.4	10
27	Discrete and continuum modelling of grain size segregation during bedload transport. <i>Journal of Fluid Mechanics</i> , 2020 , 895,	3.7	9
26	On the inclusion of a velocity-dependent basal drag in avalanche models. <i>Annals of Glaciology</i> , 1998 , 26, 277-280	2.5	9
25	A phase-changing dry snowpack model. <i>Journal of Glaciology</i> , 1995 , 41, 11-29	3.4	9
24	Sea Ice Ridging Schemes. <i>Journal of Physical Oceanography</i> , 1996 , 26, 2420-2428	2.4	9
23	Retrogressive failure of a static granular layer on an inclined plane. <i>Journal of Fluid Mechanics</i> , 2019 , 869, 313-340	3.7	8
22	Bulbous head formation in bidisperse shallow granular flow over an inclined plane. <i>Journal of Fluid Mechanics</i> , 2019 , 866, 263-297	3.7	8
21	Particle size segregation in granular avalanches: A brief review of recent progress 2010 ,		8
20	Breaking size-segregation waves and mobility feedback in dense granular avalanches. <i>Granular Matter</i> , 2018 , 20, 1	2.6	7
19	Balance relations for classical mixtures containing a moving non-material surface with application to phase transitions. <i>Continuum Mechanics and Thermodynamics</i> , 1996 , 8, 171-187	3.5	7
18	Interaction models for mixtures with application to phase transitions. <i>International Journal of Engineering Science</i> , 1997 , 35, 55-74	5.7	6
17	Particle Size Segregation, Granular Shocks and Stratification Patterns 1998 , 697-702		6

16	An experimental scaling law for particle-size segregation in dense granular flows. <i>Journal of Fluid Mechanics</i> , 2021 , 916,	3.7	6
15	A hierarchy of particle-size segregation models: From polydisperse mixtures to depth-averaged theories 2013 ,		4
14	Limiting stress states in granular avalanches. <i>Annals of Glaciology</i> , 1998 , 26, 272-276	2.5	4
13	Rapid Granular Avalanches. <i>Lecture Notes in Applied and Computational Mechanics</i> , 2003 , 3-42	0.3	4
12	Shedding dynamics and mass exchange by dry granular waves flowing over erodible beds. <i>Earth and Planetary Science Letters</i> , 2019 , 523, 115700	5.3	3
11	The effect of change in thermal properties on the propagation of a periodic thermal wave: Application to a snow-buried rocky outcrop. <i>Journal of Geophysical Research</i> , 1995 , 100, 15267-15279		3
10	Large particle segregation in two-dimensional sheared granular flows. <i>Physical Review Fluids</i> , 2021 , 6,	2.8	3
9	Steady Motion of a Finite Granular Mass in a Rotating Drum. <i>Journal of Mechanics</i> , 2000 , 16, 67-72	1	2
8	On the inclusion of a velocity-dependent basal drag in avalanche models. <i>Annals of Glaciology</i> , 1998 , 26, 277-280	2.5	2
7	Size segregation of irregular granular materials captured by time-resolved 3D imaging. <i>Scientific Reports</i> , 2021 , 11, 8352	4.9	2
6	A phase-changing dry snowpack model. <i>Journal of Glaciology</i> , 1995 , 41, 11-29	3.4	1
5	Granular Avalanches on Complex Topography. <i>Solid Mechanics and Its Applications</i> , 1997 , 275-286	0.4	1
4	Shock Waves and Particle Size Segregation in Shallow Granular Flows. <i>Solid Mechanics and Its Applications</i> , 2000 , 269-276	0.4	1
3	Erosion-deposition dynamics and long distance propagation of granular avalanches. <i>Journal of Fluid Mechanics</i> , 2021 , 915,	3.7	1
2	Les instabilit� hydrodynamiques dans les �oulements granulaires g�ophysiques 2019 , 32-36	0.1	
1	Depth-hoar growth rates near a rocky outcrop. <i>Journal of Glaciology</i> , 1998 , 44, 477-484	3.4	