

Neil Balmforth

List of Publications by Citations

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131
papers

4,028
citations

37
h-index

58
g-index

142
ext. papers

4,609
ext. citations

3.5
avg, IF

5.79
L-index

#	Paper	IF	Citations
131	Yielding to Stress: Recent Developments in Viscoplastic Fluid Mechanics. <i>Annual Review of Fluid Mechanics</i> , 2014 , 46, 121-146	2.2	334
130	Granular collapse in two dimensions. <i>Journal of Fluid Mechanics</i> , 2005 , 538, 399	3.7	187
129	Solar pulsational stability - I. Pulsation-mode thermodynamics. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992 , 255, 603-631	4.3	144
128	A consistent thin-layer theory for Bingham plastics. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1999 , 84, 65-81	2.7	137
127	On the excitation mechanism in roAp stars. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001 , 323, 362-372	4.3	134
126	Solar pulsational stability - III. Acoustical excitation by turbulent convection. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992 , 255, 639-649	4.3	115
125	Tidal Conversion by Subcritical Topography. <i>Journal of Physical Oceanography</i> , 2002 , 32, 2900-2914	2.4	109
124	Ocean waves and ice sheets. <i>Journal of Fluid Mechanics</i> , 1999 , 395, 89-124	3.7	106
123	Dynamics of interfaces and layers in a stratified turbulent fluid. <i>Journal of Fluid Mechanics</i> , 1998 , 355, 329-358	3.7	93
122	Dynamics of roll waves. <i>Journal of Fluid Mechanics</i> , 2004 , 514, 1-33	3.7	91
121	Building a better snail: Lubrication and adhesive locomotion. <i>Physics of Fluids</i> , 2005 , 17, 113101	4.4	85
120	Visco-plastic models of isothermal lava domes. <i>Journal of Fluid Mechanics</i> , 2000 , 403, 37-65	3.7	78
119	Solitary Waves and Homoclinic Orbits. <i>Annual Review of Fluid Mechanics</i> , 1995 , 27, 335-373	2.2	74
118	Weakly nonlinear viscoplastic convection. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009 , 158, 36-45	2.7	66
117	A shocking display of synchrony. <i>Physica D: Nonlinear Phenomena</i> , 2000 , 143, 21-55	3.3	65
116	Shallow viscoplastic flow on an inclined plane. <i>Journal of Fluid Mechanics</i> , 2002 , 470, 1-29	3.7	63
115	Disturbing vortices. <i>Journal of Fluid Mechanics</i> , 2001 , 426, 95-133	3.7	60

114	Roll waves in mud. <i>Journal of Fluid Mechanics</i> , 2004 , 519, 33-54	3.7	58
113	Effluent stellar pulsation. <i>Astrophysical Journal</i> , 1990 , 362, 256	4.7	58
112	Tidal Conversion by Supercritical Topography. <i>Journal of Physical Oceanography</i> , 2009 , 39, 1965-1974	2.4	54
111	Blown by wind: nonlinear dynamics of aeolian sand ripples. <i>Physica D: Nonlinear Phenomena</i> , 2004 , 195, 207-228	3.3	53
110	Peristaltic pumping of viscous fluid in an elastic tube. <i>Journal of Fluid Mechanics</i> , 2011 , 672, 196-218	3.7	49
109	Viscoplastic flow over an inclined surface. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2006 , 139, 103-127	2.7	48
108	Bounds on horizontal convection. <i>Journal of Fluid Mechanics</i> , 2004 , 517, 55-70	3.7	48
107	Viscoplastic dam breaks and the Bostwick consistometer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007 , 142, 63-78	2.7	47
106	On the rheology of Pluronic F127 aqueous solutions. <i>Journal of Rheology</i> , 2017 , 61, 139-146	4.1	46
105	Identifying unstable modes in stratified shear layers. <i>Physics of Fluids</i> , 2010 , 22, 054104	4.4	45
104	Non-linear dynamics of the corotation torque. <i>Monthly Notices of the Royal Astronomical Society</i> , 2001 , 326, 833-851	4.3	45
103	Structural changes to the Sun through the solar cycle. <i>Monthly Notices of the Royal Astronomical Society</i> , 1996 , 278, 437-448	4.3	45
102	Solar pulsational stability - II. Pulsation frequencies. <i>Monthly Notices of the Royal Astronomical Society</i> , 1992 , 255, 632-638	4.3	45
101	Instability in flow through elastic conduits and volcanic tremor. <i>Journal of Fluid Mechanics</i> , 2005 , 527, 353-377	3.7	44
100	Elastic-plated gravity currents. <i>European Journal of Applied Mathematics</i> , 2015 , 26, 1-31	1	43
99	An Experimental Investigation of Internal Tide Generation by Two-Dimensional Topography. <i>Journal of Physical Oceanography</i> , 2008 , 38, 235-242	2.4	43
98	Stratified Kolmogorov flow. <i>Journal of Fluid Mechanics</i> , 2002 , 450, 131-167	3.7	43
97	Enhanced dispersion of near-inertial waves in an idealized geostrophic flow. <i>Journal of Marine Research</i> , 1998 , 56, 1-40	1.5	43

96	Shear instability in shallow water. <i>Journal of Fluid Mechanics</i> , 1999 , 387, 97-127	3.7	38
95	Near-inertial parametric subharmonic instability. <i>Journal of Fluid Mechanics</i> , 2008 , 607, 25-49	3.7	37
94	Dynamics of cooling domes of viscoplastic fluid. <i>Journal of Fluid Mechanics</i> , 2000 , 422, 225-248	3.7	34
93	Dynamics of vorticity defects in shear. <i>Journal of Fluid Mechanics</i> , 1997 , 333, 197-230	3.7	32
92	Tidally generated internal-wave attractors between double ridges. <i>Journal of Fluid Mechanics</i> , 2011 , 669, 354-374	3.7	31
91	Dam breaking by wave-induced erosional incision. <i>Journal of Geophysical Research</i> , 2008 , 113,		30
90	Viscoplastic flow over an inclined surface. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007 , 142, 219-243	2.7	30
89	Dynamics of cooling viscoplastic domes. <i>Journal of Fluid Mechanics</i> , 2004 , 499, 149-182	3.7	30
88	Extensional dynamics of viscoplastic filaments: II. Drips and bridges. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010 , 165, 1147-1160	2.7	29
87	Radiative damping of near-inertial oscillations in the mixed layer. <i>Journal of Marine Research</i> , 1999 , 57, 561-584	1.5	27
86	Peristaltic pumping of rigid objects in an elastic tube. <i>Journal of Fluid Mechanics</i> , 2011 , 672, 219-244	3.7	26
85	Being stable and discrete. <i>Physica D: Nonlinear Phenomena</i> , 2000 , 135, 212-232	3.3	25
84	Chaotic Pulse Trains. <i>SIAM Journal on Applied Mathematics</i> , 1994 , 54, 1291-1334	1.8	25
83	Viscoplastic slender-body theory. <i>Journal of Fluid Mechanics</i> , 2018 , 856, 870-897	3.7	25
82	Two-dimensional viscoplastic dambreaks. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016 , 238, 65-79	2.7	24
81	Thixotropic gravity currents. <i>Journal of Fluid Mechanics</i> , 2013 , 727, 56-82	3.7	24
80	Taylor's swimming sheet in a yield-stress fluid. <i>Journal of Fluid Mechanics</i> , 2017 , 828, 33-56	3.7	24
79	The feasibility of generating low-frequency volcano seismicity by flow through a deformable channel. <i>Geological Society Special Publication</i> , 2008 , 307, 45-56	1.7	24

78	Cyclic steps and roll waves in shallow water flow over an erodible bed. <i>Journal of Fluid Mechanics</i> , 2012 , 695, 35-62	3.7	23
77	Microelastohydrodynamics of Swimming Organisms Near Solid Boundaries in Complex Fluids. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2010 , 63, 267-294	1	23
76	The viscoplastic Stokes layer. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009 , 158, 46-53	2.7	23
75	Slip of Spreading Viscoplastic Droplets. <i>Langmuir</i> , 2015 , 31, 12071-5	4	22
74	What is the final shape of a viscoplastic slump?. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009 , 158, 91-100	2.7	22
73	Axisymmetric viscoplastic dambreaks and the slump test. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2018 , 258, 45-57	2.7	21
72	Synchronized family dynamics in globally coupled maps. <i>Chaos</i> , 1999 , 9, 738-754	3.3	21
71	Contact in a viscous fluid. Part 2. A compressible fluid and an elastic solid. <i>Journal of Fluid Mechanics</i> , 2010 , 646, 339-361	3.7	20
70	The onset of meandering in a barotropic jet. <i>Journal of Fluid Mechanics</i> , 2001 , 449, 85-114	3.7	20
69	A Necessary and Sufficient Instability Condition for Inviscid Shear Flow. <i>Studies in Applied Mathematics</i> , 1999 , 102, 309-344	2.1	20
68	Mixing-length theory and the excitation of solar acoustic oscillations. <i>Solar Physics</i> , 1990 , 128, 161-193	2.6	20
67	Stratified Kolmogorov flow. Part 2. <i>Journal of Fluid Mechanics</i> , 2005 , 528, 23-42	3.7	19
66	Continual skipping on water. <i>Journal of Fluid Mechanics</i> , 2011 , 669, 328-353	3.7	18
65	Extensional dynamics of viscoplastic filaments: I. Long-wave approximation and the Rayleigh instability. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2010 , 165, 1139-1146	2.7	18
64	Viscoplastic sheets and threads. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2013 , 193, 28-42	2.7	16
63	Dynamics of vorticity defects in stratified shear flow. <i>Journal of Fluid Mechanics</i> , 2012 , 694, 292-331	3.7	16
62	Topological entropy of one-dimensional maps: Approximations and bounds. <i>Physical Review Letters</i> , 1994 , 72, 80-83	7.4	16
61	Viscoplastic boundary layers. <i>Journal of Fluid Mechanics</i> , 2017 , 813, 929-954	3.7	15

60	Pulse Dynamics in an Unstable Medium. <i>SIAM Journal on Applied Mathematics</i> , 1997 , 57, 205-251	1.8	15
59	Surface tension driven fingering of a viscoplastic film. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2007 , 142, 143-149	2.7	15
58	Dewatering of fibre suspensions by pressure filtration. <i>Physics of Fluids</i> , 2016 , 28, 063304	4.4	15
57	Dam-breaking seiches. <i>Journal of Fluid Mechanics</i> , 2009 , 628, 1-21	3.7	14
56	The Lorenz-Bermi-Pasta-Ulam experiment. <i>Physica D: Nonlinear Phenomena</i> , 2000 , 138, 1-43	3.3	14
55	Long bubbles in tubes filled with viscoplastic fluid. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2016 , 238, 100-106	2.7	13
54	Contact in a viscous fluid. Part 1. A falling wedge. <i>Journal of Fluid Mechanics</i> , 2010 , 646, 327-338	3.7	13
53	Bounds on double-diffusive convection. <i>Journal of Fluid Mechanics</i> , 2006 , 569, 29	3.7	13
52	Diffusion-limited scalar cascades. <i>Journal of Fluid Mechanics</i> , 2003 , 482, 91-100	3.7	13
51	Granular and fluid washboards. <i>Journal of Fluid Mechanics</i> , 2012 , 692, 446-463	3.7	12
50	Synchronizing Moore and Spiegel. <i>Chaos</i> , 1997 , 7, 738-752	3.3	12
49	Shallow, gravity-driven flow in a poro-elastic layer. <i>Journal of Fluid Mechanics</i> , 2015 , 778, 335-360	3.7	11
48	Viscoplastic lubrication theory with application to bearings and the washboard instability of a planing plate. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2012 , 169-170, 74-90	2.7	11
47	Fingering instability in buoyancy-driven fluid-filled cracks. <i>Journal of Fluid Mechanics</i> , 2011 , 672, 60-77	3.7	11
46	Obstructed and channelized viscoplastic flow in a Hele-Shaw cell. <i>Journal of Fluid Mechanics</i> , 2016 , 790, 173-204	3.7	10
45	Locomotion over a viscoplastic film. <i>Journal of Fluid Mechanics</i> , 2013 , 727, 1-29	3.7	9
44	Roll waves on flowing cornstarch suspensions. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2005 , 338, 479-484	2.3	9
43	Surface wrinkling of a channelized flow. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2009 , 465, 123-142	2.4	8

42	Nonlinear ringing of polytropic disks. <i>Physica D: Nonlinear Phenomena</i> , 1996 , 97, 1-28	3.3	8
41	Equilibria of rapidly rotating polytropes. <i>Monthly Notices of the Royal Astronomical Society</i> , 1993 , 260, 253-272	4.3	8
40	From episodic avalanching to continuous flow in a granular drum. <i>Granular Matter</i> , 2018 , 20, 1	2.6	8
39	Gel-controlled droplet spreading. <i>Journal of Fluid Mechanics</i> , 2018 , 837, 115-128	3.7	7
38	The speed of an inclined ruck. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2015 , 471, 20140740	2.4	7
37	Slender axisymmetric Stokesian swimmers. <i>Journal of Fluid Mechanics</i> , 2014 , 746, 273-299	3.7	6
36	Visco-plastic fluids: From Theory to Application. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2009 , 158, 1-3	2.7	6
35	Dissipative descent: rocking and rolling down an incline. <i>Journal of Fluid Mechanics</i> , 2007 , 590, 295-318	3.7	6
34	Stability of vorticity defects in viscous shear. <i>Journal of Fluid Mechanics</i> , 1998 , 357, 199-224	3.7	6
33	Damping of surface waves by floating particles. <i>Physical Review Fluids</i> , 2019 , 4,	2.8	6
32	Flow-driven compaction of a fibrous porous medium. <i>Physical Review Fluids</i> , 2019 , 4,	2.8	6
31	Bulldozing of granular material. <i>Journal of Fluid Mechanics</i> , 2014 , 748, 143-174	3.7	5
30	BGK states from the bump-on-tail instability. <i>Communications in Nonlinear Science and Numerical Simulation</i> , 2012 , 17, 1989-1997	3.7	5
29	Double diffusive instability in a tall thin slot. <i>Journal of Fluid Mechanics</i> , 1998 , 375, 203-233	3.7	5
28	Instability of Rapidly Rotating Polytropes. <i>SIAM Journal on Applied Mathematics</i> , 1995 , 55, 298-331	1.8	5
27	Spreading of viscoplastic droplets. <i>Journal of Fluid Mechanics</i> , 2021 , 914,	3.7	5
26	Dynamics in coalescing critical layers. <i>Journal of Fluid Mechanics</i> , 2001 , 449, 115-139	3.7	4
25	Viscoplastic Asymptotics and Other Analytical Methods. <i>CISM International Centre for Mechanical Sciences, Courses and Lectures</i> , 2019 , 41-82	0.6	4

24	Instability of sheared density interfaces. <i>Journal of Fluid Mechanics</i> , 2019 , 860, 145-171	3.7	4
23	Instabilities in a staircase stratified shear flow. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2018 , 112, 1-19	1.4	3
22	Long-Wave Instability in Marginally Stable Shear Flows. <i>Physical Review Letters</i> , 1997 , 79, 4155-4158	7.4	3
21	Saturation of electrostatic instability in two-species plasma. <i>Journal of Plasma Physics</i> , 2002 , 68, 87-117	2.7	3
20	Obstructed viscoplastic flow in a Hele-Shaw cell. <i>Physical Review Fluids</i> , 2020 , 5,	2.8	3
19	Dewatering saturated, networked suspensions with a screw press. <i>Journal of Engineering Mathematics</i> , 2020 , 120, 1-28	1.2	3
18	Viscoplastic fingers and fractures in a Hele-Shaw cell. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021 , 289, 104492	2.7	3
17	An interacting particle model with compact hierarchical structure. <i>Physica D: Nonlinear Phenomena</i> , 2011 , 240, 101-113	3.3	2
16	On the bifurcation to moving fronts in discrete systems. <i>Nonlinearity</i> , 2005 , 18, 2145-2170	1.7	2
15	Noisy homoclinic pulse dynamics. <i>Chaos</i> , 2016 , 26, 043104	3.3	2
14	Building on Oldroyd's viscoplastic legacy: Perspectives and new developments. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2021 , 294, 104580	2.7	2
13	Viscoplastic surges down an incline. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2019 , 268, 1-11	2.7	1
12	Strato-rotational instability without resonance. <i>Journal of Fluid Mechanics</i> , 2018 , 846, 815-833	3.7	1
11	Stability of vorticity defects in viscoelastic shear flow. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 1997 , 72, 281-304	2.7	1
10	Convection in a slowly diffusing, weakly stratified salt field. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1998 , 238, 35-42	2.3	1
9	Pattern dynamics in a checkerboard map. <i>Chaos</i> , 2004 , 14, 784-92	3.3	1
8	Lubricated rolling over a pool. <i>Journal of Fluid Mechanics</i> , 2022 , 934,	3.7	1
7	Flow-destabilized seiches in a reservoir with a movable dam		1

- 6 On two-phase modeling of dewatering pulp suspensions. *AICHE Journal*, **2021**, 67, e17277 3.6 0
- 5 Indentation into a plastic fluid layer. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2019**, 475, 20180747 2.4
- 4 Rolling resistance of shallow granular deformation. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, **2017**, 473, 20170375 2.4
- 3 Flow-destabilized seiches in a reservoir with a movable dam. *Journal of Fluid Mechanics*, **2011**, 678, 294-336 3.6
- 2 Visco-plastic Fluids: From Theory to Application. *Applied Rheology*, **2008**, 18, 48-50 1.2
- 1 Sinuous Modes and Steady Warps of Polytropic Disks. *Annals of the New York Academy of Sciences*, **1995**, 773, 55-69 6.5