

E R Johnson

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129
papers

1,193
citations

16
h-index

26
g-index

137
ext. papers

1,291
ext. citations

3
avg, IF

4.69
L-index

#	Paper	IF	Citations
129	The motion of a vortex near two circular cylinders. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2004 , 460, 939-954	2.4	48
128	Stratified Taylor columns on a beta-plane. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1977 , 9, 159-177	1.4	46
127	Force acting on a square cylinder fixed in a free-surface channel flow. <i>Journal of Fluid Mechanics</i> , 2014 , 756, 716-727	3.7	41
126	Experimental study of the effect of rotation on nonlinear internal waves. <i>Physics of Fluids</i> , 2013 , 25, 056602	4.1	35
125	Nonlinear Rossby adjustment in a channel: beyond Kelvin waves. <i>Journal of Fluid Mechanics</i> , 1989 , 205, 469	3.7	35
124	The Reduced Ostrovsky Equation: Integrability and Breaking. <i>Studies in Applied Mathematics</i> , 2012 , 129, 414-436	2.1	32
123	The motion of a vortex near a gap in a wall. <i>Physics of Fluids</i> , 2004 , 16, 462-469	4.4	31
122	Trapped vortices in rotating flow. <i>Journal of Fluid Mechanics</i> , 1978 , 86, 209	3.7	31
121	Vortices near barriers with multiple gaps. <i>Journal of Fluid Mechanics</i> , 2005 , 531, 335-358	3.7	29
120	Rossby adjustment over a step. <i>Journal of Marine Research</i> , 1986 , 44, 713-738	1.5	27
119	Topographic waves and the evolution of coastal currents. <i>Journal of Fluid Mechanics</i> , 1985 , 160, 499-509	3.7	23
118	A simple model of Rossby-wave hydraulic behaviour. <i>Journal of Fluid Mechanics</i> , 1993 , 253, 359	3.7	20
117	The motion of a singular vortex near an escarpment. <i>Journal of Fluid Mechanics</i> , 2001 , 448, 335-365	3.7	19
116	Baroclinic and Barotropic Instabilities of Coastal Currents. <i>Journal of Physical Oceanography</i> , 1981 , 11, 209-230	2.4	19
115	The evolution of second mode internal solitary waves over variable topography. <i>Journal of Fluid Mechanics</i> , 2018 , 836, 238-259	3.7	19
114	A conformal-mapping technique for topographic-wave problems: semi-infinite channels and elongated basins. <i>Journal of Fluid Mechanics</i> , 1987 , 177, 395-405	3.7	17
113	Existence of Eigenvalues of a Linear Operator Pencil in a Curved Waveguide---Localized Shelf Waves on a Curved Coast. <i>SIAM Journal on Mathematical Analysis</i> , 2006 , 37, 1465-1481	1.7	16

112	The Scattering at Low Frequencies of Coastally Trapped Waves. <i>Journal of Physical Oceanography</i> , 1991 , 21, 913-932	2.4	16
111	Free-surface adjustment and topographic waves in coastal currents. <i>Journal of Fluid Mechanics</i> , 1990 , 219, 273	3.7	16
110	The trapping and scattering of topographic waves by estuaries and headlands. <i>Journal of Fluid Mechanics</i> , 1991 , 222, 501	3.7	16
109	Topographic waves in open domains. Part 1. Boundary conditions and frequency estimates. <i>Journal of Fluid Mechanics</i> , 1989 , 200, 69-76	3.7	15
108	Rotation-induced nonlinear wavepackets in internal waves. <i>Physics of Fluids</i> , 2014 , 26, 056606	4.4	14
107	Flow Patterns and Drag in Near-Critical Flow over Isolated Orography. <i>Journals of the Atmospheric Sciences</i> , 2004 , 61, 2909-2918	2.1	14
106	A point vortex model for the formation of ocean eddies by flow separation. <i>Physics of Fluids</i> , 2015 , 27, 016604	4.4	13
105	Wave-packet formation at the zero-dispersion point in the Gardner-Ostrovsky equation. <i>Physical Review E</i> , 2015 , 91, 051201	2.4	13
104	The point island approximation in vortex dynamics. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2005 , 99, 49-60	1.4	13
103	ROSSBYWAVEHYDRAULICS. <i>Annual Review of Fluid Mechanics</i> , 2001 , 33, 207-230	2.2	13
102	Dispersive effects in Rossby-wave hydraulics. <i>Journal of Fluid Mechanics</i> , 1999 , 401, 27-54	3.7	13
101	Topographic waves in open domains. Part 2. Bay modes and resonances. <i>Journal of Fluid Mechanics</i> , 1989 , 200, 77-93	3.7	13
100	Flow past cylindrical obstacles on a beta-plane. <i>Journal of Fluid Mechanics</i> , 1990 , 221, 349-382	3.7	13
99	Starting flow for an obstacle moving transversely in a rapidly rotating fluid. <i>Journal of Fluid Mechanics</i> , 1984 , 149, 71	3.7	13
98	Topographically bound vortices. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1978 , 11, 61-71	1.4	13
97	A Simple Model for Sheddies: Ocean Eddies Formed from Shed Vorticity. <i>Journal of Physical Oceanography</i> , 2016 , 46, 2961-2979	2.4	12
96	Wave patterns generated by an axisymmetric obstacle in a two-layer flow. <i>Experiments in Fluids</i> , 2013 , 54, 1	2.5	12
95	Steady nonlinear diffusion-driven flow. <i>Journal of Fluid Mechanics</i> , 2009 , 629, 299-309	3.7	12

94	Topographic waves in elliptical basins. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1987 , 37, 279-295	1.4	12
93	The Propagation of Internal Solitary Waves over Variable Topography in a Horizontally Two-Dimensional Framework. <i>Journal of Physical Oceanography</i> , 2018 , 48, 283-300	2.4	10
92	Deformation of vortex patches by boundaries. <i>Physics of Fluids</i> , 2013 , 25, 023602	4.4	10
91	Non-dispersive and weakly dispersive single-layer flow over an axisymmetric obstacle: the equivalent aerofoil formulation. <i>Journal of Fluid Mechanics</i> , 2007 , 574, 209-237	3.7	10
90	Quasigeostrophic flow over isolated elongated topography. <i>Deep-sea Research Part A, Oceanographic Research Papers</i> , 1982 , 29, 1085-1097		10
89	Orbital stability of periodic waves in the class of reduced Ostrovsky equations. <i>Journal of Differential Equations</i> , 2016 , 261, 3268-3304	2.1	10
88	Fast accurate computation of shelf waves for arbitrary depth profiles. <i>Continental Shelf Research</i> , 2010 , 30, 833-836	2.4	9
87	Topographically forced long waves on a sheared coastal current. Part 1. The weakly nonlinear response. <i>Journal of Fluid Mechanics</i> , 1997 , 343, 131-151	3.7	9
86	Vortical source-sink flow against a wall: The initial value problem and exact steady states. <i>Physics of Fluids</i> , 2006 , 18, 076601	4.4	9
85	Steady vortical flow around a finite plate. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2007 , 60, 65-72	1	9
84	The low-frequency scattering of Kelvin waves by stepped topography. <i>Journal of Fluid Mechanics</i> , 1990 , 215, 23	3.7	9
83	Finite depth stratified flow over topography on a beta-plane. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1979 , 12, 35-43	1.4	9
82	Movement of a finite body in channel flow. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016 , 472, 20160164	2.4	9
81	Localisation of coastal trapped waves by longshore variations in bottom topography. <i>Continental Shelf Research</i> , 2012 , 32, 130-137	2.4	8
80	Bay-trapped low-frequency oscillations in lakes. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2011 , 105, 48-60	1.4	8
79	Topographically forced long waves on a sheared coastal current. Part 2. Finite amplitude waves. <i>Journal of Fluid Mechanics</i> , 1997 , 343, 153-168	3.7	8
78	Low-frequency scattering of Kelvin waves by continuous topography. <i>Journal of Fluid Mechanics</i> , 1993 , 248, 173-201	3.7	8
77	Low-Frequency Barotropic Scattering on a Shelf Bordering an Ocean. <i>Journal of Physical Oceanography</i> , 1991 , 21, 720-727	2.4	8

76	Topographic Rossby waves above a random array of seamounts. <i>Journal of Fluid Mechanics</i> , 1988 , 191, 373	3.7	8
75	Taylor columns in horizontally sheared flow. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1983 , 24, 143-164		8
74	Inertial waves above an obstacle in an unbounded, rapidly rotating fluid. <i>Proceedings of the Royal Society of London Series A, Mathematical and Physical Sciences</i> , 1982 , 383, 71-87		8
73	Quasigeostrophic flow above sloping boundaries. <i>Deep-sea Research</i> , 1978 , 25, 1049-1071		8
72	A coupled model of interior balanced and boundary flow. <i>Ocean Modelling</i> , 2017 , 119, 1-12	3	7
71	Modified reduced Ostrovsky equation: integrability and breaking. <i>Physical Review E</i> , 2013 , 88, 021201	2.4	7
70	New families of vortex patch equilibria for the two-dimensional Euler equations. <i>Physics of Fluids</i> , 2017 , 29, 123602	4.4	7
69	Numerical simulation of wave propagation along a discontinuity in depth in a rotating annulus. <i>Computers and Fluids</i> , 2011 , 46, 442-447	2.8	7
68	Vortex scattering by step topography. <i>Journal of Fluid Mechanics</i> , 2007 , 571, 495-505	3.7	7
67	Orographically generated nonlinear waves in rotating and non-rotating two-layer flow. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2006 , 462, 3-20	2.4	7
66	Near-critical free-surface rotating flow over topography. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2004 , 460, 2865-2881	2.4	7
65	Whitham modulation theory for the Ostrovsky equation. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2017 , 473, 20160709	2.4	6
64	Geographically localised shelf waves on curved coasts. <i>Continental Shelf Research</i> , 2010 , 30, 1753-1760	2.4	6
63	Surf-zone vortices over stepped topography. <i>Journal of Fluid Mechanics</i> , 2004 , 511, 265-283	3.7	6
62	Steady rotating flows over a ridge. <i>Physics of Fluids</i> , 2005 , 17, 116601	4.4	6
61	Finite-amplitude topographic Rossby waves in a channel. <i>Physics of Fluids</i> , 1999 , 11, 107-120	4.4	6
60	Hybrid Coastal and Interior Modes for Two-Dimensional Homogeneous Flow in a Cylindrical Ocean*. <i>Journal of Physical Oceanography</i> , 1999 , 29, 93-118	2.4	6
59	Topographic eddies in multilayer flow. <i>Dynamics of Atmospheres and Oceans</i> , 1993 , 18, 1-27	1.9	6

58	Connection Formulae and Classification of Scattering Regions for Low-Frequency Shelf Waves. <i>Journal of Physical Oceanography</i> , 1989 , 19, 1301-1310	2.4	6
57	The Evolution of Internal Undular Bores over a Slope in the Presence of Rotation. <i>Studies in Applied Mathematics</i> , 2018 , 140, 465-482	2.1	5
56	Trapped modes in coastal waveguides. <i>Wave Motion</i> , 2012 , 49, 212-216	1.8	5
55	Internal solitary waves propagating through variable background hydrology and currents. <i>Ocean Modelling</i> , 2017 , 116, 134-145	3	5
54	Finite Rossby radius effects on vortex motion near a gap. <i>Physics of Fluids</i> , 2012 , 24, 066601	4.4	5
53	Spectral methods for coastal-trapped waves. <i>Continental Shelf Research</i> , 2011 , 31, 1481-1489	2.4	5
52	On steady linear diffusion-driven flow. <i>Journal of Fluid Mechanics</i> , 2008 , 606, 433-443	3.7	5
51	Stratified separated flow around a mountain with an inversion layer below the mountain top. <i>Journal of Fluid Mechanics</i> , 2006 , 556, 105	3.7	5
50	Steadily translating vortices near step topography. <i>Physics of Fluids</i> , 2005 , 17, 056601	4.4	5
49	Direct Calculation of Low-Frequency Coastally Trapped Waves and Their Scattering. <i>Journal of Atmospheric and Oceanic Technology</i> , 1993 , 10, 368-380	2	5
48	Topographic waves in a rotating stratified basin. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1989 , 45, 71-87	1.4	5
47	Scattering of Shelf Waves by Islands. <i>Journal of Physical Oceanography</i> , 1989 , 19, 1311-1316	2.4	5
46	Blood usage in transfusion-dependent patients. A theoretical model. <i>Transfusion</i> , 1984 , 24, 74-9	2.9	5
45	The effects of obstacle shape and viscosity in deep rotating flow over finite-height topography. <i>Journal of Fluid Mechanics</i> , 1982 , 120, 359-383	3.7	5
44	On geostrophic adjustment of a two-layer, uniformly rotating fluid in the presence of a step escarpment. <i>Journal of Marine Research</i> , 1995 , 53, 49-77	1.5	5
43	Topographic effect on oblique internal wave-wave interactions. <i>Journal of Fluid Mechanics</i> , 2018 , 856, 36-60	3.7	5
42	Modulational instability of co-propagating internal wavetrains under rotation. <i>Chaos</i> , 2015 , 25, 023109	3.3	4
41	The interaction of a mode-1 internal solitary wave with a step and the generation of mode-2 waves. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2019 , 113, 327-347	1.4	4

40	Meanders and Eddies from Topographic Transformation of Coastal-Trapped Waves. <i>Journal of Physical Oceanography</i> , 2014 , 44, 1133-1150	2.4	4
39	Potential Vorticity Dynamics of Coastal Outflows. <i>Journal of Physical Oceanography</i> , 2017 , 47, 1021-1041	2.4	4
38	Supercritical rotating flow over topography. <i>Physics of Fluids</i> , 2009 , 21, 066601	4.4	4
37	Necking in coating flow over periodic substrates. <i>Journal of Engineering Mathematics</i> , 2009 , 65, 171-178	1.2	4
36	Flow past a circular cylinder on a β -plane. <i>Journal of Fluid Mechanics</i> , 1993 , 251, 603-626	3.7	4
35	Instability in stratified rotating shear flow along ridges. <i>Journal of Marine Research</i> , 1997 , 55, 915-933	1.5	4
34	The long-wave vorticity dynamics of rotating buoyant outflows. <i>Journal of Fluid Mechanics</i> , 2017 , 822, 418-443	3.7	3
33	Gap-Leaping Vortical Currents. <i>Journal of Physical Oceanography</i> , 2009 , 39, 2665-2674	2.4	3
32	Laboratory study of vortex dipoles interacting with step topography. <i>Journal of Geophysical Research</i> , 2009 , 114,		3
31	The scattering of stratified topographic rossby waves by seafloor ridges. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1997 , 84, 29-52	1.4	3
30	Transcritical rotating flow over topography. <i>Journal of Fluid Mechanics</i> , 2007 , 590, 81-106	3.7	3
29	Two-dimensional leaps in near-critical flow over isolated orography. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2005 , 461, 3747-3763	2.4	3
28	Nonlinear western boundary current flow near a corner. <i>Dynamics of Atmospheres and Oceans</i> , 1991 , 15, 477-504	1.9	3
27	Slow energy transfer between regions supporting topographic waves. <i>Journal of Fluid Mechanics</i> , 1988 , 194, 1	3.7	3
26	On Dynamic Interactions Between Body Motion and Fluid Motion. <i>Studies in Systems, Decision and Control</i> , 2019 , 45-89	0.8	3
25	Beach vortices near circular topography. <i>Physics of Fluids</i> , 2016 , 28, 106602	4.4	3
24	Generation of mode 2 internal waves by the interaction of mode 1 waves with topography. <i>Journal of Fluid Mechanics</i> , 2019 , 880, 799-830	3.7	2
23	Wave packets in the anomalous Ostrovsky equation. <i>Physical Review E</i> , 2019 , 100, 043109	2.4	2

22	Geostrophic adjustment in a closed basin with islands. <i>Journal of Fluid Mechanics</i> , 2014 , 738, 358-377	3.7	2
21	Isobath variation and trapping of continental shelf waves. <i>Journal of Fluid Mechanics</i> , 2012 , 700, 283-303	3.7	2
20	The interaction of two vortices on a beta-plane. <i>Physics of Fluids</i> , 2001 , 13, 884-893	4.4	2
19	Boundary Currents, Free Currents and Dissipation in the Low-Frequency Scattering of Shelf Waves. <i>Journal of Physical Oceanography</i> , 1989 , 19, 1291-1300	2.4	2
18	Rapid formation of Taylor columns: Obstacles against sidewalls. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1990 , 52, 105-124	1.4	2
17	The decay of a dipolar vortex in a weakly dispersive environment. <i>Journal of Fluid Mechanics</i> , 2021 , 917,	3.7	2
16	The decay of Hill's vortex in a rotating flow. <i>Journal of Fluid Mechanics</i> , 2021 , 919,	3.7	2
15	Non-linear Topographic Effects in Two-Layer Flows. <i>Frontiers in Earth Science</i> , 2016 , 4,	3.5	2
14	The long-wave potential-vorticity dynamics of coastal fronts. <i>Journal of Fluid Mechanics</i> , 2020 , 888,	3.7	1
13	Generation of nonlinear internal waves by flow over topography: Rotational effects. <i>Physical Review E</i> , 2020 , 101, 033104	2.4	1
12	Localised continental shelf waves: geometric effects and resonant forcing. <i>Journal of Fluid Mechanics</i> , 2015 , 785, 54-77	3.7	1
11	Subsonic to Supersonic Nozzle Flows. <i>SIAM Journal on Applied Mathematics</i> , 2013 , 73, 175-194	1.8	1
10	Interactions of two vortices near step topography. <i>Physics of Fluids</i> , 2007 , 19, 126602	4.4	1
9	The evolution of an initially circular vortex near an escarpment. Part I: analytical results. <i>European Journal of Mechanics, B/Fluids</i> , 2002 , 21, 657-675	2.4	1
8	Wavefields forced by long obstacles on a beta-plane. <i>Journal of Fluid Mechanics</i> , 2000 , 406, 221-245	3.7	1
7	The weakly nonlinear limit of forced Rossby waves in a stepped channel. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2001 , 457, 2361-2378	2.4	1
6	Coastal outflow currents into a buoyant layer of arbitrary depth. <i>Journal of Fluid Mechanics</i> , 2019 , 858, 656-688	3.7	1
5	The Effect of a Variable Background Density Stratification and Current on Oceanic Internal Solitary Waves. <i>Fluids</i> , 2018 , 3, 96	1.6	1

- 4 Large-Amplitude Coastal Shelf Waves. *Geophysical Monograph Series*, **2014**, 229-253 1.1
- 3 Underbody and ground effects on rotating disc flow: a global scale inviscid study. *European Journal of Mechanics, B/Fluids*, **2006**, 25, 923-938 2.4
- 2 Discussion on a paper by D. D. liou. *Earthquake Engineering and Structural Dynamics*, **1983**, 11, 437-438 4
- 1 Comment on A note on the free-surface effect on the topographically induced vorticity field in a homogeneous flow by lee-or merkine. *Geophysical and Astrophysical Fluid Dynamics*, **1977**, 9, 327-329 1.4