E R Johnson

List of Publications by Year
in descending order

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135 papers	1,459 citations	430442 18 h-index	500791 28 g-index
137 all docs	137 docs citations	137 times ranked	618 citing authors

#	Article	IF	Citations
1	Stratified taylor columns on a beta-plane. Geophysical and Astrophysical Fluid Dynamics, 1977, 9, 159-177.	0.4	70
2	Force acting on a square cylinder fixed in a free-surface channel flow. Journal of Fluid Mechanics, 2014, 756, 716-727.	1.4	62
3	The motion of a vortex near two circular cylinders. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2004, 460, 939-954.	1.0	53
4	Experimental study of the effect of rotation on nonlinear internal waves. Physics of Fluids, 2013, 25, .	1.6	41
5	Nonlinear Rossby adjustment in a channel: beyond Kelvin waves. Journal of Fluid Mechanics, 1989, 205, 469.	1.4	40
6	The Reduced Ostrovsky Equation: Integrability and Breaking. Studies in Applied Mathematics, 2012, 129, 414-436.	1.1	39
7	Trapped vortices in rotating flow. Journal of Fluid Mechanics, 1978, 86, 209.	1.4	38
8	The motion of a vortex near a gap in a wall. Physics of Fluids, 2004, 16, 462-469.	1.6	32
9	Vortices near barriers with multiple gaps. Journal of Fluid Mechanics, 2005, 531, 335-358.	1.4	32
10	Rossby adjustment over a step. Journal of Marine Research, 1986, 44, 713-738.	0.3	30
11	Topographic waves and the evolution of coastal currents. Journal of Fluid Mechanics, 1985, 160, 499-509.	1.4	29
12	The evolution of second mode internal solitaryÂwaves over variable topography. Journal of Fluid Mechanics, 2018, 836, 238-259.	1.4	27
13	A simple model of Rossby-wave hydraulic behaviour. Journal of Fluid Mechanics, 1993, 253, 359.	1.4	23
14	Baroclinic and Barotropic Instabilities of Coastal Currents. Journal of Physical Oceanography, 1981, 11, 209-230.	0.7	21
15	The motion of a singular vortex near an escarpment. Journal of Fluid Mechanics, 2001, 448, 335-365.	1.4	20
16	The Scattering at Low Frequencies of Coastally Trapped Waves. Journal of Physical Oceanography, 1991, 21, 913-932.	0.7	19
17	Starting flow for an obstacle moving transversely in a rapidly rotating fluid. Journal of Fluid Mechanics, 1984, 149, 71.	1.4	18
18	A conformal-mapping technique for topographic-wave problems: semi-infinite channels and elongated basins. Journal of Fluid Mechanics, 1987, 177, 395-405.	1.4	18

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19	Topographicaily bound vortices. Geophysical and Astrophysical Fluid Dynamics, 1978, 11, 61-71.	0.4	17
20	Topographic waves in open domains. Part 1. Boundary conditions and frequency estimates. Journal of Fluid Mechanics, 1989, 200, 69-76.	1.4	17
21	Free-surface adjustment and topographic waves in coastal currents. Journal of Fluid Mechanics, 1990, 219, 273.	1.4	17
22	ROSSBYWAVEHYDRAULICS. Annual Review of Fluid Mechanics, 2001, 33, 207-230.	10.8	17
23	Existence of Eigenvalues of a Linear Operator Pencil in a Curved Waveguide---Localized Shelf Waves on a Curved Coast. SIAM Journal on Mathematical Analysis, 2006, 37, 1465-1481.	0.9	17
24	The trapping and scattering of topographic waves by estuaries and headlands. Journal of Fluid Mechanics, 1991, 222, 501.	1.4	16
25	Orbital stability of periodic waves in the class of reduced Ostrovsky equations. Journal of Differential Equations, 2016, 261, 3268-3304.	1.1	16
26	The Propagation of Internal Solitary Waves over Variable Topography in a Horizontally Two-Dimensional Framework. Journal of Physical Oceanography, 2018, 48, 283-300.	0.7	16
27	Dispersive effects in Rossby-wave hydraulics. Journal of Fluid Mechanics, 1999, 401, 27-54.	1.4	15
28	Topographic waves in elliptical basins. Geophysical and Astrophysical Fluid Dynamics, 1987, 37, 279-295.	0.4	14
29	Flow Patterns and Drag in Near-Critical Flow over Isolated Orography. Journals of the Atmospheric Sciences, 2004, 61, 2909-2918.	0.6	14
30	The point island approximation in vortex dynamics. Geophysical and Astrophysical Fluid Dynamics, 2005, 99, 49-60.	0.4	14
31	Wave patterns generated by an axisymmetric obstacle in a two-layer flow. Experiments in Fluids, 2013, 54, 1.	1.1	14
32	Rotation-induced nonlinear wavepackets in internal waves. Physics of Fluids, 2014, 26, .	1.6	14
33	Wave-packet formation at the zero-dispersion point in the Gardner-Ostrovsky equation. Physical Review E, 2015, 91, 051201.	0.8	14
34	A Simple Model for Sheddies: Ocean Eddies Formed from Shed Vorticity. Journal of Physical Oceanography, 2016, 46, 2961-2979.	0.7	14
35	Topographic waves in open domains. Part 2. Bay modes and resonances. Journal of Fluid Mechanics, 1989, 200, 77-93.	1.4	13
36	Flow past cylindrical obstacles on a beta-plane. Journal of Fluid Mechanics, 1990, 221, 349-382.	1.4	13

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37	A point vortex model for the formation of ocean eddies by flow separation. Physics of Fluids, 2015, 27, .	1.6	13
38	Movement of a finite body in channel flow. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160164.	1.0	13
39	Finite depth stratified flow over topography on a beta-plane. Geophysical and Astrophysical Fluid Dynamics, 1979, 12, 35-43.	0.4	12
40	The low-frequency scattering of Kelvin waves by stepped topography. Journal of Fluid Mechanics, 1990, 215, 23.	1.4	12
41	Vortical source-sink flow against a wall: The initial value problem and exact steady states. Physics of Fluids, 2006, 18, 076601.	1.6	12
42	Steady nonlinear diffusion-driven flow. Journal of Fluid Mechanics, 2009, 629, 299-309.	1.4	12
43	Localisation of coastal trapped waves by longshore variations in bottom topography. Continental Shelf Research, 2012, 32, 130-137.	0.9	12
44	Topographic effect on oblique internal waveâ€“wave interactions. Journal of Fluid Mechanics, 2018, 856, 36-60.	1.4	12
45	Inertial waves above an obstacle in an unbounded, rapidly rotating fluid. Proceedings of the Royal Society of London Series A, Mathematical and Physical Sciences, 1982, 383, 71-87.	1.5	11
46	A coupled model of interior balanced and boundary flow. Ocean Modelling, 2017, 119, 1-12.	1.0	11
47	New families of vortex patch equilibria for the two-dimensional Euler equations. Physics of Fluids, 2017, 29, .	1.6	11
48	Quasigeostrophic flow above sloping boundaries. Deep-sea Research, 1978, 25, 1049-1071.	1.5	10
49	Quasigeostrohpic flow over isolated elongated topography. Deep-sea Research Part A, Oceanographic Research Papers, 1982, 29, 1085-1097.	1.6	10
50	Low-frequency scattering of Kelvin waves by continuous topography. Journal of Fluid Mechanics, 1993, 248, 173-201.	1.4	10
51	Non-dispersive and weakly dispersive single-layer flow over an axisymmetric obstacle: the equivalent aerofoil formulation. Journal of Fluid Mechanics, 2007, 574, 209-237.	1.4	10
52	Vortex scattering by step topography. Journal of Fluid Mechanics, 2007, 571, 495-505.	1.4	10
53	Fast accurate computation of shelf waves for arbitrary depth profiles. Continental Shelf Research, 2010, 30, 833-836.	0.9	10
54	Deformation of vortex patches by boundaries. Physics of Fluids, 2013, 25, .	1.6	10

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55	The effects of obstacle shape and viscosity in deep rotating flow over finite-height topography. Journal of Fluid Mechanics, 1982, 120, 359-383.	1.4	9
56	Taylor columns in horizontally sheared flow. Geophysical and Astrophysical Fluid Dynamics, 1983, 24, 143-164.	0.4	9
57	Topographic Rossby waves above a random array of seamountains. Journal of Fluid Mechanics, 1988, 191, 373.	1.4	9
58	Topographically forced long waves on a sheared coastal current. Part 1. The weakly nonlinear response. Journal of Fluid Mechanics, 1997, 343, 131-151.	1.4	9
59	Steady vortical flow around a finite plate. Quarterly Journal of Mechanics and Applied Mathematics, 2007, 60, 65-72.	0.5	9
60	Spectral methods for coastal-trapped waves. Continental Shelf Research, 2011, 31, 1481-1489.	0.9	9
61	Bay-trapped low-frequency oscillations in lakes. Geophysical and Astrophysical Fluid Dynamics, 2011, 105, 48-60.	0.4	9
62	Meanders and Eddies from Topographic Transformation of Coastal-Trapped Waves. Journal of Physical Oceanography, 2014, 44, 1133-1150.	0.7	9
63	Low-Frequency Barotropic Scattering on a Shelf Bordering an Ocean. Journal of Physical Oceanography, 1991, 21, 720-727.	0.7	8
64	Topographically forced long waves on a sheared coastal current. Part 2. Finite amplitude waves. Journal of Fluid Mechanics, 1997, 343, 153-168.	1.4	8
65	Orographically generated nonlinear waves in rotating and non-rotating two-layer flow. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 3-20.	1.0	8
66	Numerical simulation of wave propagation along a discontinuity in depth in a rotating annulus. Computers and Fluids, 2011, 46, 442-447.	1.3	8
67	Near-critical free-surface rotating flow over topography. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2004, 460, 2865-2881.	1.0	7
68	Steadily translating vortices near step topography. Physics of Fluids, 2005, 17, 056601.	1.6	7
69	Geographically localised shelf waves on curved coasts. Continental Shelf Research, 2010, 30, 1753-1760.	0.9	7
70	Modified reduced Ostrovsky equation: Integrability and breaking. Physical Review E, 2013, 88, 021201.	0.8	7
71	Generation of mode 2 internal waves by the interaction of mode 1 waves with topography. Journal of Fluid Mechanics, 2019, 880, 799-830.	1.4	7
72	Topographic waves in a rotating stratified basin. Geophysical and Astrophysical Fluid Dynamics, 1989, 45, 71-87.	0.4	6

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73	Connection Formulae and Classification of Scattering Regions for Low-Frequency Shelf Waves. Journal of Physical Oceanography, 1989, 19, 1301-1310.	0.7	6
74	Topographic eddies in multilayer flow. Dynamics of Atmospheres and Oceans, 1993, 18, 1-27.	0.7	6
75	Direct Calculation of Low-Frequency Coastally Trapped Waves and Their Scattering. Journal of Atmospheric and Oceanic Technology, 1993, 10, 368-380.	0.5	6
76	Finite-amplitude topographic Rossby waves in a channel. Physics of Fluids, 1999, 11, 107-120.	1.6	6
77	Hybrid Coastal and Interior Modes for Two-Dimensional Homogeneous Flow in a Cylindrical Ocean*. Journal of Physical Oceanography, 1999, 29, 93-118.	0.7	6
78	Surf-zone vortices over stepped topography. Journal of Fluid Mechanics, 2004, 511, 265-283.	1.4	6
79	Steady rotating flows over a ridge. Physics of Fluids, 2005, 17, 116601.	1.6	6
80	Stratified separated flow around a mountain with an inversion layer below the mountain top. Journal of Fluid Mechanics, 2006, 556, 105.	1.4	6
81	On steady linear diffusion-driven flow. Journal of Fluid Mechanics, 2008, 606, 433-443.	1.4	6
82	Finite Rossby radius effects on vortex motion near a gap. Physics of Fluids, 2012, 24, .	1.6	6
83	Whitham modulation theory for the Ostrovsky equation. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2017, 473, 20160709.	1.0	6
84	Potential Vorticity Dynamics of Coastal Outflows. Journal of Physical Oceanography, 2017, 47, 1021-1041.	0.7	6
85	The Evolution of Internal Undular Bores over a Slope in the Presence of Rotation. Studies in Applied Mathematics, 2018, 140, 465-482.	1.1	6
86	On Dynamic Interactions Between Body Motion and Fluid Motion. Studies in Systems, Decision and Control, 2019, , 45-89.	0.8	6
87	On geostrophic adjustment of a two-layer, uniformly rotating fluid in the presence of a step escarpment. Journal of Marine Research, 1995, 53, 49-77.	0.3	6
88	Blood usage in transfusion-dependent patients. A theoretical model. Transfusion, 1984, 24, 74-79.	0.8	5
89	Scattering of Shelf Waves by Islands. Journal of Physical Oceanography, 1989, 19, 1311-1316.	0.7	5
90	Nonlinear western boundary current flow near a corner. Dynamics of Atmospheres and Oceans, 1991, 15, 477-504.	0.7	5

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91	Flow past a circular cylinder on a Î²-plane. Journal of Fluid Mechanics, 1993, 251, 603-626.	1.4	5
92	Trapped modes in coastal waveguides. Wave Motion, 2012, 49, 212-216.	1.0	5
93	Localised continental shelf waves: geometric effects and resonant forcing. Journal of Fluid Mechanics, 2015, 785, 54-77.	1.4	5
94	Internal solitary waves propagating through variable background hydrology and currents. Ocean Modelling, 2017, 116, 134-145.	1.0	5
95	The long-wave vorticity dynamics of rotating buoyant outflows. Journal of Fluid Mechanics, 2017, 822, 418-443.	1.4	5
96	The interaction of a mode-1 internal solitary wave with a step and the generation of mode-2 waves. Geophysical and Astrophysical Fluid Dynamics, 2019, 113, 327-347.	0.4	5
97	The decay of a dipolar vortex in a weakly dispersive environment. Journal of Fluid Mechanics, 2021, 917, .	1.4	5
98	The decay of Hill's vortex in a rotating flow. Journal of Fluid Mechanics, 2021, 919, .	1.4	5
99	Instability in stratified rotating shear flow along ridges. Journal of Marine Research, 1997, 55, 915-933.	0.3	5
100	Supercritical rotating flow over topography. Physics of Fluids, 2009, 21, 066601.	1.6	4
101	Necking in coating flow over periodic substrates. Journal of Engineering Mathematics, 2009, 65, 171-178.	0.6	4
102	Modulational instability of co-propagating internal wavetrains under rotation. Chaos, 2015, 25, 023109.	1.0	4
103	Beach vortices near circular topography. Physics of Fluids, 2016, 28, .	1.6	4
104	Coastal outflow currents into a buoyant layer of arbitrary depth. Journal of Fluid Mechanics, 2019, 858, 656-688.	1.4	4
105	Generation of nonlinear internal waves by flow over topography: Rotational effects. Physical Review E, 2020, 101, 033104.	0.8	4
106	Slow energy transfer between regions supporting topographic waves. Journal of Fluid Mechanics, 1988, 194, 1.	1.4	3
107	Boundary Currents, Free Currents and Dissipation in the Low-Frequency Scattering of Shelf Waves. Journal of Physical Oceanography, 1989, 19, 1291-1300.	0.7	3
108	Rapid formation of taylor columns: Obstacles against sidewalls. Geophysical and Astrophysical Fluid Dynamics, 1990, 52, 105-124.	0.4	3

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109	The scattering of stratified topographic rossby waves by seafloor ridges. Geophysical and Astrophysical Fluid Dynamics, 1997, 84, 29-52.	0.4	3
110	Two-dimensional leaps in near-critical flow over isolated orography. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2005, 461, 3747-3763.	1.0	3
111	Transcritical rotating flow over topography. Journal of Fluid Mechanics, 2007, 590, 81-106.	1.4	3
112	Gap-Leaping Vortical Currents. Journal of Physical Oceanography, 2009, 39, 2665-2674.	0.7	3
113	Laboratory study of vortex dipoles interacting with step topography. Journal of Geophysical Research, 2009, 114, .	3.3	3
114	Isobath variation and trapping of continental shelf waves. Journal of Fluid Mechanics, 2012, 700, 283-303.	1.4	3
115	Resonant coupling of mode-1 and mode-2 internal waves by topography. Journal of Fluid Mechanics, 2021, 908, .	1.4	3
116	The interaction of two vortices on a beta-plane. Physics of Fluids, 2001, 13, 884-893.	1.6	2
117	The evolution of an initially circular vortex near an escarpment. Part I: analytical results. European Journal of Mechanics, B/Fluids, 2002, 21, 657-675.	1.2	2
118	Geostrophic adjustment in a closed basin with islands. Journal of Fluid Mechanics, 2014, 738, 358-377.	1.4	2
119	Non-linear Topographic Effects in Two-Layer Flows. Frontiers in Earth Science, 2016, 4, .	0.8	2
120	Wave packets in the anomalous Ostrovsky equation. Physical Review E, 2019, 100, 043109.	0.8	2
121	The effects of vertical mixing on nonlinear Kelvin waves. Journal of Fluid Mechanics, 2020, 903, .	1.4	2
122	The long-wave potential-vorticity dynamics of coastal fronts. Journal of Fluid Mechanics, 2020, 888, .	1.4	2
123	The propagation and decay of a coastal vortex on a shelf. Journal of Fluid Mechanics, 2021, 927, .	1.4	2
124	Vortex competition in coastal outflows. Journal of Marine Research, 2019, 77, 325-349.	0.3	2
125	Wavefields forced by long obstacles on a beta-plane. Journal of Fluid Mechanics, 2000, 406, 221-245.	1.4	1
126	The weakly nonlinear limit of forced Rossby waves in a stepped channel. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2001, 457, 2361-2378.	1.0	1

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127	Interactions of two vortices near step topography. Physics of Fluids, 2007, 19, .	1.6	1
128	Subsonic to Supersonic Nozzle Flows. SIAM Journal on Applied Mathematics, 2013, 73, 175-194.	0.8	1
129	The Effect of a Variable Background Density Stratification and Current on Oceanic Internal Solitary Waves. Fluids, 2018, 3, 96.	0.8	1
130	Comment on â€œA note on the free-surface effect on the topographicaily induced vorticity field in a homogeneous flowâ€•by lee-or merkine. Geophysical and Astrophysical Fluid Dynamics, 1977, 9, 327-329.	0.4	0
131	Discussion on a paper by D. D. liou. Earthquake Engineering and Structural Dynamics, 1983, 11, 437-438.	2.5	0
132	Underbody and ground effects on rotating disc flow: a global scale inviscid study. European Journal of Mechanics, B/Fluids, 2006, 25, 923-938.	1.2	0
133	On the slow motion of a spheroid in a rotating stratified fluid. Journal of Fluid Mechanics, 2016, 808, .	1.4	0
134	Trapped continental shelf waves with a free surface. Journal of Fluid Mechanics, 2020, 903, .	1.4	0
135	Hydraulic control of continental shelf waves. Journal of Fluid Mechanics, 2021, 917, .	1.4	0