

E R Johnson

List of Publications by Year in descending order

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135
papers

1,459
citations

430754

18
h-index

501076

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

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19	Topographically bound vortices. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1978, 11, 61-71.	0.4	17
20	Topographic waves in open domains. Part 1. Boundary conditions and frequency estimates. <i>Journal of Fluid Mechanics</i> , 1989, 200, 69-76.	1.4	17
21	Free-surface adjustment and topographic waves in coastal currents. <i>Journal of Fluid Mechanics</i> , 1990, 219, 273.	1.4	17
22	ROSSBYWAVEHYDRAULICS. <i>Annual Review of Fluid Mechanics</i> , 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. <i>SIAM Journal on Mathematical Analysis</i> , 2006, 37, 1465-1481.	0.9	17
24	The trapping and scattering of topographic waves by estuaries and headlands. <i>Journal of Fluid Mechanics</i> , 1991, 222, 501.	1.4	16
25	Orbital stability of periodic waves in the class of reduced Ostrovsky equations. <i>Journal of Differential Equations</i> , 2016, 261, 3268-3304.	1.1	16
26	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.	0.7	16
27	Dispersive effects in Rossby-wave hydraulics. <i>Journal of Fluid Mechanics</i> , 1999, 401, 27-54.	1.4	15
28	Topographic waves in elliptical basins. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1987, 37, 279-295.	0.4	14
29	Flow Patterns and Drag in Near-Critical Flow over Isolated Orography. <i>Journals of the Atmospheric Sciences</i> , 2004, 61, 2909-2918.	0.6	14
30	The point island approximation in vortex dynamics. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2005, 99, 49-60.	0.4	14
31	Wave patterns generated by an axisymmetric obstacle in a two-layer flow. <i>Experiments in Fluids</i> , 2013, 54, 1.	1.1	14
32	Rotation-induced nonlinear wavepackets in internal waves. <i>Physics of Fluids</i> , 2014, 26, .	1.6	14
33	Wave-packet formation at the zero-dispersion point in the Gardner-Ostrovsky equation. <i>Physical Review E</i> , 2015, 91, 051201.	0.8	14
34	A Simple Model for Sheddies: Ocean Eddies Formed from Shed Vorticity. <i>Journal of Physical Oceanography</i> , 2016, 46, 2961-2979.	0.7	14
35	Topographic waves in open domains. Part 2. Bay modes and resonances. <i>Journal of Fluid Mechanics</i> , 1989, 200, 77-93.	1.4	13
36	Flow past cylindrical obstacles on a beta-plane. <i>Journal of Fluid Mechanics</i> , 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. <i>Physics of Fluids</i> , 2015, 27, .	1.6	13
38	Movement of a finite body in channel flow. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2016, 472, 20160164.	1.0	13
39	Finite depth stratified flow over topography on a beta-plane. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1979, 12, 35-43.	0.4	12
40	The low-frequency scattering of Kelvin waves by stepped topography. <i>Journal of Fluid Mechanics</i> , 1990, 215, 23.	1.4	12
41	Vortical source-sink flow against a wall: The initial value problem and exact steady states. <i>Physics of Fluids</i> , 2006, 18, 076601.	1.6	12
42	Steady nonlinear diffusion-driven flow. <i>Journal of Fluid Mechanics</i> , 2009, 629, 299-309.	1.4	12
43	Localisation of coastal trapped waves by longshore variations in bottom topography. <i>Continental Shelf Research</i> , 2012, 32, 130-137.	0.9	12
44	Topographic effect on oblique internal wave-wave interactions. <i>Journal of Fluid Mechanics</i> , 2018, 856, 36-60.	1.4	12
45	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.	1.5	11
46	A coupled model of interior balanced and boundary flow. <i>Ocean Modelling</i> , 2017, 119, 1-12.	1.0	11
47	New families of vortex patch equilibria for the two-dimensional Euler equations. <i>Physics of Fluids</i> , 2017, 29, .	1.6	11
48	Quasigeostrophic flow above sloping boundaries. <i>Deep-sea Research</i> , 1978, 25, 1049-1071.	1.5	10
49	Quasigeostrophic flow over isolated elongated topography. <i>Deep-sea Research Part A, Oceanographic Research Papers</i> , 1982, 29, 1085-1097.	1.6	10
50	Low-frequency scattering of Kelvin waves by continuous topography. <i>Journal of Fluid Mechanics</i> , 1993, 248, 173-201.	1.4	10
51	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.	1.4	10
52	Vortex scattering by step topography. <i>Journal of Fluid Mechanics</i> , 2007, 571, 495-505.	1.4	10
53	Fast accurate computation of shelf waves for arbitrary depth profiles. <i>Continental Shelf Research</i> , 2010, 30, 833-836.	0.9	10
54	Deformation of vortex patches by boundaries. <i>Physics of Fluids</i> , 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. <i>Journal of Fluid Mechanics</i> , 1982, 120, 359-383.	1.4	9
56	Taylor columns in horizontally sheared flow. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1983, 24, 143-164.	0.4	9
57	Topographic Rossby waves above a random array of seamounts. <i>Journal of Fluid Mechanics</i> , 1988, 191, 373.	1.4	9
58	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.	1.4	9
59	Steady vortical flow around a finite plate. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2007, 60, 65-72.	0.5	9
60	Spectral methods for coastal-trapped waves. <i>Continental Shelf Research</i> , 2011, 31, 1481-1489.	0.9	9
61	Bay-trapped low-frequency oscillations in lakes. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2011, 105, 48-60.	0.4	9
62	Meanders and Eddies from Topographic Transformation of Coastal-Trapped Waves. <i>Journal of Physical Oceanography</i> , 2014, 44, 1133-1150.	0.7	9
63	Low-Frequency Barotropic Scattering on a Shelf Bordering an Ocean. <i>Journal of Physical Oceanography</i> , 1991, 21, 720-727.	0.7	8
64	Topographically forced long waves on a sheared coastal current. Part 2. Finite amplitude waves. <i>Journal of Fluid Mechanics</i> , 1997, 343, 153-168.	1.4	8
65	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.	1.0	8
66	Numerical simulation of wave propagation along a discontinuity in depth in a rotating annulus. <i>Computers and Fluids</i> , 2011, 46, 442-447.	1.3	8
67	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.	1.0	7
68	Steadily translating vortices near step topography. <i>Physics of Fluids</i> , 2005, 17, 056601.	1.6	7
69	Geographically localised shelf waves on curved coasts. <i>Continental Shelf Research</i> , 2010, 30, 1753-1760.	0.9	7
70	Modified reduced Ostrovsky equation: Integrability and breaking. <i>Physical Review E</i> , 2013, 88, 021201.	0.8	7
71	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.	1.4	7
72	Topographic waves in a rotating stratified basin. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1989, 45, 71-87.	0.4	6

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

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

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109	The scattering of stratified topographic rossby waves by seafloor ridges. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1997, 84, 29-52.	0.4	3
110	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.	1.0	3
111	Transcritical rotating flow over topography. <i>Journal of Fluid Mechanics</i> , 2007, 590, 81-106.	1.4	3
112	Gap-Leaping Vortical Currents. <i>Journal of Physical Oceanography</i> , 2009, 39, 2665-2674.	0.7	3
113	Laboratory study of vortex dipoles interacting with step topography. <i>Journal of Geophysical Research</i> , 2009, 114, .	3.3	3
114	Isobath variation and trapping of continental shelf waves. <i>Journal of Fluid Mechanics</i> , 2012, 700, 283-303.	1.4	3
115	Resonant coupling of mode-1 and mode-2 internal waves by topography. <i>Journal of Fluid Mechanics</i> , 2021, 908, .	1.4	3
116	The interaction of two vortices on a beta-plane. <i>Physics of Fluids</i> , 2001, 13, 884-893.	1.6	2
117	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.	1.2	2
118	Geostrophic adjustment in a closed basin with islands. <i>Journal of Fluid Mechanics</i> , 2014, 738, 358-377.	1.4	2
119	Non-linear Topographic Effects in Two-Layer Flows. <i>Frontiers in Earth Science</i> , 2016, 4, .	0.8	2
120	Wave packets in the anomalous Ostrovsky equation. <i>Physical Review E</i> , 2019, 100, 043109.	0.8	2
121	The effects of vertical mixing on nonlinear Kelvin waves. <i>Journal of Fluid Mechanics</i> , 2020, 903, .	1.4	2
122	The long-wave potential-vorticity dynamics of coastal fronts. <i>Journal of Fluid Mechanics</i> , 2020, 888, .	1.4	2
123	The propagation and decay of a coastal vortex on a shelf. <i>Journal of Fluid Mechanics</i> , 2021, 927, .	1.4	2
124	Vortex competition in coastal outflows. <i>Journal of Marine Research</i> , 2019, 77, 325-349.	0.3	2
125	Wavefields forced by long obstacles on a beta-plane. <i>Journal of Fluid Mechanics</i> , 2000, 406, 221-245.	1.4	1
126	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.	1.0	1

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