

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 | Resonant coupling of mode-1 and mode-2 internal waves by topography. Journal of Fluid Mechanics, 2021, 908, . | 1.4 | 3 |
| 2 | Hydraulic control of continental shelf waves. Journal of Fluid Mechanics, 2021, 917, . | 1.4 | 0 |
| 3 | The decay of a dipolar vortex in a weakly dispersive environment. Journal of Fluid Mechanics, 2021, 917, . | 1.4 | 5 |
| 4 | The decay of Hill's vortex in a rotating flow. Journal of Fluid Mechanics, 2021, 919, . | 1.4 | 5 |
| 5 | The propagation and decay of a coastal vortex on a shelf. Journal of Fluid Mechanics, 2021, 927, . | 1.4 | 2 |
| 6 | The effects of vertical mixing on nonlinear Kelvin waves. Journal of Fluid Mechanics, 2020, 903, . | 1.4 | 2 |
| 7 | Trapped continental shelf waves with a free surface. Journal of Fluid Mechanics, 2020, 903, . | 1.4 | 0 |
| 8 | The long-wave potential-vorticity dynamics of coastal fronts. Journal of Fluid Mechanics, 2020, 888, . | 1.4 | 2 |
| 9 | Generation of nonlinear internal waves by flow over topography: Rotational effects. Physical Review E, 2020, 101, 033104. | 0.8 | 4 |
| 10 | 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 |
| 11 | 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 |
| 12 | Wave packets in the anomalous Ostrovsky equation. Physical Review E, 2019, 100, 043109. | 0.8 | 2 |
| 13 | Coastal outflow currents into a buoyant layer of arbitrary depth. Journal of Fluid Mechanics, 2019, 858, 656-688. | 1.4 | 4 |
| 14 | On Dynamic Interactions Between Body Motion and Fluid Motion. Studies in Systems, Decision and Control, 2019, , 45-89. | 0.8 | 6 |
| 15 | Vortex competition in coastal outflows. Journal of Marine Research, 2019, 77, 325-349. | 0.3 | 2 |
| 16 | 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 |
| 17 | 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 |
| 18 | The evolution of second mode internal solitary waves over variable topography. Journal of Fluid Mechanics, 2018, 836, 238-259. | 1.4 | 27 |

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|----|---|-----|-----------|
| 19 | The Effect of a Variable Background Density Stratification and Current on Oceanic Internal Solitary Waves. <i>Fluids</i> , 2018, 3, 96. | 0.8 | 1 |
| 20 | Topographic effect on oblique internal wave-wave interactions. <i>Journal of Fluid Mechanics</i> , 2018, 856, 36-60. | 1.4 | 12 |
| 21 | 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 |
| 22 | A coupled model of interior balanced and boundary flow. <i>Ocean Modelling</i> , 2017, 119, 1-12. | 1.0 | 11 |
| 23 | Potential Vorticity Dynamics of Coastal Outflows. <i>Journal of Physical Oceanography</i> , 2017, 47, 1021-1041. | 0.7 | 6 |
| 24 | Internal solitary waves propagating through variable background hydrology and currents. <i>Ocean Modelling</i> , 2017, 116, 134-145. | 1.0 | 5 |
| 25 | The long-wave vorticity dynamics of rotating buoyant outflows. <i>Journal of Fluid Mechanics</i> , 2017, 822, 418-443. | 1.4 | 5 |
| 26 | New families of vortex patch equilibria for the two-dimensional Euler equations. <i>Physics of Fluids</i> , 2017, 29, . | 1.6 | 11 |
| 27 | Non-linear Topographic Effects in Two-Layer Flows. <i>Frontiers in Earth Science</i> , 2016, 4, . | 0.8 | 2 |
| 28 | 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 |
| 29 | On the slow motion of a spheroid in a rotating stratified fluid. <i>Journal of Fluid Mechanics</i> , 2016, 808, . | 1.4 | 0 |
| 30 | Beach vortices near circular topography. <i>Physics of Fluids</i> , 2016, 28, . | 1.6 | 4 |
| 31 | 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 |
| 32 | A Simple Model for Sheddies: Ocean Eddies Formed from Shed Vorticity. <i>Journal of Physical Oceanography</i> , 2016, 46, 2961-2979. | 0.7 | 14 |
| 33 | Localised continental shelf waves: geometric effects and resonant forcing. <i>Journal of Fluid Mechanics</i> , 2015, 785, 54-77. | 1.4 | 5 |
| 34 | Wave-packet formation at the zero-dispersion point in the Gardner-Ostrovsky equation. <i>Physical Review E</i> , 2015, 91, 051201. | 0.8 | 14 |
| 35 | Modulational instability of co-propagating internal wavetrains under rotation. <i>Chaos</i> , 2015, 25, 023109. | 1.0 | 4 |
| 36 | A point vortex model for the formation of ocean eddies by flow separation. <i>Physics of Fluids</i> , 2015, 27, . | 1.6 | 13 |

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|----|---|-----|-----------|
| 37 | 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 |
| 38 | Geostrophic adjustment in a closed basin with islands. <i>Journal of Fluid Mechanics</i> , 2014, 738, 358-377. | 1.4 | 2 |
| 39 | Rotation-induced nonlinear wavepackets in internal waves. <i>Physics of Fluids</i> , 2014, 26, . | 1.6 | 14 |
| 40 | Meanders and Eddies from Topographic Transformation of Coastal-Trapped Waves. <i>Journal of Physical Oceanography</i> , 2014, 44, 1133-1150. | 0.7 | 9 |
| 41 | Modified reduced Ostrovsky equation: Integrability and breaking. <i>Physical Review E</i> , 2013, 88, 021201. | 0.8 | 7 |
| 42 | Wave patterns generated by an axisymmetric obstacle in a two-layer flow. <i>Experiments in Fluids</i> , 2013, 54, 1. | 1.1 | 14 |
| 43 | Subsonic to Supersonic Nozzle Flows. <i>SIAM Journal on Applied Mathematics</i> , 2013, 73, 175-194. | 0.8 | 1 |
| 44 | Deformation of vortex patches by boundaries. <i>Physics of Fluids</i> , 2013, 25, . | 1.6 | 10 |
| 45 | Experimental study of the effect of rotation on nonlinear internal waves. <i>Physics of Fluids</i> , 2013, 25, . | 1.6 | 41 |
| 46 | Isobath variation and trapping of continental shelf waves. <i>Journal of Fluid Mechanics</i> , 2012, 700, 283-303. | 1.4 | 3 |
| 47 | The Reduced Ostrovsky Equation: Integrability and Breaking. <i>Studies in Applied Mathematics</i> , 2012, 129, 414-436. | 1.1 | 39 |
| 48 | Finite Rossby radius effects on vortex motion near a gap. <i>Physics of Fluids</i> , 2012, 24, . | 1.6 | 6 |
| 49 | Localisation of coastal trapped waves by longshore variations in bottom topography. <i>Continental Shelf Research</i> , 2012, 32, 130-137. | 0.9 | 12 |
| 50 | Trapped modes in coastal waveguides. <i>Wave Motion</i> , 2012, 49, 212-216. | 1.0 | 5 |
| 51 | Spectral methods for coastal-trapped waves. <i>Continental Shelf Research</i> , 2011, 31, 1481-1489. | 0.9 | 9 |
| 52 | 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 |
| 53 | Bay-trapped low-frequency oscillations in lakes. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2011, 105, 48-60. | 0.4 | 9 |
| 54 | Fast accurate computation of shelf waves for arbitrary depth profiles. <i>Continental Shelf Research</i> , 2010, 30, 833-836. | 0.9 | 10 |

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|----|---|-----|-----------|
| 55 | Geographically localised shelf waves on curved coasts. <i>Continental Shelf Research</i> , 2010, 30, 1753-1760. | 0.9 | 7 |
| 56 | Gap-Leaping Vortical Currents. <i>Journal of Physical Oceanography</i> , 2009, 39, 2665-2674. | 0.7 | 3 |
| 57 | Supercritical rotating flow over topography. <i>Physics of Fluids</i> , 2009, 21, 066601. | 1.6 | 4 |
| 58 | Necking in coating flow over periodic substrates. <i>Journal of Engineering Mathematics</i> , 2009, 65, 171-178. | 0.6 | 4 |
| 59 | Laboratory study of vortex dipoles interacting with step topography. <i>Journal of Geophysical Research</i> , 2009, 114, . | 3.3 | 3 |
| 60 | Steady nonlinear diffusion-driven flow. <i>Journal of Fluid Mechanics</i> , 2009, 629, 299-309. | 1.4 | 12 |
| 61 | On steady linear diffusion-driven flow. <i>Journal of Fluid Mechanics</i> , 2008, 606, 433-443. | 1.4 | 6 |
| 62 | Steady vortical flow around a finite plate. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2007, 60, 65-72. | 0.5 | 9 |
| 63 | Interactions of two vortices near step topography. <i>Physics of Fluids</i> , 2007, 19, . | 1.6 | 1 |
| 64 | Transcritical rotating flow over topography. <i>Journal of Fluid Mechanics</i> , 2007, 590, 81-106. | 1.4 | 3 |
| 65 | 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 |
| 66 | Vortex scattering by step topography. <i>Journal of Fluid Mechanics</i> , 2007, 571, 495-505. | 1.4 | 10 |
| 67 | 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 |
| 68 | 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 |
| 69 | 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 |
| 70 | 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 |
| 71 | 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 |
| 72 | Steady rotating flows over a ridge. <i>Physics of Fluids</i> , 2005, 17, 116601. | 1.6 | 6 |

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|----|--|------|-----------|
| 73 | Steadily translating vortices near step topography. <i>Physics of Fluids</i> , 2005, 17, 056601. | 1.6 | 7 |
| 74 | Vortices near barriers with multiple gaps. <i>Journal of Fluid Mechanics</i> , 2005, 531, 335-358. | 1.4 | 32 |
| 75 | 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 |
| 76 | The point island approximation in vortex dynamics. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 2005, 99, 49-60. | 0.4 | 14 |
| 77 | The motion of a vortex near a gap in a wall. <i>Physics of Fluids</i> , 2004, 16, 462-469. | 1.6 | 32 |
| 78 | 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 |
| 79 | 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 |
| 80 | Surf-zone vortices over stepped topography. <i>Journal of Fluid Mechanics</i> , 2004, 511, 265-283. | 1.4 | 6 |
| 81 | 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 |
| 82 | 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 |
| 83 | 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 |
| 84 | The motion of a singular vortex near an escarpment. <i>Journal of Fluid Mechanics</i> , 2001, 448, 335-365. | 1.4 | 20 |
| 85 | ROSSBYWAVEHYDRAULICS. <i>Annual Review of Fluid Mechanics</i> , 2001, 33, 207-230. | 10.8 | 17 |
| 86 | The interaction of two vortices on a beta-plane. <i>Physics of Fluids</i> , 2001, 13, 884-893. | 1.6 | 2 |
| 87 | Wavefields forced by long obstacles on a beta-plane. <i>Journal of Fluid Mechanics</i> , 2000, 406, 221-245. | 1.4 | 1 |
| 88 | Finite-amplitude topographic Rossby waves in a channel. <i>Physics of Fluids</i> , 1999, 11, 107-120. | 1.6 | 6 |
| 89 | 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 |
| 90 | Dispersive effects in Rossby-wave hydraulics. <i>Journal of Fluid Mechanics</i> , 1999, 401, 27-54. | 1.4 | 15 |

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|-----|--|-----|-----------|
| 91 | 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 |
| 92 | 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 |
| 93 | The scattering of stratified topographic rossby waves by seafloor ridges. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1997, 84, 29-52. | 0.4 | 3 |
| 94 | Instability in stratified rotating shear flow along ridges. <i>Journal of Marine Research</i> , 1997, 55, 915-933. | 0.3 | 5 |
| 95 | 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 |
| 96 | Topographic eddies in multilayer flow. <i>Dynamics of Atmospheres and Oceans</i> , 1993, 18, 1-27. | 0.7 | 6 |
| 97 | A simple model of Rossby-wave hydraulic behaviour. <i>Journal of Fluid Mechanics</i> , 1993, 253, 359. | 1.4 | 23 |
| 98 | Flow past a circular cylinder on a \hat{i}^2 -plane. <i>Journal of Fluid Mechanics</i> , 1993, 251, 603-626. | 1.4 | 5 |
| 99 | Low-frequency scattering of Kelvin waves by continuous topography. <i>Journal of Fluid Mechanics</i> , 1993, 248, 173-201. | 1.4 | 10 |
| 100 | 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 |
| 101 | Nonlinear western boundary current flow near a corner. <i>Dynamics of Atmospheres and Oceans</i> , 1991, 15, 477-504. | 0.7 | 5 |
| 102 | The trapping and scattering of topographic waves by estuaries and headlands. <i>Journal of Fluid Mechanics</i> , 1991, 222, 501. | 1.4 | 16 |
| 103 | The Scattering at Low Frequencies of Coastally Trapped Waves. <i>Journal of Physical Oceanography</i> , 1991, 21, 913-932. | 0.7 | 19 |
| 104 | Low-Frequency Barotropic Scattering on a Shelf Bordering an Ocean. <i>Journal of Physical Oceanography</i> , 1991, 21, 720-727. | 0.7 | 8 |
| 105 | Rapid formation of taylor columns: Obstacles against sidewalls. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1990, 52, 105-124. | 0.4 | 3 |
| 106 | Flow past cylindrical obstacles on a beta-plane. <i>Journal of Fluid Mechanics</i> , 1990, 221, 349-382. | 1.4 | 13 |
| 107 | Free-surface adjustment and topographic waves in coastal currents. <i>Journal of Fluid Mechanics</i> , 1990, 219, 273. | 1.4 | 17 |
| 108 | The low-frequency scattering of Kelvin waves by stepped topography. <i>Journal of Fluid Mechanics</i> , 1990, 215, 23. | 1.4 | 12 |

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|-----|---|-----|-----------|
| 109 | Topographic waves in a rotating stratified basin. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1989, 45, 71-87. | 0.4 | 6 |
| 110 | Nonlinear Rossby adjustment in a channel: beyond Kelvin waves. <i>Journal of Fluid Mechanics</i> , 1989, 205, 469. | 1.4 | 40 |
| 111 | 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 |
| 112 | Topographic waves in open domains. Part 2. Bay modes and resonances. <i>Journal of Fluid Mechanics</i> , 1989, 200, 77-93. | 1.4 | 13 |
| 113 | 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 |
| 114 | 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 |
| 115 | Scattering of Shelf Waves by Islands. <i>Journal of Physical Oceanography</i> , 1989, 19, 1311-1316. | 0.7 | 5 |
| 116 | Slow energy transfer between regions supporting topographic waves. <i>Journal of Fluid Mechanics</i> , 1988, 194, 1. | 1.4 | 3 |
| 117 | Topographic Rossby waves above a random array of seamounts. <i>Journal of Fluid Mechanics</i> , 1988, 191, 373. | 1.4 | 9 |
| 118 | Topographic waves in elliptical basins. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1987, 37, 279-295. | 0.4 | 14 |
| 119 | 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 |
| 120 | Rossby adjustment over a step. <i>Journal of Marine Research</i> , 1986, 44, 713-738. | 0.3 | 30 |
| 121 | Topographic waves and the evolution of coastal currents. <i>Journal of Fluid Mechanics</i> , 1985, 160, 499-509. | 1.4 | 29 |
| 122 | Blood usage in transfusion-dependent patients. A theoretical model. <i>Transfusion</i> , 1984, 24, 74-79. | 0.8 | 5 |
| 123 | Starting flow for an obstacle moving transversely in a rapidly rotating fluid. <i>Journal of Fluid Mechanics</i> , 1984, 149, 71. | 1.4 | 18 |
| 124 | Discussion on a paper by D. D. liou. <i>Earthquake Engineering and Structural Dynamics</i> , 1983, 11, 437-438. | 2.5 | 0 |
| 125 | Taylor columns in horizontally sheared flow. <i>Geophysical and Astrophysical Fluid Dynamics</i> , 1983, 24, 143-164. | 0.4 | 9 |
| 126 | Quasigeostrophic flow over isolated elongated topography. <i>Deep-sea Research Part A, Oceanographic Research Papers</i> , 1982, 29, 1085-1097. | 1.6 | 10 |

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|-----|---|-----|-----------|
| 127 | 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 |
| 128 | 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 |
| 129 | Baroclinic and Barotropic Instabilities of Coastal Currents. Journal of Physical Oceanography, 1981, 11, 209-230. | 0.7 | 21 |
| 130 | Finite depth stratified flow over topography on a beta-plane. Geophysical and Astrophysical Fluid Dynamics, 1979, 12, 35-43. | 0.4 | 12 |
| 131 | Quasigeostrophic flow above sloping boundaries. Deep-sea Research, 1978, 25, 1049-1071. | 1.5 | 10 |
| 132 | Trapped vortices in rotating flow. Journal of Fluid Mechanics, 1978, 86, 209. | 1.4 | 38 |
| 133 | Topographically bound vortices. Geophysical and Astrophysical Fluid Dynamics, 1978, 11, 61-71. | 0.4 | 17 |
| 134 | Stratified Taylor columns on a beta-plane. Geophysical and Astrophysical Fluid Dynamics, 1977, 9, 159-177. | 0.4 | 70 |
| 135 | Comment on "A note on the free-surface effect on the topographically induced vorticity field in a homogeneous flow" by lee-or merkin. Geophysical and Astrophysical Fluid Dynamics, 1977, 9, 327-329. | 0.4 | 0 |