IAN GROOMS

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Statistical and physical balances in low Rossby number Rayleigh–Bénard convection. Geophysical and Astrophysical Fluid Dynamics, 2012, 106, 392-428.	1.2	171
2	Model of Convective Taylor Columns in Rotating Rayleigh-Bénard Convection. Physical Review Letters, 2010, 104, 224501.	7.8	68
3	Efficient stochastic superparameterization for geophysical turbulence. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 4464-4469.	7.1	56
4	New perspectives on superparameterization for geophysical turbulence. Journal of Computational Physics, 2014, 271, 60-77.	3.8	51
5	Stochastic superparameterization in a quasigeostrophic model of the Antarctic Circumpolar Current. Ocean Modelling, 2015, 85, 1-15.	2.4	45
6	Stochastic superparameterization in quasigeostrophic turbulence. Journal of Computational Physics, 2014, 271, 78-98.	3.8	34
7	A Gaussian-product stochastic Gent–McWilliams parameterization. Ocean Modelling, 2016, 106, 27-43.	2.4	27
8	Diffusionâ€Based Smoothers for Spatial Filtering of Gridded Geophysical Data. Journal of Advances in Modeling Earth Systems, 2021, 13, e2021MS002552.	3.8	25
9	Numerical Schemes for Stochastic Backscatter in the Inverse Cascade of Quasigeostrophic Turbulence. Multiscale Modeling and Simulation, 2015, 13, 1001-1021.	1.6	24
10	Mesoscale Eddy Energy Locality in an Idealized Ocean Model. Journal of Physical Oceanography, 2013, 43, 1911-1923.	1.7	23
11	On the interactions between planetary geostrophy and mesoscale eddies. Dynamics of Atmospheres and Oceans, 2011, 51, 109-136.	1.8	21
12	Ensemble Kalman filters for dynamical systems with unresolved turbulence. Journal of Computational Physics, 2014, 273, 435-452.	3.8	21
13	Linearly implicit methods for nonlinear PDEs with linear dispersion and dissipation. Journal of Computational Physics, 2011, 230, 3630-3650.	3.8	20
14	Stochastic superparameterization in a one-dimensional model for wave turbulence. Communications in Mathematical Sciences, 2014, 12, 509-525.	1.0	20
15	Vertical Structure of Ocean Mesoscale Eddies with Implications for Parameterizations of Tracer Transport. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002151.	3.8	17
16	Analog ensemble data assimilation and a method for constructing analogs with variational autoencoders. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 139-149.	2.7	12
17	A note on â€~Toward a stochastic parameterization of ocean mesoscale eddies'. Ocean Modelling, 2017, 113, 30-33.	2.4	11
18	Machine learning techniques to construct patched analog ensembles for data assimilation. Journal of Computational Physics, 2021, 443, 110532.	3.8	11

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19	Diagnosing, modeling, and testing a multiplicative stochastic Gent-McWilliams parameterization. Ocean Modelling, 2019, 133, 1-10.	2.4	10
20	Molecular Embedding via a Second Order Dissimilarity Parameterized Approach. SIAM Journal of Scientific Computing, 2009, 31, 2733-2756.	2.8	9
21	Multiscale models for synoptic–mesoscale interactions in the ocean. Dynamics of Atmospheres and Oceans, 2012, 58, 95-107.	1.8	9
22	Submesoscale baroclinic instability in the balance equations. Journal of Fluid Mechanics, 2015, 762, 256-272.	3.4	9
23	On Galerkin Approximations of the Surface Active Quasigeostrophic Equations. Journal of Physical Oceanography, 2016, 46, 125-139.	1.7	9
24	Some effects of horizontal discretization on linear baroclinic and symmetric instabilities. Ocean Modelling, 2018, 125, 106-116.	2.4	9
25	GCM-Filters: A Python Package for Diffusion-based Spatial Filtering of Gridded Data. Journal of Open Source Software, 2022, 7, 3947.	4.6	9
26	Asymptotic behavior of heat transport for a class of exact solutions in rotating Rayleigh–Bénard convection. Geophysical and Astrophysical Fluid Dynamics, 2015, 109, 145-158.	1.2	8
27	Assimilation of ocean sea-surface height observations of mesoscale eddies. Chaos, 2017, 27, 126803.	2.5	8
28	On the control of subantarctic stratification by the ocean circulation. Climate Dynamics, 2021, 56, 299-327.	3.8	8
29	Multiscale Models in Geophysical Fluid Dynamics. Earth and Space Science, 2018, 5, 668-675.	2.6	7
30	A framework for variational data assimilation with superparameterization. Nonlinear Processes in Geophysics, 2015, 22, 601-611.	1.3	6
31	Parameterizing the Impact of Unresolved Temperature Variability on the Largeâ€Scale Density Field: Part 1. Theory Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002185.	3.8	6
32	A hybrid particle-ensemble Kalman filter for problems with medium nonlinearity. PLoS ONE, 2021, 16, e0248266.	2.5	6
33	Improving Particle Filter Performance by Smoothing Observations. Monthly Weather Review, 2018, 146, 2433-2446.	1.4	5
34	Investigations of non-hydrostatic, stably stratified and rapidly rotating flows. Journal of Fluid Mechanics, 2016, 801, 430-458.	3.4	4
35	Comparing Eddyâ€Permitting Ocean Model Parameterizations via Lagrangian Particle Statistics in a Quasigeostrophic Setting. Journal of Geophysical Research: Oceans, 2018, 123, 5637-5651.	2.6	3
36	Exact instantaneous optimals in the non-geostrophic Eady problem and the detrimental effects of discretization. Theoretical and Computational Fluid Dynamics, 2019, 33, 125-139.	2.2	3

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37	The Effects of Mesoscale Ocean–Atmosphere Coupling on the Quasigeostrophic Double Gyre. Fluids, 2016, 1, 34.	1.7	2
38	Energy-conserving Galerkin approximations for quasigeostrophic dynamics. Journal of Computational Physics, 2019, 388, 23-40.	3.8	2
39	Rigorous bounds on the heat transport of rotating convection with Ekman pumping. Journal of Mathematical Physics, 2020, 61, 023101.	1.1	2
40	The fidelity of exponential and IMEX integrators for wave turbulence: Introduction of a new near-minimax integrating factor scheme. Journal of Computational Physics, 2021, 434, 109992.	3.8	2
41	A Fast Tunable Blurring Algorithm for Scattered Data. SIAM Journal of Scientific Computing, 2020, 42, A2281-A2299.	2.8	2
42	Multivariate localization functions for strongly coupled data assimilation in the bivariate Lorenz 96 system. Nonlinear Processes in Geophysics, 2021, 28, 565-583.	1.3	2
43	A comparison of nonlinear extensions to the ensemble Kalman filter. Computational Geosciences, 2022, , 1-18.	2.4	2
44	An eddifying Stommel model: fast eddy effects in a two-box ocean. Geophysical and Astrophysical Fluid Dynamics, 2019, 113, 505-526.	1.2	1
45	On energy exchanges between eddies and the mean flow in quasigeostrophic turbulence. Journal of Fluid Mechanics, 2020, 885, .	3.4	1
46	Parameterizing the Impact of Unresolved Temperature Variability on the Largeâ€Scale Density Field: 2. Modeling. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	1