Peter Jan van Leeuwen

List of Publications by Year in descending order

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98 papers	6,989 citations	109137 35 h-index	60497 81 g-index
112 all docs	112 docs citations	112 times ranked	5060 citing authors

#	Article	IF	Citations
1	Analysis Scheme in the Ensemble Kalman Filter. Monthly Weather Review, 1998, 126, 1719-1724.	0.5	1,479
2	Particle Filtering in Geophysical Systems. Monthly Weather Review, 2009, 137, 4089-4114.	0.5	499
3	An Ensemble Kalman Smoother for Nonlinear Dynamics. Monthly Weather Review, 2000, 128, 1852-1867.	0.5	436
4	Data Assimilation and Inverse Methods in Terms of a Probabilistic Formulation. Monthly Weather Review, 1996, 124, 2898-2913.	0.5	378
5	Indian-Atlantic interocean exchange: Dynamics, estimation and impact. Journal of Geophysical Research, 1999, 104, 20885-20910.	3.3	296
6	Assimilation of Geosat Altimeter Data for the Agulhas Current Using the Ensemble Kalman Filter with a Quasigeostrophic Model. Monthly Weather Review, 1996, 124, 85-96.	0.5	286
7	Nonlinear data assimilation in geosciences: an extremely efficient particle filter. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 1991-1999.	1.0	268
8	Global OH trend inferred from methylchloroform measurements. Journal of Geophysical Research, 1998, 103, 10697-10711.	3.3	166
9	Eddies and variability in the Mozambique Channel. Deep-Sea Research Part II: Topical Studies in Oceanography, 2003, 50, 1987-2003.	0.6	166
10	Impact of Interbasin Exchange on the Atlantic Overturning Circulation. Journal of Physical Oceanography, 1999, 29, 2266-2284.	0.7	162
11	When can we expect extremely high surface temperatures?. Geophysical Research Letters, 2008, 35, .	1.5	157
12	Translation, decay and splitting of Agulhas rings in the southeastern Atlantic Ocean. Journal of Geophysical Research, 2000, 105, 21913-21925.	3.3	154
13	Particle filters for highâ€dimensional geoscience applications: A review. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 2335-2365.	1.0	128
14	Upstream control of Agulhas Ring shedding. Journal of Geophysical Research, 2002, 107, 23-1.	3.3	116
15	Comment on â€œData Assimilation Using an Ensemble Kalman Filter Techniqueâ€• Monthly Weather Review, 1999, 127, 1374-1377.	0.5	115
16	Observations of a young Agulhas ring, Astrid, during MARE in March 2000. Deep-Sea Research Part II: Topical Studies in Oceanography, 2003, 50, 167-195.	0.6	108
17	A Variance-Minimizing Filter for Large-Scale Applications. Monthly Weather Review, 2003, 131, 2071-2084.	0.5	106
18	Generation and Evolution of Natal Pulses: Solitary Meanders in the Agulhas Current. Journal of Physical Oceanography, 1999, 29, 3043-3055.	0.7	98

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19	Natal pulses and the formation of Agulhas rings. Journal of Geophysical Research, 2000, 105, 6425-6436.	3.3	83
20	Flow structure and variability in the subtropical Indian Ocean: Instability of the South Indian Ocean Countercurrent. Journal of Geophysical Research, 2007, 112, .	3.3	77
21	Seasonal and interannual variability in the Mozambique Channel from moored current observations. Journal of Geophysical Research, 2010, 115, .	3.3	77
22	An exploration of the equivalent weights particle filter. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 820-840.	1.0	72
23	Balanced Ocean-Data Assimilation near the Equator. Journal of Physical Oceanography, 2002, 32, 2509-2519.	0.7	69
24	Data assimilation for marine monitoring and prediction: The MERCATOR operational assimilation systems and the MERSEA developments. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 3561-3582.	1.0	69
25	A weaker Agulhas Current leads to more Agulhas leakage. Geophysical Research Letters, 2009, 36, .	1.5	65
26	An oceanic teleconnection between the equatorial and southern Indian Ocean. Geophysical Research Letters, 2002, 29, 59-1-59-4.	1.5	61
27	State-of-the-art stochastic data assimilation methods for high-dimensional non-Gaussian problems. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 70, 1445364.	0.8	58
28	The equivalentâ€weights particle filter in a highâ€dimensional system. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 484-503.	1.0	57
29	A link between low-frequency mesoscale eddy variability around Madagascar and the large-scale Indian Ocean variability. Journal of Geophysical Research, 2006, 111, .	3.3	56
30	Nonlinear Data Assimilation. Frontiers in Applied Dynamical Systems: Reviews and Tutorials, 2015, , .	0.5	50
31	An Ensemble Smoother with Error Estimates. Monthly Weather Review, 2001, 129, 709-728.	0.5	48
32	Lagrangian validation of numerical drifter trajectories using drifting buoys: Application to the Agulhas system. Ocean Modelling, 2009, 29, 269-276.	1.0	43
33	A Variational Approach to Retrieve Rain Rate by Combining Information from Rain Gauges, Radars, and Microwave Links. Journal of Hydrometeorology, 2013, 14, 1897-1909.	0.7	41
34	On the fast decay of Agulhas rings. Journal of Geophysical Research, 2010, 115, .	3.3	39
35	Representation errors and retrievals in linear and nonlinear data assimilation. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 1612-1623.	1.0	39
36	Implicit equalâ€weights particle filter. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 1904-1919.	1.0	39

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37	SEASTAR: A Mission to Study Ocean Submesoscale Dynamics and Small-Scale Atmosphere-Ocean Processes in Coastal, Shelf and Polar Seas. Frontiers in Marine Science, 2019, 6, .	1.2	37
38	Flux comparison of Eulerian and Lagrangian estimates of Agulhas leakage: A case study using a numerical model. Deep-Sea Research Part I: Oceanographic Research Papers, 2010, 57, 319-327.	0.6	36
39	Efficient nonlinear data-assimilation in geophysical fluid dynamics. Computers and Fluids, 2011, 46, 52-58.	1.3	36
40	Tracer Leakage from Modeled Agulhas Rings. Journal of Physical Oceanography, 2004, 34, 1387-1399.	0.7	34
41	Gaussian anamorphosis in the analysis step of the EnKF: a joint state-variable/observation approach. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 66, 23493.	0.8	34
42	Relating Agulhas leakage to the Agulhas Current retroflection location. Ocean Science, 2009, 5, 511-521.	1.3	34
43	Cloud Banding and Winds in Intense European Cyclones: Results from the DIAMET Project. Bulletin of the American Meteorological Society, 2015, 96, 249-265.	1.7	32
44	Data Assimilation in the Solar Wind: Challenges and First Results. Space Weather, 2017, 15, 1490-1510.	1.3	30
45	Measuring the Impact of Observations on the Predictability of the Kuroshio Extension in a Shallow-Water Model. Journal of Physical Oceanography, 2012, 42, 3-17.	0.7	29
46	Fast Northward Energy Transfer in the Atlantic due to Agulhas Rings. Journal of Physical Oceanography, 2007, 37, 2305-2315.	0.7	28
47	Sequential Monte Carlo with kernel embedded mappings: The mapping particle filter. Journal of Computational Physics, 2019, 396, 400-415.	1.9	28
48	Comparison between observations and models of the Mozambique Channel transport: Seasonal cycle and eddy frequencies. Journal of Geophysical Research, 2010, 115, .	3.3	25
49	Comparing hybrid data assimilation methods on the Lorenz 1963 model with increasing non-linearity. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 67, 26928.	0.8	23
50	The Propagation Mechanism of a Vortex on the Î² Plane. Journal of Physical Oceanography, 2007, 37, 2316-2330.	0.7	21
51	Parameter Estimation Using a Particle Method: Inferring Mixing Coefficients from Sea Level Observations. Monthly Weather Review, 2007, 135, 1006-1020.	0.5	21
52	Assimilation of probabilistic flood maps from SAR data into a coupled hydrologicâ€“hydraulic forecasting model: a proof of concept. Hydrology and Earth System Sciences, 2021, 25, 4081-4097.	1.9	21
53	Efficient fully nonlinear data assimilation for geophysical fluid dynamics. Computers and Geosciences, 2013, 55, 16-27.	2.0	20
54	A consistent interpretation of the stochastic version of the Ensemble Kalman Filter. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 2815-2825.	1.0	20

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55	Twin experiments with the equivalent weights particle filter and HadCM3. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 3399-3414.	1.0	19
56	The time-mean circulation in the Agulhas region determined with the ensemble smoother. Journal of Geophysical Research, 1999, 104, 1393-1404.	3.3	18
57	Observation impact in data assimilation: the effect of non-Gaussian observation error. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 65, 20035.	0.8	17
58	Observations of the inter-ocean exchange around South Africa. Eos, 2006, 87, 97.	0.1	16
59	A new method for the generation of second-order random waves. Ocean Engineering, 1996, 23, 167-192.	1.9	15
60	The Effect of the Equivalent-Weights Particle Filter on Dynamical Balance in a Primitive Equation Model. Monthly Weather Review, 2015, 143, 581-596.	0.5	13
61	A weak-constraint 4DEnsembleVar. Part I: formulation and simple model experiments. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 69, 1271564.	0.8	13
62	Modeling the initial, fast Sea-Surface Height decay of Agulhas ring â€œAstridâ€• Deep-Sea Research Part II: Topical Studies in Oceanography, 2003, 50, 299-319.	0.6	12
63	Nonlinear Data Assimilation for high-dimensional systems. Frontiers in Applied Dynamical Systems: Reviews and Tutorials, 2015, , 1-73.	0.5	12
64	Measures of observation impact in non-Gaussian data assimilation. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 64, 17192.	0.8	11
65	A systematic method of parameterisation estimation using data assimilation. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 68, 29012.	0.8	11
66	A weak-constraint 4DEnsembleVar. Part II: experiments with larger models. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 69, 1271565.	0.8	11
67	Why Do the Maximum Intensities in Modeled Tropical Cyclones Vary Under the Same Environmental Conditions?. Geophysical Research Letters, 2020, 47, e2019GL085980.	1.5	10
68	Estimating model error covariances using particle filters. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 1310-1320.	1.0	10
69	Reply [to â€œComment on â€œGlobal OH trend inferred from methylchloroform measurementsâ€•by Maarten Krol et al.â€]. Journal of Geophysical Research, 2001, 106, 23159-23164.	3.3	9
70	On the Steadiness of Separating Meandering Currents. Journal of Physical Oceanography, 2009, 39, 437-448.	0.7	9
71	A revised implicit equalâ€weights particle filter. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 1490-1502.	1.0	9
72	A particle flow filter for highâ€dimensional system applications. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 2352-2374.	1.0	9

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73	Nonlinear error dynamics for cycled data assimilation methods. Inverse Problems, 2013, 29, 025002.	1.0	8
74	The influence of bottom topography on the decay of modeled Agulhas rings. Deep-Sea Research Part I: Oceanographic Research Papers, 2009, 56, 471-494.	0.6	7
75	Observational Constraints on Warm Cloud Microphysical Processes Using Machine Learning and Optimization Techniques. Geophysical Research Letters, 2021, 48, e2020GL091236.	1.5	7
76	Observation and origin of an interannual salinity anomaly in the Mozambique Channel. Journal of Geophysical Research, 2009, 114, .	3.3	6
77	A parallel data assimilation model for oceanographic observations. Concurrency Computation Practice and Experience, 2003, 15, 1191-1204.	1.4	5
78	Non-local Observations and Information Transfer in Data Assimilation. Frontiers in Applied Mathematics and Statistics, 2019, 5, .	0.7	5
79	Efficient nonlinear data assimilation using synchronization in a particle filter. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 2510-2523.	1.0	5
80	Massively parallel implicit equal-weights particle filter for ocean drift trajectory forecasting. Journal of Computational Physics: X, 2020, 6, 100053.	1.1	5
81	Dynamics and predictability of tropical cyclone rapid intensification in ensemble simulations of Hurricane Patricia (2015). Journal of Geophysical Research D: Atmospheres, 0, , .	1.2	5
82	Timeâ€correlated model error in the (ensemble) Kalman smoother. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 2650-2665.	1.0	4
83	Ensemble Riemannian data assimilation over the Wasserstein space. Nonlinear Processes in Geophysics, 2021, 28, 295-309.	0.6	4
84	Model Error Estimation Using the Expectation Maximization Algorithm and a Particle Flow Filter. SIAM-ASA Journal on Uncertainty Quantification, 2021, 9, 681-707.	1.1	4
85	Efficient nonlinear data assimilation for oceanic models of intermediate complexity. , 2011, , .		3
86	Rainâ€Induced Stratification of the Equatorial Indian Ocean and Its Potential Feedback to the Atmosphere. Journal of Geophysical Research: Oceans, 2022, 127, .	1.0	3
87	A framework for causal discovery in non-intervenable systems. Chaos, 2021, 31, 123128.	1.0	3
88	An ensemble framework for time delay synchronization. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 305-316.	1.0	2
89	Spectral estimates for saddle point matrices arising in weak constraint fourâ€dimensional variational data assimilation. Numerical Linear Algebra With Applications, 2020, 27, e2313.	0.9	2
90	On timeâ€parallel preconditioning for the state formulation of incremental weak constraint 4Dâ€Var. Quarterly Journal of the Royal Meteorological Society, 0, , .	1.0	2

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91	Aspects of Particle Filtering in High-Dimensional Spaces. Lecture Notes in Computer Science, 2015, , 251-262.	1.0	2
92	Retrieving microphysical properties of concurrent pristine ice and snow using polarimetric radar observations. Atmospheric Measurement Techniques, 2021, 14, 6885-6904.	1.2	2
93	Reply to â€œComments on â€˜On the Steadiness of Separating Meandering Currentsâ€™â€. Journal of Physical Oceanography, 2012, 42, 1371-1374.	0.7	1
94	Effects of misâ€specified timeâ€correlated model error in the (ensemble) Kalman Smoother. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 573-588.	1.0	1
95	Randomised preconditioning for the forcing formulation of weakâ€constraint 4Dâ€Var. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 3719-3734.	1.0	1
96	Using mutual information to measure time lags from nonlinear processes in astronomy. Physical Review Research, 2022, 4, .	1.3	1
97	Ensemble Riemannian data assimilation: towards large-scale dynamical systems. Nonlinear Processes in Geophysics, 2022, 29, 77-92.	0.6	1
98	Multiplicative Nonâ€Gaussian Model Error Estimation in Data Assimilation. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	1