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	Measures of observation impact in non-Gaussian data assimilation. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 64, 17192.	0.8	11
2	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
3	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
4	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
5	A systematic method of parameterisation estimation using data assimilation. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 68, 29012.	0.8	11
6	A weak-constraint 4DEnsembleVar. Part I: formulation and simple model experiments. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 69, 1271564.	0.8	13
7	A weak-constraint 4DEnsembleVar. Part II: experiments with larger models. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 69, 1271565.	0.8	11
8	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
9	Using mutual information to measure time lags from nonlinear processes in astronomy. Physical Review Research, 2022, 4, .	1.3	1
10	Ensemble Riemannian data assimilation: towards large-scale dynamical systems. Nonlinear Processes in Geophysics, 2022, 29, 77-92.	0.6	1
11	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
12	Multiplicative Nonâ€Gaussian Model Error Estimation in Data Assimilation. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	1
13	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
14	A particle flow filter for highâ€dimensional system applications. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 2352-2374.	1.0	9
15	Ensemble Riemannian data assimilation over the Wasserstein space. Nonlinear Processes in Geophysics, 2021, 28, 295-309.	0.6	4
16	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
17	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
18	Observational Constraints on Warm Cloud Microphysical Processes Using Machine Learning and Optimization Techniques. Geophysical Research Letters, 2021, 48, e2020GL091236.	1.5	7

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19	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
20	Retrieving microphysical properties of concurrent pristine ice and snow using polarimetric radar observations. Atmospheric Measurement Techniques, 2021, 14, 6885-6904.	1.2	2
21	A framework for causal discovery in non-intervenable systems. Chaos, 2021, 31, 123128.	1.0	3
22	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
23	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
24	Massively parallel implicit equal-weights particle filter for ocean drift trajectory forecasting. Journal of Computational Physics: X, 2020, 6, 100053.	1.1	5
25	Why Do the Maximum Intensities in Modeled Tropical Cyclones Vary Under the Same Environmental Conditions?. Geophysical Research Letters, 2020, 47, e2019GL085980.	1.5	10
26	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
27	Sequential Monte Carlo with kernel embedded mappings: The mapping particle filter. Journal of Computational Physics, 2019, 396, 400-415.	1.9	28
28	Non-local Observations and Information Transfer in Data Assimilation. Frontiers in Applied Mathematics and Statistics, 2019, 5, .	0.7	5
29	Efficient nonlinear data assimilation using synchronization in a particle filter. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 2510-2523.	1.0	5
30	Particle filters for highâ€dimensional geoscience applications: A review. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 2335-2365.	1.0	128
31	A revised implicit equalâ€weights particle filter. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 1490-1502.	1.0	9
32	An ensemble framework for time delay synchronization. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 305-316.	1.0	2
33	Timeâ€correlated model error in the (ensemble) Kalman smoother. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 2650-2665.	1.0	4
34	Estimating model error covariances using particle filters. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 1310-1320.	1.0	10
35	Data Assimilation in the Solar Wind: Challenges and First Results. Space Weather, 2017, 15, 1490-1510.	1.3	30
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	Representation errors and retrievals in linear and nonlinear data assimilation. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 1612-1623.	1.0	39
38	Twin experiments with the equivalent weights particle filter and HadCM3. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 3399-3414.	1.0	19
39	The equivalentâ€weights particle filter in a highâ€dimensional system. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 484-503.	1.0	57
40	Nonlinear Data Assimilation. Frontiers in Applied Dynamical Systems: Reviews and Tutorials, 2015, , .	0.5	50
41	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
42	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
43	Nonlinear Data Assimilation for high-dimensional systems. Frontiers in Applied Dynamical Systems: Reviews and Tutorials, 2015, , 1-73.	0.5	12
44	Aspects of Particle Filtering in High-Dimensional Spaces. Lecture Notes in Computer Science, 2015, , 251-262.	1.0	2
45	Efficient fully nonlinear data assimilation for geophysical fluid dynamics. Computers and Geosciences, 2013, 55, 16-27.	2.0	20
46	An exploration of the equivalent weights particle filter. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 820-840.	1.0	72
47	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
48	Nonlinear error dynamics for cycled data assimilation methods. Inverse Problems, 2013, 29, 025002.	1.0	8
49	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
50	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
51	Efficient nonlinear data assimilation for oceanic models of intermediate complexity. , 2011, , .		3
52	Efficient nonlinear data-assimilation in geophysical fluid dynamics. Computers and Fluids, 2011, 46, 52-58.	1.3	36
53	Nonlinear data assimilation in geosciences: an extremely efficient particle filter. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 1991-1999.	1.0	268
54	On the fast decay of Agulhas rings. Journal of Geophysical Research, 2010, 115, .	3.3	39

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55	Seasonal and interannual variability in the Mozambique Channel from moored current observations. Journal of Geophysical Research, 2010, 115, .	3.3	77
56	Comparison between observations and models of the Mozambique Channel transport: Seasonal cycle and eddy frequencies. Journal of Geophysical Research, 2010, 115, .	3.3	25
57	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
58	Particle Filtering in Geophysical Systems. Monthly Weather Review, 2009, 137, 4089-4114.	0.5	499
59	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
60	Lagrangian validation of numerical drifter trajectories using drifting buoys: Application to the Agulhas system. Ocean Modelling, 2009, 29, 269-276.	1.0	43
61	Observation and origin of an interannual salinity anomaly in the Mozambique Channel. Journal of Geophysical Research, 2009, 114, .	3.3	6
62	A weaker Agulhas Current leads to more Agulhas leakage. Geophysical Research Letters, 2009, 36, .	1.5	65
63	On the Steadiness of Separating Meandering Currents. Journal of Physical Oceanography, 2009, 39, 437-448.	0.7	9
64	Relating Agulhas leakage to the Agulhas Current retroflection location. Ocean Science, 2009, 5, 511-521.	1.3	34
65	When can we expect extremely high surface temperatures?. Geophysical Research Letters, 2008, 35, .	1.5	157
66	Fast Northward Energy Transfer in the Atlantic due to Agulhas Rings. Journal of Physical Oceanography, 2007, 37, 2305-2315.	0.7	28
67	The Propagation Mechanism of a Vortex on the Î² Plane. Journal of Physical Oceanography, 2007, 37, 2316-2330.	0.7	21
68	Parameter Estimation Using a Particle Method: Inferring Mixing Coefficients from Sea Level Observations. Monthly Weather Review, 2007, 135, 1006-1020.	0.5	21
69	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
70	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
71	Observations of the inter-ocean exchange around South Africa. Eos, 2006, 87, 97.	0.1	16
72	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

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73	Tracer Leakage from Modeled Agulhas Rings. Journal of Physical Oceanography, 2004, 34, 1387-1399.	0.7	34
74	A parallel data assimilation model for oceanographic observations. Concurrency Computation Practice and Experience, 2003, 15, 1191-1204.	1.4	5
75	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
76	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
77	Eddies and variability in the Mozambique Channel. Deep-Sea Research Part II: Topical Studies in Oceanography, 2003, 50, 1987-2003.	0.6	166
78	A Variance-Minimizing Filter for Large-Scale Applications. Monthly Weather Review, 2003, 131, 2071-2084.	0.5	106
79	Balanced Ocean-Data Assimilation near the Equator. Journal of Physical Oceanography, 2002, 32, 2509-2519.	0.7	69
80	Upstream control of Agulhas Ring shedding. Journal of Geophysical Research, 2002, 107, 23-1.	3.3	116
81	An oceanic teleconnection between the equatorial and southern Indian Ocean. Geophysical Research Letters, 2002, 29, 59-1-59-4.	1.5	61
82	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
83	An Ensemble Smoother with Error Estimates. Monthly Weather Review, 2001, 129, 709-728.	0.5	48
84	An Ensemble Kalman Smoother for Nonlinear Dynamics. Monthly Weather Review, 2000, 128, 1852-1867.	0.5	436
85	Translation, decay and splitting of Agulhas rings in the southeastern Atlantic Ocean. Journal of Geophysical Research, 2000, 105, 21913-21925.	3.3	154
86	Natal pulses and the formation of Agulhas rings. Journal of Geophysical Research, 2000, 105, 6425-6436.	3.3	83
87	The time-mean circulation in the Agulhas region determined with the ensemble smoother. Journal of Geophysical Research, 1999, 104, 1393-1404.	3.3	18
88	Indian-Atlantic interocean exchange: Dynamics, estimation and impact. Journal of Geophysical Research, 1999, 104, 20885-20910.	3.3	296
89	Impact of Interbasin Exchange on the Atlantic Overturning Circulation. Journal of Physical Oceanography, 1999, 29, 2266-2284.	0.7	162
90	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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91	Comment on â€œData Assimilation Using an Ensemble Kalman Filter Techniqueâ€• Monthly Weather Review, 1999, 127, 1374-1377.	0.5	115
92	Analysis Scheme in the Ensemble Kalman Filter. Monthly Weather Review, 1998, 126, 1719-1724.	0.5	1,479
93	Global OH trend inferred from methylchloroform measurements. Journal of Geophysical Research, 1998, 103, 10697-10711.	3.3	166
94	A new method for the generation of second-order random waves. Ocean Engineering, 1996, 23, 167-192.	1.9	15
95	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
96	Data Assimilation and Inverse Methods in Terms of a Probabilistic Formulation. Monthly Weather Review, 1996, 124, 2898-2913.	0.5	378
97	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
98	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