Arnaud Doucet

List of Publications by Year
in descending order

152 papers	16,106 citations	53794 45 h-index	18130 120 g-index
155 all docs	155 docs citations	155 times ranked	9084 citing authors

#	Article	IF	Citations
1	A Particle Method for Solving Fredholm Equations of the First Kind. Journal of the American Statistical Association, 2023, 118, 937-947.	3.1	0
2	Non-Reversible Parallel Tempering: A Scalable Highly Parallel MCMC Scheme. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2022, 84, 321-350.	2.2	12
3	Nonreversible Jump Algorithms for Bayesian Nested Model Selection. Journal of Computational and Graphical Statistics, 2021, 30, 312-323.	1.7	4
4	Bias of Particle Approximations to Optimal Filter Derivative. SIAM Journal on Control and Optimization, 2021, 59, 727-748.	2.1	0
5	Gibbs Flow for Approximate Transport with Applications to Bayesian Computation. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2021, 83, 156-187.	2.2	11
6	Asymptotic Properties of Recursive Particle Maximum Likelihood Estimation. IEEE Transactions on Information Theory, 2021, 67, 1825-1848.	2.4	2
7	Randomized Hamiltonian Monte Carlo as scaling limit of the bouncy particle sampler and dimension-free convergence rates. Annals of Applied Probability, 2021, 31, .	1.3	9
8	Limit theorems for sequential MCMC methods. Advances in Applied Probability, 2020, 52, 377-403.	0.7	11
9	Stability of optimal filter higher-order derivatives. Stochastic Processes and Their Applications, 2020, 130, 4808-4858.	0.9	2
10	Controlled sequential Monte Carlo. Annals of Statistics, 2020, 48, .	2.6	20
11	Analyticity of Entropy Rates of Continuous-State Hidden Markov Models. IEEE Transactions on Information Theory, 2019, 65, 7950-7975.	2.4	1
12	Exponential ergodicity of the bouncy particle sampler. Annals of Statistics, 2019, 47, .	2.6	21
13	Asymptotic Properties of Recursive Particle Maximum Likelihood Estimation. , 2019, , .		2
14	Stability of Optimal Filter Higher-Order Derivatives. , 2019, , .		1
15	Piecewise deterministic Markov processes for scalable Monte Carlo on restricted domains. Statistics and Probability Letters, 2018, 136, 148-154.	0.7	29
16	The Bouncy Particle Sampler: A Nonreversible Rejection-Free Markov Chain Monte Carlo Method. Journal of the American Statistical Association, 2018, 113, 855-867.	3.1	103
17	The Correlated Pseudomarginal Method. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2018, 80, 839-870.	2.2	59
18	On uncertainty quantification in hydrogeology and hydrogeophysics. Advances in Water Resources, 2017, 110, 166-181.	3.8	82

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19	Asymptotic bias of stochastic gradient search. Annals of Applied Probability, 2017, 27, .	1.3	23
20	On Particle Methods for Parameter Estimation in State-Space Models. Statistical Science, 2015, 30, .	2.8	284
21	Uniform Stability of a Particle Approximation of the Optimal Filter Derivative. SIAM Journal on Control and Optimization, 2015, 53, 1278-1304.	2.1	13
22	Efficient implementation of Markov chain Monte Carlo when using an unbiased likelihood estimator. Biometrika, 2015, 102, 295-313.	2.4	152
23	Bayesian Phylogenetic Inference Using a Combinatorial Sequential Monte Carlo Method. Journal of the American Statistical Association, 2015, 110, 1362-1374.	3.1	19
24	Joint Channel and Doppler Offset Estimation in Dynamic Cooperative Relay Networks. IEEE Transactions on Wireless Communications, 2014, 13, 6570-6579.	9.2	4
25	Simulated likelihood inference for stochastic volatility models using continuous particle filtering. Annals of the Institute of Statistical Mathematics, 2014, 66, 527-552.	0.8	23
26	A lognormal central limit theorem for particle approximations of normalizing constants. Electronic Journal of Probability, 2014, 19, .	1.0	18
27	A Gaussian mixture ensemble transform filter for vector observations. Proceedings of SPIE, 2013, , .	0.8	0
28	Calibration and Filtering for Multi Factor Commodity Models with Seasonality: Incorporating Panel Data from Futures Contracts. Methodology and Computing in Applied Probability, 2013, 15, 841-874.	1.2	20
29	An Online Expectationâ€"Maximization Algorithm for Changepoint Models. Journal of Computational and Graphical Statistics, 2013, 22, 906-926.	1.7	26
30	An Adaptive Interacting Wangâ€"Landau Algorithm for Automatic Density Exploration. Journal of Computational and Graphical Statistics, 2013, 22, 749-773.	1.7	24
31	Efficient Bayesian Inference for Generalized Bradleyâ€"Terry Models. Journal of Computational and Graphical Statistics, 2012, 21, 174-196.	1.7	59
32	Distributed Maximum Likelihood for Simultaneous Self-Localization and Tracking in Sensor Networks. IEEE Transactions on Signal Processing, 2012, 60, 5038-5047.	5.3	58
33	Exact Approximation of Rao-Blackwellised Particle Filters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 488-493.	0.4	8
34	One-line Parameter Estimation in General State-Space Models using a Pseudo-Likelihood Approach. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 500-505.	0.4	3
35	On adaptive resampling strategies for sequential Monte Carlo methods. Bernoulli, 2012, 18, .	1.3	104
36	Bayesian Sparsity-Path-Analysis of Genetic Association Signal using Generalized t Priors. Statistical Applications in Genetics and Molecular Biology, 2012, 11, .	0.6	15

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37	Efficient Bayesian Inference for Multivariate Probit Models With Sparse Inverse Correlation Matrices. Journal of Computational and Graphical Statistics, 2012, 21, 739-757.	1.7	31
38	An adaptive sequential Monte Carlo method for approximate Bayesian computation. Statistics and Computing, 2012, 22, 1009-1020.	1.5	315
39	Fluctuations of interacting Markov chain Monte Carlo methods. Stochastic Processes and Their Applications, 2012, 122, 1304-1331.	0.9	9
40	On-line changepoint detection and parameter estimation with application to genomic data. Statistics and Computing, 2012, 22, 579-595.	1.5	23
41	Particle Approximation of the Intensity Measures of a Spatial Branching Point Process Arising in Multitarget Tracking. SIAM Journal on Control and Optimization, 2011, 49, 1766-1792.	2.1	3
42	On the conditional distributions of spatial point processes. Advances in Applied Probability, 2011, 43, 301-307.	0.7	5
43	On nonlinear Markov chain Monte Carlo. Bernoulli, 2011, 17, .	1.3	22
44	Inference for LÃ©vyâ€Driven Stochastic Volatility Models via Adaptive Sequential Monte Carlo. Scandinavian Journal of Statistics, 2011, 38, 1-22.	1.4	99
45	Melody Tracking Based on Sequential Bayesian Model. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 1216-1227.	10.8	2
46	Particle approximations of the score and observed information matrix in state space models with application to parameter estimation. Biometrika, 2011, 98, 65-80.	2.4	139
47	Asymptotic bias of stochastic gradient search. , 2011, , .		3
48	On the conditional distributions of spatial point processes. Advances in Applied Probability, 2011, 43, 301-307.	0.7	11
49	A backward particle interpretation of Feynman-Kac formulae. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 947-975.	1.9	45
50	Sequentially interacting Markov chain Monte Carlo methods. Annals of Statistics, 2010, 38, .	2.6	32
51	Interacting Markov chain Monte Carlo methods for solving nonlinear measure-valued equations. Annals of Applied Probability, 2010, 20, .	1.3	10
52	A Bayesian approach to joint tracking and identification of geometric shapes in video sequences. Image and Vision Computing, 2010, 28, 111-123.	4.5	15
53	Smoothing algorithms for stateâ€“space models. Annals of the Institute of Statistical Mathematics, 2010, 62, 61-89.	0.8	180
54	An efficient computational approach for prior sensitivity analysis and crossâ€validation. Canadian Journal of Statistics, 2010, 38, 47-64.	0.9	14

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55	On solving integral equations using Markov chain Monte Carlo methods. Applied Mathematics and Computation, 2010, 216, 2869-2880.	2.2	35
56	A new class of interacting Markov chain Monte Carlo methods. Comptes Rendus Mathematique, 2010, 348, 79-83.	0.3	0
57	Particle Markov Chain Monte Carlo Methods. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2010, 72, 269-342.	2.2	1,249
58	On the Utility of Graphics Cards to Perform Massively Parallel Simulation of Advanced Monte Carlo Methods. Journal of Computational and Graphical Statistics, 2010, 19, 769-789.	1.7	204
59	A Fixed-Lag Particle Filter for the Joint Detection/Compensation of Interference Effects in GPS Navigation. IEEE Transactions on Signal Processing, 2010, 58, 6066-6079.	5.3	12
60	A boosting approach to structure learning of graphs with and without prior knowledge. Bioinformatics, 2009, 25, 2929-2936.	4.1	16
61	Sequential Monte Carlo methods for diffusion processes. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2009, 465, 3709-3727.	2.1	12
62	A Bayesian exploration-exploitation approach for optimal online sensing and planning with a visually guided mobile robot. Autonomous Robots, 2009, 27, 93-103.	4.8	156
63	Particle-method-based formulation of risk-sensitive filter. Signal Processing, 2009, 89, 314-319.	3.7	12
64	Particle Markov Chain Monte Carlo for Efficient Numerical Simulation. , 2009, , 45-60.		11
65	A Functional Central Limit Theorem for a Class of Interacting Markov Chain Monte Carlo Methods. Electronic Journal of Probability, 2009, 14, .	1.0	6
66	Inference and Learning for Active Sensing, Experimental Design and Control. Lecture Notes in Computer Science, 2009, , 1-10.	1.3	2
67	Stability of sequential Monte Carlo samplers via the Fosterâ€"Lyapunov condition. Statistics and Probability Letters, 2008, 78, 3062-3069.	0.7	10
68	Particle methods for maximum likelihood estimation in latent variable models. Statistics and Computing, 2008, 18, 47-57.	1.5	68
69	Interacting sequential Monte Carlo samplers for trans-dimensional simulation. Computational Statistics and Data Analysis, 2008, 52, 1765-1791.	1.2	33
70	A note on auxiliary particle filters. Statistics and Probability Letters, 2008, 78, 1498-1504.	0.7	108
71	Bayesian Inference for Linear Dynamic Models With Dirichlet Process Mixtures. IEEE Transactions on Signal Processing, 2008, 56, 71-84.	5.3	84
72	A Note on Convergence of the Equi-Energy Sampler. Stochastic Analysis and Applications, 2008, 26, 298-312.	1.5	11

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73	A Monte Carlo Algorithm for Optimal Quantization in Hidden Markov Models. , 2007, , .		0
74	Distributed Online Self-Localization and Tracking in Sensor Networks. Proc Int Symp Image Signal Process Anal, 2007, , .	0.0	3
75	Bayesian Unsupervised Signal Classification by Dirichlet Process Mixtures of Gaussian Processes. , 2007, , .		11
76	GSR: A New Genetic Algorithm for Improving Source and Channel Estimates. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 2007, 54, 1088-1098.	0.1	16
77	Non-linear Markov Chain Monte Carlo. ESAIM: Proceedings and Surveys, 2007, 19, 79-84.	0.4	15
78	Sharp Propagation of Chaos Estimates for Feynmanâ€“Kac Particle Models. Theory of Probability and Its Applications, 2007, 51, 459-485.	0.3	8
79	A policy gradient method for semi-Markov decision processes with application to call admission control. European Journal of Operational Research, 2007, 178, 808-818.	5.7	36
80	Simulation-based optimal sensor scheduling with application to observer trajectory planning. Automatica, 2007, 43, 817-830.	5.0	40
81	Simulation of the annual loss distribution in operational risk via Panjer recursions and Volterra integral equations for value-at-risk and expected shortfall estimation. Journal of Operational Risk, 2007, 2, 29-58.	0.2	26
82	Online Parameter Estimation for Partially Observed Diffusions. , 2006, , .		1
83	SMC Samplers for Bayesian Optimal Nonlinear Design. , 2006, , .		17
84	A Distributed Recursive Maximum Likelihood Implementation for Sensor Registration. , 2006, , .		4
85	Distributed Self Localisation of Sensor Networks using Particle Methods. , 2006, , .		1
86	Bayesian Inference for Dynamic Models with Dirichlet Process Mixtures. , 2006, , .		10
87	Sequential Monte Carlo samplers. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2006, 68, 411-436.	2.2	1,010
88	Convergence of the SMC Implementation of the PHD Filte. Methodology and Computing in Applied Probability, 2006, 8, 265-291.	1.2	45
89	Fast particle smoothing. , 2006, , .		97
90	Sequential sampling for dynamic environment maps. , 2006, , .		4

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91	Fixed-lag sequential Monte Carlo data association. , 2006, , .		0
92	Efficient Block Sampling Strategies for Sequential Monte Carlo Methods. Journal of Computational and Graphical Statistics, 2006, 15, 693-711.	1.7	98
93	Sequential auxiliary particle belief propagation. , 2005, , .		35
94	Exponential forgetting and geometric ergodicity for optimal filtering in general state-space models. Stochastic Processes and Their Applications, 2005, 115, 1408-1436.	0.9	22
95	Sequential monte carlo methods for multi-target filtering with random finite sets. IEEE Transactions on Aerospace and Electronic Systems, 2005, 41, 1224-1245.	4.7	953
96	Monte Carlo methods for signal processing: a review in the statistical signal processing context. IEEE Signal Processing Magazine, 2005, 22, 152-170.	5.6	167
97	Computational Advances for and from Bayesian Analysis. Statistical Science, 2004, 19, 118.	2.8	46
98	Monte Carlo Smoothing for Nonlinear Time Series. Journal of the American Statistical Association, 2004, 99, 156-168.	3.1	347
99	Particle Motions in Absorbing Medium with Hard and Soft Obstacles. Stochastic Analysis and Applications, 2004, 22, 1175-1207.	1.5	29
100	Reversible Jump Markov Chain Monte Carlo Strategies for Bayesian Model Selection in Autoregressive Processes. Journal of Time Series Analysis, 2004, 25, 785-809.	1.2	52
101	Blind SOS subspace channel estimation and equalization techniques exploiting spatial diversity in OFDM systems. , 2004, 14, 171-202.		31
102	<title>Probability hypothesis density filter versus multiple hypothesis tracking</title>. , 2004, 5429, 284.		39
103	Particle Methods for Change Detection, System Identification, and Control. Proceedings of the IEEE, 2004, 92, 423-438.	21.3	249
104	Particle Filtering for Joint Symbol and Code Delay Estimation in DS Spread Spectrum Systems in Multipath Environment. Eurasip Journal on Advances in Signal Processing, 2004, 2004, 1.	1.7	18
105	An Introduction to MCMC for Machine Learning. Machine Learning, 2003, 50, 5-43.	5.4	1,641
106	Parameter estimation in general state-space models using particle methods. Annals of the Institute of Statistical Mathematics, 2003, 55, 409-422.	0.8	134
107	Discussion on the paper by Brooks, Giudici and Roberts. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2003, 65, 39-55.	2.2	2
108	Efficient particle filtering for jump markov systems. Application to time-varying autoregressions. IEEE Transactions on Signal Processing, 2003, 51, 1762-1770.	5.3	133

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109	A new class of soft mimo demodulation algorithms. IEEE Transactions on Signal Processing, 2003, 51, 2752-2763.	5.3	69
110	Copulas: a new insight into positive time-frequency distributions. IEEE Signal Processing Letters, 2003, 10, 215-218.	3.6	39
111	<title>Particle filter for tracking linear Gaussian target with nonlinear observations</title>. , 2003, 5096, 59.		2
112	Online sampling for parameter estimation in general state space models. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2003, 36, 1275-1280.	0.4	4
113	On a Class of Genealogical and Interacting Metropolis Models. Lecture Notes in Mathematics, 2003, , 415-446.	0.2	10
114	Title is missing!. Annals of the Institute of Statistical Mathematics, 2003, 55, 409-422.	0.8	16
115	Efficient particle filtering for Jump Markov Systems. , 2002, , .		9
116	Recursive state estimation for multiple switching models with unknown transition probabilities. IEEE Transactions on Aerospace and Electronic Systems, 2002, 38, 1098-1104.	4.7	37
117	Optimized support vector machines for nonstationary signal classification. IEEE Signal Processing Letters, 2002, 9, 442-445.	3.6	36
118	Particle methods for Bayesian modeling and enhancement of speech signals. IEEE Transactions on Speech and Audio Processing, 2002, 10, 173-185.	1.5	118
119	Monte Carlo smoothing with application to audio signal enhancement. IEEE Transactions on Signal Processing, 2002, 50, 438-449.	5.3	86
120	A survey of convergence results on particle filtering methods for practitioners. IEEE Transactions on Signal Processing, 2002, 50, 736-746.	5.3	666
121	Bayesian curve fitting using MCMC with applications to signal segmentation. IEEE Transactions on Signal Processing, 2002, 50, 747-758.	5.3	120
122	Particle filtering for partially observed Gaussian state space models. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2002, 64, 827-836.	2.2	155
123	Marginal maximum a posteriori estimation using Markov chain Monte Carlo. Statistics and Computing, 2002, 12, 77-84.	1.5	57
124	An Introduction to Monte Carlo Methods for Bayesian Data Analysis. , 2001, , 169-217.		9
125	Bayesian deconvolution of noisy filtered point processes. IEEE Transactions on Signal Processing, 2001, 49, 134-146.	5.3	26
126	Particle filters for state estimation of jump Markov linear systems. IEEE Transactions on Signal Processing, 2001, 49, 613-624.	5.3	571

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127	Iterative algorithms for state estimation of jump Markov linear systems. IEEE Transactions on Signal Processing, 2001, 49, 1216-1227.	5.3	81
128	Convergence of simulated annealing using Foster-Lyapunov criteria. Journal of Applied Probability, 2001, 38, 975-994.	0.7	15
129	Model selection by MCMC computation. Signal Processing, 2001, 81, 19-37.	3.7	69
130	Optimal Estimation and CramÃ©r-Rao Bounds for Partial Non-Gaussian State Space Models. Annals of the Institute of Statistical Mathematics, 2001, 53, 97-112.	0.8	34
131	Maximum a Posteriori Sequence Estimation Using Monte Carlo Particle Filters. Annals of the Institute of Statistical Mathematics, 2001, 53, 82-96.	0.8	79
132	Particle filtering for demodulation in fading channels with non-Gaussian additive noise. IEEE Transactions on Communications, 2001, 49, 579-582.	7.8	47
133	Bayesian blind and semi-blind equalisation of channels with Markov inputs. IET Computer Vision, 2001, 148, 269.	1.3	5
134	Robust Full Bayesian Learning for Radial Basis Networks. Neural Computation, 2001, 13, 2359-2407.	2.2	68
135	Convergence of simulated annealing using Foster-Lyapunov criteria. Journal of Applied Probability, 2001, 38, 975-994.	0.7	17
136	Simulated annealing for maximum a posteriori parameter estimation of hidden Markov models. IEEE Transactions on Information Theory, 2000, 46, 994-1004.	2.4	27
137	On sequential Monte Carlo sampling methods for Bayesian filtering. Statistics and Computing, 2000, 10, 197-208.	1.5	3,335
138	Stochastic sampling algorithms for state estimation of jump Markov linear systems. IEEE Transactions on Automatic Control, 2000, 45, 188-202.	5.7	119
139	Sequential Monte Carlo Methods to Train Neural Network Models. Neural Computation, 2000, 12, 955-993.	2.2	164
140	<title>Sequential Monte Carlo for maneuvering target tracking in clutter</title>. , 1999, 3809, 493.		17
141	Simulation-based methods for blind maximum-likelihood filter identification. Signal Processing, 1999, 73, 3-25.	3.7	27
142	A Bayesian approach to harmonic retrieval with clipped data. Signal Processing, 1999, 74, 239-252.	3.7	2
143	An improved method for uniform simulation of stable minimum phase real ARMA (p,q) processes. IEEE Signal Processing Letters, 1999, 6, 142-144.	3.6	10
144	Joint Bayesian model selection and estimation of noisy sinusoids via reversible jump MCMC. IEEE Transactions on Signal Processing, 1999, 47, 2667-2676.	5.3	170

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145	<title>Reversible jump Markov chain Monte Carlo for Bayesian deconvolution of point sources</title>. , 1998, , .		6
146	<title>Efficient simulated annealing algorithms for Bayesian parameter estimation</title>. , 1998, , .		2
147	Bayesian estimation of state-space models applied to deconvolution of Bernoulliâ€"Gaussian processes. Signal Processing, 1997, 57, 147-161.	3.7	34
148	Sequential MCMC for Bayesian model selection. , 0, , .		63
149	Particle filtering for multi-target tracking and sensor management. , 0, , .		83
150	On-Line Parameter Estimation in General State-Space Models. , 0, , .		38
151	Space Alternating Data Augmentation: Application to Finite Mixture of Gaussians and Speaker Recognition. , 0, , .		3
152	Multivariate Stochastic Volatility with Co-Heteroscedasticity. SSRN Electronic Journal, 0, , .	0.4	4