Arnaud Doucet

List of Publications by Year
in descending order

152	16,106	53794	18130
papers	citations	45 h-index	120 g-index

155	155	155	9084
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	On sequential Monte Carlo sampling methods for Bayesian filtering. Statistics and Computing, 2000, 10, 197-208.	1.5	3,335
2	An Introduction to MCMC for Machine Learning. Machine Learning, 2003, 50, 5-43.	5.4	1,641
3	Particle Markov Chain Monte Carlo Methods. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2010, 72, 269-342.	2.2	1,249
4	Sequential Monte Carlo samplers. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2006, 68, 411-436.	2.2	1,010
5	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
6	A survey of convergence results on particle filtering methods for practitioners. IEEE Transactions on Signal Processing, 2002, 50, 736-746.	5.3	666
7	Particle filters for state estimation of jump Markov linear systems. IEEE Transactions on Signal Processing, 2001, 49, 613-624.	5.3	571
8	Monte Carlo Smoothing for Nonlinear Time Series. Journal of the American Statistical Association, 2004, 99, 156-168.	3.1	347
9	An adaptive sequential Monte Carlo method for approximate Bayesian computation. Statistics and Computing, 2012, 22, 1009-1020.	1.5	315
10	On Particle Methods for Parameter Estimation in State-Space Models. Statistical Science, 2015, 30, .	2.8	284
11	Particle Methods for Change Detection, System Identification, and Control. Proceedings of the IEEE, 2004, 92, 423-438.	21.3	249
12	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
13	Smoothing algorithms for stateâ€“space models. Annals of the Institute of Statistical Mathematics, 2010, 62, 61-89.	0.8	180
14	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
15	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
16	Sequential Monte Carlo Methods to Train Neural Network Models. Neural Computation, 2000, 12, 955-993.	2.2	164
17	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
18	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

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19	Efficient implementation of Markov chain Monte Carlo when using an unbiased likelihood estimator. Biometrika, 2015, 102, 295-313.	2.4	152
20	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
21	Parameter estimation in general state-space models using particle methods. Annals of the Institute of Statistical Mathematics, 2003, 55, 409-422.	0.8	134
22	Efficient particle filtering for jump markov systems. Application to time-varying autoregressions. IEEE Transactions on Signal Processing, 2003, 51, 1762-1770.	5.3	133
23	Bayesian curve fitting using MCMC with applications to signal segmentation. IEEE Transactions on Signal Processing, 2002, 50, 747-758.	5.3	120
24	Stochastic sampling algorithms for state estimation of jump Markov linear systems. IEEE Transactions on Automatic Control, 2000, 45, 188-202.	5.7	119
25	Particle methods for Bayesian modeling and enhancement of speech signals. IEEE Transactions on Speech and Audio Processing, 2002, 10, 173-185.	1.5	118
26	A note on auxiliary particle filters. Statistics and Probability Letters, 2008, 78, 1498-1504.	0.7	108
27	On adaptive resampling strategies for sequential Monte Carlo methods. Bernoulli, 2012, 18, .	1.3	104
28	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
29	Inference for LÃ©vyâ€Driven Stochastic Volatility Models via Adaptive Sequential Monte Carlo. Scandinavian Journal of Statistics, 2011, 38, 1-22.	1.4	99
30	Efficient Block Sampling Strategies for Sequential Monte Carlo Methods. Journal of Computational and Graphical Statistics, 2006, 15, 693-711.	1.7	98
31	Fast particle smoothing. , 2006, , .		97
32	Monte Carlo smoothing with application to audio signal enhancement. IEEE Transactions on Signal Processing, 2002, 50, 438-449.	5.3	86
33	Bayesian Inference for Linear Dynamic Models With Dirichlet Process Mixtures. IEEE Transactions on Signal Processing, 2008, 56, 71-84.	5.3	84
34	Particle filtering for multi-target tracking and sensor management. , 0, , .		83
35	On uncertainty quantification in hydrogeology and hydrogeophysics. Advances in Water Resources, 2017, 110, 166-181.	3.8	82
36	Iterative algorithms for state estimation of jump Markov linear systems. IEEE Transactions on Signal Processing, 2001, 49, 1216-1227.	5.3	81

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37	Maximum a Posteriori Sequence Estimation Using Monte Carlo Particle Filters. Annals of the Institute of Statistical Mathematics, 2001, 53, 82-96.	0.8	79
38	Model selection by MCMC computation. Signal Processing, 2001, 81, 19-37.	3.7	69
39	A new class of soft mimo demodulation algorithms. IEEE Transactions on Signal Processing, 2003, 51, 2752-2763.	5.3	69
40	Robust Full Bayesian Learning for Radial Basis Networks. Neural Computation, 2001, 13, 2359-2407.	2.2	68
41	Particle methods for maximum likelihood estimation in latent variable models. Statistics and Computing, 2008, 18, 47-57.	1.5	68
42	Sequential MCMC for Bayesian model selection. , 0, , .		63
43	Efficient Bayesian Inference for Generalized Bradleyâ€“Terry Models. Journal of Computational and Graphical Statistics, 2012, 21, 174-196.	1.7	59
44	The Correlated Pseudomarginal Method. Journal of the Royal Statistical Society Series B: Statistical Methodology, 2018, 80, 839-870.	2.2	59
45	Distributed Maximum Likelihood for Simultaneous Self-Localization and Tracking in Sensor Networks. IEEE Transactions on Signal Processing, 2012, 60, 5038-5047.	5.3	58
46	Marginal maximum a posteriori estimation using Markov chain Monte Carlo. Statistics and Computing, 2002, 12, 77-84.	1.5	57
47	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
48	Particle filtering for demodulation in fading channels with non-Gaussian additive noise. IEEE Transactions on Communications, 2001, 49, 579-582.	7.8	47
49	Computational Advances for and from Bayesian Analysis. Statistical Science, 2004, 19, 118.	2.8	46
50	Convergence of the SMC Implementation of the PHD Filte. Methodology and Computing in Applied Probability, 2006, 8, 265-291.	1.2	45
51	A backward particle interpretation of Feynman-Kac formulae. ESAIM: Mathematical Modelling and Numerical Analysis, 2010, 44, 947-975.	1.9	45
52	Simulation-based optimal sensor scheduling with application to observer trajectory planning. Automatica, 2007, 43, 817-830.	5.0	40
53	Copulas: a new insight into positive time-frequency distributions. IEEE Signal Processing Letters, 2003, 10, 215-218.	3.6	39
54	<title>Probability hypothesis density filter versus multiple hypothesis tracking</title>. , 2004, 5429, 284.		39

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55	On-Line Parameter Estimation in General State-Space Models. , 0, , .		38
56	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
57	Optimized support vector machines for nonstationary signal classification. IEEE Signal Processing Letters, 2002, 9, 442-445.	3.6	36
58	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
59	Sequential auxiliary particle belief propagation. , 2005, , .		35
60	On solving integral equations using Markov chain Monte Carlo methods. Applied Mathematics and Computation, 2010, 216, 2869-2880.	2.2	35
61	Bayesian estimation of state-space models applied to deconvolution of Bernoulliâ€"Gaussian processes. Signal Processing, 1997, 57, 147-161.	3.7	34
62	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
63	Interacting sequential Monte Carlo samplers for trans-dimensional simulation. Computational Statistics and Data Analysis, 2008, 52, 1765-1791.	1.2	33
64	Sequentially interacting Markov chain Monte Carlo methods. Annals of Statistics, 2010, 38, .	2.6	32
65	Blind SOS subspace channel estimation and equalization techniques exploiting spatial diversity in OFDM systems. , 2004, 14, 171-202.		31
66	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
67	Particle Motions in Absorbing Medium with Hard and Soft Obstacles. Stochastic Analysis and Applications, 2004, 22, 1175-1207.	1.5	29
68	Piecewise deterministic Markov processes for scalable Monte Carlo on restricted domains. Statistics and Probability Letters, 2018, 136, 148-154.	0.7	29
69	Simulation-based methods for blind maximum-likelihood filter identification. Signal Processing, 1999, 73, 3-25.	3.7	27
70	Simulated annealing for maximum a posteriori parameter estimation of hidden Markov models. IEEE Transactions on Information Theory, 2000, 46, 994-1004.	2.4	27
71	Bayesian deconvolution of noisy filtered point processes. IEEE Transactions on Signal Processing, 2001, 49, 134-146.	5.3	26
72	An Online Expectationâ€"Maximization Algorithm for Changepoint Models. Journal of Computational and Graphical Statistics, 2013, 22, 906-926.	1.7	26

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73	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
74	An Adaptive Interacting Wangâ€“Landau Algorithm for Automatic Density Exploration. Journal of Computational and Graphical Statistics, 2013, 22, 749-773.	1.7	24
75	On-line changepoint detection and parameter estimation with application to genomic data. Statistics and Computing, 2012, 22, 579-595.	1.5	23
76	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
77	Asymptotic bias of stochastic gradient search. Annals of Applied Probability, 2017, 27, .	1.3	23
78	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
79	On nonlinear Markov chain Monte Carlo. Bernoulli, 2011, 17, .	1.3	22
80	Exponential ergodicity of the bouncy particle sampler. Annals of Statistics, 2019, 47, .	2.6	21
81	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
82	Controlled sequential Monte Carlo. Annals of Statistics, 2020, 48, .	2.6	20
83	Bayesian Phylogenetic Inference Using a Combinatorial Sequential Monte Carlo Method. Journal of the American Statistical Association, 2015, 110, 1362-1374.	3.1	19
84	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
85	A lognormal central limit theorem for particle approximations of normalizing constants. Electronic Journal of Probability, 2014, 19, .	1.0	18
86	<title>Sequential Monte Carlo for maneuvering target tracking in clutter</title>. , 1999, 3809, 493.		17
87	SMC Samplers for Bayesian Optimal Nonlinear Design. , 2006, , .		17
88	Convergence of simulated annealing using Foster-Lyapunov criteria. Journal of Applied Probability, 2001, 38, 975-994.	0.7	17
89	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
90	A boosting approach to structure learning of graphs with and without prior knowledge. Bioinformatics, 2009, 25, 2929-2936.	4.1	16

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91	Title is missing!. Annals of the Institute of Statistical Mathematics, 2003, 55, 409-422.	0.8	16
92	Convergence of simulated annealing using Foster-Lyapunov criteria. Journal of Applied Probability, 2001, 38, 975-994.	0.7	15
93	Non-linear Markov Chain Monte Carlo. ESAIM: Proceedings and Surveys, 2007, 19, 79-84.	0.4	15
94	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
95	Bayesian Sparsity-Path-Analysis of Genetic Association Signal using Generalized t Priors. Statistical Applications in Genetics and Molecular Biology, 2012, 11, .	0.6	15
96	An efficient computational approach for prior sensitivity analysis and crossâ€validation. Canadian Journal of Statistics, 2010, 38, 47-64.	0.9	14
97	Uniform Stability of a Particle Approximation of the Optimal Filter Derivative. SIAM Journal on Control and Optimization, 2015, 53, 1278-1304.	2.1	13
98	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
99	Particle-method-based formulation of risk-sensitive filter. Signal Processing, 2009, 89, 314-319.	3.7	12
100	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
101	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
102	Bayesian Unsupervised Signal Classification by Dirichlet Process Mixtures of Gaussian Processes. , 2007, , .		11
103	A Note on Convergence of the Equi-Energy Sampler. Stochastic Analysis and Applications, 2008, 26, 298-312.	1.5	11
104	Limit theorems for sequential MCMC methods. Advances in Applied Probability, 2020, 52, 377-403.	0.7	11
105	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
106	Particle Markov Chain Monte Carlo for Efficient Numerical Simulation. , 2009, , 45-60.		11
107	On the conditional distributions of spatial point processes. Advances in Applied Probability, 2011, 43, 301-307.	0.7	11
108	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

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109	Bayesian Inference for Dynamic Models with Dirichlet Process Mixtures. , 2006, , .		10
110	Stability of sequential Monte Carlo samplers via the Fosterâ€“Lyapunov condition. Statistics and Probability Letters, 2008, 78, 3062-3069.	0.7	10
111	Interacting Markov chain Monte Carlo methods for solving nonlinear measure-valued equations. Annals of Applied Probability, 2010, 20, .	1.3	10
112	On a Class of Genealogical and Interacting Metropolis Models. Lecture Notes in Mathematics, 2003, , 415-446.	0.2	10
113	An Introduction to Monte Carlo Methods for Bayesian Data Analysis. , 2001, , 169-217.		9
114	Efficient particle filtering for Jump Markov Systems. , 2002, , .		9
115	Fluctuations of interacting Markov chain Monte Carlo methods. Stochastic Processes and Their Applications, 2012, 122, 1304-1331.	0.9	9
116	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
117	Sharp Propagation of Chaos Estimates for Feynmanâ€“Kac Particle Models. Theory of Probability and Its Applications, 2007, 51, 459-485.	0.3	8
118	Exact Approximation of Rao-Blackwellised Particle Filters. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 488-493.	0.4	8
119	<title>Reversible jump Markov chain Monte Carlo for Bayesian deconvolution of point sources</title>. , 1998, , .		6
120	A Functional Central Limit Theorem for a Class of Interacting Markov Chain Monte Carlo Methods. Electronic Journal of Probability, 2009, 14, .	1.0	6
121	Bayesian blind and semi-blind equalisation of channels with Markov inputs. IET Computer Vision, 2001, 148, 269.	1.3	5
122	On the conditional distributions of spatial point processes. Advances in Applied Probability, 2011, 43, 301-307.	0.7	5
123	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
124	A Distributed Recursive Maximum Likelihood Implementation for Sensor Registration. , 2006, , .		4
125	Sequential sampling for dynamic environment maps. , 2006, , .		4
126	Joint Channel and Doppler Offset Estimation in Dynamic Cooperative Relay Networks. IEEE Transactions on Wireless Communications, 2014, 13, 6570-6579.	9.2	4

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127	Nonreversible Jump Algorithms for Bayesian Nested Model Selection. Journal of Computational and Graphical Statistics, 2021, 30, 312-323.	1.7	4
128	Multivariate Stochastic Volatility with Co-Heteroscedasticity. SSRN Electronic Journal, 0, , .	0.4	4
129	Space Alternating Data Augmentation: Application to Finite Mixture of Gaussians and Speaker Recognition. , 0, , .		3
130	Distributed Online Self-Localization and Tracking in Sensor Networks. Proc Int Symp Image Signal Process Anal, 2007, , .	0.0	3
131	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
132	Asymptotic bias of stochastic gradient search. , 2011, , .		3
133	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
134	<title>Efficient simulated annealing algorithms for Bayesian parameter estimation</title>. , 1998, , .		2
135	A Bayesian approach to harmonic retrieval with clipped data. Signal Processing, 1999, 74, 239-252.	3.7	2
136	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
137	<title>Particle filter for tracking linear Gaussian target with nonlinear observations</title>. , 2003, 5096, 59.		2
138	Melody Tracking Based on Sequential Bayesian Model. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 1216-1227.	10.8	2
139	Asymptotic Properties of Recursive Particle Maximum Likelihood Estimation. , 2019, , .		2
140	Stability of optimal filter higher-order derivatives. Stochastic Processes and Their Applications, 2020, 130, 4808-4858.	0.9	2
141	Asymptotic Properties of Recursive Particle Maximum Likelihood Estimation. IEEE Transactions on Information Theory, 2021, 67, 1825-1848.	2.4	2
142	Inference and Learning for Active Sensing, Experimental Design and Control. Lecture Notes in Computer Science, 2009, , 1-10.	1.3	2
143	Online Parameter Estimation for Partially Observed Diffusions. , 2006, , .		1
144	Distributed Self Localisation of Sensor Networks using Particle Methods. , 2006, , .		1

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145	Analyticity of Entropy Rates of Continuous-State Hidden Markov Models. IEEE Transactions on Information Theory, 2019, 65, 7950-7975.	2.4	1
146	Stability of Optimal Filter Higher-Order Derivatives. , 2019, , .		1
147	Fixed-lag sequential Monte Carlo data association. , 2006, , .		0
148	A Monte Carlo Algorithm for Optimal Quantization in Hidden Markov Models. , 2007, , .		0
149	A new class of interacting Markov chain Monte Carlo methods. Comptes Rendus Mathematique, 2010, 348, 79-83.	0.3	0
150	A Gaussian mixture ensemble transform filter for vector observations. Proceedings of SPIE, 2013, , .	0.8	0
151	Bias of Particle Approximations to Optimal Filter Derivative. SIAM Journal on Control and Optimization, 2021, 59, 727-748.	2.1	0
152	A Particle Method for Solving Fredholm Equations of the First Kind. Journal of the American Statistical Association, 2023, 118, 937-947.	3.1	0