Nicolas Dobigeon

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Hyperspectral Unmixing Overview: Geometrical, Statistical, and Sparse Regression-Based Approaches. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2012, 5, 354-379.	4.9	2,181
2	Hyperspectral Pansharpening: A Review. IEEE Geoscience and Remote Sensing Magazine, 2015, 3, 27-46.	9.6	593
3	Hyperspectral and Multispectral Image Fusion Based on a Sparse Representation. IEEE Transactions on Geoscience and Remote Sensing, 2015, 53, 3658-3668.	6.3	488
4	Nonlinear Unmixing of Hyperspectral Images: Models and Algorithms. IEEE Signal Processing Magazine, 2014, 31, 82-94.	5.6	362
5	Nonlinear Unmixing of Hyperspectral Images Using a Generalized Bilinear Model. IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 4153-4162.	6.3	329
6	Fast Fusion of Multi-Band Images Based on Solving a Sylvester Equation. IEEE Transactions on Image Processing, 2015, 24, 4109-4121.	9.8	324
7	Joint Bayesian Endmember Extraction and Linear Unmixing for Hyperspectral Imagery. IEEE Transactions on Signal Processing, 2009, 57, 4355-4368.	5.3	299
8	Bayesian Fusion of Multi-Band Images. IEEE Journal on Selected Topics in Signal Processing, 2015, 9, 1117-1127.	10.8	193
9	Supervised Nonlinear Spectral Unmixing Using a Postnonlinear Mixing Model for Hyperspectral Imagery. IEEE Transactions on Image Processing, 2012, 21, 3017-3025.	9.8	190
10	Temporal Dynamics of Host Molecular Responses Differentiate Symptomatic and Asymptomatic Influenza A Infection. PLoS Genetics, 2011, 7, e1002234.	3.5	173
11	Bayesian Estimation of Linear Mixtures Using the Normal Compositional Model. Application to Hyperspectral Imagery. IEEE Transactions on Image Processing, 2010, 19, 1403-1413.	9.8	167
12	Semi-Supervised Linear Spectral Unmixing Using a Hierarchical Bayesian Model for Hyperspectral Imagery. IEEE Transactions on Signal Processing, 2008, 56, 2684-2695.	5.3	158
13	Nonlinear Hyperspectral Unmixing With Robust Nonnegative Matrix Factorization. IEEE Transactions on Image Processing, 2015, 24, 4810-4819.	9.8	147
14	Hyperspectral Unmixing With Spectral Variability Using a Perturbed Linear Mixing Model. IEEE Transactions on Signal Processing, 2016, 64, 525-538.	5.3	146
15	Enhancing Hyperspectral Image Unmixing With Spatial Correlations. IEEE Transactions on Geoscience and Remote Sensing, 2011, 49, 4239-4247.	6.3	119
16	Multiband Image Fusion Based on Spectral Unmixing. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 7236-7249.	6.3	119
17	Unsupervised Post-Nonlinear Unmixing of Hyperspectral Images Using a Hamiltonian Monte Carlo Algorithm. IEEE Transactions on Image Processing, 2014, 23, 2663-2675.	9.8	110
18	Nonlinear Spectral Unmixing of Hyperspectral Images Using Gaussian Processes. IEEE Transactions on Signal Processing, 2013, 61, 2442-2453.	5.3	91

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19	Spectral mixture analysis of EELS spectrum-images. Ultramicroscopy, 2012, 120, 25-34.	1.9	86
20	Residual Component Analysis of Hyperspectral Images—Application to Joint Nonlinear Unmixing and Nonlinearity Detection. IEEE Transactions on Image Processing, 2014, 23, 2148-2158.	9.8	84
21	R-FUSE: Robust Fast Fusion of Multiband Images Based on Solving a Sylvester Equation. IEEE Signal Processing Letters, 2016, 23, 1632-1636.	3.6	84
22	Fast Single Image Super-Resolution Using a New Analytical Solution for <inline-formula> <tex-math notation="LaTeX">\$ell _{2}\$ </tex-math> </inline-formula> – <inline-formula> <tex-math notation="LaTeX">\$ell _{2}\$ </tex-math> </inline-formula> Problems. IEEE Transactions on Image Processing, 2016, 25, 2682 2607	9.8	79
23	3683-3697. Bayesian separation of spectral sources under non-negativity and full additivity constraints. Signal Processing, 2009, 89, 2657-2669.	3.7	71
24	Minimum Mean Square Distance Estimation of a Subspace. IEEE Transactions on Signal Processing, 2011, 59, 5709-5720.	5.3	67
25	Estimating the Granularity Coefficient of a Potts-Markov Random Field Within a Markov Chain Monte Carlo Algorithm. IEEE Transactions on Image Processing, 2013, 22, 2385-2397.	9.8	62
26	Hierarchical Bayesian Sparse Image Reconstruction With Application to MRFM. IEEE Transactions on Image Processing, 2009, 18, 2059-2070.	9.8	59
27	Estimating the Number of Endmembers in Hyperspectral Images Using the Normal Compositional Model and a Hierarchical Bayesian Algorithm. IEEE Journal on Selected Topics in Signal Processing, 2010, 4, 582-591.	10.8	56
28	Unsupervised Unmixing of Hyperspectral Images Accounting for Endmember Variability. IEEE Transactions on Image Processing, 2015, 24, 4904-4917.	9.8	53
29	Segmentation of Skin Lesions in 2-D and 3-D Ultrasound Images Using a Spatially Coherent Generalized Rayleigh Mixture Model. IEEE Transactions on Medical Imaging, 2012, 31, 1509-1520.	8.9	52
30	Bayesian fusion of hyperspectral and multispectral images. , 2014, , .		52
31	Adaptive Markov Random Fields for Joint Unmixing and Segmentation of Hyperspectral Images. IEEE Transactions on Image Processing, 2013, 22, 5-16.	9.8	51
32	Bayesian Orthogonal Component Analysis for Sparse Representation. IEEE Transactions on Signal Processing, 2010, 58, 2675-2685.	5.3	46
33	Fast Hyperspectral Unmixing in Presence of Nonlinearity or Mismodeling Effects. IEEE Transactions on Computational Imaging, 2017, 3, 146-159.	4.4	46
34	Detecting Changes Between Optical Images of Different Spatial and Spectral Resolutions: A Fusion-Based Approach. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 1566-1578.	6.3	46
35	Unmixing hyperspectral images using the generalized bilinear model. , 2011, , .		44
36	Joint Segmentation of Piecewise Constant Autoregressive Processes by Using a Hierarchical Model and a Bayesian Sampling Approach. IEEE Transactions on Signal Processing, 2007, 55, 1251-1263.	5.3	43

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37	A Comparison of Nonlinear Mixing Models for Vegetated Areas Using Simulated and Real Hyperspectral Data. IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 2014, 7, 1869-1878.	4.9	42
38	Hyperspectral Unmixing With Spectral Variability Using Adaptive Bundles and Double Sparsity. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 3980-3992.	6.3	41
39	Implementation Strategies for Hyperspectral Unmixing Using Bayesian Source Separation. IEEE Transactions on Geoscience and Remote Sensing, 2010, , .	6.3	39
40	Joint Segmentation of Multivariate Astronomical Time Series: Bayesian Sampling With a Hierarchical Model. IEEE Transactions on Signal Processing, 2007, 55, 414-423.	5.3	36
41	Nonlinearity Detection in Hyperspectral Images Using a Polynomial Post-Nonlinear Mixing Model. IEEE Transactions on Image Processing, 2013, 22, 1267-1276.	9.8	35
42	Blind Deconvolution of Sparse Pulse Sequences Under a Minimum Distance Constraint: A Partially Collapsed Gibbs Sampler Method. IEEE Transactions on Signal Processing, 2012, 60, 2727-2743.	5.3	34
43	Online Unmixing of Multitemporal Hyperspectral Images Accounting for Spectral Variability. IEEE Transactions on Image Processing, 2016, 25, 3979-3990.	9.8	32
44	Robust Fusion of Multiband Images With Different Spatial and Spectral Resolutions for Change Detection. IEEE Transactions on Computational Imaging, 2017, 3, 175-186.	4.4	29
45	Hyperspectral Image Unmixing With LiDAR Data-Aided Spatial Regularization. IEEE Transactions on Geoscience and Remote Sensing, 2018, 56, 4098-4108.	6.3	26
46	Bilinear models for nonlinear unmixing of hyperspectral images. , 2011, , .		25
47	Split-and-Augmented Gibbs Sampler—Application to Large-Scale Inference Problems. IEEE Transactions on Signal Processing, 2019, 67, 1648-1661.	5.3	25
48	A Split-and-Merge Approach for Hyperspectral Band Selection. IEEE Geoscience and Remote Sensing Letters, 2017, 14, 1378-1382.	3.1	22
49	Joint segmentation of wind speed and direction using a hierarchical model. Computational Statistics and Data Analysis, 2007, 51, 5603-5621.	1.2	21
50	Supervised nonlinear spectral unmixing using a polynomial post nonlinear model for hyperspectral imagery. , 2011, , .		20
51	Hyperspectral Image Unmixing Using a Multiresolution Sticky HDP. IEEE Transactions on Signal Processing, 2012, 60, 1656-1671.	5.3	20
52	Nonlinear unmixing of hyperspectral images using radial basis functions and orthogonal least squares. , 2011, , .		17
53	Bayesian Estimation of the Multifractality Parameter for Image Texture Using a Whittle Approximation. IEEE Transactions on Image Processing, 2015, 24, 2540-2551.	9.8	17
54	A Hierarchical Bayesian Model Accounting for Endmember Variability and Abrupt Spectral Changes to Unmix Multitemporal Hyperspectral Images. IEEE Transactions on Computational Imaging, 2018, 4, 32-45.	4.4	17

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55	Toward Fast Transform Learning. International Journal of Computer Vision, 2015, 114, 195-216.	15.6	16
56	Hyperspectral and Multispectral Image Fusion Under Spectrally Varying Spatial Blurs – Application to High Dimensional Infrared Astronomical Imaging. IEEE Transactions on Computational Imaging, 2020, 6, 1362-1374.	4.4	16
57	Bayesian compressed sensing in ultrasound imaging. , 2011, , .		14
58	Sampling from a multivariate Gaussian distribution truncated on a simplex: A review. , 2014, , .		14
59	Simulated JWST Data Sets for Multispectral and Hyperspectral Image Fusion. Astronomical Journal, 2020, 160, 28.	4.7	12
60	Semi-Blind Sparse Image Reconstruction With Application to MRFM. IEEE Transactions on Image Processing, 2012, 21, 3838-3849.	9.8	11
61	Bayesian Selection for the \$ell _2\$ -Potts Model Regularization Parameter: 1-D Piecewise Constant Signal Denoising. IEEE Transactions on Signal Processing, 2017, 65, 5215-5224.	5.3	11
62	Reconstruction of Partially Sampled Multiband Images—Application to STEM-EELS Imaging. IEEE Transactions on Computational Imaging, 2018, 4, 585-598.	4.4	11
63	Coupled dictionary learning for unsupervised change detection between multimodal remote sensing images. Computer Vision and Image Understanding, 2019, 189, 102817.	4.7	11
64	Fast reconstruction of atomic-scale STEM-EELS images from sparse sampling. Ultramicroscopy, 2020, 215, 112993.	1.9	11
65	A 3-D-CNN Framework for Hyperspectral Unmixing With Spectral Variability. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-14.	6.3	11
66	Linear unmixing of hyperspectral images using a scaled gradient method. , 2009, , .		10
67	Blind model-based fusion of multi-band and panchromatic images. , 2016, , .		10
68	Unsupervised Bayesian linear unmixing of gene expression microarrays. BMC Bioinformatics, 2013, 14, 99.	2.6	9
69	Bayesian estimation for the multifractality parameter. , 2013, , .		9
70	Robust nonnegative matrix factorization for nonlinear unmixing of hyperspectral images. , 2013, , .		9
71	Bayesian fusion of multispectral and hyperspectral images with unknown sensor spectral response. , 2014, , .		9
72	Asymptotically Exact Data Augmentation: Models, Properties, and Algorithms. Journal of Computational and Graphical Statistics, 2021, 30, 335-348.	1.7	9

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73	Bayesian linear unmixing of hyperspectral images corrupted by colored Gaussian noise with unknown covariance matrix. , 2008, , .		8
74	Computing the Cramer–Rao Bound of Markov Random Field Parameters: Application to the Ising and the Potts Models. IEEE Signal Processing Letters, 2014, 21, 47-50.	3.6	7
75	Bayesian Antisparse Coding. IEEE Transactions on Signal Processing, 2017, 65, 1660-1672.	5.3	7
76	Robust fusion algorithms for unsupervised change detection between multi-band optical images — A comprehensive case study. Information Fusion, 2020, 64, 293-317.	19.1	7
77	Matrix Cofactorization for Joint Spatial–Spectral Unmixing of Hyperspectral Images. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 4915-4927.	6.3	7
78	Unmixing hyperspectral images using a normal compositional model and MCMC methods. , 2009, , .		6
79	Nonlinear unmixing of hyperspectral images using a generalized bilinear model. , 2011, , .		6
80	A post nonlinear mixing model for hyperspectral images unmixing. , 2011, , .		6
81	Combining local regularity estimation and total variation optimization for scale-free texture segmentation. IEEE Transactions on Computational Imaging, 2016, , 1-1.	4.4	6
82	Hierarchical Bayesian image analysis: From low-level modeling to robust supervised learning. Pattern Recognition, 2019, 85, 26-36.	8.1	6
83	Factor Analysis of Dynamic PET Images: Beyond Gaussian Noise. IEEE Transactions on Medical Imaging, 2019, 38, 2231-2241.	8.9	6
84	Hierarchical Sparse Nonnegative Matrix Factorization for Hyperspectral Unmixing with Spectral Variability. Remote Sensing, 2020, 12, 2326.	4.0	6
85	A partially collapsed Gibbs sampler for parameters with local constraints. , 2010, , .		5
86	CS Decomposition Based Bayesian Subspace Estimation. IEEE Transactions on Signal Processing, 2012, 60, 4210-4218.	5.3	5
87	Variational semi-blind sparse deconvolution with orthogonal kernel bases and its application to MRFM. Signal Processing, 2014, 94, 386-400.	3.7	5
88	Unmixing multitemporal hyperspectral images accounting for endmember variability. , 2015, , .		5
89	A new Bayesian unmixing algorithm for hyperspectral images mitigating endmember variability. , 2015, , .		5
90	Unmixing dynamic PET images with variable specific binding kinetics. Medical Image Analysis, 2018, 49, 117-127.	11.6	5

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91	Nonâ€linear unmixing of hyperspectral images using multipleâ€kernel selfâ€organising maps. IET Image Processing, 2019, 13, 2190-2195.	2.5	5
92	High-Dimensional Gaussian Sampling: A Review and a Unifying Approach Based on a Stochastic Proximal Point Algorithm. SIAM Review, 2022, 64, 3-56.	9.5	5
93	Weighted Residual NMF With Spatial Regularization for Hyperspectral Unmixing. IEEE Geoscience and Remote Sensing Letters, 2022, 19, 1-5.	3.1	5
94	Blind Unmixing of Linear Mixtures using a Hierarchical Bayesian Model. Application to Spectroscopic Signal Analysis. , 2007, , .		4
95	Markov random fields for joint unmixing and segmentation of hyperspectral images. , 2010, , .		4
96	Inverse problem formulation for regularity estimation in images. , 2014, , .		4
97	Bayesian fusion of multispectral and hyperspectral images using a block coordinate descent method. , 2015, , .		4
98	Change detection between multi-band images using a robust fusion-based approach. , 2017, , .		4
99	Bayesian Image Restoration under Poisson Noise and Log-concave Prior. , 2019, , .		4
100	Partially Asynchronous Distributed Unmixing of Hyperspectral Images. IEEE Transactions on Geoscience and Remote Sensing, 2019, 57, 2009-2021.	6.3	4
101	Spectral Unmixing of Hyperspectral Images using a Hierarchical Bayesian Model. , 2007, , .		3
102	Library-based linear unmixing for hyperspectral imagery via reversible jump MCMC sampling. , 2009, , .		3
103	Accuracy and performance of linear unmixing techniques for detecting minerals on OMEGA/Mars express. , 2011, , .		3
104	Bayesian segmentation of chest tumors in pet scans using a Poisson-Gamma mixture model. , 2011, , .		3
105	Labeling skin tissues in ultrasound images using a generalized Rayleigh mixture model. , 2011, , .		3
106	Unsupervised nonlinear unmixing of hyperspectral images using Gaussian processes. , 2012, , .		3
107	Detecting nonlinear mixtures in hyperspectral images. , 2012, , .		3
108	Joint segmentation of multiple images with shared classes: A Bayesian nonparametrics approach. , 2016,		3

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109	A generalized Swendsen-Wang algorithm for Bayesian nonparametric joint segmentation of multiple images. , 2017, , .		3
110	Bayesian-driven criterion to automatically select the regularization parameter in the â,," <inf>1</inf> -Potts model. , 2017, , .		3
111	An NCM-based Bayesian algorithm for hyperspectral unmixing. , 2009, , .		2
112	MCMC Sampling for Joint Segmentation of Wind Speed and Direction. , 2009, , .		2
113	Accuracy and performance of optimized Bayesian Source Separation for hyperspectral unmixing. , 2010, , .		2
114	Myopic sparse image reconstruction with application to MRFM. Proceedings of SPIE, 2011, , .	0.8	2
115	Variational semi-blind sparse image reconstruction with application to MRFM. , 2012, , .		2
116	Residual component analysis of hyperspectral images for joint nonlinear unmixing and nonlinearity detection. , 2014, , .		2
117	Fuse: A fast multi-band image fusion algorithm. , 2015, , .		2
118	Unmixing multitemporal hyperspectral images with variability: An online algorithm. , 2016, , .		2
119	A multiple endmember mixing model to handle spectral variability in hyperspectral unmixing. , 2018, , .		2
120	A Comparative Study of Fusion-Based Change Detection Methods for Multi-Band Images with Different Spectral and Spatial Resolutions. , 2018, , .		2
121	Matrix cofactorization for joint representation learning and supervised classification – Application to hyperspectral image analysis. Neurocomputing, 2020, 385, 132-147.	5.9	2
122	SAlgorithmes bayésiens pour le démélange supervisé, semi-supervisé et non-supervisé d'images hyperspectrales. Traitement Du Signal, 2010, 27, 79-108.	1.3	2
123	Provably Robust Blind Source Separation of Linear-Quadratic Near-Separable Mixtures. SIAM Journal on Imaging Sciences, 2021, 14, 1848-1889.	2.2	2
124	Performance comparison of geometric and statistical methods for endmembers extraction in hyperspectral imagery. , 2005, 5982, 335.		1
125	Subspace-based Bayesian blind source separation for hyperspectral imagery. , 2009, , .		1
126	A Bernoulli-Gaussian model for gene factor analysis. , 2011, , .		1

126 A Bernoulli-Gaussian model for gene factor analysis. , 2011, , .

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127	Variational methods for spectral unmixing of hyperspectral images. , 2011, , .		1
128	A hierarchical sparsity-smoothness Bayesian model for ℓ <inf>0</inf> + ℓ <inf>1</inf> + ℓ <inf>2</inf> regularization. , 2014, , .		1
129	Joint Bayesian Estimation of Close Subspaces from Noisy Measurements. IEEE Signal Processing Letters, 2014, 21, 168-171.	3.6	1
130	A perturbed linear mixing model accounting for spectral variability. , 2015, , .		1
131	Democratic prior for anti-sparse coding. , 2016, , .		1
132	Detection and Correction of Glitches in a Multiplexed Multichannel Data Stream—Application to the MADRAS Instrument. IEEE Transactions on Geoscience and Remote Sensing, 2016, 54, 2803-2811.	6.3	1
133	Unmixing multitemporal hyperspectral images accounting for smooth and abrupt variations. , 2017, , .		1
134	Reconstruction Of Partially Sampled EELS Images. , 2018, , .		1
135	A Bayesian Nonparametric Model for Unsupervised Joint Segmentation of a Collection of Images. IEEE Access, 2019, 7, 120176-120188.	4.2	1
136	Fusion of hyperspectral and multispectral infrared astronomical images. , 2020, , .		1
137	Bayesian sparse image reconstruction for MRFM. , 2009, , .		Ο
138	Material identification on martian hyperspectral images using bayesian source separation. , 2009, , .		0
139	A reversible-jump mcmc algorithm for estimating the number of endmembers in the normal compositional model application to the unmixing of hyperspectral images. , 2010, , .		О
140	Unsupervised Bayesian analysis of gene expression patterns. , 2010, , .		0
141	Bayesian estimation of a subspace. , 2011, , .		Ο
142	Joint spectral classification and unmixing using adaptative pixel neighborhoods. , 2011, , .		0
143	Unmixing hyperspectral images using Markov random fields. , 2011, , .		0
144	Bayesian subspace estimation using CS decomposition. , 2012, , .		0

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145	Nonlinear unmixing of vegetated areas: A model comparison based on simulated and real hyperspectral data. , 2014, , .		0
146	Hyperspectral unmixing accounting for spatial correlations and endmember variability. , 2015, , .		0
147	Fast hyperspectral unmixing in presence of sparse multiple scattering nonlinearities. , 2017, , .		0
148	Bayesian nonparametric subspace estimation. , 2017, , .		0
149	Reconstruction of Randomly and Partially Sampled STEM Spectrum-Images. Microscopy and Microanalysis, 2017, 23, 170-171.	0.4	0
150	Unmixing dynamic PET images with a PALM algorithm. , 2017, , .		0
151	A Bayesian Model for Joint Unmixing and Robust Classification of Hyperspectral Images. , 2018, , .		0
152	Efficient Sampling through Variable Splitting-inspired Bayesian Hierarchical Models. , 2019, , .		0
153	Matrix Cofactorization for Joint Unmixing and Classification of Hyperspectral Images. , 2019, , .		0
154	Successive Nonnegative Projection Algorithm for Linear Quadratic Mixtures. , 2021, , .		0