Bhaskar D Rao

List of Publications by Year
in descending order

166 papers	5,059 citations	172457 29 h-index	98798 67 g-index
166 all docs	166 docs citations	166 times ranked	3958 citing authors

#	Article	IF	Citations
1	Sparse Signal Recovery With Temporally Correlated Source Vectors Using Sparse Bayesian Learning. IEEE Journal on Selected Topics in Signal Processing, 2011, 5, 912-926.	10.8	661
2	An Empirical Bayesian Strategy for Solving the Simultaneous Sparse Approximation Problem. IEEE Transactions on Signal Processing, 2007, 55, 3704-3716.	5.3	659
3	Precoding and Power Optimization in Cell-Free Massive MIMO Systems. IEEE Transactions on Wireless Communications, 2017, 16, 4445-4459.	9.2	440
4	Extension of SBL Algorithms for the Recovery of Block Sparse Signals With Intra-Block Correlation. IEEE Transactions on Signal Processing, 2013, 61, 2009-2015.	5.3	415
5	Compressed Sensing for Wireless Communications: Useful Tips and Tricks. IEEE Communications Surveys and Tutorials, 2017, 19, 1527-1550.	39.4	246
6	Network Duality for Multiuser MIMO Beamforming Networks and Applications. IEEE Transactions on Communications, 2007, 55, 618-630.	7.8	116
7	Joint Approximately Sparse Channel Estimation and Data Detection in OFDM Systems Using Sparse Bayesian Learning. IEEE Transactions on Signal Processing, 2014, 62, 3591-3603.	5.3	111
8	Audiovisual Information Fusion in Human–Computer Interfaces and Intelligent Environments: A Survey. Proceedings of the IEEE, 2010, 98, 1692-1715.	21.3	102
9	Type I and Type II Bayesian Methods for Sparse Signal Recovery Using Scale Mixtures. IEEE Transactions on Signal Processing, 2016, 64, 3418-3428.	5.3	98
10	Joint Channel Estimation and Data Detection in MIMO-OFDM Systems: A Sparse Bayesian Learning Approach. IEEE Transactions on Signal Processing, 2015, 63, 5369-5382.	5.3	97
11	Performance of cell-free massive MIMO systems with MMSE and LSFD receivers. , 2016, , .		97
12	A GAMP-Based Low Complexity Sparse Bayesian Learning Algorithm. IEEE Transactions on Signal Processing, 2018, 66, 294-308.	5.3	95
13	An Analytically Tractable Approximation for the Gaussian Q-Function. IEEE Communications Letters, 2008, 12, 669-671.	4.1	90
14	Joint Beamforming and Power Control in Coordinated Multicell: Max-Min Duality, Effective Network and Large System Transition. IEEE Transactions on Wireless Communications, 2013, 12, 2730-2742.	9.2	83
15	Adaptive Opportunistic Routing for Wireless Ad Hoc Networks. IEEE/ACM Transactions on Networking, 2012, 20, 243-256.	3.8	78
16	Efficient feedback methods for MIMO channels based on parameterization. IEEE Transactions on Wireless Communications, 2007, 6, 282-292.	9.2	73
17	A Two Microphone-Based Approach for Source Localization of Multiple Speech Sources. IEEE Transactions on Audio Speech and Language Processing, 2010, 18, 1913-1928.	3.2	72
18	Semi-Blind Interference Alignment Techniques for Small Cell Networks. IEEE Transactions on Signal Processing, 2014, 62, 6335-6348.	5.3	61

#	Article	IF	Citations
19	Analysis of Multiple-Antenna Systems With Finite-Rate Feedback Using High-Resolution Quantization Theory. IEEE Transactions on Signal Processing, 2007, 55, 1461-1476.	5.3	59
20	Quantization Methods for Equal Gain Transmission With Finite Rate Feedback. IEEE Transactions on Signal Processing, 2007, 55, 233-245.	5.3	55
21	Global signal regression acts as a temporal downweighting process in resting-state fMRI. NeuroImage, 2017, 152, 602-618.	4.2	53
22	Semi-blind Channel Estimation for Multiuser Massive MIMO Systems. IEEE Transactions on Signal Processing, 2018, 66, 540-553.	5.3	47
23	Robust Feature Extraction for Continuous Speech Recognition Using the MVDR Spectrum Estimation Method. IEEE Transactions on Audio Speech and Language Processing, 2007, 15, 224-234.	3.2	44
24	Support Recovery of Sparse Signals in the Presence of Multiple Measurement Vectors. IEEE Transactions on Information Theory, 2013, 59, 3139-3157.	2.4	39
25	Sparse signal recovery in the presence of correlated multiple measurement vectors. , 2010, , .		36
26	Superfast Line Spectral Estimation. IEEE Transactions on Signal Processing, 2018, 66, 2511-2526.	5.3	36
27	Robust Linear Regression via ell_0 Regularization. IEEE Transactions on Signal Processing, 2018, 66, 698-713.	5.3	35
28	Reduced Feedback Schemes Using Random Beamforming in MIMO Broadcast Channels. IEEE Transactions on Signal Processing, 2010, 58, 1821-1832.	5.3	34
29	An Analytical Framework for Heterogeneous Partial Feedback Design in Heterogeneous Multicell OFDMA Networks. IEEE Transactions on Signal Processing, 2013, 61, 753-769.	5.3	33
30	Outage-Efficient Strategies for Multiuser MIMO Networks With Channel Distribution Information. IEEE Transactions on Signal Processing, 2010, 58, 6312-6324.	5.3	32
31	A Covariance-Based Superpositional CPHD Filter for Multisource DOA Tracking. IEEE Transactions on Signal Processing, 2018, 66, 309-323.	5.3	31
32	Audio-Visual Fusion and Tracking With Multilevel Iterative Decoding: Framework and Experimental Evaluation. IEEE Journal on Selected Topics in Signal Processing, 2010, 4, 882-894.	10.8	30
33	Capacity Analysis of MIMO Systems Using Limited Feedback Transmit Precoding Schemes. IEEE Transactions on Signal Processing, 2008, 56, 2886-2901.	5.3	27
34	Sparse modelling and predictive coding of subaperture images for lossless plenoptic image compression. , 2016, , .		27
35	Limits on Support Recovery of Sparse Signals via Multiple-Access Communication Techniques. IEEE Transactions on Information Theory, 2011, 57, 7877-7892.	2.4	25
36	RE-MIMO: Recurrent and Permutation Equivariant Neural MIMO Detection. IEEE Transactions on Signal Processing, 2021, 69, 459-473.	5.3	25

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37	Nuisance effects and the limitations of nuisance regression in dynamic functional connectivity fMRI. NeuroImage, 2019, 184, 1005-1031.	4.2	24
38	Performance analysis of transmit beamforming for MISO systems with imperfect feedback. IEEE Transactions on Communications, 2009, 57, 222-231.	7.8	22
39	An ICA-SCT-PHD Filter Approach for Tracking and Separation of Unknown Time-Varying Number of Sources. IEEE Transactions on Audio Speech and Language Processing, 2013, 21, 828-841.	3.2	22
40	Performance Analysis of Heterogeneous Feedback Design in an OFDMA Downlink With Partial and Imperfect Feedback. IEEE Transactions on Signal Processing, 2013, 61, 1033-1046.	5.3	21
41	Random Beamforming with Heterogeneous Users and Selective Feedback: Individual Sum Rate and Individual Scaling Laws. IEEE Transactions on Wireless Communications, 2013, 12, 2080-2090.	9.2	21
42	Channel estimation using joint dictionary learning in FDD massive MIMO systems. , 2015, , .		21
43	Iterative reweighted algorithms for sparse signal recovery with temporally correlated source vectors. , 2011, , .		19
44	Techniques for MIMO Channel Covariance Matrix Quantization. IEEE Transactions on Signal Processing, 2012, 60, 3340-3345.	5.3	19
45	Minimum Description Length Sparse Modeling and Region Merging for Lossless Plenoptic Image Compression. IEEE Journal on Selected Topics in Signal Processing, 2017, 11, 1146-1161.	10.8	19
46	Analysis of Multiple Antenna Systems With Finite-Rate Channel Information Feedback Over Spatially Correlated Fading Channels. IEEE Transactions on Signal Processing, 2007, 55, 4612-4626.	5.3	18
47	A sparse Bayesian learning algorithm with dictionary parameter estimation. , 2014, , .		18
48	Opportunistic Channel-Aware Spectrum Access for Cognitive Radio Networks with Interleaved Transmission and Sensing. IEEE Transactions on Wireless Communications, 2013, 12, 2376-2388.	9.2	16
49	Multimodal information fusion using the iterative decoding algorithm and its application to audio-visual speech recognition. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	15
50	Packet Error Probability of a Transmit Beamforming System With Imperfect Feedback. IEEE Transactions on Signal Processing, 2010, 58, 2298-2314.	5.3	15
51	Rectified Gaussian Scale Mixtures and the Sparse Non-Negative Least Squares Problem. IEEE Transactions on Signal Processing, 2018, 66, 3124-3139.	5.3	15
52	Performance of Quantized Equal Gain Transmission With Noisy Feedback Channels. IEEE Transactions on Signal Processing, 2008, 56, 2451-2460.	5.3	14
53	On the benefits of the block-sparsity structure in sparse signal recovery. , 2012, , .		14
54	Awareness of Channel Statistics for Slow Cyclic Prefix Adaptation in an OFDMA System. IEEE Wireless Communications Letters, 2012, 1, 332-335.	5.0	14

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55	Closed Form Sum Rate of Random Beamforming. IEEE Communications Letters, 2012, 16, 630-633.	4.1	12
56	A Wearable, Extensible, Open-Source Platform for Hearing Healthcare Research. IEEE Access, 2019, 7, 162083-162101.	4.2	12
57	A Sparse Conjugate Gradient Adaptive Filter. IEEE Signal Processing Letters, 2020, 27, 1000-1004.	3.6	12
58	Role of head pose estimation in speech acquisition from distant microphones. , 2009, , .		11
59	Reducing out-of-band radiation of OFDM-based cognitive radios. , 2010, , .		11
60	Multiuser Diversity in Interfering Broadcast Channels: Achievable Degrees of Freedom and User Scaling Law. IEEE Transactions on Wireless Communications, 2013, 12, 5837-5849.	9.2	11
61	Speech quality and stable gain trade-offs in adaptive feedback cancellation for hearing aids. Journal of the Acoustical Society of America, 2017, 142, EL388-EL394.	1.1	11
62	Transmit Beamforming and Power Control for Optimizing the Outage Probability Fairness in MISO Networks. IEEE Transactions on Communications, 2017, 65, 839-850.	7.8	11
63	Robust PCA via <inline-formula> <tex-math notation="LaTeX">$ell _{0}$</tex-math> </inline-formula>-<inline-formula> <tex-math notation="LaTeX">$ell _{1}$</tex-math> </inline-formula> Regularization. IEEE Transactions on Signal Processing, 2019, 67, 535-549.	5.3	11
64	Performance Analysis of Finite Rate Feedback MISO Systems in the Presence of Estimation Errors and Delay. Conference Record of the Asilomar Conference on Signals, Systems and Computers, 2007, , .	0.0	10
65	High-Rate Optimized Recursive Vector Quantization Structures Using Hidden Markov Models. IEEE Transactions on Audio Speech and Language Processing, 2007, 15, 756-769.	3.2	10
66	Insights into the stable recovery of sparse solutions in overcomplete representations using network information theory. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	10
67	Glimpsing IVA: A Framework for Overcomplete/Complete/Undercomplete Convolutive Source Separation. IEEE Transactions on Audio Speech and Language Processing, 2010, 18, 1841-1855.	3.2	10
68	Outage balancing in multiuser MISO networks: Network duality and algorithms. , 2012, , .		10
69	Performance limits of matching pursuit algorithms. , 2008, , .		9
70	Learning Methods for CDF Scheduling in Multiuser Heterogeneous Systems. IEEE Transactions on Signal Processing, 2014, 62, 3727-3740.	5.3	9
71	Fair Scheduling Policies Exploiting Multiuser Diversity in Cellular Systems With Device-to-Device Communications. IEEE Transactions on Wireless Communications, 2015, 14, 4757-4771.	9.2	9
72	Functional connectome fingerprinting using shallow feedforward neural networks. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	9

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73	Combining independent component analysis with geometric information and its application to speech processing. , 2009, , .		8
74	Sum rate enhancement by maximizing SGINR in an opportunistic interference alignment scheme. , 2011, , .		8
75	A realtime, open-source speech-processing platform for research in hearing loss compensation. , 2017, 2017, 1900-1904.		8
76	Independent vector analysis incorporating active and inactive states. , 2009, , .		7
77	Multicell network duality with instantaneous and statistical channel information: A nonlinear Perron-Frobenius characterization. , 2012, , .		7
78	Opportunistic Spectrum Access for Cognitive Radio Networks withMultiple Secondary Users. IEEE Transactions on Wireless Communications, 2013, 12, 6214-6227.	9.2	7
79	Joint dictionary learning and recovery algorithms in a jointly sparse framework. , 2015, , .		7
80	Access Point Location Design in Cell-Free Massive MIMO Systems. , 2018, , .		7
81	Robustness of Sparse Bayesian Learning in Correlated Environments. , 2020, , .		7
82	Performance Evaluation of Latent Variable Models with Sparse Priors. , 2007, , .		6
83	Separation and tracking of multiple speakers in a reverberant environment using a multiple model particle filter glimpsing method. , 2011, , .		6
84	Opportunistic beamforming in a downlink distributed antenna system with linear receivers. , 2012, , .		6
85	Robust Bayesian method for simultaneous block sparse signal recovery with applications to face recognition. , 2016, , .		6
86	A Wearable Platform for Research in Augmented Hearing. , 2018, 2018, 223-227.		6
87	Recovery of Independent Sparse Sources From Linear Mixtures Using Sparse Bayesian Learning. IEEE Transactions on Signal Processing, 2018, 66, 6332-6346.	5.3	6
88	Proportionate Adaptive Filtering Algorithms Derived Using an Iterative Reweighting Framework. IEEE/ACM Transactions on Audio Speech and Language Processing, 2021, 29, 171-186.	5.8	6
89	General Total Variation Regularized Sparse Bayesian Learning for Robust Block-Sparse Signal Recovery. , 2021, , .		6
90	Block-Sparse Signal Recovery via General Total Variation Regularized Sparse Bayesian Learning. IEEE Transactions on Signal Processing, 2022, 70, 1056-1071.	5.3	6

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91	Average SEP Loss Analysis of Transmit Beamforming for Finite Rate Feedback MISO Systems with QAM Constellation. , 2007, , .		5
92	Two microphone based direction of arrival estimation for multiple speech sources using spectral properties of speech. , 2009, , .		5
93	Design and analysis of a narrowband filter for optical platform. , 2011, , .		5
94	Weighted CDF-based scheduling for an OFDMA relay downlink with partial feedback. , 2012, , .		5
95	Compressed sensing based scalable speech coders. , 2012, , .		5
96	CDF Scheduling Methods for Finite Rate Multiuser Systems With Limited Feedback. IEEE Transactions on Wireless Communications, 2015, 14, 3086-3096.	9.2	5
97	Multimodal sparse Bayesian dictionary learning applied to multimodal data classification. , 2017, , .		5
98	Semi-Blind Channel Estimation in Massive Mimo Systems with Different Priors on Data Symbols. , 2018, , .		5
99	A High-Rate Optimal Transform Coder With Gaussian Mixture Companders. IEEE Transactions on Audio Speech and Language Processing, 2007, 15, 770-783.	3.2	4
100	Performance tradeoffs for exact support recovery of sparse signals. , 2010, , .		4
101	Glimpsing independent vector analysis: Separating more sources than sensors using active and inactive states. , 2010, , .		4
102	Uniform Bit and Power Allocation with Subcarrier Selection for Coded OFDM Systems. , 2011, , .		4
103	Performance analysis of random beamforming with heterogeneous users. , 2012, , .		4
104	Bootstrapped sparse Bayesian learning for sparse signal recovery. , 2014, , .		4
105	Empirical Bayes based relative impulse response estimation. Journal of the Acoustical Society of America, 2018, 143, 3922-3933.	1.1	4
106	Throughput and Delay Driven Access Point Placement. , 2019, , .		4
107	Analysis of time-delay estimation in reverberant environments. , 2002, , .		3
108	Environmental-aware heterogeneous partial feedback design in a multiuser OFDMA system. , 2011, , .		3

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109	High-Rate Vector Quantization for Noisy Channels With Applications to Wideband Speech Spectrum Compression. IEEE Transactions on Signal Processing, 2011, 59, 5390-5403.	5.3	3
110	Novel partial feedback schemes and their evaluation in an OFDMA system with CDF based scheduling. , 2013, , .		3
111	Opportunistic channel-aware spectrum access for cognitive radio networks with periodic sensing. , 2013, , .		3
112	Delay control for CDF scheduling using Markov decision process. , 2014, , .		3
113	Optimal Fair Opportunistic Scheduling For Wireless Systems Via Classification Framework. IEEE Transactions on Cognitive Communications and Networking, 2015, 1, 185-199.	7.9	3
114	Learning Distributional Parameters for Adaptive Bayesian Sparse Signal Recovery. IEEE Computational Intelligence Magazine, 2016, 11, 14-23.	3.2	3
115	Correlation learning on joint support recovery for more sources than measurements. , 2016, , .		3
116	Addressing the Noise Variance Problem in Sparse Bayesian Learning. , 2018, , .		3
117	Sparse Signal Recovery Using MPDR Estimation. , 2019, , .		3
118	Access Point Placement for Hybrid UAV-Terrestrial Small-Cell Networks. IEEE Open Journal of the Communications Society, 2021, 2, 1826-1841.	6.9	3
119	Jointly Leveraging Decorrelation and Sparsity for Improved Feedback Cancellation in Hearing Aids. , 2021, 2020, 121-125.		3
120	Semi-Blind Channel Estimation in MIMO Systems With Discrete Priors on Data Symbols. IEEE Signal Processing Letters, 2022, 29, 51-54.	3.6	3
121	Modified Vector Quantization for Small-Cell Access Point Placement With Inter-Cell Interference. IEEE Transactions on Wireless Communications, 2022, 21, 6387-6401.	9.2	3
122	Ergodicity of Wireless Channels and Temporal Prediction. , 2006, , .		2
123	Analyzing the Effect of Channel Estimation Errors on the Average Block Error Probability of a MISO Transmit Beamforming System. , 2008, , .		2
124	Optimum Codebook Design and Average SEP Loss Analysis of Spatially Independent and Correlated Feedback Based MISO Systems With Rectangular QAM Constellation. IEEE Transactions on Signal Processing, 2009, 57, 2017-2024.	5.3	2
125	On the role of the properties of the nonzero entries on sparse signal recovery. , 2010, , .		2
126	Heterogeneous partial feedback design in heterogeneous OFDMA cellular networks. , 2012, , .		2

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127	Throughput improvements for cellular systems with device-to-device communications. , 2013, , .		2
128	Exploiting sparsity during the detection of high-order QAM signals in large dimension MIMO systems. , 2014, , .		2
129	Delay Control for Temporally Fair Scheduling Policies via Opportunistic Mixing. IEEE Transactions on Signal Processing, 2016, 64, 5011-5024.	5.3	2
130	Sparse recovery with quantized multiple measurement vectors. , 2017, , .		2
131	Reduced Dimension Beamspace Design Incorporating Nested Array For Mmwave Channel Estimation. , 2019, , .		2
132	DOA Estimation in Systems with Nonlinearities for MMWAVE Communications. , 2020, , .		2
133	On Mitigating Acoustic Feedback in Hearing Aids with Frequency Warping by All-Pass Networks. , 2019, 2019, 4245-4249.		2
134	Is Vector Quantization Good Enough for Access Point Placement?. , 2021, , .		2
135	On the capacity of MIMO broadcast channels with reduced feedback by antenna selection. , 2008, , .		1
136	Outage-optimal transmission in multiuser-MIMO Kronecker channels. , 2010, , .		1
137	Distributed Quantization of Order Statistics with Applications to CSI Feedback. , 2011, , .		1
138	User selection schemes for maximizing throughput of multiuser MIMO systems using Zero Forcing Beamforming. , 2011, , .		1
139	Feedback reduction by thresholding in multi-user broadcast channels: Design and limits. , 2011, , .		1
140	MultiPass lasso algorithms for sparse signal recovery. , 2011, , .		1
141	Sum rate analysis and quantizer design for a quantized heterogeneous feedback MIMO OFDMA downlink. , 2012, , .		1
142	Cooperative beamforming in multiuser MIMO networks: Fast SINR fairness algorithms. , 2012, , .		1
143	Asymptotic analysis of a partial feedback OFDMA system employing spatial, spectral, and multiuser diversity. , 2012, , .		1
144	A unified analysis of CDF-based distributed scheduling in a heterogeneous multicell. , 2012, , .		1

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145	Analysis of a MIMO OFDMA heterogeneous feedback system employing joint scheduling and spatial diversity in Nakagami fading channels. , 2012, , .		1
146	Asymptotic analysis of max-min weighted SINR in multiuser downlink. , 2012, , .		1
147	Uniform Power Allocation with Thresholding over Rayleigh Slow Fading Channels with QAM Inputs. , 2013, , .		1
148	Performance of a Multiuser Downlink System Applying Thresholding Feedback with Imperfect Channel Information. , 2013, , .		1
149	Optimal scheduling policies and the performance of the CDF scheduling. , 2014, , .		1
150	Location aided semi-blind interference alignment for clustered small cell networks. , 2014, , .		1
151	Sparsity regularized Principal Component Pursuit. , 2017, , .		1
152	Millimeter Wave Channel Estimation using Data-Aided DoA Estimation. , 2018, , .		1
153	Sparse Bayesian Learning for Robust PCA. , 2019, , .		1
154	High-Rate Analysis of Channel-Optimized Vector Quantization. , 2007, , .		0
155	Optimal power and rate allocation framework for the uplink with individual average rate requirements. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	0
156	Online training methods for Gaussian Mixture Vector Quantizers. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	0
157	Feedback reduction in MIMO broadcast channels with LMMSE receivers. , 2010, , .		0
158	Noncoherent Diversity Combining for Spectrum Sensing. , 2010, , .		0
159	Stochastic Model on the Post-Fabrication Error for a Bragg Reflectors Based Photonic Allpass Filter. , 2011, , .		0
160	Insights into the frequency domain ICA approach. , 2011, , .		0
161	Scheduling and power control in statistical beamforming networks using B bits of feedback. , 2012, , .		0
162	Efficient SINR fairness algorithm for large distributed multiple-antenna networks. , 2013, , .		0

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163	Compressed Downlink Channel Estimation Based on Dictionary Learning in FDD Massive MIMO Systems. , 2014, , .		0
164	Hierarchical Bayesian formulation of Sparse Signal Recovery algorithms using scale mixture priors. , 2015, , .		0
165	Highlights From the Machine Learning for Signal Processing Technical Committee [In the Spotlight]. IEEE Signal Processing Magazine, 2020, 37, 202-200.	5.6	0
166	ResNEsts and DenseNEsts: Block-based DNN Models with Improved Representation Guarantees.. Advances in Neural Information Processing Systems, 2021, 34, 3413-3424.	2.8	0