

Piya Pal

List of Publications by Year in descending order

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Version: 2024-02-01

91
papers

5,215
citations

471509

17
h-index

552781

26
g-index

92
all docs

92
docs citations

92
times ranked

1429
citing authors

#	ARTICLE	IF	CITATIONS
1	Nested Arrays: A Novel Approach to Array Processing With Enhanced Degrees of Freedom. IEEE Transactions on Signal Processing, 2010, 58, 4167-4181.	5.3	1,544
2	Sparse Sensing With Co-Prime Samplers and Arrays. IEEE Transactions on Signal Processing, 2011, 59, 573-586.	5.3	1,316
3	Coprime sampling and the music algorithm. , 2011, , .		566
4	Multiple Level Nested Array: An Efficient Geometry for $2q$ th Order Cumulant Based Array Processing. IEEE Transactions on Signal Processing, 2012, 60, 1253-1269.	5.3	222
5	Pushing the Limits of Sparse Support Recovery Using Correlation Information. IEEE Transactions on Signal Processing, 2015, 63, 711-726.	5.3	160
6	Nested Arrays in Two Dimensions, Part I: Geometrical Considerations. IEEE Transactions on Signal Processing, 2012, 60, 4694-4705.	5.3	138
7	Cram�r Rao Bounds for Underdetermined Source Localization. IEEE Signal Processing Letters, 2016, 23, 919-923.	3.6	128
8	Nested Arrays in Two Dimensions, Part II: Application in Two Dimensional Array Processing. IEEE Transactions on Signal Processing, 2012, 60, 4706-4718.	5.3	123
9	Coprime coarray interpolation for DOA estimation via nuclear norm minimization. , 2016, , .		107
10	A Grid-Less Approach to Underdetermined Direction of Arrival Estimation Via Low Rank Matrix Denoising. IEEE Signal Processing Letters, 2014, 21, 737-741.	3.6	90
11	Sparse Bayesian learning for beamforming using sparse linear arrays. Journal of the Acoustical Society of America, 2018, 144, 2719-2729.	1.1	52
12	Simplified and Enhanced Multiple Level Nested Arrays Exploiting High-Order Difference Co-Arrays. IEEE Transactions on Signal Processing, 2019, 67, 3502-3515.	5.3	52
13	Gridless Line Spectrum Estimation and Low-Rank Toeplitz Matrix Compression Using Structured Samplers: A Regularization-Free Approach. IEEE Transactions on Signal Processing, 2017, 65, 2221-2236.	5.3	47
14	Guaranteed Localization of More Sources Than Sensors With Finite Snapshots in Multiple Measurement Vector Models Using Difference Co-Arrays. IEEE Transactions on Signal Processing, 2019, 67, 5715-5729.	5.3	44
15	Direct-MUSIC on sparse arrays. , 2012, , .		42
16	On application of LASSO for sparse support recovery with imperfect correlation awareness. , 2012, , .		41
17	Correlation-aware techniques for sparse support recovery. , 2012, , .		41
18	Sparse sensing with coprime arrays. , 2010, , .		39

#	ARTICLE	IF	CITATIONS
19	The farey-dictionary for sparse representation of periodic signals. , 2014, , .		35
20	Unified analysis of co-array interpolation for direction-of-arrival estimation. , 2017, , .		34
21	On Maximum-Likelihood Methods for Localizing More Sources Than Sensors. IEEE Signal Processing Letters, 2017, 24, 703-706.	3.6	30
22	Why does direct-MUSIC on sparse-arrays work?. , 2013, , .		28
23	On Fundamental Limits of Joint Sparse Support Recovery Using Certain Correlation Priors. IEEE Transactions on Signal Processing, 2018, 66, 4612-4625.	5.3	28
24	A novel array structure for directions-of-arrival estimation with increased degrees of freedom. , 2010, , .		27
25	An MDL Algorithm for Detecting More Sources Than Sensors Using Outer-Products of Array Output. IEEE Transactions on Signal Processing, 2014, 62, 6438-6453.	5.3	20
26	Generalized Nested Sampling for Compressing Low Rank Toeplitz Matrices. IEEE Signal Processing Letters, 2015, 22, 1844-1848.	3.6	20
27	System Identification With Sparse Coprime Sensing. IEEE Signal Processing Letters, 2010, 17, 823-826.	3.6	18
28	Sparse source localization using perturbed arrays via bi-affine modeling. , 2017, 61, 15-25.		13
29	Frequency invariant MVDR beamforming without filters and implementation using MIMO radar. , 2009, , .		12
30	Generalized nested sampling for compression and exact recovery of symmetric Toeplitz matrices. , 2014, , .		12
31	Sparse coprime sensing with multidimensional lattice arrays. , 2011, , .		10
32	Parameter identifiability in Sparse Bayesian Learning. , 2014, , .		10
33	MIMO radar with broadband waveforms: Smearing filter banks and 2D virtual arrays. , 2008, , .		9
34	Beamforming using passive nested arrays of sensors. , 2010, , .		9
35	Coprimality of Certain Families of Integer Matrices. IEEE Transactions on Signal Processing, 2011, 59, 1481-1490.	5.3	9
36	Sparse source localization in presence of co-array perturbations. , 2015, , .		8

#	ARTICLE	IF	CITATIONS
37	Correlation Awareness in Low-Rank Models: Sampling, Algorithms, and Fundamental Limits. IEEE Signal Processing Magazine, 2018, 35, 56-71.	5.6	8
38	Sampling Requirements for Stable Autoregressive Estimation. IEEE Transactions on Signal Processing, 2017, 65, 2333-2347.	5.3	7
39	Efficient frequency invariant beamforming using virtual arrays. , 2010, , .		6
40	A General Approach to Coprime Pairs of Matrices, Based on Minors. IEEE Transactions on Signal Processing, 2011, 59, 3536-3548.	5.3	6
41	On the robustness of co-prime sampling. , 2015, , .		6
42	On canonical polyadic decomposition of overcomplete tensors of arbitrary even order. , 2017, , .		6
43	Sample complexity trade-offs for synthetic aperture based high-resolution estimation and detection. , 2020, , .		6
44	Compressed Arrays and Hybrid Channel Sensing: A Cram�r-Rao Bound Based Analysis. IEEE Signal Processing Letters, 2020, 27, 1395-1399.	3.6	5
45	Enhanced detection of paramagnetic fluorine�19 magnetic resonance imaging agents using zero echo time sequence and compressed sensing. NMR in Biomedicine, 2022, 35, e4725.	2.8	5
46	A Non-convex Approach to Non-negative Super-resolution: Theory and Algorithm. , 2019, , .		4
47	A Sequential Approach for Sparse Support Recovery using Correlation Priors. , 2019, , .		4
48	Fundamental Trade-Offs in Noisy Super-Resolution with Synthetic Apertures. , 2021, , .		4
49	A greedy approach for correlation-aware sparse support recovery. , 2018, , .		4
50	Measurement Matrix Design for Sample-Efficient Binary Compressed Sensing. IEEE Signal Processing Letters, 2022, 29, 1307-1311.	3.6	4
51	Coprime sampling for system stabilization with FIR multirate controllers. , 2011, , .		3
52	Exact localization of correlated sources using 2D harmonics retrieval. , 2016, , .		3
53	On the role of sampling and sparsity in phase retrieval for optical coherence tomography. , 2017, , .		3
54	Performance limits of covariance-driven super resolution imaging. , 2017, , .		3

#	ARTICLE	IF	CITATIONS
55	Non-Asymptotic Guarantees for Correlation-Aware Support Detection. , 2018, , .		3
56	Mixed Factor Structured Tensor Decomposition via Solving Quadratic Equations. , 2018, , .		3
57	Beam-Pattern Design for Hybrid Beamforming Using Wirtinger Flow. , 2018, , .		3
58	Super-Resolution with Noisy Measurements: Reconciling Upper and Lower Bounds. , 2020, , .		3
59	Beyond Coarray MUSIC: Harnessing the Difference Sets of Nested Arrays With Limited Snapshots. IEEE Signal Processing Letters, 2021, 28, 2172-2176.	3.6	3
60	Robust DOA and Subspace Estimation for Hybrid Channel Sensing. , 2020, , .		3
61	Sparse phase retrieval using partial nested fourier samplers. , 2015, , .		2
62	Sparse phase retrieval with near minimal measurements: A structured sampling based approach. , 2016, , .		2
63	Compressive spectrum sensing with spectral priors for cognitive radar. , 2016, , .		2
64	Understanding the role of positive constraints in sparse bilinear problems. , 2017, , .		2
65	Effect of Undersampling on Non-Negative Blind Deconvolution with Autoregressive Filters. , 2020, , .		2
66	Identifying brain network topology changes in task processes and psychiatric disorders. Network Neuroscience, 2020, 4, 257-273.	2.6	2
67	No Relaxation: Guaranteed Recovery of Finite-Valued Signals from Undersampled Measurements. , 2021, , .		2
68	Non uniform linear arrays for improved identifiability in cumulant based DOA Estimation. , 2011, , .		1
69	Two dimensional nested arrays on lattices. , 2011, , .		1
70	Adjugate pairs of sparse arrays for sampling two dimensional signals. , 2011, , .		1
71	Finite sample analysis of covariance compression using structured samplers. , 2016, , .		1
72	On saturation of the Cram�r Rao Bound for Sparse Bayesian Learning. , 2017, , .		1

#	ARTICLE	IF	CITATIONS
73	Compressive Kriging Using Multi-Dimensional Generalized Nested Sampling. , 2018, , .		1
74	Robust Sparse Phase Retrieval from Differential Measurements Using Reweighted Minimization. , 2018, , .		1
75	On flattening of symmetric tensors and identification of latent factors. , 2019, , .		1
76	Channel Estimation for Hybrid MIMO Communication with (Non-) Uniform Linear Arrays via Tensor Decomposition. , 2020, , .		1
77	On the Modulus of Continuity for Noisy Positive Super-Resolution. , 2018, , .		1
78	KR-LISTA: Re-Thinking Unrolling for Covariance-Driven Sparse Inverse Problems. , 2021, , .		1
79	Ada-JSR: Sample Efficient Adaptive Joint Support Recovery From Extremely Compressed Measurement Vectors. , 2022, , .		1
80	Generating New Commuting Coprime Matrix Pairs From Known Pairs. IEEE Signal Processing Letters, 2011, 18, 303-306.	3.6	0
81	Dictionary learning from quadratic measurements in block sparse models. , 2015, , .		0
82	Rank deficiency and sparsity in partially observed multiple measurement vector models. , 2015, , .		0
83	Correlation-aware sensing in active and passive modes for source localization. , 2016, , .		0
84	Multiple hypothesis testing for dynamic support recovery. , 2017, , .		0
85	Spike localization in Zero Time of Echo (ZTE) magnetic resonance imaging. , 2017, , .		0
86	Simplified Algorithms for Canonical Polyadic Decomposition for Over-Complete Even Order Tensors (Ongoing Work). , 2018, , .		0
87	Canonical Polyadic (CP) Decomposition of Structured Semi-Symmetric Fourth-Order Tensors. , 2019, , .		0
88	Fight the Pandemic: Highlights From the 2020 IEEE 5-Minute Video Clip Contest [SP Competitions]. IEEE Signal Processing Magazine, 2021, 38, 138-143.	5.6	0
89	Resource-Efficient Active Compressive Sensing Using Analog Beamforming and Sparse Arrays. , 2021, , .		0
90	Reliable DOA Estimation in Spatially Correlated Noise With Nonuniform Arrays. , 2021, , .		0

#	ARTICLE	IF	CITATIONS
91	Exploring Fundamental Limits of Spatiotemporal Sensing for Non-Linear Inverse problems. , 2021, , .		0