Palghat P Vaidyanathan

List of Publications by Year in descending order

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318 papers 12,130 citations

71061 41 h-index ³⁸³⁶⁸
95
g-index

318 all docs

318 docs citations

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318

3257 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.	3.2	1,544
2	Sparse Sensing With Co-Prime Samplers and Arrays. IEEE Transactions on Signal Processing, 2011, 59, 573-586.	3.2	1,316
3	Coprime sampling and the music algorithm. , 2011, , .		566
4	Super Nested Arrays: Linear Sparse Arrays With Reduced Mutual Couplingâ€"Part I: Fundamentals. IEEE Transactions on Signal Processing, 2016, 64, 3997-4012.	3.2	441
5	Remarks on the Spatial Smoothing Step in Coarray MUSIC. IEEE Signal Processing Letters, 2015, 22, 1438-1442.	2.1	393
6	A new class of two-channel biorthogonal filter banks and wavelet bases. IEEE Transactions on Signal Processing, 1995, 43, 649-665.	3.2	339
7	MIMO Radar Space–Time Adaptive Processing Using Prolate Spheroidal Wave Functions. IEEE Transactions on Signal Processing, 2008, 56, 623-635.	3.2	305
8	MIMO Radar Waveform Optimization With Prior Information of the Extended Target and Clutter. IEEE Transactions on Signal Processing, 2009, 57, 3533-3544.	3.2	240
9	MIMO Radar Ambiguity Properties and Optimization Using Frequency-Hopping Waveforms. IEEE Transactions on Signal Processing, 2008, 56, 5926-5936.	3.2	234
10	Multiple Level Nested Array: An Efficient Geometry for \$2q\$th Order Cumulant Based Array Processing. IEEE Transactions on Signal Processing, 2012, 60, 1253-1269.	3.2	222
11	Super Nested Arrays: Linear Sparse Arrays With Reduced Mutual Couplingâ€"Part II: High-Order Extensions. IEEE Transactions on Signal Processing, 2016, 64, 4203-4217.	3.2	221
12	Cramér–Rao bounds for coprime and other sparse arrays, which find more sources than sensors. , 2017, 61, 43-61.		213
13	Theory of Sparse Coprime Sensing in Multiple Dimensions. IEEE Transactions on Signal Processing, 2011, 59, 3592-3608.	3.2	170
14	Ramanujan Sums in the Context of Signal Processingâ€"Part I: Fundamentals. IEEE Transactions on Signal Processing, 2014, 62, 4145-4157.	3.2	162
15	Pushing the Limits of Sparse Support Recovery Using Correlation Information. IEEE Transactions on Signal Processing, 2015, 63, 711-726.	3.2	160
16	A Kaiser window approach for the design of prototype filters of cosine modulated filterbanks. IEEE Signal Processing Letters, 1998, 5, 132-134.	2.1	152
17	Theory of optimal orthonormal subband coders. IEEE Transactions on Signal Processing, 1998, 46, 1528-1543.	3.2	145
18	Periodically nonuniform sampling of bandpass signals. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 1998, 45, 340-351.	2.3	142

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19	Nested Arrays in Two Dimensions, Part I: Geometrical Considerations. IEEE Transactions on Signal Processing, 2012, 60, 4694-4705.	3.2	138
20	The role of signal-processing concepts in genomics and proteomics. Journal of the Franklin Institute, 2004, 341, 111-135.	1.9	135
21	Effects of Multirate Systems on the Statistical Properties of Random Signals. IEEE Transactions on Signal Processing, 1993, 41, 131.	3.2	129
22	Low passband sensitivity digital filters: A generalized viewpoint and synthesis procedures. Proceedings of the IEEE, 1984, 72, 404-423.	16.4	123
23	Nested Arrays in Two Dimensions, Part II: Application in Two Dimensional Array Processing. IEEE Transactions on Signal Processing, 2012, 60, 4706-4718.	3.2	123
24	Quadratically Constrained Beamforming Robust Against Direction-of-Arrival Mismatch. IEEE Transactions on Signal Processing, 2007, 55, 4139-4150.	3.2	118
25	Look-up table (LUT) method for inverse halftoning. IEEE Transactions on Image Processing, 2001, 10, 1566-1578.	6.0	112
26	Coprime coarray interpolation for DOA estimation via nuclear norm minimization., 2016,,.		107
27	Optimized halftoning using dot diffusion and methods for inverse halftoning. IEEE Transactions on Image Processing, 2000, 9, 691-709.	6.0	97
28	Ramanujan Sums in the Context of Signal Processingâ€"Part II: FIR Representations and Applications. IEEE Transactions on Signal Processing, 2014, 62, 4158-4172.	3.2	95
29	A Grid-Less Approach to Underdetermined Direction of Arrival Estimation Via Low Rank Matrix Denoising. IEEE Signal Processing Letters, 2014, 21, 737-741.	2.1	90
30	Linear phase cosine modulated maximally decimated filter banks with perfect reconstruction. IEEE Transactions on Signal Processing, 1995, 43, 2525-2539.	3.2	86
31	Role of anticausal inverses in multirate filter-banks .I. System-theoretic fundamentals. IEEE Transactions on Signal Processing, 1995, 43, 1090-1102.	3.2	81
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33	Theory and design of optimum FIR compaction filters. IEEE Transactions on Signal Processing, 1998, 46, 903-919.	3.2	75
34	Generalized sampling theorems in multiresolution subspaces. IEEE Transactions on Signal Processing, 1997, 45, 583-599.	3.2	74
35	On the eigenfilter design method and its applications: A tutorial. IEEE Transactions on Circuits and Systems Part 2: Express Briefs, 2003, 50, 497-517.	2.3	74
36	Multidimensional multirate filters and filter banks derived from one-dimensional filters. IEEE Transactions on Signal Processing, 1993, 41, 1749-1765.	3.2	69

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37	Nested Periodic Matrices and Dictionaries: New Signal Representations for Period Estimation. IEEE Transactions on Signal Processing, 2015, 63, 3736-3750.	3.2	69
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41	Hourglass Arrays and Other Novel 2-D Sparse Arrays With Reduced Mutual Coupling. IEEE Transactions on Signal Processing, 2017, 65, 3369-3383.	3.2	60
42	Role of anticausal inverses in multirate filter-banks .II. The FIR case, factorizations, and biorthogonal lapped transforms. IEEE Transactions on Signal Processing, 1995, 43, 1103-1115.	3.2	56
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45	A state space approach to the design of globally optimal FIR energy compaction filters. IEEE Transactions on Signal Processing, 2000, 48, 2822-2838.	3.2	52
46	A unified structural interpretation of some well-known stability-test procedures for linear systems. Proceedings of the IEEE, 1987, 75, 478-497.	16.4	49
47	Classical sampling theorems in the context of multirate and polyphase digital filter bank structures. IEEE Transactions on Acoustics, Speech, and Signal Processing, 1988, 36, 1480-1495.	2.0	49
48	Efficient implementation of all-digital interpolation. IEEE Transactions on Image Processing, 2001, 10, 1639-1646.	6.0	49
49	A Spectral Factorization Approach to Pseudo-QMF Design. IEEE Transactions on Signal Processing, 1993, 41, 82.	3.2	47
50	Subspace-Based Blind Channel Identification for Cyclic Prefix Systems Using Few Received Blocks. IEEE Transactions on Signal Processing, 2007, 55, 4979-4993.	3.2	47
51	The role of integer matrices in multidimensional multirate systems. IEEE Transactions on Signal Processing, 1993, 41, 1035-1047.	3.2	46
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53	Biorthogonal partners and applications. IEEE Transactions on Signal Processing, 2001, 49, 1013-1027.	3.2	43
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61	Minimum redundancy MIMO radars. , 2008, , .		39
62	Sparse sensing with coprime arrays. , 2010, , .		39
63	Robustness of Difference Coarrays of Sparse Arrays to Sensor Failuresâ€"Part I: A Theory Motivated by Coarray MUSIC. IEEE Transactions on Signal Processing, 2019, 67, 3213-3226.	3.2	38
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92	Context-Sensitive Hidden Markov Models for Modeling Long-Range Dependencies in Symbol Sequences. IEEE Transactions on Signal Processing, 2006, 54, 4169-4184.	3.2	21
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127	Fractional biorthogonal partners in channel equalization and signal interpolation. IEEE Transactions on Signal Processing, 2003, 51, 1928-1940.	3.2	11
128	Optimization of transceivers with bit allocation to maximize bit rate for MIMO transmission. IEEE Transactions on Communications, 2009, 57, 3556-3560.	4.9	11
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132	Application of DFT filter banks and cosine modulated filter banks in filtering. , 0, , .		10
133	Eigenfilter design of MIMO equalizers for channel shortening. , 2002, , .		10
134	Sparse coprime sensing with multidimensional lattice arrays., 2011,,.		10
135	Generalized Geometric Mean Decomposition and DFE Transceiver Design—Part I: Design and Complexity. IEEE Transactions on Signal Processing, 2012, 60, 3112-3123.	3.2	10
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137	Detection of protein repeats using the Ramanujan Filter Bank. , 2016, , .		10
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140	A spectral factorization approach to pseudo-QMF design. , 0, , .		9
141	Finite-channel chromatic derivative filter banks. IEEE Signal Processing Letters, 2003, 10, 15-17.	2.1	9
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148	Optimum low cost two channel IIR orthonormal filter bank. , 0, , .		8
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