Florian Roemer

List of Publications by Year
in descending order

125	1,932	430442	414034
papers	citations	18	32
		h-index	g-index

125	125	125	1153
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Compressed Sensing: From Big Data to Relevant Data. , 2022, , 329-352.		0
2	Cognitive sensor systems for NDE 4.0: Technology, AI embedding, validation and qualification. TM Technisches Messen, 2022, 89, 253-277.	0.3	1
3	Hardware Architecture for Ultra-Wideband Channel Impulse Response Measurements Using Compressed Sensing. , 2021, , .		2
4	Compressed Sensing: From Big Data to Relevant Data. , 2021, , 1-24.		2
5	Locally Optimal Subsampling Strategies for Full Matrix Capture Measurements in Pipe Inspection. Applied Sciences (Switzerland), 2021, 11, 4291.	1.3	1
6	Frequency Subsampling of Ultrasound Nondestructive Measurements: Acquisition, Reconstruction, and Performance. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2021, 68, 3174-3191.	1.7	3
7	Preprocessing of Freehand Ultrasound Synthetic Aperture Measurements using DNN. , 2021, , .		3
8	CramÃ©r-Rao Bounds for Flaw Localization in Subsampled Multistatic Multichannel Ultrasound Ndt Data. , 2020, , .		0
9	Next Generation NDE Sensor Systems as IIoT Elements of Industry 4.0. Research in Nondestructive Evaluation, 2020, 31, 340-369.	0.5	27
10	Subsampling Approaches for Compressed Sensing with Ultrasound Arrays in Non-Destructive Testing. Sensors, 2020, 20, 6734.	2.1	8
11	Misspecified Cramer-Rao Bound For Delay Estimation with a Mismatched Waveform: A Case Study. , 2020, , .		7
12	ADMM for ND Line Spectral Estimation Using Grid-free Compressive Sensing from Multiple Measurements with Applications to DOA Estimation. , 2019, , .		8
13	M-estimator based Chinese Remainder Theorem with few remainders using a Kroenecker product based mapping vector. , 2019, 87, 60-74.		3
14	Combining Matrix Design for 2D DoA Estimation with Compressive Antenna Arrays Using Stochastic Gradient Descent. , 2019, , .		1
15	3D reconstruction of handheld data by SAFT and the influence of measurement inaccuracies. , 2019, , .		2
16	Defect Detection From Compressed 3-D Ultrasonic Frequency Measurements. , 2019, , .		8
17	Total Focusing Method with Subsampling in Space and Frequency Domain for Ultrasound NDT. , 2019, , .		5
18	SAFT processing for manually acquired ultrasonic measurement data with 3D smartInspect. Insight: Non-Destructive Testing and Condition Monitoring, 2019, 61, 663-669.	0.3	2

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19	Defect Detection from 3D Ultrasonic Measurements Using Matrix-free Sparse Recovery Algorithms. , 2018, , .		7
20	GPU-Accelerated Matrix-Free 3D Ultrasound Reconstruction for Nondestructive Testing. , 2018, , .		7
21	Progressive Online 3-D SAFT Processing by Matrix Structure Exploitation. , 2018, , .		1
22	Sensing Matrix Sensitivity to Random Gaussian Perturbations in Compressed Sensing. , 2018, , .		1
23	Grid-Free Direction-of-Arrival Estimation with Compressed Sensing and Arbitrary Antenna Arrays. , 2018, , .		12
24	Sparsity Order Estimation From a Single Compressed Observation Vector. IEEE Transactions on Signal Processing, 2018, 66, 3958-3971.	3.2	12
25	Performance Analysis of Multi-Dimensional ESPRIT-Type Algorithms for Arbitrary and Strictly Non-Circular Sources With Spatial Smoothing. IEEE Transactions on Signal Processing, 2017, 65, 2262-2276.	3.2	42
26	Low complexity performance assessment of a sensor array via unscented transformation. , 2017, 63, 190-198.		2
27	On the SNR Variability in Noisy Compressed Sensing. IEEE Signal Processing Letters, 2017, 24, 1148-1152.	2.1	12
28	Design and analysis of compressive antenna arrays for direction of arrival estimation. Signal Processing, 2017, 138, 35-47.	2.1	39
29	Generalized Least Squares for ESPRIT-Type Direction of Arrival Estimation. IEEE Signal Processing Letters, 2017, 24, 1681-1685.	2.1	35
30	Sparse Signal Recovery for ultrasonic detection and reconstruction of shadowed flaws. , 2017, , .		5
31	Second-order performance analysis of Standard ESPRIT. , 2017, , .		0
32	Multiband TDOA estimation from sub-Nyquist samples with distributed wideband sensing nodes. , 2017, , .		0
33	Differential SART for sub-Nyquist tomographic reconstruction in presence of misalignments. , 2017, , .		3
34	Implementation issues of 3D SAFT in time and frequency domain for the fast inspection of heavy plates. , 2017, , .		1
35	Tensor-based sparsity order estimation for big data applications. , 2017, , .		0
36	Performance analysis of ESPRIT-Type algorithms for co-array structures. , 2017, , .		4

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37	Broadband beamforming via frequency invariance transformation and PARAFAC decomposition. , 2017, , .		0
38	Implementation issues of 3D SAFT in time and frequency domain for the fast inspection of heavy plates. , 2017, , .		1
39	Gridless super-resolution direction finding for strictly non-circular sources based on atomic norm minimization. , 2016, , .		7
40	Measurement matrix design for compressed sensing based time delay estimation. , 2016, , .		3
41	On poisson compressed sensing and parameter estimation in sheet-of-light surface scanning. , 2016, , .		0
42	Procedures for Integrating, Testing and Operating Advanced Microsatellites**The authors would like to thank the Program Science without Borders - Aerospace Technology supported by CNPq and CAPES for the PDE scholarship number 207644/2015-2 and for the joint double degree scholarship number 88887.115692/2016-00. The research leading to the results reported in this paper has received funding from Coordenação de Aperfeioamento de Pessoal de Nível Superior (CAPES) under the PVE grant number 88881.030392/2013-01. IFAC-PapersOnLine, 2016, 49, 75-79.	0.5	1
43	Speeding up 3D SAFT for ultrasonic NDT by sparse deconvolution. , 2016, , .		3
44	Analytical performance assessment of esprit-type algorithms for coexisting circular and strictly non-circular signals. , 2016, , .		6
45	Temporal wireless synchronization with compressed opportunistic signals. , 2016, , .		1
46	Antenna array optimization strategies for robust direction finding. , 2016, , .		0
47	Sparsity-aware direction finding for strictly non-circular sources based on rank minimization. , 2016, , .		7
48	Analytical performance evaluation of multi-dimensional Tensor-ESPRIT-based algorithms for strictly non-circular sources. , 2016, , .		1
49	Deterministic Cramér-Rao Bound for Strictly Non-Circular Sources and Analytical Analysis of the Achievable Gains. IEEE Transactions on Signal Processing, 2016, 64, 4417-4431.	3.2	38
50	Sparsity-based direction-of-arrival estimation for strictly non-circular sources. , 2016, , .		11
51	Adaptive measurement matrix design for compressed DoA estimation with sensor arrays. , 2015, , .		3
52	DoA estimation with reflectarray according to single pixel camera principle. , 2015, , .		0
53	Deterministic Cramér-Rao bound for a mixture of circular and strictly non-circular signals. , 2015, , .		0
54	Generalized sidelobe cancellers for multidimensional separable arrays. , 2015, , .		2

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55	Esprit-type algorithms for a received mixture of circular and strictly non-circular signals. , 2015, , .		13
56	Sparsity order estimation for sub-Nyquist sampling and recovery of sparse multiband signals. , 2015, , .		8
57	Compressed temporal synchronization with opportunistic signals. , 2015, , .		1
58	Detection of time-varying support via rank evolution approach for effective joint sparse recovery. , 2015, , .		4
59	Numerical assessment of reflectarray applicability to CS-based DoA estimation. , 2015, , .		1
60	An adaptively focusing measurement design for compressed sensing based DOA estimation. , 2015, , .		9
61	On the design of the measurement matrix for Compressed Sensing based DOA estimation. , 2015, , .		15
62	On the estimation of grid offsets in CS-based direction-of-arrival estimation. , 2014, , .		23
63	R-dimensional esprit-type algorithms for strictly second-order non-circular sources and their performance analysis. IEEE Transactions on Signal Processing, 2014, 62, 4824-4838.	3.2	68
64	On the sensing matrix performance for support recovery of noisy sparse signals. , 2014, , .		2
65	Asymptotic performance analysis of esprit-type algorithms for circular and strictly non-circular sources with spatial smoothing. , 2014, , .		3
66	Analytical Performance Assessment of Multi-Dimensional Matrix- and Tensor-Based ESPRIT-Type Algorithms. IEEE Transactions on Signal Processing, 2014, 62, 2611-2625.	3.2	78
67	Tensor-based algorithms for learning multidimensional separable dictionaries. , 2014, , .		38
68	Analytical ESPRIT-based performance study: What can we gain from non-circular sources?. , 2014, , .		2
69	An Efficient Transmission Strategy for the Multicarrier Multiuser MIMO Downlink. IEEE Transactions on Vehicular Technology, 2014, 63, 628-642.	3.9	14
70	Subspace Methods and Exploitation of Special Array Structures. Academic Press Library in Signal Processing, 2014, 3, 651-717.	0.8	38
71	Tensor subspace Tracking via Kronecker structured projections (TeTraKron) for time-varying multidimensional harmonic retrieval. Eurasip Journal on Advances in Signal Processing, 2014, 2014, .	1.0	8
72	Flexible coordinated beamforming (FlexCoBF) for the downlink of multi-user MIMO systems in single and clustered multiple cells. Signal Processing, 2013, 93, 2462-2473.	2.1	11

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73	A semi-algebraic framework for approximate CP decompositions via simultaneous matrix diagonalizations (SECSI). Signal Processing, 2013, 93, 2722-2738.	2.1	58
74	Multidimensional prewhitening for enhanced signal reconstruction and parameter estimation in colored noise with Kronecker correlation structure. Signal Processing, 2013, 93, 3209-3226.	2.1	20
75	Performance analysis of ESPRIT-type algorithms for strictly non-circular sources using structured least squares. , 2013, , .		4
76	Efficient source enumeration for accurate direction-of-arrival estimation in threshold region. , 2013, 23, 1668-1677.		6
77	3-D Unitary ESPRIT: Accurate attitude estimation for unmanned aerial vehicles with a hexagon-shaped ESPAR array. , 2013, 23, 701-711.		5
78	Robust design of block diagonalization using perturbation analysis. , 2013, , .		2
79	Tensor subspace tracking via Kronecker structured projections (TeTraKron). , 2013, , .		3
80	Performance analysis of ESPRIT-type algorithms for non-circular sources. , 2013, , .		15
81	Sum rate maximization for multi-pair two-way relaying with single-antenna amplify and forward relays. , 2012, , .		22
82	A semi-algebraic framework for approximate CP decompositions via joint matrix diagonalization and generalized unfoldings. , 2012, , .		15
83	Linear precoding-based geometric mean decomposition (LP-GMD) for multi-user MIMO systems. , 2012, , .		3
84	Robust source number enumeration for r-dimensional arrays in case of brief sensor failures. , 2012, , .		16
85	Polynomial-time DC (POTDC) for sum-rate maximization in two-way AF MIMO relaying. , 2012, , .		3
86	Distributed beamforming for two-way relaying networks with individual power constraints. , 2012, , .		11
87	Efficient spatial scheduling and precoding algorithms for MC MU MIMO systems. , 2012, , .		1
88	A â€œSequentially Drilledâ€•Joint Congruence (SeDJoCo) Transformation With Applications in Blind Source Separation and Multiuser MIMO Systems. IEEE Transactions on Signal Processing, 2012, 60, 2744-2757.	3.2	19
89	Optimal and suboptimal beamforming for multi-operator two-way relaying with a MIMO amplify-and-forward relay. , 2012, , .		4
90	Relay Assisted Physical Resource Sharing: Projection Based Separation of Multiple Operators (ProBaSeMO) for Two-Way Relaying With MIMO Amplify and Forward Relays. IEEE Transactions on Signal Processing, 2012, 60, 4834-4848.	3.2	20

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91	Satellite ground stations with electronic beam steering. , 2012, , .		4
92	Sum-Rate Maximization in Two-Way AF MIMO Relaying: Polynomial Time Solutions to a Class of DC Programming Problems. IEEE Transactions on Signal Processing, 2012, 60, 5478-5493.	3.2	64
93	Impact of synchronization errors on Alamouti-STBC-based cooperative MIMO schemes. , 2012, , .		1
94	Efficient relay sharing (EReSH) between multiple operators in amplify-and-forward relaying systems. , 2011, , .		0
95	Multi-dimensional model order selection. Eurasip Journal on Advances in Signal Processing, 2011, 2011, .	1.0	53
96	Analytical performance assessment of 1-D Structured Least Squares. , 2011, , .		6
97	Beamforming design for multi-user two-way relaying with MIMO amplify and forward relays. , 2011, , .		12
98	Subspace based multi-dimensional model order selection in colored noise scenarios. , 2011, , .		5
99	Tensor-based semi-blind channel estimation for MIMO OSTBC-coded systems. , 2011, , .		0
100	Analytical performance assessment for multi-dimensional Tensor-ESPRIT-type parameter estimation algorithms. , 2010, , .		8
101	Using a new structured joint congruence (STJOCO) transformation of Hermitian matrices for precoding in multi-user MIMO systems. , 2010, , .		11
102	A low-complexity relay transmit strategy for two-way relaying with MIMO amplify and forward relays. , 2010, , .		13
103	Robust R-D parameter estimation via closed-form PARAFAC in Kronecker colored environments. , 2010, , .		4
104	Blind estimation of SIMO channels using a tensor-based subspace method. , 2010, , .		10
105	Flexible Coordinated Beamforming (FlexCoBF) algorithm for the downlink of multi-user MIMO systems. , 2010, , .		7
106	Tensor-Based Spatial Smoothing (TB-SS) Using Multiple Snapshots. IEEE Transactions on Signal Processing, 2010, 58, 2715-2728.	3.2	25
107	Tensor-Based Channel Estimation and Iterative Refinements for Two-Way Relaying With Multiple Antennas and Spatial Reuse. IEEE Transactions on Signal Processing, 2010, 58, 5720-5735.	3.2	130
108	Multi-dimensional PARAFAC2 component analysis of multi-channel EEG data including temporal tracking. , 2010, 2010, 5375-8.		8

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109	Robust R-D parameter estimation via closed-form PARAFAC. , 2010, , .		21
110	Iterative Sequential GSVD (I-S-GSVD) based prewhitening for multidimensional HOSVD based subspace estimation without knowledge of the noise covariance information. , 2010, , .		5
111	Multidimensional Unitary Tensor-ESPRIT for non-circular sources. , 2009, , .		6
112	Tensor-based channel estimation (TENCE) for two-way relaying with multiple antennas and spatial reuse. , 2009, , .		39
113	Multi-dimensional space-time-frequency component analysis of event related EEG data using closed-form PARAFAC. , 2009, , .		27
114	Algebraic Norm-Maximizing (ANOMAX) Transmit Strategy for Two-Way Relaying With MIMO Amplify and Forward Relays. IEEE Signal Processing Letters, 2009, 16, 909-912.	2.1	73
115	Identification of Signal Components in Multi-Channel EEG Signals via Closed-Form PARAFAC Analysis and Appropriate Preprocessing. IFMBE Proceedings, 2009, , 1226-1230.	0.2	4
116	Analytical performance evaluation for HOSVD-based parameter estimation schemes. , 2009, , .		16
117	Near-far robustness and optimal power allocation for two-way relaying with MIMO amplify and forward relays. , 2009, , .		2
118	Higher-Order SVD-Based Subspace Estimation to Improve the Parameter Estimation Accuracy in Multidimensional Harmonic Retrieval Problems. IEEE Transactions on Signal Processing, 2008, 56, 3198-3213.	3.2	347
119	A closed-form solution for multilinear PARAFAC decompositions. , 2008, , .		25
120	Robust methods based on the hosvd for estimating the model order in PARAFAC models. , 2008, , .		22
121	A closed-form solution for Parallel Factor (PARAFAC) Analysis. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	25
122	Efficient channel quantization scheme for multi-user MIMO broadcast channels with RBD precoding. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	6
123	Enhanced Model Order Estimation using Higher-Order Arrays. , 2007, , .		25
124	Tensor-Structure Structured Least Squares (TS-SLS) to Improve the Performance of Multi-Dimensional Esprit-Type Algorithms. , 2007, , .		7
125	Higher Order SVD Based Subspace Estimation to Improve Multi-Dimensional Parameter Estimation Algorithms. , 2006, , .		8