

Augusto Aubry

List of Publications by Year in descending order

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131
papers

4,180
citations

109137

35
h-index

118652

62
g-index

133
all docs

133
docs citations

133
times ranked

1395
citing authors

#	ARTICLE	IF	CITATIONS
1	Knowledge-Aided (Potentially Cognitive) Transmit Signal and Receive Filter Design in Signal-Dependent Clutter. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 93-117.	2.6	308
2	Radar waveform design in a spectrally crowded environment via nonconvex quadratic optimization. IEEE Transactions on Aerospace and Electronic Systems, 2014, 50, 1138-1152.	2.6	238
3	A new radar waveform design algorithm with improved feasibility for spectral coexistence. IEEE Transactions on Aerospace and Electronic Systems, 2015, 51, 1029-1038.	2.6	194
4	A Coordinate-Descent Framework to Design Low PSL/ISL Sequences. IEEE Transactions on Signal Processing, 2017, 65, 5942-5956.	3.2	161
5	Ambiguity Function Shaping for Cognitive Radar Via Complex Quartic Optimization. IEEE Transactions on Signal Processing, 2013, 61, 5603-5619.	3.2	159
6	MIMO Radar Beampattern Design Via PSL/ISL Optimization. IEEE Transactions on Signal Processing, 2016, 64, 3955-3967.	3.2	147
7	Rician MIMO Channel- and Jamming-Aware Decision Fusion. IEEE Transactions on Signal Processing, 2017, 65, 3866-3880.	3.2	143
8	Optimizing Radar Waveform and Doppler Filter Bank via Generalized Fractional Programming. IEEE Journal on Selected Topics in Signal Processing, 2015, 9, 1387-1399.	7.3	141
9	Optimization theory-based radar waveform design for spectrally dense environments. IEEE Aerospace and Electronic Systems Magazine, 2016, 31, 14-25.	2.3	138
10	Cognitive design of the receive filter and transmitted phase code in reverberating environment. IET Radar, Sonar and Navigation, 2012, 6, 822-833.	0.9	123
11	Maximum Likelihood Estimation of a Structured Covariance Matrix With a Condition Number Constraint. IEEE Transactions on Signal Processing, 2012, 60, 3004-3021.	3.2	118
12	A Doppler Robust Design of Transmit Sequence and Receive Filter in the Presence of Signal-Dependent Interference. IEEE Transactions on Signal Processing, 2014, 62, 772-785.	3.2	105
13	GLRT-Based Adaptive Target Detection in FDA-MIMO Radar. IEEE Transactions on Aerospace and Electronic Systems, 2021, 57, 597-613.	2.6	99
14	Forcing Multiple Spectral Compatibility Constraints in Radar Waveforms. IEEE Signal Processing Letters, 2016, 23, 483-487.	2.1	98
15	Radar Detection of Distributed Targets in Homogeneous Interference Whose Inverse Covariance Structure is Defined via Unitary Invariant Functions. IEEE Transactions on Signal Processing, 2013, 61, 4949-4961.	3.2	91
16	Robust Transmit Code and Receive Filter Design for Extended Targets in Clutter. IEEE Transactions on Signal Processing, 2015, 63, 1965-1976.	3.2	89
17	Covariance matrix estimation via geometric barycenters and its application to radar training data selection. IET Radar, Sonar and Navigation, 2013, 7, 600-614.	0.9	84
18	Knowledge-based design of space-time transmit code and receive filter for a multiple-input-multiple-output radar in signal-dependent interference. IET Radar, Sonar and Navigation, 2015, 9, 1124-1135.	0.9	84

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19	A Geometric Approach to Covariance Matrix Estimation and its Applications to Radar Problems. IEEE Transactions on Signal Processing, 2018, 66, 907-922.	3.2	83
20	A New Sequential Optimization Procedure and Its Applications to Resource Allocation for Wireless Systems. IEEE Transactions on Signal Processing, 2018, 66, 6518-6533.	3.2	82
21	Robust Waveform and Filter Bank Design of Polarimetric Radar. IEEE Transactions on Aerospace and Electronic Systems, 2017, 53, 370-384.	2.6	78
22	On the Design of Multi-Spectrally Constrained Constant Modulus Radar Signals. IEEE Transactions on Signal Processing, 2020, 68, 2231-2243.	3.2	70
23	Diffuse Multipath Exploitation for Adaptive Radar Detection. IEEE Transactions on Signal Processing, 2015, 63, 1268-1281.	3.2	67
24	Cognitive radar waveform design for spectral coexistence in signal-dependent interference. , 2014, , .		63
25	Adaptive Detection of Point-Like Targets in the Presence of Homogeneous Clutter and Subspace Interference. IEEE Signal Processing Letters, 2014, 21, 848-852.	2.1	58
26	Single-Snapshot Angle and Incremental Range Estimation for FDA-MIMO Radar. IEEE Transactions on Aerospace and Electronic Systems, 2021, 57, 3705-3718.	2.6	50
27	Optimality Claims for the FML Covariance Estimator with respect to Two Matrix Norms. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 2055-2057.	2.6	48
28	Multi-Snapshot Spectrum Sensing for Cognitive Radar via Block-Sparsity Exploitation. IEEE Transactions on Signal Processing, 2019, 67, 1396-1406.	3.2	48
29	Reconfigurable Intelligent Surfaces for N-LOS Radar Surveillance. IEEE Transactions on Vehicular Technology, 2021, 70, 10735-10749.	3.9	45
30	On MIMO Detection Under Non-Gaussian Target Scattering. IEEE Transactions on Information Theory, 2010, 56, 5822-5838.	1.5	44
31	Exploiting multiple a priori spectral models for adaptive radar detection. IET Radar, Sonar and Navigation, 2014, 8, 695-707.	0.9	42
32	Robust Design of Radar Doppler Filters. IEEE Transactions on Signal Processing, 2016, 64, 5848-5860.	3.2	42
33	Median matrices and their application to radar training data selection. IET Radar, Sonar and Navigation, 2014, 8, 265-274.	0.9	40
34	Design of Constant Modulus Discrete Phase Radar Waveforms Subject to Multi-Spectral Constraints. IEEE Signal Processing Letters, 2020, 27, 875-879.	2.1	40
35	Multi-Spectrally Constrained Transceiver Design Against Signal-Dependent Interference. IEEE Transactions on Signal Processing, 2022, 70, 1320-1332.	3.2	39
36	High Range Resolution Profile Estimation via a Cognitive Stepped Frequency Technique. IEEE Transactions on Aerospace and Electronic Systems, 2019, 55, 444-458.	2.6	38

#	ARTICLE	IF	CITATIONS
37	Non-cooperative code design in radar networks: a game-theoretic approach. <i>Eurasip Journal on Advances in Signal Processing</i> , 2013, 2013, .	1.0	28
38	Radar detection and range estimation using oversampled data. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2015, 51, 1039-1052.	2.6	28
39	Achievable Rate Region for Gaussian MIMO MAC With Partial CSI. <i>IEEE Transactions on Information Theory</i> , 2013, 59, 4139-4170.	1.5	26
40	Cumulants-based Radar Specific Emitter Identification. , 2011, , .		25
41	Radar Phase Noise Modeling and Effects-Part I : MTI Filters. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2016, 52, 698-711.	2.6	25
42	Diffuse Multipath Exploitation for Adaptive Detection of Range Distributed Targets. <i>IEEE Transactions on Signal Processing</i> , 2020, 68, 1197-1212.	3.2	24
43	Toeplitz Structured Covariance Matrix Estimation for Radar Applications. <i>IEEE Signal Processing Letters</i> , 2020, 27, 595-599.	2.1	22
44	Cognitive radar waveform design for spectral coexistence. , 2013, , .		21
45	Localization in 2D PBR With Multiple Transmitters of Opportunity: A Constrained Least Squares Approach. <i>IEEE Transactions on Signal Processing</i> , 2020, 68, 634-646.	3.2	21
46	Quasi-Orthogonal Waveforms for Ambiguity Suppression in Spaceborne Quad-Pol SAR. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2022, 60, 1-17.	2.7	21
47	Single-Pulse Simultaneous Target Detection and Angle Estimation in a Multichannel Phased Array Radar. <i>IEEE Transactions on Signal Processing</i> , 2020, 68, 6649-6664.	3.2	20
48	Radar phase noise modeling and effects-part II: pulse doppler processors and sidelobe blankers. <i>IEEE Transactions on Aerospace and Electronic Systems</i> , 2016, 52, 712-725.	2.6	19
49	Hidden Convexity in Robust Waveform and Receive Filter Bank Optimization Under Range Unambiguous Clutter. <i>IEEE Signal Processing Letters</i> , 2020, 27, 885-889.	2.1	19
50	An Adaptive Radar Signal Processor for UAVs Detection With Super-Resolution Capabilities. <i>IEEE Sensors Journal</i> , 2021, 21, 20778-20787.	2.4	19
51	New Results on Generalized Fractional Programming Problems With Toeplitz Quadratics. <i>IEEE Signal Processing Letters</i> , 2016, 23, 848-852.	2.1	18
52	Assessing Agile Spectrum Management for Cognitive Radar on Measured Data. <i>IEEE Aerospace and Electronic Systems Magazine</i> , 2020, 35, 20-32.	2.3	18
53	A radar detector with enhanced range estimation capabilities for partially homogeneous environment. <i>IET Radar, Sonar and Navigation</i> , 2014, 8, 1018-1025.	0.9	15
54	Adaptive Radar Detection in Low-Rank Heterogeneous Clutter via Invariance Theory. <i>IEEE Transactions on Signal Processing</i> , 2021, 69, 1492-1506.	3.2	15

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55	Advanced SLB Architectures with Invariant Receivers. IEEE Transactions on Aerospace and Electronic Systems, 2013, 49, 798-818.	2.6	13
56	An EL Approach for Similarity Parameter Selection in KA Covariance Matrix Estimation. IEEE Signal Processing Letters, 2019, 26, 1217-1221.	2.1	13
57	Joint Exploitation of TDOA and PCL Techniques for Two-Dimensional Target Localization. IEEE Transactions on Aerospace and Electronic Systems, 2020, 56, 597-609.	2.6	13
58	Experimental Analysis of Block-Sparsity-Based Spectrum Sensing Techniques for Cognitive Radar. IEEE Transactions on Aerospace and Electronic Systems, 2021, 57, 355-370.	2.6	13
59	Design of binary sequences with low PSL/ISL. , 2017, , .		12
60	Assessing Reciprocity in Polarimetric SAR Data. IEEE Geoscience and Remote Sensing Letters, 2020, 17, 87-91.	1.4	12
61	Structured Covariance Matrix Estimation With Missing-(Complex) Data for Radar Applications via Expectation-Maximization. IEEE Transactions on Signal Processing, 2021, 69, 5920-5934.	3.2	12
62	Assessing Power Amplifier Impairments and Digital Predistortion on Radar Waveforms for Spectral Coexistence. IEEE Transactions on Aerospace and Electronic Systems, 2022, 58, 635-650.	2.6	11
63	Two-dimensional spectrum sensing for cognitive radar. , 2018, , .		10
64	A New Optimality Property of the Capon Estimator. IEEE Signal Processing Letters, 2017, 24, 1706-1708.	2.1	9
65	Multi-Class Random Matrix Filtering for Adaptive Learning. IEEE Transactions on Signal Processing, 2020, 68, 359-373.	3.2	9
66	Radar waveform design with multiple spectral compatibility constraints. , 2016, , .		8
67	Spaceborne Radar Sensor Architecture for Debris Detection and Tracking. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 6621-6636.	2.7	8
68	An Ontology for Spaceborne Radar Debris Detection and Tracking: Channel-Target Phenomenology and Motion Models. IEEE Aerospace and Electronic Systems Magazine, 2021, 36, 18-42.	2.3	8
69	Enhanced Target Localization With Deployable Multiplatform Radar Nodes Based on Non-Convex Constrained Least Squares Optimization. IEEE Transactions on Signal Processing, 2022, 70, 1282-1294.	3.2	8
70	2-D PBR Localization Complying With Constraints Forced by Active Radar Measurements. IEEE Transactions on Aerospace and Electronic Systems, 2021, 57, 2647-2660.	2.6	7
71	Adaptive Radar Detection in Gaussian Interference Using Clutter-Free Training Data. IEEE Transactions on Signal Processing, 2022, 70, 978-993.	3.2	7
72	Cognitive Radar Waveform Design for Spectral Compatibility. , 2016, , .		6

#	ARTICLE	IF	CITATIONS
73	On the Exploitability of the Ka Band for Spaceborne Radar Debris Detection and Tracking Measurements. , 2019, , .		6
74	Multiple-access channel capacity region with incomplete channel state information. , 2010, , .		5
75	PSL-based beampattern design for MIMO radar systems. , 2015, , .		5
76	Coincidence of Maximal Invariants for Two Adaptive Radar Detection Problems. IEEE Signal Processing Letters, 2016, , 1-1.	2.1	5
77	Radar Detection, Performance Analysis, and CFAR Techniques. , 2019, , .		5
78	Optimal Opponent Stealth Trajectory Planning Based on an Efficient Optimization Technique. IEEE Transactions on Signal Processing, 2021, 69, 270-283.	3.2	5
79	Analysis of cooperative MIMO networks with incomplete channel state information. , 2008, , .		4
80	A geometric approach for structured radar covariance estimation. , 2017, , .		4
81	Spaceborne Radar Functional Architecture for Debris Bayesian Inference. , 2020, , .		4
82	Design of adaptive detectors for FDA-MIMO radar. , 2020, , .		4
83	Adaptive Target Separation Detection. IEEE Transactions on Aerospace and Electronic Systems, 2021, 57, 293-309.	2.6	4
84	Phase noise modeling and its effects on the performance of some radar signal processors. , 2015, , .		3
85	Robust design of transmit code and receive filter for extended targets in clutter. , 2015, , .		3
86	Comments on "Waveform Design for Radar STAP in Signal Dependent Interference" IEEE Transactions on Signal Processing, 2018, 66, 5206-5207.	3.2	3
87	2D Constrained PBR Localization Via Active Radar Designation. , 2020, , .		3
88	Effects of Plasma Media With Weak Scintillation on the Detection Performance of Spaceborne Radars. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-13.	2.7	3
89	Compatibility Assessment of Multistatic/Polarimetric Clutter Data With the SIRP Model. IEEE Transactions on Aerospace and Electronic Systems, 2023, 59, 359-374.	2.6	3
90	Estimation of a structured covariance matrix with a condition number constraint for radar applications. , 2012, , .		2

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91	Cognitive design of the transmitted phase code and receive filter in reverberating environment. , 2012, , .		2
92	A cognitive approach for ambiguity function shaping. , 2012, , .		2
93	Extended target detection in interference whose covariance matrix is defined via uncertainty convex constraints. , 2013, , .		2
94	A max-min design of transmit sequence and receive filter. , 2014, , .		2
95	Adaptive radar detection in diffuse multipath environments. , 2014, , .		2
96	Optimizing polarimetric radar waveform and filter bank for extended targets in clutter. , 2016, , .		2
97	A cognitive approach for radar receiver adaptation. , 2016, , .		2
98	Assessing Spectral Compatibility Between Radar and Communication Systems on Measured Data. , 2018, , .		2
99	Toeplitz Structured Covariance Matrix Estimation for Radar Applications. , 2020, , .		2
100	Automatically Tunable AMF for Radar Detection in Diffuse Multipath. , 2020, , .		2
101	Transceiver Design in Signal-Dependent Interference and Spectrally Dense Environments. , 2020, , .		2
102	Fading Occurrence Probability for Spaceborne Radar in Weak Plasma Scintillation. , 2021, , .		2
103	MIMO SBR via Code Division Multiplexing for Track While Simultaneous Search. IEEE Transactions on Geoscience and Remote Sensing, 2022, 60, 1-14.	2.7	2
104	ATOM for MLE of Toeplitz Structured Covariance Matrices for RADAR Applications. , 2022, , .		2
105	Transmitted phase code/receive filter design for high reverberating environment: A cognitive approach. , 2012, , .		1
106	Detection capabilities evaluation of a constrained structured covariance matrix estimator for radar applications. , 2012, , .		1
107	Adaptive radar detection based on multiple a-priori models. , 2013, , .		1
108	Bayesian Multi-Class Covariance Matrix Filtering for Adaptive Environment Learning. , 2018, , .		1

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109	Phase-Only Radar Waveform Design for Spectrally Dense Environments. , 2019, , .		1
110	Optimal Stealth Trajectory Design to Deceive Anomaly Detection Process. , 2019, , .		1
111	Constant Modulus Discrete Phase Radar Waveforms Design Subject to Multi-Spectral Constraints. , 2020, , .		1
112	Design and Analysis of Adaptive Sidelobe Blanking Architectures. , 2020, , .		1
113	Assessing Block-Sparsity-Based Spectrum Sensing Approaches for Cognitive Radar on Measured Data. , 2020, , .		1
114	Design of GLR-Based Detectors for FDA-MIMO radar. , 2020, , .		1
115	Hidden Convexity in Robust Waveform and Receive Filter Bank Optimization for Range Unambiguous Clutter. , 2020, , .		1
116	Experimental Analysis of Structured Covariance Estimators with Missing data. , 2021, , .		1
117	Power Amplifier Distortions on Radar Signals for Spectral Coexistence. , 2021, , .		1
118	3D Localization for Multiplatform Radar Networks with Deployable Nodes. , 2021, , .		1
119	Detection of Extended Target in Compound-Gaussian Clutter. , 2015, , 333-374.		1
120	Constrained Target Localization for Multiplatform Radar Systems. , 2021, , .		1
121	On MIMO detection under non-Gaussian target scattering: The power-limited case. , 2009, , .		0
122	Statistical MIMO radar under non-Gaussian target scattering. , 2009, , .		0
123	Quantized phase code and receive filter synthesis in reverberating environment. , 2012, , .		0
124	Geometric barycenters and their application to radar training data selection/target detection. , 2012, , .		0
125	A coherent SLB architecture with Kelly's receiver. , 2012, , .		0
126	Enhanced radar detection and range estimation via oversampled data. , 2014, , .		0

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127	Radar Filters Design in the Presence of Target Doppler Frequency and Interference Covariance Matrix Uncertainties. , 2016, , .		0
128	Joint Radar Waveform and Bank of Filter Design Forwind Farm Clutter Mitigation. , 2017, , .		0
129	A Smart Radar Signal Processing Solution for Ground-Based UAVs Surveillance. , 2021, , .		0
130	Polarimetric FDA-MIMO Radar Detection. , 2022, , .		0
131	On Radar Transceiver Design against Signal-Dependent Interference with Discrete-Phase Codes and Multiple Spectral Constraints. , 2022, , .		0