

Urbashi Mitra

List of Publications by Year in descending order

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188
papers

2,852
citations

279798

23
h-index

243625

44
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190
all docs

190
docs citations

190
times ranked

2320
citing authors

#	ARTICLE	IF	CITATIONS
1	Fixed-Horizon Active Hypothesis Testing. IEEE Transactions on Automatic Control, 2022, 67, 1882-1897.	5.7	3
2	Towards high data-rate diffusive molecular communications: A review on performance enhancement strategies. , 2022, 124, 103161.		10
3	Distributed Remote Estimation Over the Collision Channel With and Without Local Communication. IEEE Transactions on Control of Network Systems, 2022, 9, 282-294.	3.7	4
4	Adaptive Graph-Constrained Group Testing. IEEE Transactions on Signal Processing, 2022, 70, 381-396.	5.3	0
5	On Non-Linear Trajectory Tracking via Variety-Based Background Subtraction Models. IEEE Transactions on Signal Processing, 2022, 70, 397-409.	5.3	0
6	Design of False Data Injection Attack on Distributed Process Estimation. IEEE Transactions on Information Forensics and Security, 2022, 17, 670-683.	6.9	13
7	Intertemporal trade-off between population growth rate and carrying capacity during public good production. IScience, 2022, 25, 104117.	4.1	4
8	Higher Order Derivative-Based Receiver Preprocessing for Molecular Communications. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2022, 8, 178-189.	2.1	2
9	A matrix completion algorithm for efficient calculation of quantum and variational effects in chemical reactions. Journal of Chemical Physics, 2022, 156, 184119.	3.0	5
10	Atomic Norm Based Localization and Orientation Estimation for Millimeter-Wave MIMO OFDM Systems. , 2022, , .		1
11	A Framework for Private Communication with Secret Block Structure. , 2022, , .		0
12	Toward Efficient Direct Dynamics Studies of Chemical Reactions: A Novel Matrix Completion Algorithm. Journal of Chemical Theory and Computation, 2022, 18, 4327-4341.	5.3	2
13	A Concentration-Time Hybrid Modulation Scheme for Molecular Communications. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2021, 7, 288-299.	2.1	11
14	Testing Rank of Incomplete Unimodal Matrices. IEEE Signal Processing Letters, 2021, 28, 877-881.	3.6	2
15	Bilinear Channel Estimation for MIMO OFDM: Lower Bounds and Training Sequence Optimization. IEEE Transactions on Signal Processing, 2021, 69, 1317-1331.	5.3	15
16	Improved Atomic Norm Based Channel Estimation for Time-Varying Narrowband Leaked Channels. , 2021, , .		1
17	Data-Driven Sensor Scheduling for Remote Estimation in Wireless Networks. IEEE Transactions on Control of Network Systems, 2021, 8, 725-737.	3.7	4
18	3D Urban UAV Relay Placement: Linear Complexity Algorithm and Analysis. IEEE Transactions on Wireless Communications, 2021, 20, 5243-5257.	9.2	18

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19	On the Optimization of Derivative-Based Receivers for Molecular Communications. , 2021, , .		1
20	Improved Atomic Norm Based Time-Varying Multipath Channel Estimation. IEEE Transactions on Communications, 2021, 69, 6225-6235.	7.8	9
21	Max-Gossip Subgradient Method for Distributed Optimization. , 2021, , .		2
22	Fully-Decentralized Multi-Kernel Online Learning over Networks. , 2021, , .		0
23	Improved Convergence Rate for a Distributed Two-Time-Scale Gradient Method under Random Quantization. , 2021, , .		3
24	Observation-Driven Scheduling for Remote Estimation of Two Gaussian Random Variables. IEEE Transactions on Control of Network Systems, 2020, 7, 232-244.	3.7	13
25	Security Against False Data-Injection Attack in Cyber-Physical Systems. IEEE Transactions on Control of Network Systems, 2020, 7, 1015-1027.	3.7	62
26	Concentration and Position-Based Hybrid Modulation Scheme for Molecular Communications. , 2020, , .		3
27	Optimal Scheduling Strategy for Networked Estimation With Energy Harvesting. IEEE Transactions on Control of Network Systems, 2020, 7, 1723-1735.	3.7	9
28	A matrix completion algorithm to recover modes orthogonal to the minimum energy path in chemical reactions. Journal of Chemical Physics, 2020, 153, 054122.	3.0	5
29	Vehicular RF Convergence: Simultaneous Radar, Communications, and PNT for Urban Air Mobility and Automotive Applications. , 2020, , .		4
30	An Optimal Symmetric Threshold Strategy for Remote Estimation Over The Collision Channel. , 2020, , .		2
31	Dynamic Sensor Subset Selection for Centralized Tracking of an IID Process. IEEE Transactions on Signal Processing, 2020, 68, 3209-3224.	5.3	4
32	On Sampled Reinforcement Learning in Wireless Networks: Exploitation of Policy Structures. IEEE Transactions on Communications, 2020, 68, 2823-2837.	7.8	6
33	Testing for Anomalies: Active Strategies and Non-asymptotic Analysis. , 2020, , .		5
34	An efficient algorithm for compression-based compressed sensing. Information and Inference, 2019, 8, 343-375.	1.6	8
35	A Modified Frank-wolfe Algorithm for Tensor Factorization with Unimodal Signals. , 2019, , .		0
36	On Solving MDPs With Large State Space: Exploitation of Policy Structures and Spectral Properties. IEEE Transactions on Communications, 2019, 67, 4151-4165.	7.8	7

#	ARTICLE	IF	CITATIONS
37	Robust Molecular Communications: DFE-SPRTs and Synchronisation. , 2019, , .		2
38	Interference Mitigation in Large-Scale Multiuser Molecular Communication. IEEE Transactions on Communications, 2019, 67, 4088-4103.	7.8	18
39	Unimodality-Constrained Matrix Factorization for Non-Parametric Source Localization. IEEE Transactions on Signal Processing, 2019, 67, 2371-2386.	5.3	17
40	Variety-Based Background Subtraction for Nonlinear Trajectory Tracking. , 2019, , .		3
41	Policy Sampling and Interpolation for Wireless Networks: A Graph Signal Processing Approach. , 2019, , .		0
42	Optimal deception attack on networked vehicular cyber physical systems. , 2019, , .		3
43	Optimization for data-driven wireless sensor scheduling. , 2019, , .		0
44	On Training Sequence Optimization for Leaked MIMO OFDM Channels. , 2019, , .		2
45	Active Hypothesis Testing: Beyond Chernoff-Stein. , 2019, , .		8
46	Multi-Scale Spectrum Sensing in Dense Multi-Cell Cognitive Networks. IEEE Transactions on Communications, 2019, 67, 2673-2688.	7.8	7
47	Synchronization Error Robust Transceivers for Molecular Communication. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2019, 5, 207-221.	2.1	10
48	On the Properties of the Rank-Two Null Space of Nonsparse and Canonical-Sparse Blind Deconvolution. IEEE Transactions on Signal Processing, 2018, 66, 3696-3709.	5.3	2
49	Sequential Experiment Design for Hypothesis Verification. , 2018, , .		2
50	Data Clustering Using Matrix Factorization Techniques for Wireless Propagation Map Reconstruction. , 2018, , .		3
51	Line Constrained Estimation With Applications to Target Tracking: Exploiting Sparsity and Low-Rank. IEEE Transactions on Signal Processing, 2018, 66, 6488-6502.	5.3	8
52	A Tensor Decomposition Technique for Source Localization from Multimodal Data. , 2018, , .		4
53	Bilinear Matrix Factorization Methods for Time-Varying Narrowband Channel Estimation: Exploiting Sparsity and Rank. IEEE Transactions on Signal Processing, 2018, 66, 6062-6075.	5.3	13
54	Secure Estimation in V2X Networks with Injection and Packet Drop Attacks. , 2018, , .		7

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55	Sparsity and Rank Exploitation for Time-Varying Narrowband Leaked OFDM Channel Estimation. , 2018, , .		6
56	Enhancing the Reliability of Large-Scale Multiuser Molecular Communication Systems. , 2018, , .		1
57	Support Recovery From Noisy Random Measurements via Weighted ℓ_1 Minimization. IEEE Transactions on Signal Processing, 2018, 66, 4527-4540.	5.3	7
58	Attack detection and secure estimation under false data injection attack in cyber-physical systems. , 2018, , .		11
59	Active State Tracking With Sensing Costs: Analysis of Two-States and Methods for n -States. IEEE Transactions on Signal Processing, 2017, 65, 2828-2843.	5.3	12
60	Multi-scale spectrum sensing in small-cell mm-wave cognitive wireless networks. , 2017, , .		6
61	Observation driven sensor scheduling. , 2017, , .		2
62	Structured estimation of time-varying narrowband wireless communication channels. , 2017, , .		7
63	Underwater acoustic source localization using unimodal-constrained matrix factorization. , 2017, , .		4
64	Low-rank, sparse and line constrained estimation: Applications to target tracking and convergence. , 2017, , .		5
65	On exploiting spectral properties for solving MDP with large state space. , 2017, , .		5
66	Rotated eigenstructure analysis for source localization without energy-decay models. , 2017, , .		2
67	Optimal sensor scheduling strategies in networked estimation. , 2017, , .		9
68	Optimal Sensing and Data Estimation in a Large Sensor Network. , 2017, , .		6
69	Multi-scale spectrum sensing in millimeter wave cognitive networks. , 2017, , .		3
70	Model and analysis of population density estimation via quorum sensing. , 2016, , .		5
71	Time-varying narrowband channel estimation: Exploiting low-rank and sparsity via bilinear representation. , 2016, , .		3
72	Improved active sensing performance in wireless sensor networks via channel state information. , 2016, , .		1

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73	Mutual information based radar waveform design for joint radar and cellular communication systems. , 2016, , .		64
74	Delay-Doppler estimation via structured low-rank matrix recovery. , 2016, , .		5
75	Adaptive Transmission Rate With a Fixed Threshold Decoder for Diffusion-Based Molecular Communication. IEEE Transactions on Communications, 2016, 64, 236-248.	7.8	21
76	Queuing Models for Abstracting Interactions in Bacterial Communities. IEEE Journal on Selected Areas in Communications, 2016, 34, 584-599.	14.0	19
77	Opportunistic Radar Waveform Design in Joint Radar and Cellular Communication Systems. , 2015, , .		16
78	Markov chain sparsification with independent sets for approximate value iteration. , 2015, , .		3
79	Multi-scale multi-lag channel estimation via linearization of training signal spectrum and sparse approximation. , 2015, , .		2
80	A stochastic queuing model of quorum sensing in microbial communities. , 2015, , .		4
81	Analysis of target detection via matrix completion. , 2015, , .		11
82	Capacity of bacterial cables via Electron-transfer under full-CSI. , 2015, , .		2
83	Sparsity aware dynamic distributed compressive spectrum sensing and scheduling. , 2015, , .		0
84	Cross-Layer Estimation and Control for Cognitive Radio: Exploiting Sparse Network Dynamics. IEEE Transactions on Cognitive Communications and Networking, 2015, 1, 128-145.	7.9	17
85	Capacity of Electron-Based Communication Over Bacterial Cables: The Full-CSI Case. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2015, 1, 62-75.	2.1	9
86	Capacity of Diffusion-Based Molecular Communication Networks Over LTI-Poisson Channels. IEEE Transactions on Molecular, Biological, and Multi-Scale Communications, 2015, 1, 188-201.	2.1	48
87	Controlled Spectrum Sensing and Scheduling under Resource Constraints. , 2015, , .		2
88	Distributed Data Fusion for Multirobot Search. IEEE Transactions on Robotics, 2015, 31, 55-66.	10.3	43
89	Cross-Layer Design of Distributed Sensing-Estimation With Quality Feedback” Part I: Optimal Schemes. IEEE Transactions on Signal Processing, 2015, 63, 1228-1243.	5.3	9
90	Nested Sparse Approximation: Structured Estimation of V2V Channels Using Geometry-Based Stochastic Channel Model. IEEE Transactions on Signal Processing, 2015, 63, 4940-4955.	5.3	29

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91	Multi-Scale Multi-Lag Channel Estimation Using Low Rank Approximation for OFDM. IEEE Transactions on Signal Processing, 2015, 63, 4744-4755.	5.3	33
92	Radar waveform design in spectrum sharing environment: Coexistence and cognition. , 2015, , .		34
93	A Stochastic Model for Electron Transfer in Bacterial Cables. IEEE Journal on Selected Areas in Communications, 2014, 32, 2402-2416.	14.0	25
94	Controlled sensing: A myopic fisher information sensor selection algorithm. , 2014, , .		2
95	On source-channel coding over Gaussian sensor networks for path planning. , 2014, , .		1
96	Joint control and compressed sensing for dynamic spectrum access in agile wireless networks. , 2014, , .		3
97	Power allocation for Gaussian multiple access channel with noisy cooperative links. , 2014, , .		3
98	Receivers for Diffusion-Based Molecular Communication: Exploiting Memory and Sampling Rate. IEEE Journal on Selected Areas in Communications, 2014, 32, 2368-2380.	14.0	89
99	Adaptive distributed compressed sensing for dynamic high-dimensional hypothesis testing. , 2014, , .		7
100	Geometry-based stochastic modeling and estimation of vehicle to vehicle channels. , 2014, , .		8
101	Active target detection with mobile agents. , 2014, , .		6
102	A Weiss-Weinstein lower bound based sensing strategy for active state tracking. , 2014, , .		1
103	A cross-layer framework for joint control and distributed sensing in agile wireless networks. , 2014, , .		8
104	Active Classification for POMDPs: A Kalman-Like State Estimator. IEEE Transactions on Signal Processing, 2014, 62, 6209-6224.	5.3	32
105	Dynamic spectrum sensing-scheduling in agile networks with compressed belief information. , 2014, , .		4
106	Active target detection with navigation costs: A randomized benchmark. , 2014, , .		2
107	A model for electron transfer and cell energetics in bacterial cables. , 2014, , .		2
108	Multi-scale multi-lag channel estimation using low rank structure of received signal. , 2014, , .		8

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109	Opportunistic Radar Waveform Design in Joint Radar and Cellular Communication Systems. , 2014, , .		5
110	Fusion center feedback for quasi-decentralized estimation in Sensor Networks. , 2013, , .		7
111	On the properties of nonlinear POMDPs for active state tracking. , 2013, , .		4
112	A unified framework for energy efficient physical activity tracking. , 2013, , .		2
113	Squared error distortion metrics for motion planning in robotic sensor networks. , 2013, , .		9
114	Active planning for underwater inspection and the benefit of adaptivity. International Journal of Robotics Research, 2013, 32, 3-18.	8.5	110
115	Energy-Efficient, Heterogeneous Sensor Selection for Physical Activity Detection in Wireless Body Area Networks. IEEE Transactions on Signal Processing, 2013, 61, 1581-1594.	5.3	70
116	Cognitive Networks with Dynamic User Classification for Tactical Communications. , 2013, , .		2
117	Cooperative spectrum sharing with joint receiver decoding. , 2013, , .		1
118	Distributed estimation in sensor networks with quality feedback: A general framework. , 2013, , .		6
119	Optimization of wireless networks via graph interpolation. , 2013, , .		4
120	On identifiability in bilinear inverse problems. , 2013, , .		14
121	Non-linear smoothers for discrete-time, finite-state Markov chains. , 2013, , .		3
122	Optimal Bayesian Resampling for OFDM Signaling Over Multi-scale Multi-lag Channels. IEEE Signal Processing Letters, 2013, 20, 1118-1121.	3.6	15
123	How useful is adaptive action?. , 2012, , .		22
124	A POMDP framework for heterogeneous sensor selection in wireless body area networks. , 2012, , .		17
125	Robustness of sampling-based RF receivers against analog mismatches. , 2012, , .		0
126	Reduced dimension policy iteration for wireless network control via multiscale analysis. , 2012, , .		14

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127	Online learning in wireless networks via directed graph lifting transform. , 2012, , .		3
128	Heterogeneous time-resource allocation in Wireless Body Area Networks for Green, maximum likelihood activity detection. , 2012, , .		2
129	Uncertainty-driven view planning for underwater inspection. , 2012, , .		42
130	Action dependent strictly causal state communication. , 2012, , .		13
131	On cascade source coding with a side information “vending machine”. , 2012, , .		2
132	Fast anomaly detection in SmartGrids via sparse approximation theory. , 2012, , .		16
133	On Witsenhausen's counterexample: The asymptotic vector case. , 2012, , .		17
134	UWB Sparse/Diffuse Channels, Part I: Channel Models and Bayesian Estimators. IEEE Transactions on Signal Processing, 2012, 60, 5307-5319.	5.3	29
135	UWB Sparse/Diffuse Channels, Part II: Estimator Analysis and Practical Channels. IEEE Transactions on Signal Processing, 2012, 60, 5320-5333.	5.3	14
136	Underwater Data Collection Using Robotic Sensor Networks. IEEE Journal on Selected Areas in Communications, 2012, 30, 899-911.	14.0	158
137	Structure-based learning in wireless networks via sparse approximation. Eurasip Journal on Wireless Communications and Networking, 2012, 2012, .	2.4	15
138	Time- or frequency-domain equalization for wideband OFDM channels?. , 2012, , .		1
139	KNOWME: a case study in wireless body area sensor network design. IEEE Communications Magazine, 2012, 50, 116-125.	6.1	132
140	Cognitive Interference Management in Retransmission-Based Wireless Networks. IEEE Transactions on Information Theory, 2012, 58, 3023-3046.	2.4	60
141	Distributed coordination and data fusion for underwater search. , 2011, , .		29
142	Optimal allocation of heterogeneous smart grid traffic to heterogeneous networks. , 2011, , .		18
143	An evaluation of the hybrid sparse/diffuse algorithm for underwater acoustic channel estimation. , 2011, , .		2
144	Optimal Resampling of OFDM Signals for Multiscale“Multilag Underwater Acoustic Channels. IEEE Journal of Oceanic Engineering, 2011, 36, 126-138.	3.8	50

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145	Joint Transmission and State Estimation: A Constrained Channel Coding Approach. IEEE Transactions on Information Theory, 2011, 57, 7084-7095.	2.4	39
146	Optimization of ARQ Protocols in Interference Networks with QoS Constraints. , 2011, , .		8
147	Parametric Methods for Anomaly Detection in Aggregate Traffic. IEEE/ACM Transactions on Networking, 2011, 19, 512-525.	3.8	108
148	Communication protocols for underwater data collection using a robotic sensor network. , 2011, , .		20
149	Orthogonal wavelet division multiplexing for wideband time-varying channels. , 2011, , .		6
150	Autonomous data collection from underwater sensor networks using acoustic communication. , 2011, , .		22
151	Applying Csiszár's I-divergence to blind sparse channel estimation. , 2011, , .		0
152	Causal state amplification. , 2011, , .		14
153	Autonomous data collection from underwater sensor networks using acoustic communication. , 2011, , .		15
154	Capacity-distortion trade-off in channels with state. , 2010, , .		7
155	The modified iterative detector/estimator algorithm for sparse channel estimation. , 2010, , .		2
156	Equalizers for Multi-Scale/Multi-Lag Wireless Channels. , 2010, , .		6
157	An analysis of cognitive networks for unslotted time and reactive users. , 2010, , .		3
158	Compress-and-Forward Rates for the Gaussian Relay with ISI and Colored Noise. , 2010, , .		0
159	On the capacity of the symbol-asynchronous relay channel. , 2009, , .		5
160	Energy-efficient scheduling with individual packet delay constraints over a fading channel. Wireless Networks, 2009, 15, 601-618.	3.0	31
161	Remote detection of bottleneck links using spectral and statistical methods. Computer Networks, 2009, 53, 279-298.	5.1	35
162	Cognitive interference management in retransmission-based wireless networks. , 2009, , .		29

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163	Cooperation and coordination in cognitive networks with packet retransmission. , 2009, , .		8
164	Capacity of relay channels with ISI and colored Gaussian noise. , 2009, , .		5
165	Orthogonal Codes for Robust Low-Cost Communication. IEEE Transactions on Information Theory, 2008, 54, 5411-5426.	2.4	2
166	Energy-Efficient Transmissions With Individual Packet Delay Constraints. IEEE Transactions on Information Theory, 2008, 54, 2090-2109.	2.4	129
167	On Energy-Based Acoustic Source Localization for Sensor Networks. IEEE Transactions on Signal Processing, 2008, 56, 365-377.	5.3	137
168	Guest Editorial - Underwater Wireless Communication Networks. IEEE Journal on Selected Areas in Communications, 2008, 26, 1617-1619.	14.0	25
169	Iterative Joint Channel Estimation and Multiuser Detection for DS-CDMA in Frequency-Selective Fading Channels. IEEE Transactions on Signal Processing, 2008, 56, 3261-3277.	5.3	16
170	A Spectrum-Shaping Perspective on Cognitive Radio. , 2008, , .		13
171	Detection of low-rate attacks in computer networks. , 2008, , .		8
172	A constrained channel coding approach to joint communication and channel estimation. , 2008, , .		3
173	Sparse channel estimation for cooperative underwater communications: A structured multichannel approach. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	21
174	A spectrum-shaping perspective on cognitive radio: Uncoded primary transmission case. , 2008, , .		11
175	Orthogonal codes for robust low-cost communication. , 2008, , .		0
176	Joint semi-blind channel and timing estimation for generalized UWB transmitted reference systems. IEEE Transactions on Wireless Communications, 2007, 6, 180-191.	9.2	9
177	Delay-Constrained Energy-Efficient Scheduling over a Multihop Link. , 2007, , .		5
178	Transmitted-Reference UWB: A Digital Approach. Conference Record of the Asilomar Conference on Signals, Systems and Computers, 2007, , .	0.0	0
179	Packet Scheduling for Multihopped Underwater Acoustic Communication Networks. , 2007, , .		8
180	Energy-Efficient Scheduling with Individual Delay Constraints over a Fading Channel. , 2007, , .		25

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181	Clustered ML Channel Estimation for Ultra-Wideband Signals. IEEE Transactions on Wireless Communications, 2007, 6, 2412-2416.	9.2	12
182	Sparse Channel Estimation with Zero Tap Detection. IEEE Transactions on Wireless Communications, 2007, 6, 1743-1763.	9.2	130
183	Packet Dropping Algorithms for Energy Savings. , 2006, , .		4
184	Shared Sensing and Communications in Sensor Networks : The Multihop Case. , 2006, , .		3
185	CTH04-4: Capacity Bounds for Training-Based UWB Systems. IEEE Global Telecommunications Conference (GLOBECOM), 2006, , .	0.0	0
186	Power Allocation in Linear and Tree WSN Topologies. , 2006, , .		4
187	Timing Acquisition of Wideband PPM Systems over Multipath. , 2006, , .		1
188	Communication and signal processing in sensor networks. Journal of Communications and Networks, 2005, 7, 397-400.	2.6	0