

Alan S Willsky

List of Publications by Year in descending order

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Version: 2024-02-01

51
papers

5,001
citations

567281

15
h-index

610901

24
g-index

51
all docs

51
docs citations

51
times ranked

2660
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 1 | A survey of design methods for failure detection in dynamic systems. <i>Automatica</i> , 1976, 12, 601-611. | 5.0 | 2,087 |
| 2 | The Convex Geometry of Linear Inverse Problems. <i>Foundations of Computational Mathematics</i> , 2012, 12, 805-849. | 2.5 | 775 |
| 3 | Rank-Sparsity Incoherence for Matrix Decomposition. <i>SIAM Journal on Optimization</i> , 2011, 21, 572-596. | 2.0 | 653 |
| 4 | Optimally robust redundancy relations for failure detection in uncertain systems. <i>Automatica</i> , 1986, 22, 333-344. | 5.0 | 347 |
| 5 | Latent variable graphical model selection via convex optimization. <i>Annals of Statistics</i> , 2012, 40, . | 2.6 | 192 |
| 6 | Describing Visual Scenes Using Transformed Objects and Parts. <i>International Journal of Computer Vision</i> , 2008, 77, 291-330. | 15.6 | 122 |
| 7 | Sequential Compressed Sensing. <i>IEEE Journal on Selected Topics in Signal Processing</i> , 2010, 4, 435-444. | 10.8 | 105 |
| 8 | A generalized likelihood ratio approach to state estimation in linear systems subjects to abrupt changes. , 1974, , . | | 85 |
| 9 | Sparse and low-rank matrix decompositions. , 2009, , . | | 65 |
| 10 | Detection of abrupt changes in dynamic systems. , 1985, , 27-49. | | 58 |
| 11 | Boundary-value descriptor systems: well-posedness, reachability and observability. <i>International Journal of Control</i> , 1987, 46, 1715-1737. | 1.9 | 56 |
| 12 | Multiresolution optimal interpolation and statistical analysis of TOPEX/POSEIDON satellite altimetry. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 1995, 33, 280-292. | 6.3 | 56 |
| 13 | Latent variable graphical model selection via convex optimization. , 2010, , . | | 44 |
| 14 | Two self-test methods applied to an inertial system problem. <i>Journal of Spacecraft and Rockets</i> , 1975, 12, 434-437. | 1.9 | 37 |
| 15 | The Convex algebraic geometry of linear inverse problems. , 2010, , . | | 36 |
| 16 | An Efficient Message-Passing Algorithm for Optimizing Decentralized Detection Networks. <i>IEEE Transactions on Automatic Control</i> , 2010, 55, 563-578. | 5.7 | 32 |
| 17 | Fiber Tract Clustering on Manifolds With Dual Rooted-Graphs. , 2007, , . | | 28 |
| 18 | Computationally Efficient Stochastic Realization for Internal Multiscale Autoregressive Models. <i>Multidimensional Systems and Signal Processing</i> , 2001, 12, 109-142. | 2.6 | 26 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 19 | Estimation in Gaussian Graphical Models Using Tractable Subgraphs: A Walk-Sum Analysis. IEEE Transactions on Signal Processing, 2008, 56, 1916-1930. | 5.3 | 23 |
| 20 | Low-Rank Variance Approximation in GMRF Models: Single and Multiscale Approaches. IEEE Transactions on Signal Processing, 2008, 56, 4621-4634. | 5.3 | 20 |
| 21 | Title is missing!. Multidimensional Systems and Signal Processing, 1997, 8, 151-184. | 2.6 | 17 |
| 22 | Local tests for consistency of support hyperplane data. Journal of Mathematical Imaging and Vision, 1996, 6, 249-267. | 1.3 | 16 |
| 23 | A sequential method for spline approximation with variable knots. International Journal of Systems Science, 1978, 9, 1055-1067. | 5.5 | 15 |
| 24 | Gaussian Multiresolution Models: Exploiting Sparse Markov and Covariance Structure. IEEE Transactions on Signal Processing, 2010, 58, 1012-1024. | 5.3 | 14 |
| 25 | Multiscale Gaussian Graphical Models and Algorithms for Large-Scale Inference. , 2007, , . | | 12 |
| 26 | Sample complexity for topology estimation in networks of LTI systems. , 2011, , . | | 9 |
| 27 | Failure Detection with Uncertain Models. , 1983, , . | | 8 |
| 28 | An Efficient Message-Passing Algorithm for Optimizing Decentralized Detection Networks. , 2006, , . | | 8 |
| 29 | Rejoinder: Latent variable graphical model selection via convex optimization. Annals of Statistics, 2012, 40, . | 2.6 | 7 |
| 30 | Redundancy relations and robust failure detection. , 1985, , 275-293. | | 6 |
| 31 | Construction and applications of discrete-time smoothing error models. International Journal of Control, 1989, 50, 203-223. | 1.9 | 6 |
| 32 | Decentralized Detection in Undirected Network Topologies. , 2007, , . | | 5 |
| 33 | Algebraic approach to time scale analysis of singularly perturbed linear systems. International Journal of Control, 1988, 47, 281-308. | 1.9 | 4 |
| 34 | Decentralized detection with long-distance communication. , 2008, , . | | 4 |
| 35 | Sampling From Gaussian Markov Random Fields Using Stationary and Non-Stationary Subgraph Perturbations. IEEE Transactions on Signal Processing, 2015, 63, 576-589. | 5.3 | 4 |
| 36 | Sampling from Gaussian graphical models using subgraph perturbations. , 2013, , . | | 3 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 37 | Estimation and detection of signals in multiplicative noise. , 1974, , . | | 2 |
| 38 | Estimation and control for a sensor moving along a one-dimensional track. International Journal of Control, 1980, 31, 1147-1159. | 1.9 | 2 |
| 39 | Linear estimation of boundary value processes. , 1983, , . | | 2 |
| 40 | Maximum Entropy Relaxation for Graphical Model Selection Given Inconsistent Statistics. , 2007, , . | | 2 |
| 41 | Maximum entropy relaxation for multiscale graphical model selection. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , . | 1.8 | 2 |
| 42 | Tree-structured statistical modeling via convex optimization. , 2011, , . | | 2 |
| 43 | Diagonal and low-rank decompositions and fitting ellipsoids to random points. , 2013, , . | | 2 |
| 44 | The use of spherical harmonics in suboptimal estimator design. , 1976, , . | | 1 |
| 45 | Recursive FMP for distributed inference in Gaussian graphical models. , 2013, , . | | 1 |
| 46 | Some modeling and estimation problems involving space-time stochastic processes. , 1976, , . | | 0 |
| 47 | The use of group-theoretic concepts in solving problems in estimation and control. , 1976, , . | | 0 |
| 48 | Kalman estimation for a class of rational isotropic random fields. , 1985, , . | | 0 |
| 49 | Asymptotic orders of reachability in perturbed linear systems. , 1987, , . | | 0 |
| 50 | Reachability, observability, minimality, and extendibility for two-point boundary-value descriptor systems. International Journal of Control, 1991, 54, 635-663. | 1.9 | 0 |
| 51 | Message quantization in belief propagation: Structural results in the low-rate regime. , 2009, , . | | 0 |