Helmut Boelcskei

List of Publications by Year
in descending order

47 papers	2,985 citations	331538 21 h-index	276775 41 g-index
48 all docs	48 docs citations	48 times ranked	2445 citing authors

#	Article	IF	Citations
1	Block-Sparse Signals: Uncertainty Relations and Efficient Recovery. IEEE Transactions on Signal Processing, 2010, 58, 3042-3054.	3.2	1,009
2	Soft-output sphere decoding: algorithms and VLSI implementation. IEEE Journal on Selected Areas in Communications, 2008, 26, 290-300.	9.7	297
3	A Mathematical Theory of Deep Convolutional Neural Networks for Feature Extraction. IEEE Transactions on Information Theory, 2018, 64, 1845-1866.	1.5	212
4	Soft–Input Soft–Output Single Tree-Search Sphere Decoding. IEEE Transactions on Information Theory, 2010, 56, 4827-4842.	1.5	172
5	Recovery of Sparsely Corrupted Signals. IEEE Transactions on Information Theory, 2012, 58, 3115-3130.	1.5	167
6	Optimal Approximation with Sparsely Connected Deep Neural Networks. SIAM Journal on Mathematics of Data Science, 2019, 1, 8-45.	1.0	129
7	Robust Subspace Clustering via Thresholding. IEEE Transactions on Information Theory, 2015, 61, 6320-6342.	1.5	100
8	Ultrawideband Channel Modeling on the Basis of Information-Theoretic Criteria. IEEE Transactions on Wireless Communications, 2007, 6, 2464-2475.	6.1	95
9	Crystallization in Large Wireless Networks. IEEE Transactions on Information Theory, 2007, 53, 3319-3349.	1.5	82
10	On the Sensitivity of Continuous-Time Noncoherent Fading Channel Capacity. IEEE Transactions on Information Theory, 2012, 58, 6372-6391.	1.5	78
11	Time-Frequency Foundations of Communications: Concepts and Tools. IEEE Signal Processing Magazine, 2013, 30, 87-96.	4.6	71
12	Deep Neural Network Approximation Theory. IEEE Transactions on Information Theory, 2021, 67, 2581-2623.	1.5	67
13	Orthogonalization of OFDM/OQAM pulse shaping filters using the discrete Zak transform. Signal Processing, 2003, 83, 1379-1391.	2.1	44
14	On the Complexity Distribution of Sphere Decoding. IEEE Transactions on Information Theory, 2011, 57, 5754-5768.	1.5	40
15	Gabor frames, unimodularity, and window decay. Journal of Fourier Analysis and Applications, 2000, 6, 255-276.	0.5	38
16	Capacity Pre-Log of Noncoherent SIMO Channels Via Hironaka's Theorem. IEEE Transactions on Information Theory, 2013, 59, 4213-4229.	1.5	31
17	Uncertainty Relations and Sparse Signal Recovery for Pairs of General Signal Sets. IEEE Transactions on Information Theory, 2012, 58, 263-277.	1.5	30
18	Identification of Sparse Linear Operators. IEEE Transactions on Information Theory, 2013, 59, 7985-8000.	1.5	30

#	Article	IF	Citations
19	Performance and Complexity Analysis of Infinity-Norm Sphere-Decoding. IEEE Transactions on Information Theory, 2010, 56, 1085-1105.	1.5	27
20	Dimensionality-reduced subspace clustering. Information and Inference, 2017, 6, 246-283.	0.9	25
21	Algorithms for Interpolation-Based QR Decomposition in MIMO-OFDM Systems. IEEE Transactions on Signal Processing, 2011, 59, 1719-1733.	3.2	22
22	Vandermonde matrices with nodes in the unit disk and the large sieve. Applied and Computational Harmonic Analysis, 2019, 47, 53-86.	1.1	20
23	A necessary and sufficient condition for dual Weyl-Heisenberg frames to be compactly supported. Journal of Fourier Analysis and Applications, 1999, 5, 409-419.	0.5	19
24	QR Decomposition of Laurent Polynomial Matrices Sampled on the Unit Circle. IEEE Transactions on Information Theory, 2010, 56, 4754-4761.	1.5	17
25	Noisy Subspace Clustering via Matching Pursuits. IEEE Transactions on Information Theory, 2018, 64, 4081-4104.	1.5	16
26	A Theory of Super-Resolution from Short-Time Fourier Transform Measurements. Journal of Fourier Analysis and Applications, 2018, 24, 45-107.	0.5	14
27	Information-Theoretic Analysis of MIMO Channel Sounding. IEEE Transactions on Information Theory, 2011, 57, 7555-7577.	1.5	13
28	Degrees of Freedom in Vector Interference Channels. IEEE Transactions on Information Theory, 2016, 62, 4172-4197.	1.5	13
29	Deep convolutional neural networks based on semi-discrete frames. , 2015, , .		12
30	Information-theoretic limits of matrix completion. , 2015, , .		12
31	Energy Propagation in Deep Convolutional Neural Networks. IEEE Transactions on Information Theory, 2018, 64, 4819-4842.	1.5	10
32	Capacity bounds for peak-constrained multiantenna wideband channels. IEEE Transactions on Communications, 2009, 57, 2686-2696.	4.9	9
33	Deep convolutional neural networks on cartoon functions. , 2016, , .		8
34	Almost Lossless Analog Signal Separation and Probabilistic Uncertainty Relations. IEEE Transactions on Information Theory, 2017, 63, 5445-5460.	1.5	8
35	Lossless Analog Compression. IEEE Transactions on Information Theory, 2019, 65, 7480-7513.	1.5	8
36	Diversity-Multiplexing Tradeoff in Two-User Fading Interference Channels. IEEE Transactions on Information Theory, 2012, 58, 4462-4480.	1.5	7

#	Article	IF	Citations
37	Sparse signal recovery from sparsely corrupted measurements. , 2011, , .		6
38	Title is missing!. Wireless Personal Communications, 2002, 23, 31-44.	1.8	5
39	Compressive identification of linear operators. , 2011, , .		5
40	Characterizing Degrees of Freedom Through Additive Combinatorics. IEEE Transactions on Information Theory, 2016, 62, 6423-6435.	1.5	3
41	Robust Nonparametric Nearest Neighbor Random Process Clustering. IEEE Transactions on Signal Processing, 2017, 65, 6009-6023.	3.2	3
42	Affine symmetries and neural network identifiability. Advances in Mathematics, 2021, 376, 107485.	0.5	3
43	Neural Network Identifiability for a Family of Sigmoidal Nonlinearities. Constructive Approximation, 2022, 55, 173-224.	1.8	3
44	Lossless linear analog compression. , 2016, , .		2
45	Canonical Conditions for $K/2$ Degrees of Freedom. IEEE Transactions on Information Theory, 2022, 68, 1716-1730.	1.5	1
46	High-dimensional distribution generation through deep neural networks. SN Partial Differential Equations and Applications, 2021, 2, 1.	0.3	1
47	Metric entropy limits on recurrent neural network learning of linear dynamical systems. Applied and Computational Harmonic Analysis, 2021, , .	1.1	1