

Thierry Blu

List of Publications by Year in descending order

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159
papers

9,524
citations

66234

42
h-index

51492

86
g-index

160
all docs

160
docs citations

160
times ranked

6531
citing authors

#	ARTICLE	IF	CITATIONS
1	A Nonlinear Steerable Complex Wavelet Decomposition of Images. , 2022, , .		1
2	LAPNet: Non-Rigid Registration Derived in k -Space for Magnetic Resonance Imaging. IEEE Transactions on Medical Imaging, 2021, 40, 3686-3697.	5.4	19
3	Exploring the Geometry of One-Dimensional Signals. IEEE Transactions on Signal Processing, 2021, 69, 5299-5312.	3.2	4
4	Diffusion SLAM: Localising diffusion sources from samples taken by location-unaware mobile sensors. IEEE Transactions on Signal Processing, 2021, , 1-1.	3.2	1
5	Generic FRI-Based DOA Estimation: A Model-Fitting Method. IEEE Transactions on Signal Processing, 2021, 69, 4102-4115.	3.2	10
6	Localising Diffusion Sources from Samples Taken Along Unknown Parametric Trajectories. , 2021, , .		0
7	D-SLAM: Diffusion Source Localization and Trajectory Mapping. , 2020, , .		2
8	Quantitative T1 ρ -MRI of the Head and Neck Discriminates Carcinoma and Benign Hyperplasia in the Nasopharynx. American Journal of Neuroradiology, 2020, 41, 2339-2344.	1.2	6
9	FRI Sensing: Retrieving the Trajectory of a Mobile Sensor From Its Temporal Samples. IEEE Transactions on Signal Processing, 2020, 68, 5533-5545.	3.2	13
10	All-Pass Parametric Image Registration. IEEE Transactions on Image Processing, 2020, 29, 5625-5640.	6.0	8
11	On The Degrees Of Freedom in Total Variation Minimization. , 2020, , .		1
12	The Fourier-Argand Representation: An Optimal Basis of Steerable Patterns. IEEE Transactions on Image Processing, 2020, , 1-1.	6.0	7
13	Real-time terahertz imaging with a single-pixel detector. Nature Communications, 2020, 11, 2535.	5.8	225
14	Probing chemical exchange using quantitative spin ρ asymmetry imaging with adiabatic RF pulses. Magnetic Resonance in Medicine, 2019, 82, 1767-1781.	1.9	6
15	Detecting Curves in Very Noisy Images Using Fourier-Argand Moments. , 2019, , .		1
16	An Iterative Sure-Let Deconvolution Algorithm Based on BM3D Denoiser. , 2019, , .		2
17	FRI Sensing: Sampling Images along Unknown Curves. , 2019, , .		7
18	Parametric Registration for Mobile Phone Images. , 2019, , .		1

#	ARTICLE	IF	CITATIONS
19	Towards real-time THz imaging with single-pixel detectors. , 2019, , .		0
20	Lap-Based Video Frame Interpolation. , 2019, , .		5
21	PURE-LET Image Deconvolution. IEEE Transactions on Image Processing, 2018, 27, 92-105.	6.0	46
22	Local All-Pass Geometric Deformations. IEEE Transactions on Image Processing, 2018, 27, 1010-1025.	6.0	18
23	A Novel Gcv-Based Criterion for Parameter Selection In Image Deconvolution. , 2018, , .		0
24	Time-Varying Delay Estimation Using Common Local All-Pass Filters with Application to Surface Electromyography. , 2018, , .		1
25	Accurate 3D PSF estimation from a wide-field microscopy image. , 2018, , .		1
26	Total Internal Reflection THz Devices for High Speed Imaging. , 2018, , .		1
27	Efficient Multidimensional Diracs Estimation With Linear Sample Complexity. IEEE Transactions on Signal Processing, 2018, 66, 4642-4656.	3.2	5
28	On-the-fly estimation of a microscopy point spread function. Optics Express, 2018, 26, 26120.	1.7	14
29	Towards Generalized FRI Sampling With an Application to Source Resolution in Radioastronomy. IEEE Transactions on Signal Processing, 2017, 65, 821-835.	3.2	67
30	MR-based respiratory and cardiac motion correction for PET imaging. Medical Image Analysis, 2017, 42, 129-144.	7.0	64
31	Pure-let deconvolution of 3D fluorescence microscopy images. , 2017, , .		6
32	FRI sampling and time-varying pulses: Some theory and four short stories. , 2017, , .		5
33	Gaussian blur estimation for photon-limited images. , 2017, , .		2
34	LEAP: Looking beyond pixels with continuous-space EstimAtion of Point sources. Astronomy and Astrophysics, 2017, 608, A136.	2.1	11
35	3D motion flow estimation using local all-pass filters. , 2016, , .		9
36	Finding the minimum rate of innovation in the presence of noise. , 2016, , .		10

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37	Deconvolution of poissonian images with the PURE-LET approach. , 2016, , .		5
38	Annihilation-driven localised image edge models. , 2015, , .		0
39	A multi-frame optical flow spot tracker. , 2015, , .		3
40	Image denoising in multiplicative noise. , 2015, , .		3
41	Approximationorder of the lap optical flow algorithm. , 2015, , .		4
42	Local All-Pass filters for optical flow estimation. , 2015, , .		16
43	Reconstruction of Finite Rate of Innovation Signals with Model-Fitting Approach. IEEE Transactions on Signal Processing, 2015, 63, 6024-6036.	3.2	23
44	An unbiased risk estimator for multiplicative noise — Application to 1-D signal denoising. , 2014, , .		1
45	Fitting instead of annihilation: Improved recovery of noisy FRI signals. , 2014, , .		16
46	Sampling Curves With Finite Rate of Innovation. IEEE Transactions on Signal Processing, 2014, 62, 458-471.	3.2	113
47	Finite-Rate-of-Innovation for the Inverse Source Problem of Radiating Fields. Sampling Theory in Signal and Information Processing, 2014, 13, 271-294.	0.2	2
48	Multi-Wiener SURE-LET Deconvolution. IEEE Transactions on Image Processing, 2013, 22, 1954-1968.	6.0	64
49	An Iterative Linear Expansion of Thresholds for ℓ_1 -Based Image Restoration. IEEE Transactions on Image Processing, 2013, 22, 3715-3728.	6.0	22
50	Discretization of continuous convolution operators for accurate modeling of wave propagation in digital holography. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2013, 30, 2012.	0.8	17
51	Analytic sensing for multi-layer spherical models with application to EEG source imaging. Inverse Problems and Imaging, 2013, 7, 1251-1270.	0.6	2
52	FRI Sampling With Arbitrary Kernels. IEEE Transactions on Signal Processing, 2013, 61, 5310-5323.	3.2	133
53	Eigensensing and deconvolution for the reconstruction of heat absorption profiles from photoacoustic tomography data. , 2013, , .		0
54	A new non-redundant complex Hilbert wavelet transforms. , 2012, , .		2

#	ARTICLE	IF	CITATIONS
55	Single antenna power measurements based direction finding with incomplete spatial coverage. , 2012, , .		2
56	SURE-LET image deconvolution using multiple Wiener filters. , 2012, , .		4
57	Sure-based blind Gaussian deconvolution. , 2012, , .		7
58	A CURE for Noisy Magnetic Resonance Images: Chi-Square Unbiased Risk Estimation. IEEE Transactions on Image Processing, 2012, 21, 3454-3466.	6.0	35
59	Generalized interpolation for motion compensated prediction. , 2011, , .		3
60	Localization of point sources for systems governed by the wave equation. , 2011, , .		5
61	Image Denoising in Mixed Poisson-Gaussian Noise. IEEE Transactions on Image Processing, 2011, 20, 696-708.	6.0	354
62	Azimuth-elevation direction finding using power measurements from single antenna. , 2011, , .		2
63	Terahertz pulsed imaging in vivo: measurements and processing methods. Journal of Biomedical Optics, 2011, 16, 106010.	1.4	47
64	Sparse image restoration using iterated linear expansion of thresholds. , 2011, , .		3
65	Single Antenna Power Measurements Based Direction Finding. IEEE Transactions on Signal Processing, 2010, 58, 5682-5692.	3.2	20
66	Fast interscale wavelet denoising of Poisson-corrupted images. Signal Processing, 2010, 90, 415-427.	2.1	191
67	Low-bond axisymmetric drop shape analysis for surface tension and contact angle measurements of sessile drops. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2010, 364, 72-81.	2.3	546
68	Undecimated haar thresholding for poisson intensity estimation. , 2010, , .		5
69	Generalized YUV interpolation of CFA images. , 2010, , .		3
70	Analytical Footprints: Compact Representation of Elementary Singularities in Wavelet Bases. IEEE Transactions on Signal Processing, 2010, 58, 6105-6118.	3.2	7
71	Sampling Piecewise Sinusoidal Signals With Finite Rate of Innovation Methods. IEEE Transactions on Signal Processing, 2010, 58, 613-625.	3.2	176
72	SURE-MSE speech enhancement for robust speech recognition. , 2010, , .		7

#	ARTICLE	IF	CITATIONS
73	SURE-LET for Orthonormal Wavelet-Domain Video Denoising. IEEE Transactions on Circuits and Systems for Video Technology, 2010, 20, 913-919.	5.6	62
74	A bulk modulus dependent linear model for acoustical imaging. Journal of the Acoustical Society of America, 2009, 125, 2413-2419.	0.5	15
75	Fast Haar-wavelet denoising of multidimensional fluorescence microscopy data. , 2009, , .		17
76	Analytic Sensing: Noniterative Retrieval of Point Sources from Boundary Measurements. SIAM Journal of Scientific Computing, 2009, 31, 3179-3194.	1.3	16
77	Image Interpolation and Resampling. , 2009, , 465-493.		12
78	Shift-invariant spaces from rotation-covariant functions. Applied and Computational Harmonic Analysis, 2008, 25, 240-265.	1.1	16
79	Nonideal Sampling and Regularization Theory. IEEE Transactions on Signal Processing, 2008, 56, 1055-1070.	3.2	30
80	Sparse Sampling of Signal Innovations. IEEE Signal Processing Magazine, 2008, 25, 31-40.	4.6	337
81	SURE-LET Multichannel Image Denoising: Interscale Orthonormal Wavelet Thresholding. IEEE Transactions on Image Processing, 2008, 17, 482-492.	6.0	119
82	SURE-LET multichannel image denoising: undecimated wavelet thresholding. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	1
83	Fast Computation of Polyharmonic B-Spline Autocorrelation Filters. IEEE Signal Processing Letters, 2008, 15, 773-776.	2.1	2
84	Blind optimization of algorithm parameters for signal denoising by Monte-Carlo SURE. Proceedings of the IEEE International Conference on Acoustics, Speech, and Signal Processing, 2008, , .	1.8	7
85	Monte-Carlo Sure: A Black-Box Optimization of Regularization Parameters for General Denoising Algorithms. IEEE Transactions on Image Processing, 2008, 17, 1540-1554.	6.0	275
86	Multiframe sure-let denoising of timelapse fluorescence microscopy images. , 2008, , .		25
87	Short basis functions for constant-variance interpolation. , 2008, , .		0
88	NON-ITERATIVE EXACT SIGNAL RECOVERY IN FREQUENCY DOMAIN OPTICAL COHERENCE TOMOGRAPHY. , 2007, , .		4
89	Image Denoising by Pointwise Thresholding of the Undecimated Wavelet Coefficients: A Global Sure Optimum. , 2007, , .		4
90	A New Technique for High-Resolution Frequency Domain Optical Coherence Tomography. , 2007, , .		2

#	ARTICLE	IF	CITATIONS
91	SURE-LET interscale-intercolor wavelet thresholding for color image denoising. Proceedings of SPIE, 2007, , .	0.8	0
92	Construction of wavelet bases that mimic the behaviour of some given operator. , 2007, , .		2
93	Wavelet-based multi-resolution statistics for optical imaging signals: Application to automated detection of odour activated glomeruli in the mouse olfactory bulb. NeuroImage, 2007, 34, 1020-1035.	2.1	31
94	WSPM: Wavelet-based statistical parametric mapping. NeuroImage, 2007, 37, 1205-1217.	2.1	37
95	Sampling Moments and Reconstructing Signals of Finite Rate of Innovation: Shannon Meets Strangâ€™Fix. IEEE Transactions on Signal Processing, 2007, 55, 1741-1757.	3.2	323
96	Generalized Daubechies Wavelet Families. IEEE Transactions on Signal Processing, 2007, 55, 4415-4429.	3.2	159
97	The SURE-LET Approach to Image Denoising. IEEE Transactions on Image Processing, 2007, 16, 2778-2786.	6.0	301
98	Self-Similarity: Part Iâ€™Splines and Operators. IEEE Transactions on Signal Processing, 2007, 55, 1352-1363.	3.2	42
99	Self-Similarity: Part IIâ€™Optimal Estimation of Fractal Processes. IEEE Transactions on Signal Processing, 2007, 55, 1364-1378.	3.2	37
100	A New SURE Approach to Image Denoising: Interscale Orthonormal Wavelet Thresholding. IEEE Transactions on Image Processing, 2007, 16, 593-606.	6.0	507
101	3-D shape estimation of DNA molecules from stereo cryo-electron micro-graphs using a projection-steerable snake. IEEE Transactions on Image Processing, 2006, 15, 214-227.	6.0	14
102	Complex B-splines. Applied and Computational Harmonic Analysis, 2006, 20, 261-282.	1.1	31
103	Surfing the brain. IEEE Engineering in Medicine and Biology Magazine, 2006, 25, 65-78.	1.1	30
104	Sampling and exact reconstruction of bandlimited signals with additive shot noise. IEEE Transactions on Information Theory, 2006, 52, 2230-2233.	1.5	29
105	Sure-Based Wavelet Thresholding Integrating Inter-Scale Dependencies. , 2006, , .		5
106	Exact Local Reconstruction Algorithms for Signals with Finite Rate of Innovation. , 2006, , .		0
107	Semi-orthogonal wavelets that behave like fractional differentiators. , 2005, , .		1
108	On the multidimensional extension of the quincunx subsampling matrix. IEEE Signal Processing Letters, 2005, 12, 112-115.	2.1	24

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109	Generalized L-spline wavelet bases. , 2005, , .		10
110	Compression of ECG as a Signal with Finite Rate of Innovation. , 2005, 2005, 7564-7.		4
111	Isotropic polyharmonic B-splines: scaling functions and wavelets. IEEE Transactions on Image Processing, 2005, 14, 1798-1813.	6.0	95
112	Cardinal exponential splines: part I - theory and filtering algorithms. IEEE Transactions on Signal Processing, 2005, 53, 1425-1438.	3.2	185
113	Generalized smoothing splines and the optimal discretization of the Wiener filter. IEEE Transactions on Signal Processing, 2005, 53, 2146-2159.	3.2	53
114	Robust real-time segmentation of images and videos using a smooth-spline snake-based algorithm. IEEE Transactions on Image Processing, 2005, 14, 910-924.	6.0	46
115	Linear Interpolation Revitalized. IEEE Transactions on Image Processing, 2004, 13, 710-719.	6.0	262
116	Efficient Energies and Algorithms for Parametric Snakes. IEEE Transactions on Image Processing, 2004, 13, 1231-1244.	6.0	164
117	Complex-wave retrieval from a single off-axis hologram. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2004, 21, 367.	0.8	177
118	Hex-Splines: A Novel Spline Family for Hexagonal Lattices. IEEE Transactions on Image Processing, 2004, 13, 758-772.	6.0	69
119	Integrated wavelet processing and spatial statistical testing of fMRI data. NeuroImage, 2004, 23, 1472-1485.	2.1	67
120	Wavelet theory demystified. IEEE Transactions on Signal Processing, 2003, 51, 470-483.	3.2	145
121	Mathematical properties of the jpeg2000 wavelet filters. IEEE Transactions on Image Processing, 2003, 12, 1080-1090.	6.0	132
122	Fresnelets: new multiresolution wavelet bases for digital holography. IEEE Transactions on Image Processing, 2003, 12, 29-43.	6.0	146
123	Non-linear Fresnelet approximation for interference term suppression in digital holography. , 2003, , .		13
124	Complete parameterization of piecewise-polynomial interpolation kernels. IEEE Transactions on Image Processing, 2003, 12, 1297-1309.	6.0	29
125	Multiwavelet-like bases for high-quality image interpolation. , 2003, 5207, 153.		5
126	Wavelets versus resels in the context of fMRI: establishing the link with SPM. , 2003, , .		6

#	ARTICLE	IF	CITATIONS
127	Local amplitude and phase retrieval method for digital holography applied to microscopy. , 2003, 5143, 210.		4
128	A new family of complex rotation-covariant multiresolution bases in 2D. , 2003, , .		4
129	Fractional wavelets, derivatives, and Besov spaces. , 2003, , .		1
130	Harmonic spline series representation of scaling functions. , 2003, , .		1
131	<i>p</i> -multiresolution analysis: how to reduce ringing and sparsify the error. IEEE Transactions on Image Processing, 2002, 11, 656-669.	6.0	4
132	Sampling signals with finite rate of innovation. IEEE Transactions on Signal Processing, 2002, 50, 1417-1428.	3.2	847
133	Generalized sampling: a variational approach .II. Applications. IEEE Transactions on Signal Processing, 2002, 50, 1977-1985.	3.2	24
134	Generalized sampling: a variational approach .I. Theory. IEEE Transactions on Signal Processing, 2002, 50, 1965-1976.	3.2	47
135	Wavelets, fractals, and radial basis functions. IEEE Transactions on Signal Processing, 2002, 50, 543-553.	3.2	50
136	Sampling of periodic signals: a quantitative error analysis. IEEE Transactions on Signal Processing, 2002, 50, 1153-1159.	3.2	28
137	An exact method for computing the area moments of wavelet and spline curves. IEEE Transactions on Pattern Analysis and Machine Intelligence, 2001, 23, 633-642.	9.7	27
138	Least-squares image resizing using finite differences. IEEE Transactions on Image Processing, 2001, 10, 1365-1378.	6.0	93
139	<title>Fresnelets: a new wavelet basis for digital holography</title>. , 2001, , .		3
140	<title>Variational approach to tomographic reconstruction</title>. , 2001, 4322, 30.		6
141	<title>Unifying approach and interface for spline-based snakes</title>. , 2001, , .		14
142	<title>Why restrict ourselves to compactly supported basis functions?</title>. , 2001, 4478, 311.		0
143	MOMS: maximal-order interpolation of minimal support. IEEE Transactions on Image Processing, 2001, 10, 1069-1080.	6.0	158
144	Optimizing wavelets for the analysis of fMRI data. , 2000, , .		2

#	ARTICLE	IF	CITATIONS
145	Wavelets and radial basis functions: a unifying perspective. , 2000, 4119, 487.		2
146	Non-Euclidean pyramids. , 2000, 4119, 710.		1
147	Interpolation revisited [medical images application]. IEEE Transactions on Medical Imaging, 2000, 19, 739-758.	5.4	725
148	Image Interpolation and Resampling. , 2000, , 393-420.		234
149	Fractional Splines and Wavelets. SIAM Review, 2000, 42, 43-67.	4.2	322
150	<title>Construction of fractional spline wavelet bases</title>. , 1999, , .		13
151	Approximation Error for Quasi-Interpolators and (Multi-)Wavelet Expansions. Applied and Computational Harmonic Analysis, 1999, 6, 219-251.	1.1	90
152	<title>Theoretical analysis of the projection error onto discrete wavelet subspaces</title>. , 1999, 3813, 273.		0
153	Quantitative Fourier analysis of approximation techniques. I. Interpolators and projectors. IEEE Transactions on Signal Processing, 1999, 47, 2783-2795.	3.2	149
154	<title>Statistical analysis of fMRI data using orthogonal filterbanks</title>. , 1999, , .		6
155	A new design algorithm for two-band orthonormal rational filter banks and orthonormal rational wavelets. IEEE Transactions on Signal Processing, 1998, 46, 1494-1504.	3.2	55
156	<title>Comparison of wavelets from the point of view of their approximation error</title>. , 1998, , .		0
157	Iterated filter banks with rational rate changes connection with discrete wavelet transforms. IEEE Transactions on Signal Processing, 1993, 41, 3232-3244.	3.2	47
158	Generalized Daubechies Wavelets. , 0, , .		3
159	Exact Sampling Results for Signals with Finite Rate of Innovation using Strang-Fix Conditions and Local Kernels. , 0, , .		16