

Jean-Philippe Thiran

List of Publications by Year in descending order

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147
papers

11,647
citations

43973

48
h-index

31759

101
g-index

155
all docs

155
docs citations

155
times ranked

12889
citing authors

#	ARTICLE	IF	CITATIONS
1	The challenge of mapping the human connectome based on diffusion tractography. Nature Communications, 2017, 8, 1349.	5.8	956
2	Fast Global Minimization of the Active Contour/Snake Model. Journal of Mathematical Imaging and Vision, 2007, 28, 151-167.	0.8	763
3	Mapping Human Whole-Brain Structural Networks with Diffusion MRI. PLoS ONE, 2007, 2, e597.	1.1	707
4	Understanding Diffusion MR Imaging Techniques: From Scalar Diffusion-weighted Imaging to Diffusion Tensor Imaging and Beyond. Radiographics, 2006, 26, S205-S223.	1.4	618
5	Resting-brain functional connectivity predicted by analytic measures of network communication. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 833-838.	3.3	530
6	A Surface-Based Approach to Quantify Local Cortical Gyrification. IEEE Transactions on Medical Imaging, 2008, 27, 161-170.	5.4	470
7	Accelerated Microstructure Imaging via Convex Optimization (AMICO) from diffusion MRI data. NeuroImage, 2015, 105, 32-44.	2.1	377
8	Distinct Pathways Involved in Sound Recognition and Localization: A Human fMRI Study. NeuroImage, 2001, 14, 802-816.	2.1	367
9	Comparison and validation of tissue modelization and statistical classification methods in T1-weighted MR brain images. IEEE Transactions on Medical Imaging, 2005, 24, 1548-1565.	5.4	335
10	Structural connectomics in brain diseases. NeuroImage, 2013, 80, 515-526.	2.1	286
11	Generative models of the human connectome. NeuroImage, 2016, 124, 1054-1064.	2.1	259
12	MR connectomics: Principles and challenges. Journal of Neuroscience Methods, 2010, 194, 34-45.	1.3	251
13	The Connectome Mapper: An Open-Source Processing Pipeline to Map Connectomes with MRI. PLoS ONE, 2012, 7, e48121.	1.1	248
14	Limits to anatomical accuracy of diffusion tractography using modern approaches. NeuroImage, 2019, 185, 1-11.	2.1	200
15	What and Where in human audition: selective deficits following focal hemispheric lesions. Experimental Brain Research, 2002, 147, 8-15.	0.7	195
16	COMMIT: Convex Optimization Modeling for Microstructure Informed Tractography. IEEE Transactions on Medical Imaging, 2015, 34, 246-257.	5.4	188
17	Atlas-Based Segmentation of Pathological MR Brain Images Using a Model of Lesion Growth. IEEE Transactions on Medical Imaging, 2004, 23, 1301-1314.	5.4	172
18	Structural Brain Connectivity in School-Age Preterm Infants Provides Evidence for Impaired Networks Relevant for Higher Order Cognitive Skills and Social Cognition. Cerebral Cortex, 2015, 25, 2793-2805.	1.6	169

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19	Quantitative Comparison of Reconstruction Methods for Intra-Voxel Fiber Recovery From Diffusion MRI. IEEE Transactions on Medical Imaging, 2014, 33, 384-399.	5.4	145
20	A Variational Model for Object Segmentation Using Boundary Information and Shape Prior Driven by the Mumford-Shah Functional. International Journal of Computer Vision, 2006, 68, 145-162.	10.9	118
21	Localization of electrodes in the subthalamic nucleus on magnetic resonance imaging. Journal of Neurosurgery, 2007, 106, 36-44.	0.9	116
22	Structural and Resting State Functional Connectivity of the Subthalamic Nucleus: Identification of Motor STN Parts and the Hyperdirect Pathway. PLoS ONE, 2012, 7, e39061.	1.1	114
23	Deviant trajectories of cortical maturation in 22q11.2 deletion syndrome (22q11DS): A cross-sectional and longitudinal study. Schizophrenia Research, 2009, 115, 182-190.	1.1	112
24	An efficient total variation algorithm for super-resolution in fetal brain MRI with adaptive regularization. NeuroImage, 2015, 118, 584-597.	2.1	107
25	Scale Invariant Feature Transform on the Sphere: Theory and Applications. International Journal of Computer Vision, 2012, 98, 217-241.	10.9	105
26	Multi-scale community organization of the human structural connectome and its relationship with resting-state functional connectivity. Network Science, 2013, 1, 353-373.	0.8	104
27	Microstructure Informed Tractography: Pitfalls and Open Challenges. Frontiers in Neuroscience, 2016, 10, 247.	1.4	96
28	The Connectome Viewer Toolkit: An Open Source Framework to Manage, Analyze, and Visualize Connectomes. Frontiers in Neuroinformatics, 2011, 5, 3.	1.3	95
29	How to Measure Cortical Folding from MR Images: a Step-by-Step Tutorial to Compute Local Gyrfication Index. Journal of Visualized Experiments, 2012, , e3417.	0.2	95
30	Tractography dissection variability: What happens when 42 groups dissect 14 white matter bundles on the same dataset?. NeuroImage, 2021, 243, 118502.	2.1	94
31	Hand preference and sex shape the architecture of language networks. Human Brain Mapping, 2006, 27, 828-835.	1.9	86
32	White matter fiber tract segmentation in DT-MRI using geometric flows. Medical Image Analysis, 2005, 9, 223-236.	7.0	71
33	Accelerated T ₂ mapping combining parallel MRI and model-based reconstruction: GRAPPATINI. Journal of Magnetic Resonance Imaging, 2018, 48, 359-368.	1.9	71
34	Efficient Algorithm for Level Set Method Preserving Distance Function. IEEE Transactions on Image Processing, 2012, 21, 4722-4734.	6.0	70
35	Characterizing the connectome in schizophrenia with diffusion spectrum imaging. Human Brain Mapping, 2015, 36, 354-366.	1.9	70
36	Graph theory reveals disconnected hubs in 22q11DS and altered nodal efficiency in patients with hallucinations. Frontiers in Human Neuroscience, 2013, 7, 402.	1.0	67

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37	Advanced MRI unravels the nature of tissue alterations in early multiple sclerosis. <i>Annals of Clinical and Translational Neurology</i> , 2014, 1, 423-432.	1.7	67
38	Comparing connectomes across subjects and populations at different scales. <i>NeuroImage</i> , 2013, 80, 416-425.	2.1	65
39	Transient networks of spatio-temporal connectivity map communication pathways in brain functional systems. <i>NeuroImage</i> , 2017, 155, 490-502.	2.1	65
40	Automated detection of white matter and cortical lesions in early stages of multiple sclerosis. <i>Journal of Magnetic Resonance Imaging</i> , 2016, 43, 1445-1454.	1.9	64
41	Kernel Low-Rank and Sparse Graph for Unsupervised and Semi-Supervised Classification of Hyperspectral Images. <i>IEEE Transactions on Geoscience and Remote Sensing</i> , 2016, 54, 3410-3420.	2.7	64
42	A new method for accurate in vivo mapping of human brain connections using microstructural and anatomical information. <i>Science Advances</i> , 2020, 6, eaba8245.	4.7	64
43	A level set method for segmentation of the thalamus and its nuclei in DT-MRI. <i>Signal Processing</i> , 2007, 87, 309-321.	2.1	62
44	Scalable splitting algorithms for big-data interferometric imaging in the SKA era. <i>Monthly Notices of the Royal Astronomical Society</i> , 2016, 462, 4314-4335.	1.6	61
45	Sparsity Averaging for Compressive Imaging. <i>IEEE Signal Processing Letters</i> , 2013, 20, 591-594.	2.1	60
46	Connectivity and tissue microstructural alterations in right and left temporal lobe epilepsy revealed by diffusion spectrum imaging. <i>NeuroImage: Clinical</i> , 2014, 5, 349-358.	1.4	59
47	Congenital heart disease affects local gyrification in 22q11.2 deletion syndrome. <i>Developmental Medicine and Child Neurology</i> , 2009, 51, 746-753.	1.1	58
48	Robust thalamic nuclei segmentation method based on local diffusion magnetic resonance properties. <i>Brain Structure and Function</i> , 2017, 222, 2203-2216.	1.2	58
49	Scale Space Analysis and Active Contours for Omnidirectional Images. <i>IEEE Transactions on Image Processing</i> , 2007, 16, 1888-1901.	6.0	57
50	Sound recognition and localization in man: specialized cortical networks and effects of acute circumscribed lesions. <i>Experimental Brain Research</i> , 2003, 153, 591-604.	0.7	56
51	Brain network characterization of high-risk preterm-born school-age children. <i>NeuroImage: Clinical</i> , 2016, 11, 195-209.	1.4	55
52	Multiple sclerosis cortical and WM lesion segmentation at 3T MRI: a deep learning method based on FLAIR and MP2RAGE. <i>NeuroImage: Clinical</i> , 2020, 27, 102335.	1.4	54
53	On Dynamic Stream Weighting for Audio-Visual Speech Recognition. <i>IEEE Transactions on Audio Speech and Language Processing</i> , 2012, 20, 1145-1157.	3.8	52
54	On the cortical connectivity in the macaque brain: A comparison of diffusion tractography and histological tracing data. <i>NeuroImage</i> , 2020, 221, 117201.	2.1	52

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55	Fast texture segmentation model based on the shape operator and active contour. , 2008, , .		51
56	Information Theoretic Feature Extraction for Audio-Visual Speech Recognition. IEEE Transactions on Signal Processing, 2009, 57, 4765-4776.	3.2	51
57	Using Pareto optimality to explore the topology and dynamics of the human connectome. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130530.	1.8	50
58	Segmentation of Head and Neck Lymph Node Regions for Radiotherapy Planning Using Active Contour-Based Atlas Registration. IEEE Journal on Selected Topics in Signal Processing, 2009, 3, 135-147.	7.3	49
59	A new early and automated MRI-based predictor of motor improvement after stroke. Neurology, 2012, 79, 39-46.	1.5	49
60	Ax<scp>T</scp>ract: Toward microstructure informed tractography. Human Brain Mapping, 2017, 38, 5485-5500.	1.9	47
61	A Cross Validation Study of Deep Brain Stimulation Targeting: From Experts to Atlas-Based, Segmentation-Based and Automatic Registration Algorithms. IEEE Transactions on Medical Imaging, 2006, 25, 1440-1450.	5.4	44
62	Reduced Fronto-Temporal and Limbic Connectivity in the 22q11.2 Deletion Syndrome: Vulnerability Markers for Developing Schizophrenia?. PLoS ONE, 2013, 8, e58429.	1.1	44
63	Face detection with boosted Gaussian features. Pattern Recognition, 2007, 40, 2283-2291.	5.1	42
64	Fibertract segmentation in position orientation space from high angular resolution diffusion MRI. NeuroImage, 2006, 32, 665-675.	2.1	41
65	Towards microstructure fingerprinting: Estimation of tissue properties from a dictionary of Monte Carlo diffusion MRI simulations. NeuroImage, 2019, 184, 964-980.	2.1	38
66	Tractography reproducibility challenge with empirical data (TraCED): The 2017 ISMRM diffusion study group challenge. Journal of Magnetic Resonance Imaging, 2020, 51, 234-249.	1.9	38
67	Human auditory belt areas specialized in sound recognition: a functional magnetic resonance imaging study. NeuroReport, 2006, 17, 1659-1662.	0.6	34
68	Global Tractography with Embedded Anatomical Priors for Quantitative Connectivity Analysis. Frontiers in Neurology, 2014, 5, 232.	1.1	34
69	Multiscale Active Contours. International Journal of Computer Vision, 2006, 70, 197-211.	10.9	33
70	Information theoretic combination of pattern classifiers. Pattern Recognition, 2010, 43, 3412-3421.	5.1	33
71	Semi-Supervised Segmentation of Ultrasound Images Based on Patch Representation and Continuous Min Cut. PLoS ONE, 2014, 9, e100972.	1.1	32
72	A Sparse Reconstruction Framework for Fourier-Based Plane-Wave Imaging. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2016, 63, 2092-2106.	1.7	32

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73	Lossy to lossless object-based coding of 3-D MRI data. IEEE Transactions on Image Processing, 2002, 11, 1053-1061.	6.0	31
74	A queue-based region growing algorithm for accurate segmentation of multi-dimensional digital images. Signal Processing, 1997, 60, 1-10.	2.1	30
75	Multicontrast <i>connectometry</i>: A new tool to assess cerebellum alterations in early relapsing–remitting multiple sclerosis. Human Brain Mapping, 2015, 36, 1609-1619.	1.9	30
76	Accelerated MP2RAGE imaging using Cartesian phyllotaxis readout and compressed sensing reconstruction. Magnetic Resonance in Medicine, 2020, 84, 1881-1894.	1.9	30
77	Geodesic Active Fields–A Geometric Framework for Image Registration. IEEE Transactions on Image Processing, 2011, 20, 1300-1312.	6.0	28
78	Resolving bundle-specific intra-axonal T2 values within a voxel using diffusion-relaxation tract-based estimation. NeuroImage, 2021, 227, 117617.	2.1	28
79	From error probability to information theoretic (multi-modal) signal processing. Signal Processing, 2005, 85, 875-902.	2.1	27
80	Extraction of Audio Features Specific to Speech Production for Multimodal Speaker Detection. IEEE Transactions on Multimedia, 2008, 10, 63-73.	5.2	27
81	Regional cortical volumes and congenital heart disease: a MRI study in 22q11.2 deletion syndrome. Journal of Neurodevelopmental Disorders, 2010, 2, 224-234.	1.5	27
82	Improved statistical evaluation of group differences in connectomes by screening–filtering strategy with application to study maturation of brain connections between childhood and adolescence. NeuroImage, 2015, 108, 251-264.	2.1	27
83	The Combined Quantification and Interpretation of Multiple Quantitative Magnetic Resonance Imaging Metrics Enlightens Longitudinal Changes Compatible with Brain Repair in Relapsing-Remitting Multiple Sclerosis Patients. Frontiers in Neurology, 2017, 8, 506.	1.1	27
84	Ultrafast Ultrasound Imaging as an Inverse Problem: Matrix-Free Sparse Image Reconstruction. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 339-355.	1.7	27
85	Spherical Deconvolution of Multichannel Diffusion MRI Data with Non-Gaussian Noise Models and Spatial Regularization. PLoS ONE, 2015, 10, e0138910.	1.1	27
86	Quantitative Analysis of Myelin and Axonal Remodeling in the Uninjured Motor Network After Stroke. Brain Connectivity, 2015, 5, 401-412.	0.8	26
87	Robust Monte-Carlo Simulations in Diffusion-MRI: Effect of the Substrate Complexity and Parameter Choice on the Reproducibility of Results. Frontiers in Neuroinformatics, 2020, 14, 8.	1.3	26
88	Variational Segmentation using Fuzzy Region Competition and Local Non-Parametric Probability Density Functions. , 2007, , .		25
89	Estimating the Confidence Level of White Matter Connections Obtained with MRI Tractography. PLoS ONE, 2008, 3, e4006.	1.1	25
90	Active deformation fields: Dense deformation field estimation for atlas-based segmentation using the active contour framework. Medical Image Analysis, 2011, 15, 787-800.	7.0	25

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91	Influence of the implanted pulse generator as reference electrode in finite element model of monopolar deep brain stimulation. <i>Journal of Neuroscience Methods</i> , 2010, 186, 90-96.	1.3	23
92	Harmonic Active Contours. <i>IEEE Transactions on Image Processing</i> , 2014, 23, 69-82.	6.0	22
93	High b-value diffusion-weighted imaging: A sensitive method to reveal white matter differences in schizophrenia. <i>Psychiatry Research - Neuroimaging</i> , 2012, 201, 144-151.	0.9	21
94	A Connectome-Based Comparison of Diffusion MRI Schemes. <i>PLoS ONE</i> , 2013, 8, e75061.	1.1	21
95	Compressed delay-and-sum beamforming for ultrafast ultrasound imaging. , 2016, , .		21
96	Comparison of MRI-based automated segmentation methods and functional neurosurgery targeting with direct visualization of the Ventro-intermediate thalamic nucleus at 7T. <i>Scientific Reports</i> , 2019, 9, 1119.	1.6	21
97	Unilateral hemispheric lesions disrupt parallel processing within the contralateral intact hemisphere: an auditory fMRI study. <i>NeuroImage</i> , 2003, 20, S66-S74.	2.1	20
98	Multi-pose lipreading and audio-visual speech recognition. <i>Eurasip Journal on Advances in Signal Processing</i> , 2012, 2012, .	1.0	20
99	Representing Diffusion MRI in 5-D Simplifies Regularization and Segmentation of White Matter Tracts. <i>IEEE Transactions on Medical Imaging</i> , 2007, 26, 1547-1554.	5.4	19
100	Quantitative brain relaxation atlases for personalized detection and characterization of brain pathology. <i>Magnetic Resonance in Medicine</i> , 2020, 83, 337-351.	1.9	19
101	Insights from the IronTract challenge: Optimal methods for mapping brain pathways from multi-shell diffusion MRI. <i>NeuroImage</i> , 2022, 257, 119327.	2.1	17
102	Multicontrast MRI Quantification of Focal Inflammation and Degeneration in Multiple Sclerosis. <i>BioMed Research International</i> , 2015, 2015, 1-9.	0.9	16
103	Analysis of Head-Mounted Wireless Camera Videos for Early Diagnosis of Autism. <i>Advances in Intelligent and Soft Computing</i> , 2007, , 663-670.	0.2	15
104	Local landmark-based registration for fMRI group studies of nonprimary auditory cortex. <i>NeuroImage</i> , 2009, 44, 145-153.	2.1	14
105	Adaptive phase correction of diffusion-weighted images. <i>NeuroImage</i> , 2020, 206, 116274.	2.1	14
106	<title>Automatic registration of 3D MR images with a computerized brain atlas</title>. , 1996, 2710, 438.		13
107	Shallow vs Deep Learning Architectures for White Matter Lesion Segmentation in the Early Stages of Multiple Sclerosis. <i>Lecture Notes in Computer Science</i> , 2019, , 142-151.	1.0	13
108	Fetal Brain Biometric Measurements on 3D Super-Resolution Reconstructed T2-Weighted MRI: An Intra- and Inter-observer Agreement Study. <i>Frontiers in Pediatrics</i> , 2021, 9, 639746.	0.9	13

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109	Surface-driven registration method for the structure-informed segmentation of diffusion MR images. <i>NeuroImage</i> , 2016, 139, 450-461.	2.1	12
110	Model-based super-resolution reconstruction of T_2 maps. <i>Magnetic Resonance in Medicine</i> , 2020, 83, 906-919.	1.9	11
111	Bundle-Specific Axon Diameter Index as a New Contrast to Differentiate White Matter Tracts. <i>Frontiers in Neuroscience</i> , 2021, 15, 646034.	1.4	11
112	Representing Diffusion MRI in 5D for Segmentation of White Matter Tracts with a Level Set Method. <i>Lecture Notes in Computer Science</i> , 2005, 19, 311-320.	1.0	9
113	A Sparse regularization approach for ultrafast ultrasound imaging. , 2015, , .		9
114	ActiveAx _{ADD} : Toward non-parametric and orientationally invariant axon diameter distribution mapping using PGSE. <i>Magnetic Resonance in Medicine</i> , 2020, 83, 2322-2330.	1.9	9
115	Automated Detection of Cortical Lesions in Multiple Sclerosis Patients with 7T MRI. <i>Lecture Notes in Computer Science</i> , 2020, , 584-593.	1.0	9
116	Multiple sclerosis cortical lesion detection with deep learning at ultra-high-field MRI. <i>NMR in Biomedicine</i> , 2022, 35, e4730.	1.6	9
117	Shape prior based on statistical map for active contour segmentation. , 2008, , .		8
118	Surface Reconstruction From Microscopic Images in Optical Lithography. <i>IEEE Transactions on Image Processing</i> , 2014, 23, 3560-3573.	6.0	8
119	MPRAGE to MP2RAGE UNI translation via generative adversarial network improves the automatic tissue and lesion segmentation in multiple sclerosis patients. <i>Computers in Biology and Medicine</i> , 2021, 132, 104297.	3.9	8
120	Cooperative Object Segmentation and Behavior Inference in Image Sequences. <i>International Journal of Computer Vision</i> , 2009, 84, 146-162.	10.9	7
121	An Active Contour-Based Atlas Registration Model Applied to Automatic Subthalamic Nucleus Targeting on MRI: Method and Validation. <i>Lecture Notes in Computer Science</i> , 2008, 11, 980-988.	1.0	7
122	Information Theoretic Combination of Classifiers with Application to AdaBoost. , 2007, , 171-179.		6
123	A Scale-Space of Cortical Feature Maps. <i>IEEE Signal Processing Letters</i> , 2009, 16, 873-876.	2.1	4
124	Non-linear low-rank and sparse representation for hyperspectral image analysis. , 2014, , .		4
125	MBIS: Multivariate Bayesian Image Segmentation tool. <i>Computer Methods and Programs in Biomedicine</i> , 2014, 115, 76-94.	2.6	4
126	Morphological component analysis for sparse regularization in plane wave imaging. , 2016, , .		3

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127	Learning the weight matrix for sparsity averaging in compressive imaging. , 2017, , .		3
128	A Variational Framework for the Simultaneous Segmentation and Object Behavior Classification of Image Sequences. , 2007, , 652-664.		3
129	A New Brain Segmentation Framework. Lecture Notes in Computer Science, 2003, , 586-593.	1.0	2
130	Classification of tensors and fiber tracts using Mercer-kernels encoding soft probabilistic spatial and diffusion information. , 2009, , .		2
131	Harmonic active contours for multichannel image segmentation. , 2011, , .		2
132	Orientation-Dispersed Apparent Axon Diameter via Multi-Stage Spherical Mean Optimization. Mathematics and Visualization, 2019, , 91-101.	0.4	2
133	DWI Simulation-Assisted Machine Learning Models for Microstructure Estimation. Mathematics and Visualization, 2020, , 125-134.	0.4	2
134	T2 Mapping from Super-Resolution-Reconstructed Clinical Fast Spin Echo Magnetic Resonance Acquisitions. Lecture Notes in Computer Science, 2020, , 114-124.	1.0	2
135	Basic Concepts of Multimodal Analysis. , 2010, , 145-152.		1
136	Geodesic Active Fieldsâ€”A Geometric Framework for Image Registration. , 2010, , .		1
137	Comparison of energy minimization methods for 3-D brain tissue classification. , 2011, , .		1
138	Fast Geodesic Active Fields for Image Registration Based on Splitting and Augmented Lagrangian Approaches. IEEE Transactions on Image Processing, 2014, 23, 673-683.	6.0	1
139	Sparse regularization methods in ultrafast ultrasound imaging. , 2016, , .		1
140	A Novel Spatial-Angular Domain Regularisation Approach for Restoration of Diffusion MRI. Mathematics and Visualization, 2019, , 43-53.	0.4	1
141	A comprehensive error rate for multiple testing. Statistical Papers, 2020, 61, 1859-1874.	0.7	1
142	Active Contour-Based Segmentation of Head and Neck with Adaptive Atlas Selection. , 2009, , .		1
143	Classification of tensors and fiber tracts using Mercer-kernels encoding soft probabilistic spatial and diffusion information. , 2009, , .		0
144	Binary Active Contours using both inside and outside texture descriptors. , 2012, , .		0

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145	Sparsity in tensor optimization for optical-interferometric imaging. , 2014, , .		0
146	Modality Integration Methods. , 2010, , 171-184.		0
147	Data-driven myelin water imaging based on T_1 and T_2 relaxometry. NMR in Biomedicine, 2021, , e4668.	1.6	0