Xiaochuan Pan

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

141 papers	4,397 citations	29 h-index	64 g-index
224 ext. papers	5,405 ext. citations	3.9 avg, IF	5.78 L-index

#	Paper	IF	Citations
141	Image reconstruction in circular cone-beam computed tomography by constrained, total-variation minimization. *Physics in Medicine and Biology*, **2008**, 53, 4777-807	3.8	1178
140	Why do commercial CT scanners still employ traditional, filtered back-projection for image reconstruction?. *Inverse Problems*, **2009**, 25, 1230009	2.3	319
139	Evaluation of sparse-view reconstruction from flat-panel-detector cone-beam CT. *Physics in Medicine and Biology*, **2010**, 55, 6575-99	3.8	245
138	Exact image reconstruction on PI-lines from minimum data in helical cone-beam CT. *Physics in Medicine and Biology*, **2004**, 49, 941-59	3.8	230
137	Convex optimization problem prototyping for image reconstruction in computed tomography with the Chambolle-Pock algorithm. *Physics in Medicine and Biology*, **2012**, 57, 3065-91	3.8	192
136	Enhanced imaging of microcalcifications in digital breast tomosynthesis through improved image-reconstruction algorithms. *Medical Physics*, **2009**, 36, 4920-32	4.4	123
135	Image reconstruction in regions-of-interest from truncated projections in a reduced fan-beam scan. *Physics in Medicine and Biology*, **2005**, 50, 13-27	3.8	103
134	Algorithm-enabled low-dose micro-CT imaging. *IEEE Transactions on Medical Imaging*, **2011**, 30, 606-20	11.7	94
133	Image reconstruction on PI-lines by use of filtered backprojection in helical cone-beam CT. *Physics in Medicine and Biology*, **2004**, 49, 2717-31	3.8	92
132	Quantifying admissible undersampling for sparsity-exploiting iterative image reconstruction in X-ray CT. *IEEE Transactions on Medical Imaging*, **2013**, 32, 460-73	11.7	91
131	An algorithm for constrained one-step inversion of spectral CT data. *Physics in Medicine and Biology*, **2016**, 61, 3784-818	3.8	83
130	Optimization-based reconstruction of sparse images from few-view projections. *Physics in Medicine and Biology*, **2012**, 57, 5245-73	3.8	80
129	Region of interest reconstruction from truncated data in circular cone-beam CT. *IEEE Transactions on Medical Imaging*, **2006**, 25, 869-81	11.7	67
128	A constrained, total-variation minimization algorithm for low-intensity x-ray CT. *Medical Physics*, **2011**, 38 Suppl 1, S117	4.4	66
127	An extended data function and its generalized backprojection for image reconstruction in helical cone-beam CT. *Physics in Medicine and Biology*, **2004**, 49, N383-7	3.8	61
126	Image reconstruction in peripheral and central regions-of-interest and data redundancy. *Medical Physics*, **2005**, 32, 673-84	4.4	57
125	Constrained TV Minimization for Enhanced Exploitation of Gradient Sparsity: Application to CT Image Reconstruction. *IEEE Journal of Translational Engineering in Health and Medicine*, **2014**, 2,	3	54

124	Theory and algorithms for image reconstruction on chords and within regions of interest. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2005**, 22, 2372-84	1.8	54
123	Optimal noise control in and fast reconstruction of fan-beam computed tomography image. *Medical Physics*, **1999**, 26, 689-97	4.4	48
122	Optimization-based image reconstruction from sparse-view data in offset-detector CBCT. *Physics in Medicine and Biology*, **2013**, 58, 205-30	3.8	45
121	A unified analysis of FBP-based algorithms in helical cone-beam and circular cone- and fan-beam scans. *Physics in Medicine and Biology*, **2004**, 49, 4349-69	3.8	44
120	Investigation of iterative image reconstruction in low-dose breast CT. *Physics in Medicine and Biology*, **2014**, 59, 2659-85	3.8	40
119	Image reconstruction exploiting object sparsity in boundary-enhanced X-ray phase-contrast tomography. *Optics Express*, **2010**, 18, 10404-22	3.3	40
118	Anniversary paper. Development of x-ray computed tomography: the role of medical physics and AAPM from the 1970s to present. *Medical Physics*, **2008**, 35, 3728-39	4.4	40
117	A hybrid approach to reducing computed tomography metal artifacts in intracavitary brachytherapy. *Brachytherapy*, **2005**, 4, 18-23	2.4	40
116	Minimum data image reconstruction algorithms with shift-invariant filtering for helical, cone-beam CT. *Physics in Medicine and Biology*, **2005**, 50, 1643-57	3.8	38
115	Image reconstruction with shift-variant filtration and its implication for noise and resolution properties in fan-beam computed tomography. *Medical Physics*, **2003**, 30, 590-600	4.4	36
114	Image reconstruction and scan configurations enabled by optimization-based algorithms in multispectral CT. *Physics in Medicine and Biology*, **2017**, 62, 8763-8793	3.8	34
113	Artifact reduction in short-scan CBCT by use of optimization-based reconstruction. *Physics in Medicine and Biology*, **2016**, 61, 3387-406	3.8	30
112	Region-of-interest image reconstruction with intensity weighting in circular cone-beam CT for image-guided radiation therapy. *Medical Physics*, **2009**, 36, 1184-92	4.4	29
111	Investigation of optimization-based reconstruction with an image-total-variation constraint in PET. *Physics in Medicine and Biology*, **2016**, 61, 6055-84	3.8	26
110	Analysis of iterative region-of-interest image reconstruction for x-ray computed tomography. *Journal of Medical Imaging*, **2014**, 1, 031007	2.6	23
109	Region-of-interest image reconstruction in circular cone-beam microCT. *Medical Physics*, **2007**, 34, 4923-33	4.4	23
108	Optimization-based image reconstruction with artifact reduction in C-arm CBCT. *Physics in Medicine and Biology*, **2016**, 61, 7300-7333	3.8	22
107	Partial volume and aliasing artefacts in helical cone-beam CT. *Physics in Medicine and Biology*, **2004**, 49, 2365-75	3.8	22

106	Half-scan fan-beam computed tomography with improved noise and resolution properties. *Medical Physics*, **2003**, 30, 2629-37	4.4	21
105	Nonparametric regression sinogram smoothing using a roughness-penalized Poisson likelihood objective function. *IEEE Transactions on Medical Imaging*, **2000**, 19, 773-86	11.7	20
104	First-order convex feasibility algorithms for x-ray CT. *Medical Physics*, **2013**, 40, 031115	4.4	19
103	PI-line-based image reconstruction in helical cone-beam computed tomography with a variable pitch. *Medical Physics*, **2005**, 32, 2639-48	4.4	19
102	Algorithm-enabled exploration of image-quality potential of cone-beam CT in image-guided radiation therapy. *Physics in Medicine and Biology*, **2015**, 60, 4601-33	3.8	18
101	Image reconstruction from few views by non-convex optimization **2007**,		18
100	Exact reconstruction of volumetric images in reverse helical cone-beam CT. *Medical Physics*, **2008**, 35, 3030-40	4.4	17
99	Accurate image reconstruction using DOI information and its implications for the development of compact PET systems. *IEEE Transactions on Nuclear Science*, **2000**, 47, 1551-1560	1.7	17
98	Noise properties of CT images reconstructed by use of constrained total-variation, data-discrepancy minimization. *Medical Physics*, **2015**, 42, 2690-8	4.4	16
97	Local cone-beam tomography image reconstruction on chords. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2007**, 24, 1569-79	1.8	16
96	Task-based optimization of dedicated breast CT via Hotelling observer metrics. *Medical Physics*, **2014**, 41, 101917	4.4	15
95	Image reconstruction with a shift-variant filtration in circular cone-beam CT. *International Journal of Imaging Systems and Technology*, **2004**, 14, 213-221	2.5	15
94	A preliminary investigation of local tomography for megavoltage CT imaging. *Medical Physics*, **2003**, 30, 2969-80	4.4	15
93	Recovering a compactly supported function from knowledge of its Hilbert transform on a finite interval. *IEEE Signal Processing Letters*, **2005**, 12, 97-100	3.2	14
92	EMPIRICAL AVERAGE-CASE RELATION BETWEEN UNDERSAMPLING AND SPARSITY IN X-RAY CT. *Inverse Problems and Imaging*, **2015**, 9, 431-446	2.1	14
91	Algorithm-enabled partial-angular-scan configurations for dual-energy CT. *Medical Physics*, **2018**, 45, 1857-1870	4.4	13
90	Reconstruction of refractive index discontinuities from truncated phase-contrast tomography projections. *Applied Physics Letters*, **2005**, 86, 034102	3.4	13
89	Estimating the spectrum in computed tomography via Kullback-Leibler divergence constrained optimization. *Medical Physics*, **2019**, 46, 81-92	4.4	12

88	Do CNNs Solve the CT Inverse Problem?. *IEEE Transactions on Biomedical Engineering*, **2021**, 68, 1799-1819	10	12
87	Accurate image reconstruction in circular cone-beam computed tomography by total variation minimization: a preliminary investigation **2006**,		11
86	Effect of the data constraint on few-view, fan-beam CT image reconstruction by TV minimization **2006**,		11
85	Image restoration and reconstruction with a Bayesian approach. *Medical Physics*, **1998**, 25, 600-13	4.4	11
84	X-ray tomography system to investigate granular materials during mechanical loading. *Review of Scientific Instruments*, **2014**, 85, 083708	1.7	9
83	A BPF-FBP tandem algorithm for image reconstruction in reverse helical cone-beam CT. *Medical Physics*, **2010**, 37, 32-9	4.4	9
82	Short-scan SPECT imaging with non-uniform attenuation and 3D distance-dependent spatial resolution. *Physics in Medicine and Biology*, **2002**, 47, 2811-33	3.8	9
81	Transmission image reconstruction and redundant information in SPECT with asymmetric fanbeam collimation. *IEEE Transactions on Nuclear Science*, **2001**, 48, 1357-1363	1.7	9
80	Investigating simulation-based metrics for characterizing linear iterative reconstruction in digital breast tomosynthesis. *Medical Physics*, **2017**, 44, e279-e296	4.4	8
79	Noise propagation in diffraction tomography: comparison of conventional algorithms with a new reconstruction algorithm. *IEEE Transactions on Nuclear Science*, **1998**, 45, 2216-2223	1.7	8
78	Noise properties of chord-image reconstruction. *IEEE Transactions on Medical Imaging*, **2007**, 26, 1328-44	11.7	8
77	Region-of-interest reconstruction of motion-contaminated data using a weighted backprojection filtration algorithm. *Medical Physics*, **2006**, 33, 1222-38	4.4	8
76	A rebinned backprojection-filtration algorithm for image reconstruction in helical cone-beam CT. *Physics in Medicine and Biology*, **2007**, 52, 5497-508	3.8	8
75	Volume image reconstruction from a straight-line source trajectory		8
74	Investigation of Sparse Data Mouse Imaging Using Micro-CT with a Carbon-Nanotube-Based X-ray Source. *Tsinghua Science and Technology*, **2010**, 15, 74-78	3.4	7
73	Targeted-ROI imaging in electron paramagnetic resonance imaging. *Journal of Magnetic Resonance*, **2007**, 187, 66-77	3	7
72	Image reconstruction in regions of interest from truncated Radon transforms of even dimensions. *Inverse Problems*, **2005**, 21, 1169-1177	2.3	7
71	Favorable noise uniformity properties of Fourier-based interpolation and reconstruction approaches in single-slice helical computed tomography. *Medical Physics*, **2002**, 29, 943-51	4.4	7

70	Optimization-based image reconstruction from sparsely sampled data in electron paramagnetic resonance imaging. *Journal of Magnetic Resonance*, **2018**, 294, 24-34	3	7
69	Optimization-Based Image Reconstruction From Low-Count, List-Mode TOF-PET Data. *IEEE Transactions on Biomedical Engineering*, **2018**, 65, 936-946	5	6
68	A Bayesian approach for edge detection in medical ultrasound images. *IEEE Transactions on Nuclear Science*, **1998**, 45, 3089-3096	1.7	6
67	Fast reconstruction with uniform noise properties in halfscan computed tomography. *Medical Physics*, **2000**, 27, 2031-6	4.4	6
66	Fourier-based approach to interpolation in single-slice helical computed tomography. *Medical Physics*, **2001**, 28, 381-92	4.4	6
65	Image reconstruction in reduced circular sinusoidal cone-beam CT. *Journal of X-Ray Science and Technology*, **2009**, 17, 189-205	2.1	5
64	Frequency extrapolation by nonconvex compressive sensing **2011**,		5
63	Ξcheme short-scan SPECT and image reconstruction with nonuniform attenuation.. *IEEE Transactions on Nuclear Science*, **2003**, 50, 87-96	1.7	5
62	A new reconstruction approach for reflection mode diffraction tomography. *IEEE Transactions on Image Processing*, **2000**, 9, 1262-71	8.7	5
61	Analysis of 3D SPECT image reconstruction and its extension to ultrasonic diffraction tomography. *IEEE Transactions on Nuclear Science*, **1998**, 45, 1308-1316	1.7	5
60	Preliminary investigation of optimization-based image reconstruction for TOF PET with sparse configurations **2019**,		5
59	Directional-TV algorithm for image reconstruction from limited-angular-range data. *Medical Image Analysis*, **2021**, 70, 102030	15.4	5
58	Collision-avoiding imaging trajectories for linac mounted cone-beam CT. *Journal of X-Ray Science and Technology*, **2019**, 27, 1-16	2.1	5
57	Non-convex primal-dual algorithm for image reconstruction in spectral CT. *Computerized Medical Imaging and Graphics*, **2021**, 87, 101821	7.6	5
56	Non-circular cone beam CT trajectories: A preliminary investigation on a clinical scanner **2010**,		4
55	Optimizing algorithm parameters based on a model observer detection task for image reconstruction in digital breast tomosynthesis **2011**,		4
54	Spatial-resolution enhancement in computed tomography. *IEEE Transactions on Medical Imaging*, **2005**, 24, 246-53	11.7	4
53	Quasi-bandlimited properties of radon transforms and their implications for increasing angular sampling densities. *IEEE Transactions on Medical Imaging*, **1998**, 17, 395-406	11.7	4

52	A general approach for multidimensional smoothing. *Medical Physics*, **1998**, 25, 562-70	4.4	4
51	Imaging of fiber-like structures in digital breast tomosynthesis. *Journal of Medical Imaging*, **2019**, 6, 031404	1.6	4
50	Use of the Hotelling observer to optimize image reconstruction in digital breast tomosynthesis. *Journal of Medical Imaging*, **2016**, 3, 011008	2.6	3
49	Region of interest based Hotelling observer for computed tomography with comparison to alternative methods. *Journal of Medical Imaging*, **2014**, 1, 031010	2.6	3
48	Region of interest reconstruction in x-ray fluorescence computed tomography for negligible attenuation. *IEEE Transactions on Nuclear Science*, **2010**, 57, 234-241	1.7	3
47	In-depth analysis of cone-beam CT image reconstruction by ideal observer performance on a detection task **2008**,		3
46	Accurate image reconstruction in CT from projection data taken at few-views **2006**, 6142, 784		3
45	Reconstruction of 3D regions-of-interest from data in reduced helical cone-beam scans. *Technology in Cancer Research and Treatment*, **2005**, 4, 143-50	2.7	3
44	High-Resolution Full-3D Specimen Imaging for Lumpectomy Margin Assessment in Breast Cancer. *Annals of Surgical Oncology*, **2021**, 28, 5513-5524	3.1	3
43	TV-constrained incremental algorithms for low-intensity CT image reconstruction **2015**,		2
42	An investigation of regularization for basis image reconstruction in spectral CT **2015**,		2
41	Constrained TV-minimization image reconstruction for industrial CT system **2014**,		2
40	Iterative image reconstruction with variable resolution in CT **2011**,		2
39	Ensuring convergence in total-variation-based reconstruction for accurate microcalcification imaging in breast X-ray CT **2011**,		2
38	Backprojection-filtration reconstruction without invoking a spatially varying weighting factor. *Medical Physics*, **2010**, 37, 1201-9	4.4	2
37	Region of Interest Imaging for a General Trajectory with the Rebinned BPF Algorithm. *Tsinghua Science and Technology*, **2010**, 15, 68-73	3.4	2
36	A preliminary investigation of using prior information for potentially improving image reconstruction in few-view CT **2008**,		2
35	Exact ROI image reconstruction with perturbed source trajectories in C-arm CT		2

34	Reflectivity tomography using temporally truncated data		2
33	/spl pi/-scheme short-scan SPECT and image reconstruction		2
32	Consistency conditions and linear reconstruction methods in diffraction tomography. *IEEE Transactions on Medical Imaging*, **2000**, 19, 51-4	11.7	2
31	Fast implementation and quantitative evaluation of analytical methods with Wiener filters for image reconstruction in 3D SPECT. *IEEE Transactions on Nuclear Science*, **1999**, 46, 1100-1109	1.7	2
30	Dynamic intensity-weighted region of interest imaging for conebeam CT. *Journal of X-Ray Science and Technology*, **2016**, 24, 361-77	2.1	2
29	Dual-energy CT imaging with limited-angular-range data. *Physics in Medicine and Biology*, **2021**, 66,	3.8	2
28	Dual-energy CT imaging over non-overlapping, orthogonal arcs of limited-angular ranges. *Journal of X-Ray Science and Technology*, **2021**, 29, 975-985	2.1	2
27	The Non-prewhitening and Hotelling Observers for Parameter Selection for Linear Iterative Image Reconstruction in Breast Tomosynthesis **2017**,		1
26	TV constrained CT image reconstruction with discretized natural pixels **2016**,		1
25	Basis-image reconstruction directly from sparse-view data in spectral CT **2014**,		1
24	Boundary-enhanced region-of-interest image reconstruction in propagation-based x-ray phase-contrast tomography. *Applied Physics Letters*, **2009**, 95, 244101	3.4	1
23	Initial experience in image reconstruction from limited-angle C-arm CBCT data **2011**,		1
22	Convergence of iterative image reconstruction algorithms for Digital Breast Tomosynthesis **2012**,		1
21	A Rebinning-type Backprojection-Filtration Algorithm for Image Reconstruction in Helical Cone-beam CT **2006**,		1
20	Numerically robust minimal-scan reconstruction algorithms for diffraction tomography via radon transform inversion. *International Journal of Imaging Systems and Technology*, **2002**, 12, 84-91	2.5	1
19	Mathematical formulation of the potato peeler perspective		1
18	A general technique for smoothing multi-dimensional datasets utilizing orthogonal expansions and lower dimensional smoothers		1
17	FFT-based approach to longitudinal interpolation in single- and multi-slice helical CT		1

List of Publications

16	Multidimensional smoothing using orthogonal expansions. *IEEE Signal Processing Letters*, **1999**, 6, 91-94	3.2	1
15	Optimization-based algorithm for solving the discrete x-ray transform with nonlinear partial volume effect. *Journal of Medical Imaging*, **2020**, 7, 053502	2.6	1
14	Optimization-based reconstruction for correcting non-linear partial volume artifacts in CT **2019**,		1
13	A preliminary study on explicit compensation for the non-linear-partial-volume effect in CT **2019**,		1
12	Reconstructing dynamic magnification CBCT scans with optimization-based reconstruction **2016**,		1
11	Alternating Minimization Based Framework for Simultaneous Spectral Calibration and Image Reconstruction in Spectral CT **2018**,		1
10	Reduction of Angularly-Varying-Data Truncation in C-Arm CBCT Imaging. *Sensing and Imaging*, **2018**, 19, 1	1.4	1
9	A novel approach for multidimensional interpolation. *IEEE Signal Processing Letters*, **1999**, 6, 38-40	3.2	0
8	A signal detection model for quantifying overregularization in nonlinear image reconstruction. *Medical Physics*, **2021**, 48, 6312-6323	4.4	0
7	AN EXACT ANALYTIC APPROACH TO 3D PET IMAGE RECONSTRUCTION. *International Journal of Image and Graphics*, **2007**, 07, 35-54	0.5	
6	Toward optimal noniterative reconstruction for 3D SPECT with uniform attenuation and distance-dependent spatial resolution. *IEEE Transactions on Nuclear Science*, **2002**, 49, 774-781	1.7	
5	Optimal unbiased reduction of global image variances in SPECT. *IEEE Transactions on Nuclear Science*, **1999**, 46, 1148-1155	1.7	
4	A comparative study of image reconstructions in SPECT and ultrasonic diffraction tomography. *IEEE Transactions on Nuclear Science*, **1999**, 46, 527-534	1.7	
3	Correction to "A Class of Analytical Methods That Compensate for Attenuation and Spatially-Variant Resolution in 2D SPECT" [Erratum]. *IEEE Transactions on Nuclear Science*, **1996**, 43, 3377-3377	1.7	
2	Some Recent Developments in Reconstruction Algorithms for Tomographic Imaging **2008**, 361-391		
1	ASO Visual Abstract: High-Resolution Full 3D Specimen Imaging for Lumpectomy Margin Assessment in Breast Cancer. *Annals of Surgical Oncology*, **2021**, 28, 626-627	3.1	