

Emil Y Sidky

List of Publications by Year in Descending Order

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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.

81 papers	5,155 citations	23 h-index	71 g-index
122 ext. papers	6,141 ext. citations	4.3 avg, IF	6.6 L-index

#	Paper	IF	Citations
81	Directional-TV algorithm for image reconstruction from limited-angular-range data. <i>Medical Image Analysis</i> , 2021 , 70, 102030	15.4	5
80	A signal detection model for quantifying overregularization in nonlinear image reconstruction. <i>Medical Physics</i> , 2021 , 48, 6312-6323	4.4	0
79	Non-convex primal-dual algorithm for image reconstruction in spectral CT. <i>Computerized Medical Imaging and Graphics</i> , 2021 , 87, 101821	7.6	5
78	Do CNNs Solve the CT Inverse Problem?. <i>IEEE Transactions on Biomedical Engineering</i> , 2021 , 68, 1799-1810	15	12
77	Dual-energy CT imaging with limited-angular-range data. <i>Physics in Medicine and Biology</i> , 2021 , 66,	3.8	2
76	Dual-energy CT imaging over non-overlapping, orthogonal arcs of limited-angular ranges. <i>Journal of X-Ray Science and Technology</i> , 2021 , 29, 975-985	2.1	2
75	Optimization-based algorithm for solving the discrete x-ray transform with nonlinear partial volume effect. <i>Journal of Medical Imaging</i> , 2020 , 7, 053502	2.6	1
74	Imaging of fiber-like structures in digital breast tomosynthesis. <i>Journal of Medical Imaging</i> , 2019 , 6, 031404	4	4
73	Preliminary investigation of optimization-based image reconstruction for TOF PET with sparse configurations 2019 ,		5
72	Estimating the spectrum in computed tomography via Kullback-Leibler divergence constrained optimization. <i>Medical Physics</i> , 2019 , 46, 81-92	4.4	12
71	Algorithm-enabled partial-angular-scan configurations for dual-energy CT. <i>Medical Physics</i> , 2018 , 45, 1857-1870	4.4	13
70	Optimization-Based Image Reconstruction From Low-Count, List-Mode TOF-PET Data. <i>IEEE Transactions on Biomedical Engineering</i> , 2018 , 65, 936-946	5	6
69	A Convex Reconstruction Model for X-ray Tomographic Imaging with Uncertain Flat-fields. <i>IEEE Transactions on Computational Imaging</i> , 2018 , 4, 17-31	4.5	4
68	Alternating Minimization Based Framework for Simultaneous Spectral Calibration and Image Reconstruction in Spectral CT 2018 ,		1
67	Reduction of Angularly-Varying-Data Truncation in C-Arm CBCT Imaging. <i>Sensing and Imaging</i> , 2018 , 19, 1	1.4	1
66	A Spectral CT Method to Directly Estimate Basis Material Maps From Experimental Photon-Counting Data. <i>IEEE Transactions on Medical Imaging</i> , 2017 , 36, 1808-1819	11.7	25
65	Image reconstruction and scan configurations enabled by optimization-based algorithms in multispectral CT. <i>Physics in Medicine and Biology</i> , 2017 , 62, 8763-8793	3.8	34

64	Investigating simulation-based metrics for characterizing linear iterative reconstruction in digital breast tomosynthesis. <i>Medical Physics</i> , 2017 , 44, e279-e296	4.4	8
63	Optimization-based image reconstruction with artifact reduction in C-arm CBCT. <i>Physics in Medicine and Biology</i> , 2016 , 61, 7300-7333	3.8	22
62	TV constrained CT image reconstruction with discretized natural pixels 2016 ,		1
61	Use of the Hotelling observer to optimize image reconstruction in digital breast tomosynthesis. <i>Journal of Medical Imaging</i> , 2016 , 3, 011008	2.6	3
60	MOCCA: Mirrored Convex/Concave Optimization for Nonconvex Composite Functions. <i>Journal of Machine Learning Research</i> , 2016 , 17, 1-51	28.6	2214
59	An algorithm for constrained one-step inversion of spectral CT data. <i>Physics in Medicine and Biology</i> , 2016 , 61, 3784-818	3.8	83
58	Investigation of optimization-based reconstruction with an image-total-variation constraint in PET. <i>Physics in Medicine and Biology</i> , 2016 , 61, 6055-84	3.8	26
57	Artifact reduction in short-scan CBCT by use of optimization-based reconstruction. <i>Physics in Medicine and Biology</i> , 2016 , 61, 3387-406	3.8	30
56	Implementation of ultra-low-dose CBCT for routine 2D orthodontic diagnostic radiographs: Cephalometric landmark identification and image quality assessment. <i>Seminars in Orthodontics</i> , 2015 , 21, 233-247	1.2	15
55	TV-constrained incremental algorithms for low-intensity CT image reconstruction 2015 ,		2
54	An investigation of regularization for basis image reconstruction in spectral CT 2015 ,		2
53	Noise properties of CT images reconstructed by use of constrained total-variation, data-discrepancy minimization. <i>Medical Physics</i> , 2015 , 42, 2690-8	4.4	16
52	EMPIRICAL AVERAGE-CASE RELATION BETWEEN UNDERSAMPLING AND SPARSITY IN X-RAY CT. <i>Inverse Problems and Imaging</i> , 2015 , 9, 431-446	2.1	14
51	Task-based optimization of dedicated breast CT via Hotelling observer metrics. <i>Medical Physics</i> , 2014 , 41, 101917	4.4	15
50	Basis-image reconstruction directly from sparse-view data in spectral CT 2014 ,		1
49	Analysis of iterative region-of-interest image reconstruction for x-ray computed tomography. <i>Journal of Medical Imaging</i> , 2014 , 1, 031007	2.6	23
48	Region of interest based Hotelling observer for computed tomography with comparison to alternative methods. <i>Journal of Medical Imaging</i> , 2014 , 1, 031010	2.6	3
47	Constrained TV-minimization image reconstruction for industrial CT system 2014 ,		2

46	X-ray tomography system to investigate granular materials during mechanical loading. <i>Review of Scientific Instruments</i> , 2014 , 85, 083708	1.7	9
45	Constrained TV Minimization for Enhanced Exploitation of Gradient Sparsity: Application to CT Image Reconstruction. <i>IEEE Journal of Translational Engineering in Health and Medicine</i> , 2014 , 2,	3	54
44	Quantifying admissible undersampling for sparsity-exploiting iterative image reconstruction in X-ray CT. <i>IEEE Transactions on Medical Imaging</i> , 2013 , 32, 460-73	11.7	91
43	Few-view single photon emission computed tomography (SPECT) reconstruction based on a blurred piecewise constant object model. <i>Physics in Medicine and Biology</i> , 2013 , 58, 5629-52	3.8	15
42	First-order convex feasibility algorithms for x-ray CT. <i>Medical Physics</i> , 2013 , 40, 031115	4.4	19
41	Convex optimization problem prototyping for image reconstruction in computed tomography with the Chambolle-Pock algorithm. <i>Physics in Medicine and Biology</i> , 2012 , 57, 3065-91	3.8	192
40	Investigation of discrete imaging models and iterative image reconstruction in differential X-ray phase-contrast tomography. <i>Optics Express</i> , 2012 , 20, 10724-49	3.3	29
39	Convergence of iterative image reconstruction algorithms for Digital Breast Tomosynthesis 2012 ,		1
38	A constrained, total-variation minimization algorithm for low-intensity x-ray CT. <i>Medical Physics</i> , 2011 , 38 Suppl 1, S117	4.4	66
37	Initial experience in image reconstruction from limited-angle C-arm CBCT data 2011 ,		1
36	Iterative image reconstruction with variable resolution in CT 2011 ,		2
35	Ensuring convergence in total-variation-based reconstruction for accurate microcalcification imaging in breast X-ray CT 2011 ,		2
34	A compressed sensing algorithm for sparse-view pinhole Single Photon Emission Computed Tomography 2011 ,		1
33	Optimizing algorithm parameters based on a model observer detection task for image reconstruction in digital breast tomosynthesis 2011 ,		4
32	Frequency extrapolation by nonconvex compressive sensing 2011 ,		5
31	Consistency Conditions for Cone-Beam CT Data Acquired with a Straight-Line Source Trajectory. <i>Tsinghua Science and Technology</i> , 2010 , 15, 56-61	3.4	11
30	Image reconstruction exploiting object sparsity in boundary-enhanced X-ray phase-contrast tomography. <i>Optics Express</i> , 2010 , 18, 10404-22	3.3	40
29	Evaluation of sparse-view reconstruction from flat-panel-detector cone-beam CT. <i>Physics in Medicine and Biology</i> , 2010 , 55, 6575-99	3.8	245

28	Region of Interest Imaging for a General Trajectory with the Rebinned BPF Algorithm. <i>Tsinghua Science and Technology</i> , 2010 , 15, 68-73	3-4	2
27	Investigation of Sparse Data Mouse Imaging Using Micro-CT with a Carbon-Nanotube-Based X-ray Source. <i>Tsinghua Science and Technology</i> , 2010 , 15, 74-78	3-4	7
26	Dual-Energy Technique at Low Tube Voltages for Small Animal Imaging. <i>Tsinghua Science and Technology</i> , 2010 , 15, 79-86	3-4	4
25	Analysis of image-reconstruction algorithms for circular, cone-beam CT by Hotelling observer performance on a detection task. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2009 , 2009, 997-9	0.9	1
24	Enhanced imaging of microcalcifications in digital breast tomosynthesis through improved image-reconstruction algorithms. <i>Medical Physics</i> , 2009 , 36, 4920-32	4-4	123
23	In-depth analysis of cone-beam CT image reconstruction by ideal observer performance on a detection task 2008 ,		3
22	Image reconstruction in circular cone-beam computed tomography by constrained, total-variation minimization. <i>Physics in Medicine and Biology</i> , 2008 , 53, 4777-807	3.8	1178
21	Noise properties of chord-image reconstruction. <i>IEEE Transactions on Medical Imaging</i> , 2007 , 26, 1328-44	11.7	8
20	A Rebinning-type Backprojection-Filtration Algorithm for Image Reconstruction in Helical Cone-beam CT 2006 ,		1
19	Accurate image reconstruction in circular cone-beam computed tomography by total variation minimization: a preliminary investigation 2006 ,		11
18	Effect of the data constraint on few-view, fan-beam CT image reconstruction by TV minimization 2006 ,		11
17	Region of interest reconstruction from truncated data in circular cone-beam CT. <i>IEEE Transactions on Medical Imaging</i> , 2006 , 25, 869-81	11.7	67
16	Accurate image reconstruction in CT from projection data taken at few-views 2006 , 6142, 784		3
15	Feasibility of half-data image reconstruction in 3-D reflectivity tomography with a spherical aperture. <i>IEEE Transactions on Medical Imaging</i> , 2005 , 24, 1100-12	11.7	20
14	Minimum data image reconstruction algorithms with shift-invariant filtering for helical, cone-beam CT. <i>Physics in Medicine and Biology</i> , 2005 , 50, 1643-57	3.8	38
13	Reconstruction of 3D regions-of-interest from data in reduced helical cone-beam scans. <i>Technology in Cancer Research and Treatment</i> , 2005 , 4, 143-50	2-7	3
12	A robust method of x-ray source spectrum estimation from transmission measurements: Demonstrated on computer simulated, scatter-free transmission data. <i>Journal of Applied Physics</i> , 2005 , 97, 124701	2.5	86
11	Impact of polychromatic x-ray sources on helical, cone-beam computed tomography and dual-energy methods. <i>Physics in Medicine and Biology</i> , 2004 , 49, 2293-303	3.8	37

10	Image reconstruction with a half-detector in single-photon emission computed tomography with nonuniform attenuation. <i>Optical Engineering</i> , 2003 , 42, 2506	1.1	2
9	The role of the potential saddle in He ²⁺ +H impact ionization. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001 , 34, L163-L172	1.3	6
8	Electrons ejected with half the projectile velocity and the saddle point mechanism in ion-atom collisions. <i>Physical Review Letters</i> , 2000 , 85, 1634-7	7.4	22
7	The Phase-Amplitude Method of Solving the Wave Equation. <i>Physics Essays</i> , 2000 , 13, 408-411	1.1	2
6	Propensity Rules for Alignment and Orientation in Electron-Transfer Processes. <i>Physics Essays</i> , 2000 , 13, 489-495	1.1	2
5	Impact-velocity dependence of ejected-electron distributions for ionization in proton-hydrogen collisions. <i>Physical Review A</i> , 1999 , 60, 377-384	2.6	24
4	Total and state-selective electron capture cross sections for N ⁴⁺ -H collisions. <i>Physical Review A</i> , 1999 , 59, 1994-1997	2.6	
3	Phase-amplitude method for calculating resonance energies and widths for one-dimensional potentials. <i>Physical Review A</i> , 1999 , 60, 3586-3592	2.6	27
2	Quantum mechanical calculation of ejected electron spectra for ion-atom collisions. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 1998 , 31, 2949-2960	1.3	41
1	Velocity-matching model for electron capture in keV atomic collisions. <i>Physical Review A</i> , 1996 , 54, 1417-1429	1.4	22