Simon Rit

List of Publications by Year in Descending Order

81 papers	1,609 citations	19 h-index	38 g-index
106 ext. papers	1,976 ext. citations	3.4 avg, IF	4.58 L-index

#	Paper	IF	Citations
81	Projection-based dynamic tomography. *Physics in Medicine and Biology*, **2021**, 66,	3.8	1
80	Region-of-Interest CT Reconstruction using Object Extent and Singular Value Decomposition. *IEEE Transactions on Radiation and Plasma Medical Sciences*, **2021**, 1-1	4.2	
79	. *IEEE Access*, **2021**, 9, 25632-25647	3.5	5
78	A comparison of direct reconstruction algorithms in proton computed tomography. *Physics in Medicine and Biology*, **2020**, 65, 105010	3.8	5
77	An optimization algorithm for dose reduction with fluence-modulated proton CT. *Medical Physics*, **2020**, 47, 1895-1906	4.4	5
76	SciFi detector and associated method for real-time determination of profile and output factor for small fields in stereotactic radiotherapy. *Medical Physics*, **2020**, 47, 1930-1939	4.4	1
75	Scatter Correction for Spectral CT Using a Primary Modulator Mask. *IEEE Transactions on Medical Imaging*, **2020**, 39, 2267-2276	11.7	2
74	Image Formation in Spectral Computed Tomography **2020**, 355-372		2
73	Towards Monte Carlo simulation of X-ray phase contrast using GATE. *Optics Express*, **2020**, 28, 14522-14535	3.3	10
72	Scattering proton CT. *Physics in Medicine and Biology*, **2020**, 65, 225015	3.8	4
71	The role of Monte Carlo simulation in understanding the performance of proton computed tomography. *Zeitschrift Fur Medizinische Physik*, **2020**, 32, 23-23	7.6	4
70	Anthropomorphic lung phantom based validation of in-room proton therapy 4D-CBCT image correction for dose calculation. *Zeitschrift Fur Medizinische Physik*, **2020**, 32, 74-74	7.6	1
69	Mid-position treatment strategy for locally advanced lung cancer: a dosimetric study. *British Journal of Radiology*, **2020**, 93, 20190692	3.4	2
68	In vivo gadolinium nanoparticle quantification with SPECT/CT. *EJNMMI Physics*, **2019**, 6, 9	4.4	3
67	Regularised patient-specific stopping power calibration for proton therapy planning based on proton radiographic images. *Physics in Medicine and Biology*, **2019**, 64, 065008	3.8	19
66	Technical Note: Relative proton stopping power estimation from virtual monoenergetic images reconstructed from dual-layer computed tomography. *Medical Physics*, **2019**, 46, 1821-1828	4.4	7
65	Experimental comparison of proton CT and dual energy x-ray CT for relative stopping power estimation in proton therapy. *Physics in Medicine and Biology*, **2019**, 64, 165002	3.8	30

64	Effects of transverse heterogeneities on the most likely path of protons. *Physics in Medicine and Biology*, **2019**, 64, 065003	3.8	6
63	SPARE: Sparse-view reconstruction challenge for 4D cone-beam CT from a 1-min scan. *Medical Physics*, **2019**, 46, 3799-3811	4.4	21
62	Optimized conversion from CT numbers to proton relative stopping power based on proton radiography and scatter corrected cone-beam CT images **2019**,		1
61	Feasibility of 4DCBCT-based proton dose calculation: An ex vivo porcine lung phantom study. *Zeitschrift Fur Medizinische Physik*, **2019**, 29, 249-261	7.6	10
60	Fixed forced detection for fast SPECT Monte-Carlo simulation. *Physics in Medicine and Biology*, **2018** , 63, 055011	3.8	5
59	A comprehensive theoretical comparison of proton imaging set-ups in terms of spatial resolution. *Physics in Medicine and Biology*, **2018**, 63, 135013	3.8	16
58	Registration of phase-contrast images in propagation-based X-ray phase tomography. *Journal of Microscopy*, **2018**, 269, 36-47	1.9	6
57	Two-dimensional noise reconstruction in proton computed tomography using distance-driven filtered back-projection of simulated projections. *Physics in Medicine and Biology*, **2018**, 63, 215009	3.8	15
56	Comparison of five one-step reconstruction algorithms for spectral CT. *Physics in Medicine and Biology*, **2018**, 63, 235001	3.8	26
55	Experimental fluence-modulated proton computed tomography by pencil beam scanning. *Medical Physics*, **2018**, 45, 3287-3296	4.4	12
54	Deriving the mean excitation energy map from dual-energy and proton computed tomography. *Physics and Imaging in Radiation Oncology*, **2018**, 6, 20-24	3.1	2
53	Accurate Transaxial Region-of-Interest Reconstruction in Helical CT?. *IEEE Transactions on Radiation and Plasma Medical Sciences*, **2017**, 1, 334-345	4.2	3
52	Application of fluence field modulation to proton computed tomography for proton therapy imaging. *Physics in Medicine and Biology*, **2017**, 62, 6026-6043	3.8	16
51	Abstract ID: 85 Investigating the physics of a CBCT projection shading correction based on a prior CT. *Physica Medica*, **2017**, 42, 17-18	2.7	
50	Deformable image registration applied to lung SBRT: Usefulness and limitations. *Physica Medica*, **2017**, 44, 108-112	2.7	12
49	Comparison of projection- and image-based methods for proton stopping power estimation using dual energy CT. *Physics and Imaging in Radiation Oncology*, **2017**, 3, 28-36	3.1	16
48	Optimization of dual-energy CT acquisitions for proton therapy using projection-based decomposition. *Medical Physics*, **2017**, 44, 4548-4558	4.4	7
47	Calibration for Circular Cone-Beam CT Based on Consistency Conditions. *IEEE Transactions on Radiation and Plasma Medical Sciences*, **2017**, 1, 517-526	4.2	5

46	Regularization of nonlinear decomposition of spectral x-ray projection images. *Medical Physics*, **2017**, 44, e174-e187	4.4	40
45	Decomposing a prior-CT-based cone-beam CT projection correction algorithm into scatter and beam hardening components. *Physics and Imaging in Radiation Oncology*, **2017**, 3, 49-52	3.1	14
44	Fast reconstruction of low dose proton CT by sinogram interpolation. *Physics in Medicine and Biology*, **2016**, 61, 5868-82	3.8	19
43	Motion-aware temporal regularization for improved 4D cone-beam computed tomography. *Physics in Medicine and Biology*, **2016**, 61, 6856-6877	3.8	17
42	Data Consistency Conditions for Cone-Beam Projections on a Circular Trajectory. *IEEE Signal Processing Letters*, **2016**, 23, 1746-1750	3.2	3
41	Binary tomography reconstruction from few projections with Total Variation regularization for bone microstructure studies. *Journal of X-Ray Science and Technology*, **2016**, 24, 177-89	2.1	1
40	Evaluation of a new transperineal ultrasound probe for inter-fraction image-guidance for definitive and post-operative prostate cancer radiotherapy. *Physica Medica*, **2016**, 32, 499-505	2.7	19
39	. *IEEE Transactions on Nuclear Science*, **2016**, 63, 1408-1418	1.7	0
38	SU-F-J-214: Dose Reduction by Spatially Optimized Image Quality Via Fluence Modulated Proton CT (FMpCT). *Medical Physics*, **2016**, 43, 3458-3458	4.4	1
37	SU-F-J-186: Enabling Adaptive IMPT with CBCT-Based Dose Recalculation for H&N and Prostate Cancer Patients. *Medical Physics*, **2016**, 43, 3451-3451	4.4	
36	Filtered-backprojection reconstruction for a cone-beam computed tomography scanner with independent source and detector rotations. *Medical Physics*, **2016**, 43, 2344	4.4	13
35	Investigating deformable image registration and scatter correction for CBCT-based dose calculation in adaptive IMPT. *Medical Physics*, **2016**, 43, 5635	4.4	62
34	Technical Note: Procedure for the calibration and validation of kilo-voltage cone-beam CT models. *Medical Physics*, **2016**, 43, 5199	4.4	5
33	Filtered back-projection reconstruction for attenuation proton CT along most likely paths. *Physics in Medicine and Biology*, **2016**, 61, 3258-78	3.8	10
32	Ultrasound versus Cone-beam CT image-guided radiotherapy for prostate and post-prostatectomy pretreatment localization. *Physica Medica*, **2015**, 31, 997-1004	2.7	15
31	Realistic Simulations for the Evaluation of Monomodal Registration Algorithms of 3D Pelvic Ultrasound Images. *Physics Procedia*, **2015**, 70, 1169-1172		
30	Monte Carlo comparison of x-ray and proton CT for range calculations of proton therapy beams. *Physics in Medicine and Biology*, **2015**, 60, 7585-99	3.8	34
29	Dose fractionation in synchrotron radiation x-ray phase micro-tomography. *Physics in Medicine and Biology*, **2015**, 60, 7543-66	3.8	4

28	Development of 2D+T tracking algorithm in ultrasound images for radiotherapy. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference*, **2015**, 2015, 2916-9	0.9	
27	2D/4D marker-free tumor tracking using 4D CBCT as the reference image. *Physics in Medicine and Biology*, **2014**, 59, 2219-33	3.8	10
26	Semiautomatic registration of 3D transabdominal ultrasound images for patient repositioning during postprostatectomy radiotherapy. *Medical Physics*, **2014**, 41, 122903	4.4	8
25	In-room breathing motion estimation from limited projection views using a sliding deformation model. *Journal of Physics: Conference Series*, **2014**, 489, 012026	0.3	1
24	Motion artifact detection in four-dimensional computed tomography images. *Journal of Physics: Conference Series*, **2014**, 489, 012024	0.3	
23	Split exponential track length estimator for Monte-Carlo simulations of small-animal radiation therapy. *Physics in Medicine and Biology*, **2014**, 59, 7703-15	3.8	17
22	Learning directional relative positions between mediastinal lymph node stations and organs. *Medical Physics*, **2014**, 41, 061905	4.4	3
21	Cardiac C-arm computed tomography using a 3D + time ROI reconstruction method with spatial and temporal regularization. *Medical Physics*, **2014**, 41, 021903	4.4	25
20	The Reconstruction Toolkit (RTK), an open-source cone-beam CT reconstruction toolkit based on the Insight Toolkit (ITK). *Journal of Physics: Conference Series*, **2014**, 489, 012079	0.3	80
19	Removing streak artifacts from ECG-gated reconstructions using deconvolution. *Journal of X-Ray Science and Technology*, **2014**, 22, 253-70	2.1	3
18	Impact of probe pressure variability on prostate localization for ultrasound-based image-guided radiotherapy. *Radiotherapy and Oncology*, **2014**, 111, 132-7	5.3	23
17	Is abdominal compression useful in lung stereotactic body radiation therapy? A 4DCT and dosimetric lobe-dependent study. *Physica Medica*, **2013**, 29, 333-40	2.7	56
16	Registration of sliding objects using direction dependent B-splines decomposition. *Physics in Medicine and Biology*, **2013**, 58, 1303-14	3.8	53
15	Filtered backprojection proton CT reconstruction along most likely paths. *Medical Physics*, **2013**, 40, 031103	4.4	61
14	Respiratory Motion Correction in Cone-Beam CT for Image-Guided Radiotherapy **2013**, 319-334		
13	Intensity-Based Deformable Registration: Introduction and Overview **2013**, 103-124		1
12	MO-F-WAB-09: Improvement of Digitally Reconstructed Radiograph Quality of Thoracic 4D Cone Beam Computed Tomography. *Medical Physics*, **2013**, 40, 411-411	4.4	
11	Quantification of the variability of diaphragm motion and implications for treatment margin construction. *International Journal of Radiation Oncology Biology Physics*, **2012**, 82, e399-407	4	44

10	Automated segmentation of a motion mask to preserve sliding motion in deformable registration of thoracic CT. *Medical Physics*, **2012**, 39, 1006-15	4.4	62
9	Comparative study of respiratory motion correction techniques in cone-beam computed tomography. *Radiotherapy and Oncology*, **2011**, 100, 356-9	5.3	32
8	Evaluation of registration methods on thoracic CT: the EMPIRE10 challenge. *IEEE Transactions on Medical Imaging*, **2011**, 30, 1901-20	11.7	311
7	Spatiotemporal motion estimation for respiratory-correlated imaging of the lungs. *Medical Physics*, **2011**, 38, 166-78	4.4	105
6	Comparison of analytic and algebraic methods for motion-compensated cone-beam CT reconstruction of the thorax. *IEEE Transactions on Medical Imaging*, **2009**, 28, 1513-25	11.7	51
5	On-the-fly motion-compensated cone-beam CT using an a priori model of the respiratory motion. *Medical Physics*, **2009**, 36, 2283-96	4.4	102
4	On-the-fly motion-compensated cone-beam CT using an a priori motion model. *Lecture Notes in Computer Science*, **2008**, 11, 729-36	0.9	11
3	Algebraic and analytic reconstruction methods for dynamic tomography. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 726-30		0
2	Cone-beam projection of a deformable volume for motion compensated algebraic reconstruction. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 6544-7		1
1	Respiratory signal extraction for 4D CT imaging of the thorax from cone-beam CT projections. *Lecture Notes in Computer Science*, **2005**, 8, 556-63	0.9	8