Stephen Pistorius

List of Publications by Year
in descending order

147 papers	1,519 citations	361413 20 h-index	377865 34 g-index
150 all docs	150 docs citations	150 times ranked	1100 citing authors

#	Article	IF	Citations
1	Dosimetric investigation and portal dose image prediction using an amorphous silicon electronic portal imaging device. Medical Physics, 2001, 28, 911-924.	3.0	163
2	A Wideband Microwave Tomography System With a Novel Frequency Selection Procedure. IEEE Transactions on Biomedical Engineering, 2010, 57, 894-904.	4.2	121
3	Analysis of Incident Field Modeling and Incident/Scattered Field Calibration Techniques in Microwave Tomography. IEEE Antennas and Wireless Propagation Letters, 2011, 10, 900-903.	4.0	85
4	On Super-Resolution With an Experimental Microwave Tomography System. IEEE Antennas and Wireless Propagation Letters, 2010, 9, 393-396.	4.0	64
5	Histogram Specification: A Fast and Flexible Method to Process Digital Images. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 1565-1578.	4.7	63
6	Microwave Imaging of Human Forearms: Pilot Study and Image Enhancement. International Journal of Biomedical Imaging, 2013, 2013, 1-17.	3.9	49
7	A two-step algorithm for predicting portal dose images in arbitrary detectors. Medical Physics, 2000, 27, 2109-2116.	3.0	48
8	A Novel Microwave Tomography System Based on the Scattering Probe Technique. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 379-390.	4.7	46
9	Real time breast microwave radar image reconstruction using circular holography: A study of experimental feasibility. Medical Physics, 2011, 38, 5420-5431.	3.0	32
10	A planar ultrawideband elliptical monopole antenna with reflector for breast microwave imaging. Microwave and Optical Technology Letters, 2014, 56, 808-813.	1.4	30
11	Feasibility of predicting tumor motion using online data acquired during treatment and a generalized neural network optimized with offline patient tumor trajectories. Medical Physics, 2018, 45, 830-845.	3.0	30
12	Photon scatter in portal images: Physical characteristics of pencil beam kernels generated using theEGSMonte Carlo code. Medical Physics, 2000, 27, 312-320.	3.0	29
13	Using <i>a priori</i> Information for Regularization in Breast Microwave Image Reconstruction. IEEE Transactions on Biomedical Engineering, 2010, 57, 2197-2208.	4.2	28
14	Monte Carlo studies of the exit photon spectra and dose to a metal/phosphor portal imaging screen. Medical Physics, 2000, 27, 330-339.	3.0	27
15	The Application of an Iterative Structure to the Delay-and-Sum and the Delay-Multiply-and-Sum Beamformers in Breast Microwave Imaging. Diagnostics, 2020, 10, 411.	2.6	25
16	Photon scatter in portal images: Accuracy of a fluence based pencil beam superposition algorithm. Medical Physics, 2000, 27, 913-922.	3.0	24
17	An Open-Access Experimental Dataset for Breast Microwave Imaging. , 2020, , .		24
18	Classification of breast tumor models with a prototype microwave imaging system. Medical Physics, 2020, 47, 1860-1870.	3.0	23

#	Article	IF	Citations
19	Semi automatic MRI prostate segmentation based on wavelet multiscale products. , 2008, 2008, 3020-3.		22
20	A study of matching fluid loss in a biomedical microwave tomography system. Medical Physics, 2013, 40, 023101.	3.0	22
21	A Wavefront Reconstruction Method for 3-D Cylindrical Subsurface Radar Imaging. IEEE Transactions on Image Processing, 2008, 17, 1908-1925.	9.8	21
22	The University of Manitoba Microwave Imaging Repository: A Two-Dimensional Microwave Scattering Database for Testing Inversion and Calibration Algorithms [Measurements Corner]. IEEE Antennas and Propagation Magazine, 2011, 53, 126-133.	1.4	21
23	Design and performance analysis of the miniaturised water–filled double–ridged horn antenna for active microwave imaging applications. IET Microwaves, Antennas and Propagation, 2015, 9, 1173-1178.	1.4	21
24	The effect of ionizing radiation on the primate pancreas: An endocrine and morphologic study. Journal of Surgical Oncology, 1987, 34, 43-52.	1.7	20
25	Microwave reflection imaging using a magnetic tunnel junction based spintronic microwave sensor. Applied Physics Letters, 2012, 101, 232406.	3.3	17
26	A Directional Antenna in a Matching Liquid for Microwave Radar Imaging. International Journal of Antennas and Propagation, 2015, 2015, 1-8.	1.2	17
27	A heterogeneous breast phantom for microwave breast imaging. , 2009, 2009, 2727-30.		16
28	An iterative three-dimensional electron density imaging algorithm using uncollimated Compton scattered x rays from a polyenergetic primary pencil beam. Medical Physics, 2006, 34, 256-265.	3.0	15
29	Microwave radar imaging using a solid state spintronic microwave sensor. Applied Physics Letters, 2014, 105, 122406.	3.3	15
30	Manufacture and testing of anthropomorphic 3D-printed breast phantoms using a microwave radar algorithm optimized for propagation speed. , 2017, , .		15
31	An Air-Operated Bistatic System for Breast Microwave Radar Imaging: Pre-Clinical Validation. , 2019, 2019, 1859-1862.		15
32	A diamond shaped small planar ultra wide band (UWB) antenna for microwave Imaging Purpose. , 2007, , .		14
33	Electrical impedance tomography reconstruction using a monotonicity approach based on a priori knowledge. , 2010, 2010, 4996-9.		14
34	Initial classification of breast tumour phantoms using a UWB radar prototype. , 2013, , .		14
35	A BIMODAL RECONSTRUCTION METHOD FOR BREAST CANCER IMAGING. Progress in Electromagnetics Research, 2011, 118, 461-486.	4.4	13
36	Breast Tumor Microwave Simulator Based on a Radar Signal Model. , 2006, , .		12

#	ARTICLE	IF	CITATIONS
37	Synthetic aperture ultrasound imaging of XLPE insulation of underground power cables. IEEE Electrical Insulation Magazine, 2010, 26, 24-34.	0.8	12
38	The Diagnostic Performance of Machine Learning in Breast Microwave Sensing on an Experimental Dataset. IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, 2022, 6, 139-145.	3.4	11
39	Hybrid Microwave Tomography Technique for Breast Cancer Imaging. , 2006, 2006, 4273-6.		10
40	A comparison study between horn and vivaldi antennas for 1.5â€"6 GHz breast microwave radar imaging. , 2014, , .		10
41	A method for 3D electron density imaging using single scattered x-rays with application to mammographic screening. Physics in Medicine and Biology, 2008, 53, 5445-5459.	3.0	9
42	A global optimization technique for microwave imaging of the inhomogeneous and dispersive breast. Canadian Journal of Electrical and Computer Engineering, 2010, 35, 15-24.	2.0	9
43	Evaluation of the Feasibility and Quantitative Accuracy of a Generalized Scatter 2D PET Reconstruction Method. ISRN Biomedical Imaging, 2013, 2013, 1-11.	0.9	9
44	SVM-based classification of breast tumour phantoms using a UWB radar prototype system. , 2014, , .		9
45	Experimental feasibility of multistatic holography for breast microwave radar image reconstruction. Medical Physics, 2016, 43, 4674-4686.	3.0	9
46	Image Reconstruction using Microwave Tomography for Breast Cancer Detection on Distributed Memory Machine. Parallel Processing (ICPP), Proceedings of the International Symposium, 2007, , .	0.0	8
47	Wavefront Reconstruction Method for Subsurface Radar Imagery Acquired Along Circular and Planar Scan Trajectories. IEEE Transactions on Aerospace and Electronic Systems, 2010, 46, 1346-1363.	4.7	8
48	Tracking lung tumour motion using a dynamically weighted optical flow algorithm and electronic portal imaging device. Measurement Science and Technology, 2013, 24, 074012.	2.6	8
49	A numerical approach to microwave imaging based on genetic algorithm optimization. , 2006, 6177, 391.		7
50	An Entropy-Based Propagation Speed Estimation Method for Near-Field Subsurface Radar Imaging. Eurasip Journal on Advances in Signal Processing, 2010, 2010, .	1.7	7
51	Reducing the tracking drift of an uncontoured tumor for a portal-image-based dynamically adapted conformal radiotherapy treatment. Medical and Biological Engineering and Computing, 2019, 57, 1657-1672.	2.8	7
52	A Comparison of the Efficiency of Using a Deep CNN Approach with Other Common Regression Methods for the Prediction of EGFR Expression in Glioblastoma Patients. Journal of Digital Imaging, 2020, 33, 391-398.	2.9	7
53	An Optimization-Based Approach to Radar Image Reconstruction in Breast Microwave Sensing. Sensors, 2021, 21, 8172.	3.8	7
54	Determination of equivalent photon fields through integrated 1D convolution kernels. Physics in Medicine and Biology, 1999, 44, 2971-2985.	3.0	6

#	Article	IF	Citations
55	A novel hybrid reconstruction algorithm for first generation incoherent scatter CT (ISCT) of large objects with potential medical imaging applications. Journal of X-Ray Science and Technology, 2011, 19, 35-56.	1.0	6
56	A 1st generation scatter CT algorithm for electron density breast imaging which accounts for bound incoherent, coherent and multiple scatter: A Monte Carlo study. Journal of X-Ray Science and Technology, 2011, 19, 477-499.	1.0	6
57	Frequency Dispersion Effects on FDTD Model for Breast Tumor Imaging Application. , 2006, , .		5
58	Analytical scatter estimation for cone-beam computed tomography. , 2009, , .		5
59	A double-ridged horn antenna design in canola oil for medical imaging. , 2013, , .		5
60	Evaluation of Image Quality Improvements When Adding Patient Outline Constraints into a Generalized Scatter PET Reconstruction Algorithm. ISRN Biomedical Imaging, 2013, 2013, 1-8.	0.9	5
61	New horizons for microwave applications using spin caloritronics. Solid State Communications, 2014, 198, 45-51.	1.9	5
62	Classification of electromagnetic signals obtained from microwave scattering over healthy and tumorous breast models. , 2016, , .		5
63	Evaluating a potential technique with local optical flow vectors for automatic organ-at-risk (OAR) intrusion detection and avoidance during radiotherapy. Physics in Medicine and Biology, 2019, 64, 145008.	3.0	5
64	Skin surface removal on breast microwave imagery using wavelet multiscale products. , 2006, 6143, 1022.		4
65	Real time MRI prostate segmentation based on wavelet multiscale products flow tracking. , 2010, 2010, 5034-7.		4
66	A novel microwave tomography system for breast imaging based on the modulated scattering technique. , 2014, , .		4
67	The impact of the inverse chirp z-transform on breast microwave radar image reconstruction. International Journal of Microwave and Wireless Technologies, 2020, 12, 848-854.	1.9	4
68	A novel method for automatic detection of patient out-of-plane rotation by comparing a single portal image to a reference image. Medical Physics, 2005, 32, 3678-3687.	3.0	3
69	Effects on the Quality of Breast Microwave Imagery Using Different Antenna Beamwidths. , 2005, , .		3
70	A comparison of interpolation methods for breast microwave radar imaging. , 2009, 2009, 2735-8.		3
71	Coplanar waveguide fed taper arc slot antenna for microwave imaging and ultra wide band applications. Microwave and Optical Technology Letters, 2009, 51, 2607-2611.	1.4	3
72	A real time Breast Microwave Radar imaging reconstruction technique using simt based interpolation. , 2010, , .		3

#	ARTICLE	IF	CITATIONS
73	Microwave radar imaging of inhomogeneous breast phantoms using circular holography. , 2012, , .		3
74	An investigation on the transmission response of a miniaturized double-ridged horn antenna for radar-based imaging. , 2012, , .		3
75	The effect of detector size and energy resolution on image quality in multi-projection Compton scatter tomography. Journal of X-Ray Science and Technology, 2014, 22, 113-128.	1.0	3
76	Comparison of image quality metrics for electromagnetic wave propagation speed estimation in Breast Microwave Radar imaging scenarios. , 2014, , .		3
77	Application and Parametric Studies of a Sliding Window Neural Network for Respiratory Motion Predictions of Lung Cancer Patients. IFMBE Proceedings, 2015, , 595-598.	0.3	3
78	A Geometric Model to Characterize Annihilation Positions Associated With Scattered Coincidences in PET: A Simulation-Based Study. IEEE Transactions on Computational Imaging, 2016, 2, 101-108.	4.4	3
79	Initial Results Using an MLEM-based Reconstruction Algorithm for Breast Microwave Radar Imaging. , 2018, , .		3
80	A simple α-β²-independent method to derive fully isoeffective effective schedules following a change in dose per fraction: In regard to Joiner (Int J Radiat Oncol Biol Phys 2004;58:871–875). International Journal of Radiation Oncology Biology Physics, 2005, 63, 312-314.	0.8	2
81	3D Breast Microwave Imaging Based on Wavefront Reconstruction. , 2006, 2006, 2542-5.		2
82	Efficient microwave breast imaging technique using parallel finite difference time domain and parallel genetic algorithms. , 2007, , .		2
83	Hybrid binary-real GA for microwave breast tomography. , 2008, , .		2
84	An improved wavefront reconstruction method for breast microwave imaging. , 2009, 2009, 5725-8.		2
85	Spatial sampling constraints on Breast Microwave Radar scan acquired along circular scan geometries. , 2011, , .		2
86	A holographic reconstruction method for circular multistatic subsurface radar. , 2012, , .		2
87	Capacitive Micromachined Ultrasonic Transducer Array with Pencil Beam Shape and Wide Range Beam Steering. Procedia Engineering, 2012, 47, 542-545.	1.2	2
88	Holographic reconstruction of multistatic breast microwave radar images: Initial results on synthetic phantoms. , 2013, , .		2
89	Characterization the annihilation position distribution within a geometrical model associated with scattered coincidences in PET. , 2014, , .		2
90	The impact of the number of projections on image quality in Compton scatter tomography. Journal of X-Ray Science and Technology, 2015, 23, 745-758.	1.0	2

#	ARTICLE	IF	CITATIONS
91	Poster - Wed Eve-13: Evaluation of Spectroscopic Compton Tomography Approach at 55 keV. Medical Physics, 2009, 36, 4306-4306.	3.0	2
92	A Parallel Algorithmic Approach for Microwave Tomography in Breast Cancer Detection. , 2007, , .		1
93	Scatter enhanced breast CT using a mono-energetic first generation scanner: Feasibility study. , 2008, , .		1
94	An ultra-wideband microwave tomography system: Preliminary results. , 2009, 2009, 2288-91.		1
95	Wavefront Reconstruction of Elevation Circular Synthetic Aperture Radar Imagery Using a Cylindrical Green's Function. Eurasip Journal on Advances in Signal Processing, 2009, 2010, .	1.7	1
96	Frequency compounding of synthetic aperture ultrasound imagery using multiscale products. , 2010, , .		1
97	Fast digital image contrast enhancement. , 2010, , .		1
98	A MEMS ultrasonic transducer imager array with beam width, acoustic power, and frequency modulations. , 2012, , .		1
99	Real-time reconstruction of three-dimensional cylindrical near-field radar images using a single instruction multiple data interpolation approach. IET Radar, Sonar and Navigation, 2012, 6, 494-506.	1.8	1
100	Parametric study of a water-filled double-ridged horn antenna for biomedical imaging application. , 2012, , .		1
101	Size reduction of a double-ridged horn antenna for a bistatic radar-based breast imaging system. , 2012, , .		1
102	Tracking a phantom's lung tumour target using optical flow algorithm and electronic portal imaging devices. , 2012, , .		1
103	Improvements in image quality when using patient outline constraints with a generalized scatter PET reconstruction algorithm. , 2012, , .		1
104	An experimental study on the effects of the antenna — Breast surface separation in microwave radar imaging. , 2014, , .		1
105	Evaluation of the skin thickness effects in Breast Microwave Radar images. , 2014, , .		1
106	Tissue motion tracking at the edges of a radiation treatment field using local optical flow analysis. Journal of Physics: Conference Series, 2014, 489, 012040.	0.4	1
107	Feasibility of scatter based electron density reconstruction for attenuation correction in positron emission tomography. , 2014, , .		1
108	A generalized scatter reconstruction algorithm for limited energy resolution PET detectors. , 2014, , .		1

#	Article	IF	Citations
109	A Singular Value Decomposition approach for Microwave holography imaging of the breast: A feasibility study. , 2016, , .		1
110	The use of 0.5r cav as an effective point of measurement for cylindrical chambers may result in a systematic shift of electron percentage depth doses. Journal of Applied Clinical Medical Physics, 2020, 21, 117-126.	1.9	1
111	4D in vivo dose verification for real–time tumor tracking treatments using EPID dosimetry. Medical Dosimetry, 2021, 46, 29-38.	0.9	1
112	A Quantitative Analysis of the Impact of Glass as a Phantom Shell Material in Breast Microwave Sensing. , 2021, , .		1
113	Hybrid Microwave Tomography Technique for Breast Cancer Imaging. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	1
114	SU–FF–J–23: Artificial Neural Networks Approach For Clinical Portal Dose Image Comparison. Medical Physics, 2007, 34, 2373-2373.	3.0	1
115	WE-G-211-01: Breast Microwave Radar Image Reconstruction Using Circular Holography: Initial Results on Preclinical Datasets. Medical Physics, 2011, 38, 3835-3835.	3.0	1
116	Spatial variant apodization on subsurface imagery acquired along circular trajectories. , 2007, , .		1
117	Poster - 02: Positron Emission Tomography (PET) Imaging Reconstruction using higher order Scattered Photon Coincidences. Medical Physics, 2016, 43, 4935-4935.	3.0	1
118	A Quantitative Analysis of the Plastic Shell Effects in 3D- Printed Breast Phantoms for Microwave Imaging. , 2022, , .		1
119	Effect of cyclosporine and irradiation on experimental pancreatic allografts in the primate. Journal of Surgical Oncology, 1988, 37, 215-219.	1.7	0
120	Environmental safety issues involving electromagnetic fields in Manitoba, Canada. , 2003, , .		0
121	A Method for Combining Focused Monostatic and Bistatic GPR to Reduce Multipath Effects. , 0, , .		0
122	Design and performance investigation of a diamond–shaped compact ultra–wide band antenna for microwave imaging. Microwave and Optical Technology Letters, 2008, 50, 3255-3259.	1.4	0
123	Comparison of a Novel IMRT QA Method, Incorporating Dose Recalculation on Patient CT Data, to a Standard Composite IMRT QA Method. International Journal of Radiation Oncology Biology Physics, 2008, 72, S646-S647.	0.8	0
124	Wavefront reconstruction of 3D cylindrical subsurface radar imagery: A study on synthetic phantoms. , 2008, , .		0
125	Brain MRI Segmentation Based on the Rényi's Fractal Dimension. Lecture Notes in Computer Science, 2009, , 737-748.	1.3	0
126	Fast simulation of all orders of multiple-scattered light in swept source optical coherence tomography. Proceedings of SPIE, 2010, , .	0.8	0

#	Article	IF	Citations
127	A novel broadband design procedure for balanced compact planar tapered slot antenna. , 2010, , .		0
128	A deconvolutional technique for microwave data calibration. , 2011, , .		0
129	Poster - Thur Eve - 14: The effect of fluence and detector size on image quality in multi-projection compton scatter tomography. Medical Physics, 2012, 39, 4626-4627.	3.0	0
130	Spatial sampling requirements for multistatic Breast Microwave Radar imaging. , 2012, , .		0
131	Design and analysis of a wide bandwidth immersion MEMS transducer array for fault detection in power cables. , 2012, , .		0
132	An ultrawideband elliptical monopole antenna for breast microwave radar imaging. , 2013, , .		0
133	Slotted waveguide arrays for collecting near-field scattering data. , 2014, , .		0
134	On the development of a clinical full-vectorial 3D microwave breast imaging system. , 2015, , .		0
135	Multistatic microwave holography: Initial results on anthropomorphic phantoms. , 2016, , .		0
136	Lung tumour motion tracking using a weighted optical flow algorithm with linear accelerator gantry rotation. , 2017, , .		0
137	Sci-Fri PM Imaging-05: Prediction of multiple scatter distributions using an iterative Monte Carlo technique for X-ray Scatter Mammography. Medical Physics, 2006, 33, 2670-2670.	3.0	0
138	SUâ€HHâ€BRBâ€03: Correction for Multiple and Coherent Scatter in First Generation Incoherent Scatter CT for Inâ€Vivo Breast Imaging. Medical Physics, 2010, 37, 3330-3330.	3.0	0
139	WE-G-211-03: Multiple Projection Compton Scatter Tomography. Medical Physics, 2011, 38, 3835-3835.	3.0	0
140	SU-E-J-58: Comparison of Conformal Tracking Methods Using Initial, Adaptive and Preceding Image Frames for Image Registration. Medical Physics, 2015, 42, 3277-3277.	3.0	0
141	Poster - 51: A tumor motion-compensating system with tracking and prediction - a proof-of-concept study. Medical Physics, 2016, 43, 4948-4949.	3.0	0
142	Poster - 20: Detector selection for commissioning of a Monte Carlo based electron dose calculation algorithm. Medical Physics, 2016, 43, 4940-4940.	3.0	0
143	Sci-Thur AM: YIS - 05: Prediction of lung tumor motion using a generalized neural network optimized from the average prediction outcome of a group of patients. Medical Physics, 2016, 43, 4929-4929.	3.0	0
144	Effects of Tissue Composition on the Accuracy of Microwave BreastTumour Imaging. , 2007, , 1489-1493.		0

#	Article	IF	Citations
145	Optical Flow and Total Least Squares Solution for Multi-scale Data in an Over-Determined System. , 2007, , 33-42.		0
146	Neural Network PET Reconstruction using Scattered Data in Energy-dependent Sinograms. , 2022, , .		0
147	3D Breast Microwave Imaging Based on Wavefront Reconstruction. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2006, , .	0.5	0