David Isaacson

List of Publications by Citations

50 papers	2,615 citations	18 h-index	51 g-index
51 ext. papers	2,906 ext. citations	4 avg, IF	4.7 L-index

#	Paper	IF	Citations
50	Electrical Impedance Tomography. *SIAM Review*, **1999**, 41, 85-101	7.4	707
49	Existence and Uniqueness for Electrode Models for Electric Current Computed Tomography. *SIAM Journal on Applied Mathematics*, **1992**, 52, 1023-1040	1.8	628
48	Distinguishability of conductivities by electric current computed tomography. *IEEE Transactions on Medical Imaging*, **1986**, 5, 91-5	11.7	306
47	An implementation of the reconstruction algorithm of A Nachman for the 2D inverse conductivity problem. *Inverse Problems*, **2000**, 16, 681-699	2.3	162
46	Reconstructions of chest phantoms by the D-bar method for electrical impedance tomography. *IEEE Transactions on Medical Imaging*, **2004**, 23, 821-8	11.7	116
45	A direct reconstruction algorithm for electrical impedance tomography. *IEEE Transactions on Medical Imaging*, **2002**, 21, 555-9	11.7	72
44	A reconstruction algorithm for breast cancer imaging with electrical impedance tomography in mammography geometry. *IEEE Transactions on Biomedical Engineering*, **2007**, 54, 700-10	5	55
43	Effects of Measurement Precision and Finite Numbers of Electrodes on Linear Impedance Imaging Algorithms. *SIAM Journal on Applied Mathematics*, **1991**, 51, 1705-1731	1.8	47
42	Reconstruction of conductivity changes due to ventilation and perfusion from EIT data collected on a rectangular electrode array. *Physiological Measurement*, **2001**, 22, 97-106	2.9	34
41	A method for analyzing electrical impedance spectroscopy data from breast cancer patients. *Physiological Measurement*, **2007**, 28, S237-46	2.9	31
40	A versatile high-permittivity phantom for EIT. *IEEE Transactions on Biomedical Engineering*, **2008**, 55, 2601-7	5	30
39	An electrical impedance spectroscopy system for breast cancer detection. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 4154-7		26
38	Robust linearized image reconstruction for multifrequency EIT of the breast. *IEEE Transactions on Medical Imaging*, **2008**, 27, 1439-48	11.7	25
37	Dynamic electrical impedance imaging of a chest phantom using the Kalman filter. *Physiological Measurement*, **2006**, 27, S81-91	2.9	23
36	Methods for compensating for variable electrode contact in EIT. *IEEE Transactions on Biomedical Engineering*, **2009**, 56, 2762-72	5	22
35	Efficient Simultaneous Reconstruction of Time-Varying Images and Electrode Contact Impedances in Electrical Impedance Tomography. *IEEE Transactions on Biomedical Engineering*, **2017**, 64, 795-806	5	21
34	Optimal Acoustic Measurements. *SIAM Journal on Applied Mathematics*, **2001**, 61, 1628-1647	1.8	20

33	3-D electrical impedance tomography for piecewise constant domains with known internal boundaries. *IEEE Transactions on Biomedical Engineering*, **2007**, 54, 2-10	5	19
32	An implementation of CalderOn's method for 3-D limited-view EIT. *IEEE Transactions on Medical Imaging*, **2009**, 28, 1073-82	11.7	18
31	A mathematical model for the effects of HER2 overexpression on cell proliferation in breast cancer. *Bulletin of Mathematical Biology*, **2008**, 70, 1707-29	2.1	18
30	Comment on Calderon's Paper: "On an Inverse Boundary Value Problem". *Mathematics of Computation*, **1989**, 52, 553	1.6	18
29	The critical behavior of 41. *Communications in Mathematical Physics*, **1977**, 53, 257-275	2	18
28	Regional admittivity spectra with tomosynthesis images for breast cancer detection: preliminary patient study. *IEEE Transactions on Medical Imaging*, **2008**, 27, 1762-8	11.7	17
27	The complete electrode model for EIT in a mammography geometry. *Physiological Measurement*, **2007**, 28, S57-69	2.9	17
26	Electrode boundary conditions and experimental validation for BEM-based EIT forward and inverse solutions. *IEEE Transactions on Medical Imaging*, **2006**, 25, 1180-8	11.7	16
25	Comment on A.-P. Calder's paper: On an inverse boundary value problem in {it Seminar on Numerical Analysis and its Applications to Continuum Physics} (Rio de Janeiro, 1980), 65 73, Soc. Brasil. Mat., Rio de Janeiro, 1980; MR0590275 (81k:35160)]. *Mathematics of Computation*, **1989**, 52, 553-553	1.6	13
24	Singular perturbations and asymptotic eigenvalue degeneracy. *Communications on Pure and Applied Mathematics*, **1976**, 29, 531-551	2.5	13
23	A mathematical model of breast cancer treatment with CMF and doxorubicin. *Bulletin of Mathematical Biology*, **2011**, 73, 585-608	2.1	11
22	A two-layered forward model of tissue for electrical impedance tomography. *Physiological Measurement*, **2009**, 30, S19-34	2.9	11
21	Artificial boundary conditions and domain truncation in electrical impedance tomography. Part I: Theory and preliminary results. *Inverse Problems and Imaging*, **2015**, 9, 749-766	2.1	11
20	Adaptive Kaczmarz method for image reconstruction in electrical impedance tomography. *Physiological Measurement*, **2013**, 34, 595-608	2.9	10
19	Electrical impedance tomography. Comments on reconstruction algorithms. *Clinical Physics and Physiological Measurement: an Official Journal of the Hospital PhysiciststAssociation, Deutsche Gesellschaft Fur Medizinische Physik and the European Federation of Organisations for Medical Physics* , **1992**, 13 Suppl A, 83-9		10
18	Reconstruction of high contrast 2-D conductivities by the algorithm of A. Nachman. *Contemporary Mathematics*, **2001**, 241-254	1.6	10
17	Adaptive techniques in electrical impedance tomography reconstruction. *Physiological Measurement*, **2014**, 35, 1111-24	2.9	8
16	Dynamic electrical impedance imaging with the interacting multiple model scheme. *Physiological Measurement*, **2005**, 26, S217-33	2.9	8

15	An analytical layered forward model for breasts in electrical impedance tomography. *Physiological Measurement*, **2008**, 29, S27-40	2.9	7
14	The complete electrode model for imaging and electrode contact compensation in electrical impedance tomography. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 3462-5		6
13	The eigenvalues and eigenfunctions of a spherically symmetric anharmonic oscillator. *Communications on Pure and Applied Mathematics*, **1978**, 31, 659-670	2.5	6
12	A simplified model of mammography geometry for breast cancer imaging with electrical impedance tomography. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2004**, 2004, 1310-3		5
11	A mathematical model of cell cycle effects in gastric cancer chemotherapy. *Bulletin of Mathematical Biology*, **2012**, 74, 159-74	2.1	4
10	A mathematical model for the effects of HER2 over-expression on cell cycle progression in breast cancer. *Bulletin of Mathematical Biology*, **2011**, 73, 2865-87	2.1	4
9	A 3-D boundary element solution to the forward problem of electrical impedance tomography. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2004**, 2004, 960-3		4
8	An Algorithm for Applying Multiple Currents Using Voltage Sources in Electrical Impedance Tomography. *International Journal of Control, Automation and Systems*, **2008**, 6, 613-619	2.9	2
7	Analysis of forward solvers for electrical impedance tomography in a mammography geometry. *Journal of Physics: Conference Series*, **2010**, 224, 012033	0.3	1
6	Regional admittivity spectra with tomosynthesis images for breast cancer detection. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 4142-5		1
5	Layered model for breasts in electrical impedance tomography. *Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, **2007**, 2007, 4150-3		1
4	3D ELECTRICAL IMPEDANCE TOMOGRAPHY RECONSTRUCTIONS FROM SIMULATED ELECTRODE DATA USING DIRECT INVERSION t AND CALDERN METHODS.. *Inverse Problems and Imaging*, **2021**, 15, 1135-1169	2.1	1
3	Layer-stripping reconstruction algorithms in impedance imaging **1993**, 9-15		1
2	Large coupling behavior of the energy eigenvalues of two anharmonic oscillators. *Journal of Mathematical Physics*, **1983**, 24, 1477-1481	1.2	
1	Problems in impedance imaging **1993**, 62-70		