Huaxiang Wang

List of Publications by Year
in descending order

161 papers	1,431 citations	393982 19 h-index	433756 31 g-index
162 all docs	162 docs citations	162 times ranked	716 citing authors

#	Article	IF	Citations
1	A review on image reconstruction algorithms for electrical capacitance/resistance tomography. Sensor Review, 2016, 36, 429-445.	1.0	155
2	A high-performance digital system for electrical capacitance tomography. Measurement Science and Technology, 2011, 22, 055503.	1.4	88
3	A Pre-Iteration Method for the Inverse Problem in Electrical Impedance Tomography. IEEE Transactions on Instrumentation and Measurement, 2004, 53, 1093-1096.	2.4	65
4	Electrical Capacitance Tomography for Sensors of Square Cross Sections Using Calderon's Method. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 900-907.	2.4	56
5	A new linear back projection algorithm to electrical tomography based on measuring data decomposition. Measurement Science and Technology, 2015, 26, 125402.	1.4	38
6	A hybrid reconstruction algorithm for electrical impedance tomography. Measurement Science and Technology, 2007, 18, 813-818.	1.4	36
7	Electrical Capacitance Tomography With Differential Sensor. IEEE Sensors Journal, 2015, 15, 5087-5094.	2.4	36
8	Image reconstruction based on L1 regularization and projection methods for electrical impedance tomography. Review of Scientific Instruments, 2012, 83, 104707.	0.6	34
9	Liquid Film Thickness Estimation using Electrical Capacitance Tomography. Measurement Science Review, 2014, 14, 8-15.	0.6	34
10	Linearized solution to electrical impedance tomography based on the Schur conjugate gradient method. Measurement Science and Technology, 2007, 18, 3373-3383.	1.4	30
11	A Specific Data Acquisition Scheme for Electrical Tomography. , 2008, , .		30
12	Fuzzy clustering based ET image fusion. Information Fusion, 2013, 14, 487-497.	11.7	30
13	A Dual-Modality Integrated Sensor for Electrical Capacitance Tomography and Electromagnetic Tomography. IEEE Sensors Journal, 2019, 19, 10016-10026.	2.4	30
14	Reconstruction of electrical impedance tomography (EIT) images based on the expectation maximum (EM) method. ISA Transactions, 2012, 51, 808-820.	3.1	26
15	An integrated ECT/ERT dual modality sensor. , 2009, , .		25
16	Data fusion in dual-mode tomography for imaging oil–gas two-phase flow. Flow Measurement and Instrumentation, 2014, 37, 1-11.	1.0	25
17	Thermodynamic Model and Dynamic Temperature Compensation in Positive-Pressure-Based Sonic Nozzle Gas Flow Standard. IEEE Transactions on Instrumentation and Measurement, 2013, 62, 1154-1165.	2.4	24
18	Development of Single Drive Electrode Electrical Resistance Tomography System. IEEE Transactions on Instrumentation and Measurement, 2006, 55, 1208-1214.	2.4	22

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19	Hilbert–Huang Transform-Based Electrostatic Signal Analysis of Ring-Shape Electrodes With Different Widths. IEEE Transactions on Instrumentation and Measurement, 2012, 61, 1209-1217.	2.4	22
20	Electrical capacitance tomography using an accelerated proximal gradient algorithm. Review of Scientific Instruments, 2012, 83, 043704.	0.6	19
21	An Unsupervised Method for Evaluating Electrical Impedance Tomography Images. IEEE Transactions on Instrumentation and Measurement, 2018, 67, 2796-2803.	2.4	19
22	Clustering mechanism for electric tomography imaging. Science China Information Sciences, 2012, 55, 2849-2864.	2.7	18
23	An unsupervised grid-based approach for clustering analysis. Science China Information Sciences, 2010, 53, 1345-1357.	2.7	17
24	Classification of normal and cancerous lung tissues by electrical impendence tomography. Bio-Medical Materials and Engineering, 2014, 24, 2229-2241.	0.4	16
25	ECT Image Reconstruction Based on Alternating Direction Approximate Newton Algorithm. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 4873-4886.	2.4	16
26	Fast reconstruction of electrical resistance tomography (ERT) images based on the projected CG method. Flow Measurement and Instrumentation, 2012, 27, 37-46.	1.0	14
27	A Novel ECT System Based on FPGA and DSP. , 2007, , .		13
28	Two-Phase Flow Regime Identification Based on Cross-Entropy and Information Extension Methods for Computerized Tomography. IEEE Transactions on Instrumentation and Measurement, 2011, 60, 488-495.	2.4	13
29	Application of a high speed ECT system to online monitoring of pneumatic conveying process. Measurement: Journal of the International Measurement Confederation, 2014, 48, 29-42.	2.5	13
30	Second-order sensitivity coefficient based electrical tomography imaging. Chemical Engineering Science, 2019, 199, 40-49.	1.9	13
31	Sparse defects detection and 3D imaging base on electromagnetic tomography and total variation algorithm. Review of Scientific Instruments, 2019, 90, 124703.	0.6	13
32	3D modelling of the human thorax for ventilation distribution measured through electrical impedance tomography. Measurement Science and Technology, 2010, 21, 115801.	1.4	12
33	Impulsive noise reduction in digital phase-sensitive demodulation by nonlinear filtering. Measurement Science and Technology, 2015, 26, 075401.	1.4	12
34	Optimal distance of multi-plane sensor in three-dimensional electrical impedance tomography. Computer Assisted Surgery, 2017, 22, 326-338.	0.6	11
35	Electrical Capacitance Tomography Sensor Using Internal Electrodes. IEEE Sensors Journal, 2020, 20, 3207-3216.	2.4	11
36	Error-Constraint Deep Learning Scheme for Electrical Impedance Tomography (EIT). IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-11.	2.4	11

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37	A Regularization-Guided Deep Imaging Method for Electrical Impedance Tomography. IEEE Sensors Journal, 2022, 22, 8760-8771.	2.4	11
38	V-Shaped Dense Denoising Convolutional Neural Network for Electrical Impedance Tomography. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-14.	2.4	11
39	Digital phase-sensitive demodulation in electrical capacitance tomography system. , 2008, , .		10
40	The dynamic compensation of temperature sensors in sonic nozzle airflow standard facilities based on method of positive pressure. , 2012, , .		10
41	Modified sparse regularization for electrical impedance tomography. Review of Scientific Instruments, 2016, 87, 034702.	0.6	10
42	Electrical-impedance-tomography imaging based on a new three-dimensional thorax model for assessing the extent of lung injury. AIP Advances, 2019, 9, .	0.6	10
43	Exploring Respiratory Motion Tracking Through Electrical Impedance Tomography. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-12.	2.4	10
44	Independent component analysis of interface fluctuation of gas/liquid two-phase flows â€" experimental study. Flow Measurement and Instrumentation, 2009, 20, 220-229.	1.0	9
45	The Effects of Fluid Viscosity on the Orifice Rotameter. Measurement Science Review, 2016, 16, 87-95.	0.6	9
46	Further Development in Differential Electrical Capacitance Tomography. IEEE Sensors Journal, 2018, 18, 9781-9791.	2.4	9
47	Digital signal processing in electrical capacitance tomography. , 2008, , .		8
48	Lung ventilation functional monitoring based on electrical impedance tomography. Transactions of Tianjin University, 2009, 15, 7-12.	3.3	8
49	New progress of the digital electrical capacitance tomography system for gas/liquid two phase flow. , 2009, , .		8
50	A modified conjugate gradient method based on the Tikhonov system for computerized tomography (CT). ISA Transactions, 2011, 50, 256-261.	3.1	8
51	Application of electrical resistance tomography in bubble columns for volume fraction measurement. , 2012, , .		8
52	Finite element mesh optimisation for improvement of the sensitivity matrix in electrical resistance tomography. IET Science, Measurement and Technology, 2015, 9, 792-799.	0.9	8
53	Gamma-ray CT from incomplete projections for two-phase pipe flow. Review of Scientific Instruments, 2017, 88, 025106.	0.6	8
54	Amplitude demodulation for electrical capacitance tomography based on singular value decomposition. Review of Scientific Instruments, 2018, 89, 074705.	0.6	8

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55	Electrical Capacitance Tomography Using Incomplete Measurement Set. IEEE Access, 2019, 7, 79555-79564.	2.6	8
56	Measurement of Flow Velocity Using Electrical Resistance Tomography and Cross-Correlation Technique. IEEE Sensors Journal, 2021, 21, 20714-20721.	2.4	8
57	Mesh Wire Tomography combined with a modified sensitivity map. , 2011, , .		7
58	Online monitoring of oil film using electrical capacitance tomography and level set method. Review of Scientific Instruments, 2015, 86, 085106.	0.6	7
59	Accelerated reconstruction of electrical impedance tomography images via patch based sparse representation. Review of Scientific Instruments, 2016, 87, 114707.	0.6	7
60	Early lung cancer identification based on ERT measurements. , 2017, , .		7
61	2-D Median Filter-Based Impulsive Noise Reduction in Multifrequency Phase-sensitive Demodulation of Electrical Impedance Tomography. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 54-64.	2.4	7
62	Application of electrical resistance tomography for slug flow measurement in gas/liquid flow of horizontal pipe. , 2009, , .		6
63	Patch-based sparse reconstruction for electrical impedance tomography. Sensor Review, 2017, 37, 257-269.	1.0	6
64	Fuzzy optimal solution of electric tomography imaging: Modelling and application. Flow Measurement and Instrumentation, 2018, 59, 72-78.	1.0	6
65	Planar Electrical Capacitance Tomography Dynamic Imaging for Non-Destructive Test. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	2.4	6
66	The Study of a 2D Model and Image Reconstruction Algorithms Based on EIT System. , 2006, , .		5
67	An Evaluation Method for Reconstructed Images in Electrical Tomography. , 2008, , .		5
68	Electrical resistance tomography(ERT) by using an ECT sensor. , 2010, , .		5
69	An image reconstruction algorithm based on preconditioned LSQR for 3D EIT. , 2011, , .		5
70	An Effective Measured Data Preprocessing Method in Electrical Impedance Tomography. Scientific World Journal, The, 2014, 2014, 1-15.	0.8	5
71	Damage detection of CFRP composites using open electrical impedance tomography. , 2015, , .		5
72	Clustering-Based Component Fraction Estimation in Solidâ€"Liquid Two-Phase Flow in Dredging Engineering. Sensors, 2020, 20, 5697.	2.1	5

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73	A Fast Barzilai-Borwein Gradient Projection for Sparse Reconstruction Algorithm Based on 3D Modeling: Application to ERT Imaging. IEEE Access, 2021, 9, 152913-152922.	2.6	5
74	A Novel Digital&#x0A0;&#x0A0;Lock-in Amplifier with Dual Channels. , 2009, , .		4
75	Cyclostationarity in electrical resistance tomography data from gas/liquid two-phase flow. , 2010, , .		4
76	Research on improved genetic algorithm for low-dimensional and multimodal function optimization. , 2011, , .		4
77	A shrinkage-thresholding method for the inverse problem of Electrical Resistance Tomography. , 2012, , .		4
78	Design of a dual camera children monitoring system based on motion tracking technology. , 2017, , .		4
79	Singular value decomposition based impulsive noise reduction in multi-frequency phase-sensitive demodulation of electrical impedance tomography. Review of Scientific Instruments, 2018, 89, 064702.	0.6	4
80	Phase Sensitive Detector for Multi-electrode Electromagnetic Flowmeter. , 2021, , .		4
81	Shape Reconstruction for Electrical Impedance Tomography with V^{2}D-Net Deep Convolutional Neural Network. , 2022, , .		4
82	Electrical impedance tomography with square sensor. AIP Conference Proceedings, 2007, , .	0.3	3
83	Image reconstruction based on l1 regularization for electrical impedance tomography (EIT). , 2011, , .		3
84	Hilbert-Huang transform based electrostatic signal analysis for characterization of dilute gas-solid two-phase flow. , 2011, , .		3
85	Reconstruction of EIT images via patch based sparse representation over learned dictionaries. , 2015, , .		3
86	Choquet Integral-Based Fusion of Multiple Patterns for Improving EIT Spatial Resolution. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-5.	1.1	3
87	Electromagnetic Sensing and Imaging Methods in Industrial Flow Measurements. , 2019, , .		3
88	The 2D model for a highly adaptive EIT sensor and image reconstruction algorithms. Conference Record - IEEE Instrumentation and Measurement Technology Conference, 2007, , .	0.0	2
89	Time series of EIT measurements and images during lung ventilation based on principal component analysis. Transactions of Tianjin University, 2010, 16, 366-372.	3.3	2
90	A direct reconstruction method of electromagnetic tomography(EMT) for high permeability and low conductivity distributions. , 2010, , .		2

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91	The experimental research of vortex flowmeter in vertical upward oil-gas-water three-phase flow. , 2010, , .		2
92	An Iterative Reconstruction Technique for Multiphase Flow CT System. , 2010, , .		2
93	Image reconstruction based on expectation maximization method for electrical impedance tomography (EIT). , 2011, , .		2
94	Image reconstruction of electrical resistance tomography based on image fusion. , 2011, , .		2
95	Visualization imaging software design for Electrical Tomography. , 2011, , .		2
96	EIT imaging fused with CT slice. , 2012, , .		2
97	Improved PSO ERT image reconstruction algorithm for human lung based on prior knowledge and clustering. , 2018, , .		2
98	ECT image reconstruction based on alternating direction approximate newton algorithm. , 2018, , .		2
99	A Method for Absolute Electrical Impedance Tomography without Measuring Reference Voltages. , 2019, , .		2
100	3D Printed Chest Models with Realistic Shape and Electrical Property for Electrical Impedance Tomography. , 2019, , .		2
101	Fluidization behavior monitoring of phosphogypsum in cyclone separator using electrical capacitance tomography. Review of Scientific Instruments, 2019, 90, 105108.	0.6	2
102	Optimal similarity norm for electrical tomography based on Bregman divergence. Review of Scientific Instruments, 2020, 91, 033707.	0.6	2
103	Improvement of signal processing in Coriolis mass flowmeters for gas-liquid two-phase flow. Frontiers of Information Technology and Electronic Engineering, 2021, 22, 272-286.	1.5	2
104	An Image Reconstruction Algorithm Based on Two-Step Iterative Shrinkage/Thresholding for Electrical Resistance Tomography. , 2021, , .		2
105	An image reconstruction algorithm based on matrix direct inverse for electrical resistance tomography. , 0, , .		1
106	Dual-Channel Pseudo-Random Signal Generator with Precise Control of Time Delay between Channels. , 0, , .		1
107	Total Variation Regularization Used in Electrical Capacitance Tomography. AIP Conference Proceedings, 2007, , .	0.3	1
108	Vulcanization Control of Rubber Fender Based on Neural Network PID Method. , 2007, , .		1

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109	A 2D model for an EIT sensor and image reconstruction algorithms using a two-port measurement strategy. Conference Record - IEEE Instrumentation and Measurement Technology Conference, 2007, , .	0.0	1
110	A Digital Electromagnetic Induction Measurement System Based on FPGA. , 2008, , .		1
111	A preconditioned hybrid reconstruction algorithm for electrical impedance tomography. , 2008, , .		1
112	Independent component analysis of the interface fluctuations of gas/liquid two-phase flow. , 2009, , .		1
113	An image reconstruction algorithm of EIT based on pulmonary prior information. Frontiers of Electrical and Electronic Engineering in China: Selected Publications From Chinese Universities, 2009, 4, 121-126.	0.6	1
114	Holding zero switching scheme for multi-channel impedance measurement. , 2009, , .		1
115	2D ECT for sensors of non-circular cross sections using the factorization method. , 2010, , .		1
116	Level set based image segmentation for oil film monitoring using ECT. , 2016, , .		1
117	Preliminary study of damage detection in unidirectional CFRP based on open electrical impedance tomography. , 2016, , .		1
118	Defects detection based on sparse regularization method for electromagnetic tomography (EMT). , 2017, , .		1
119	Dynamic imaging based on spatio-temporal information for electrical impedance tomography. , 2017, , .		1
120	Impulsive noise removal in multi-frequency phase sensitive demodulation for electrical impedance tomography. , 2018, , .		1
121	FPGA Implementation of a Complex Permeability Measurement Instrument. , 2019, , .		1
122	Visual inspection of CFRP laminates based on EIT. , 2019, , .		1
123	Optimal Measurements of Electromagnetic Flowmeter. , 2019, , .		1
124	Survey of signal clamping for digital phase sensitive detector. Review of Scientific Instruments, 2020, 91, 015109.	0.6	1
125	Hardware Implementation and Evaluation of Electromagnetic Flow Tomography System for Water-Continuous Flows. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	2.4	1
126	A fast Tikhonov regularization method based on homotopic mapping for electrical resistance tomography. Review of Scientific Instruments, 2022, 93, 043709.	0.6	1

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127	A pre-iteration method for the inverse problem in electrical impedance tomography. , 0, , .		0
128	Generalized inverse reconstruction algorithm with threshold. , 0, , .		0
129	Development of Single Drive Electrode Electrical Resistance Tomography System. , 0, , .		0
130	Pipeline Data Acquisition Method in the EIT System. , 0, , .		0
131	Mixing Frequency Biology Impedance Measurement with Virtual Reference Point. , 0, , .		0
132	Electrical impedance tomography with an optimized square sensor. Conference Record - IEEE Instrumentation and Measurement Technology Conference, 2007, , .	0.0	0
133	FastSLAM and Its Data Association Approaches for Mobile Robots. , 2007, , .		0
134	An Adaptive Multigrid Method For EIT. Conference Record - IEEE Instrumentation and Measurement Technology Conference, 2007, , .	0.0	0
135	2D ECT with square sensor using Calderon's method. , 2009, , .		0
136	Investigation of discriminator grade CdZnTe detector and associated electronics applying for CBS system. , 2009, , .		0
137	Three dimensional EIT models for human lung reconstruction based on Schur CG algorithm. , 2009, , .		0
138	A fast three-dimensional image reconstruction method for ERT. , 2009, , .		0
139	Reconstruction of CT images based on cross-entropy method. , 2010, , .		0
140	Development of a low-energy gamma CT system: Application to two-phase pipe flow visualization. , 2011, , .		0
141	The simulation of vortex flowmeter detector based on ANSYS and the design of anti-resonance piezoelectric detector. , 2011, , .		0
142	Computed tomography using level set method and algebraic reconstruction technique. Transactions of Tianjin University, 2011, 17, 418-423.	3.3	0
143	In line estimation of the group delay due to pipeline ADCs in mixed signal system. , 2011, , .		0
144	ITERATIVE FILTERING RECONSTRUCTION ALGORITHM FOR GAMMA COMPUTERIZED TOMOGRAPHY: APPLICATION TO TWO-PHASE FLOW VISUALIZATION. Instrumentation Science and Technology, 2012, 40, 1-16.	0.9	0

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145	Preface: The 7th International Symposium on Measurement Techniques for Multiphase Flows. , 2012, , .		0
146	Fuzzy clustering based fusion for ERT tomography image. , 2012, , .		0
147	Application of a digital ECT system for measurements of dense-phase gas-solid flows. , 2012, , .		0
148	Fusion of ERT images based on Dempster-Shaferâ€™s evidence theory. Transactions of Tianjin University, 2013, 19, 404-412.	3.3	0
149	Estimation of in-tube oil film thickness using electrical capacitance tomography. , 2013, , .		0
150	Topological structure optimization of ERT finite element model for human lung based on improved GA. , 2018, , .		0
151	Study on Multi-frequency Characteristics of Lung Cancer Conductivity. , 2019, , .		0
152	Evaluation of Voltage-driven Electrical Resistance Tomography Using LCR Meter-based Measurement System. , 2019, , .		0
153	Research on Technologies of Computer Aided Diagnosis for Solitary Pulmonary Nodule Based on CT Images. , 2019, , .		0
154	Electrical Resistance Tomography using High And Low Conductivity Calibration. , 2020, , .		0
155	Linear Electrode Array for Flow Velocity Estimation. , 2021, , .		0
156	Design and Implementation of IoT Platform for Electrical Resistance Tomography System. , 2021, , .		0
157	An Improved Sparse Reconstruction Algorithm Based on Singular Value Decomposition for Electrical Resistance Tomography. , 2021, , .		0
158	Prior information-based optimization for electrical tomographic imaging. , 2020, , .		0
159	An alternative excitation method for electrical impedance tomography. Review of Scientific Instruments, 2022, 93, 044710.	0.6	0
160	Planar Electrical Capacitance Tomography with Hexagonal Sensor. , 2022, , .		0
161	Velocity Profile Reconstruction Method for Electromagnetic Flow Tomography: A Simulation Study. , 2022, , .		0