Aria Abubakar

List of Publications by Year
in descending order

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84 papers	2,469 citations	201674 27 h-index	214800 47 g-index
84 all docs	84 docs citations	84 times ranked	1035 citing authors

#	Article	IF	Citations
1	A GENERAL FRAMEWORK FOR CONSTRAINT MINIMIZATION FOR THE INVERSION OF ELECTROMAGNETIC MEASUREMENTS. Progress in Electromagnetics Research, 2004, 46, 265-312.	4.4	290
2	Iterative forward and inverse algorithms based on domain integral equations for three-dimensional electric and magnetic objects. Journal of Computational Physics, 2004, 195, 236-262.	3.8	159
3	Joint electromagnetic and seismic inversion using structural constraints. Geophysics, 2009, 74, R99-R109.	2.6	152
4	Simultaneous multifrequency inversion of full-waveform seismic data. Geophysics, 2009, 74, R1-R14.	2.6	128
5	Multiplicative regularization for contrast profile inversion. Radio Science, 2003, 38, n/a-n/a.	1.6	126
6	Joint petrophysical inversion of electromagnetic and full-waveform seismic data. Geophysics, 2012, 77, WA3-WA18.	2.6	95
7	Supervised Descent Learning Technique for 2-D Microwave Imaging. IEEE Transactions on Antennas and Propagation, 2019, 67, 3550-3554.	5.1	95
8	A contrast source inversion method in the wavelet domain. Inverse Problems, 2013, 29, 025015.	2.0	72
9	Application of the finite-difference contrast-source inversion algorithm to seismic full-waveform data. Geophysics, 2009, 74, WCC47-WCC58.	2.6	62
10	Application of the nearly perfectly matched layer in acoustic wave modeling. Geophysics, 2007, 72, SM169-SM175.	2.6	61
11	Seismic stratigraphy interpretation by deep convolutional neural networks: A semisupervised workflow. Geophysics, 2020, 85, WA77-WA86.	2.6	55
12	A 3D parametric inversion algorithm for triaxial induction data. Geophysics, 2006, 71, G1-G9.	2.6	46
13	Determining Formation Resistivity Anisotropy in the Presence of Invasion. , 2004, , .		44
14	Machine Learning in Electromagnetics With Applications to Biomedical Imaging: A Review. IEEE Antennas and Propagation Magazine, 2021, 63, 39-51.	1.4	42
15	A Supervised Descent Learning Technique for Solving Directional Electromagnetic Logging-While-Drilling Inverse Problems. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 8013-8025.	6.3	41
16	A Multiplicative Regularization Approach for Deblurring Problems. IEEE Transactions on Image Processing, 2004, 13, 1524-1532.	9.8	40
17	Three-dimensional nonlinear inversion in cross-well electrode logging. Radio Science, 1998, 33, 989-1004.	1.6	39
18	Study on Joint Inversion Algorithm of Acoustic and Electromagnetic Data in Biomedical Imaging. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2019, 4, 2-11.	2.2	37

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19	An integral equation approach for 2.5-dimensional forward and inverse electromagnetic scattering. Geophysical Journal International, 2006, 165, 744-762.	2.4	36
20	Three-Dimensional Electrical Impedance Tomography With Multiplicative Regularization. IEEE Transactions on Biomedical Engineering, 2019, 66, 2470-2480.	4.2	34
21	Joint Inversion of Audio-Magnetotelluric and Seismic Travel Time Data With Deep Learning Constraint. IEEE Transactions on Geoscience and Remote Sensing, 2021, 59, 7982-7995.	6.3	34
22	A Three-Dimensional Model-Based Inversion Algorithm Using Radial Basis Functions for Microwave Data. IEEE Transactions on Antennas and Propagation, 2012, 60, 3361-3372.	5.1	31
23	An effective perfectly matched layer design for acoustic fourth-order frequency-domain finite-difference scheme. Geophysical Journal International, 2012, 188, 211-222.	2.4	31
24	Pixel- and Model-Based Microwave Inversion With Supervised Descent Method for Dielectric Targets. IEEE Transactions on Antennas and Propagation, 2020, 68, 8114-8126.	5.1	30
25	Application of the variable projection scheme for frequency-domain full-waveform inversion. Geophysics, 2013, 78, R249-R257.	2.6	29
26	Application of supervised descent method for 2D magnetotelluric data inversion. Geophysics, 2020, 85, WA53-WA65.	2.6	29
27	Supervised Descent Learning for Thoracic Electrical Impedance Tomography. IEEE Transactions on Biomedical Engineering, 2021, 68, 1360-1369.	4.2	29
28	Application of supervised descent method to transient electromagnetic data inversion. Geophysics, 2019, 84, E225-E237.	2.6	28
29	Reservoir property mapping and monitoring from joint inversion of time-lapse seismic, electromagnetic, and production data. Geophysics, 2016, 81, ID73-ID84.	2.6	27
30	Low-Frequency Data Prediction With Iterative Learning for Highly Nonlinear Inverse Scattering Problems. IEEE Transactions on Microwave Theory and Techniques, 2021, 69, 4366-4376.	4.6	27
31	Inversion of controlledâ€source electromagnetic data using a modelâ€based approach. Geophysical Prospecting, 2010, 58, 455-467.	1.9	26
32	Estimating petrophysical parameters and average mud-filtrate invasion rates using joint inversion of induction logging and pressure transient data. Geophysics, 2011, 76, E21-E34.	2.6	25
33	Fast inversion of triaxial induction data in dipping crossbedded formations. Geophysics, 2017, 82, D31-D45.	2.6	25
34	Neural network-based supervised descent method for 2D electrical impedance tomography. Physiological Measurement, 2020, 41, 074003.	2.1	21
35	A CG-FFT approach to the solution of a stress-velocity formulation of three-dimensional elastic scattering problems. Journal of Computational Physics, 2008, 227, 10018-10039.	3.8	20
36	Wasserstein cycle-consistent generative adversarial network for improved seismic impedance inversion: Example on 3D SEAM model. , 2020, , .		20

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37	Accelerating seismic fault and stratigraphy interpretation with deep CNNs: A case study of the Taranaki Basin, New Zealand. The Leading Edge, 2020, 39, 727-733.	0.7	20
38	Contrast source inversion methods in elastodynamics. Journal of the Acoustical Society of America, 2003, 114, 2825.	1.1	19
39	Application of a two-and-a-half dimensional model-based algorithm to crosswell electromagnetic data inversion. Inverse Problems, 2010, 26, 074013.	2.0	19
40	Non-linear three-dimensional inversion of cross-well electrical measurements. Geophysical Prospecting, 2000, 48, 109-134.	1.9	18
41	NONLINEAR INVERSION OF MULTI-FREQUENCY MICROWAVE FRESNEL DATA USING THE MULTIPLICATIVE REGULARIZED CONTRAST SOURCE INVERSION. Progress in Electromagnetics Research, 2006, 62, 193-201.	4.4	18
42	Three-Dimensional Joint Inversion of EM and Acoustic Data Based on Contrast Source Inversion. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2020, 5, 28-36.	2.2	18
43	Imposing interpretational constraints on a seismic interpretation convolutional neural network. Geophysics, 2021, 86, IM63-IM71.	2.6	17
44	Estimating subsurface properties using a semisupervised neural network approach. Geophysics, 2022, 87, IM1-IM10.	2.6	17
45	A compressed implicit Jacobian scheme for 3D electromagnetic data inversion. Geophysics, 2011, 76, F173-F183.	2.6	16
46	Solving Combined Field Integral Equation With Deep Neural Network for 2-D Conducting Object. IEEE Antennas and Wireless Propagation Letters, 2021, 20, 538-542.	4.0	16
47	Complete sequence stratigraphy from seismic optical flow without human labeling. , 2020, , .		13
48	Using relative geologic time to constrain convolutional neural network-based seismic interpretation and property estimation. Geophysics, 2022, 87, IM25-IM35.	2.6	13
49	A Green function formulation of the Extended Born approximation for three-dimensional electromagnetic modelling. Wave Motion, 2005, 41, 211-227.	2.0	12
50	Iterative solution of 3D acoustic wave equation with perfectly matched layer boundary condition and multigrid preconditioner. Geophysics, 2013, 78, T133-T140.	2.6	11
51	First arrival traveltime tomography using supervised descent learning technique. Inverse Problems, 2019, 35, 105008.	2.0	11
52	A threeâ€dimensional parametric inversion of multiâ€component multiâ€spacing induction logging data. , 2004, , .		10
53	Semi-supervised seismic and well log integration for reservoir property estimation. , 2020, , .		10
54	Inverse Scattering Algorithms Based on Contrast Source Integral Representations. Inverse Problems in Science and Engineering, 2002, 10, 559-576.	0.5	9

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55	Sensitivity study and inversion of the fullyâ€triaxial induction logging in crossâ€bedded anisotropic formation. , 2008, , .		9
56	A 2.5D finite-difference algorithm for elastic wave modeling using near-optimal quadratures. Geophysics, 2016, 81, T155-T162.	2.6	8
57	Feasibility study of acoustic imaging for human thorax using an acoustic contrast source inversion algorithm. Journal of the Acoustical Society of America, 2018, 144, 2782-2792.	1.1	8
58	Machine learning and data analytics for geoscience applications â€" Introduction. Geophysics, 2020, 85, WAi-WAii.	2.6	8
59	Estimation of Reservoir Parameters From Inversion of Triaxial Induction Data Constrained by Mud-Filtrate Invasion Modeling. IEEE Journal on Multiscale and Multiphysics Computational Techniques, 2017, 2, 228-236.	2.2	7
60	Using relative geologic time to constrain seismic facies classification using neural networks. , 2021, , .		7
61	Time-Lapse TM-Polarization Electromagnetic Imaging. Subsurface Sensing Technologies and Applications, 2003, 4, 117-135.	0.9	6
62	Application of the MR-CSI Method for Three-Dimensional Imaging of the Triaxial Induction Measurements. IEEE Transactions on Geoscience and Remote Sensing, 2010, 48, 2613-2619.	6.3	6
63	A MULTIPLICATIVE REGULARIZED GAUSS-NEWTON ALGORITHM AND ITS APPLICATION TO THE JOINT INVERSION OF INDUCTION LOGGING AND NEAR-BOREHOLE PRESSURE MEASUREMENTS. Progress in Electromagnetics Research B, 2011, 29, 105-138.	1.0	6
64	Joint inversion of controlled-source electromagnetic and production data for reservoir monitoring. Geophysics, 2012, 77, ID9-ID22.	2.6	6
65	Rapid simulation of borehole electromagnetic response in axially symmetric and transversely isotropic formations. Geophysics, 2018, 83, E245-E257.	2.6	6
66	Supervised Descent Method for Electrical Impedance Tomography. , 2019, , .		6
67	Deep learning applications for wind farms site characterization and monitoring. , 2021, , .		6
68	Nonlinear inversion of the electrode logging measurements in a deviated well. Geophysics, 2001, 66, 110-124.	2.6	5
69	Iterative reconstructions of electrical conductivity from multiexperiment low-frequency electromagnetic data. Radio Science, 2000, 35, 1293-1306.	1.6	4
70	The contrast-source stress-velocity integral-equation formulation of three-dimensional time-domain elastodynamic scattering problems: A structured approach using tensor partitioning. Journal of the Acoustical Society of America, 2009, 126, 1095-1100.	1.1	4
71	A contrast-source integral-equation approach for three-dimensional modeling of elastic wave problems. Wave Motion, 2012, 49, 638-658.	2.0	4
72	Supervised Descent Method for 2D Magnetotelluric Inversion using Adam Optimization. , 2019, , .		3

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73	Supervised Descent Method for Full-wave Microwave Imaging. , 2019, , .		2
74	Removal of Sea Surface Related Wavefields from CSEM Data. Progress in Electromagnetics Research Symposium: [proceedings] Progress in Electromagnetics Research Symposium, 2008, 4, 576-580.	0.4	2
75	Deep learning for end-to-end subsurface modeling and interpretation: An example from the Groningen gas field. The Leading Edge, 2022, 41, 259-267.	0.7	2
76	Fault-Guided Seismic Stratigraphy Interpretation via Semi-Supervised Learning. , 2021, , .		1
77	Electromagnetic Inverse Problems for Sensing and Imaging. IEEE Antennas and Propagation Magazine, 2016, 58, 17-17.	1.4	0
78	Workshop Preview: Data Analytics and Machine Learning Hackathon 2021: A deep dive into the open-source data challenge for E&P. The Leading Edge, 2021, 40, 68-71.	0.7	0
79	Contrast Source Inversion of 3D Electromagnetic Data. Progress in Electromagnetics Research Symposium: [proceedings] Progress in Electromagnetics Research Symposium, 2006, 2, 223-226.	0.4	0
80	2.5D Algorithm for Tomographic Imaging of the Deep Electromagnetic Geophysical Measurement. Progress in Electromagnetics Research Symposium: [proceedings] Progress in Electromagnetics Research Symposium, 2006, 2, 214-218.	0.4	0
81	Study on Low-Frequency Data Learning for Inverse Scattering Problems with High Nonlinearity. , 2021, , .		0
82	A supervised descent learning technique for inversion of directional electromagnetic logging-while-drilling data. , 2020, , .		0
83	Low-Frequency Data Learning for Solving Highly Nonlinear Inverse Scattering Problems. , 2022, , .		0
84	Application of Electrical Impedance Tomography for Monitoring Tissue Water Content of the Thigh. , 2022, , .		0