

James C Macnae

List of Publications by Year in descending order

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93
papers

1,695
citations

394421

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34
g-index

94
all docs

94
docs citations

94
times ranked

615
citing authors

#	ARTICLE	IF	CITATIONS
1	6. Time Domain Electromagnetic Prospecting Methods. , 1991, , 427-520.		241
2	Fast AEM data processing and inversion. Exploration Geophysics, 1998, 29, 163-169.	1.1	157
3	Noise processing techniques for time-domain EM systems. Geophysics, 1984, 49, 934-948.	2.6	135
4	Imaging quasi-layered conductive structures by simple processing of transient electromagnetic data. Geophysics, 1987, 52, 545-554.	2.6	114
5	Kimberlites and exploration geophysics. Geophysics, 1979, 44, 1395-1416.	2.6	60
6	Evaluating EM waveforms by singular-value decomposition of exponential basis functions. Geophysics, 1998, 63, 64-74.	2.6	57
7	Induced polarization in airborne EM. Geophysics, 2012, 77, E317-E327.	2.6	53
8	Pendulum motion in airborne HEM systems. Exploration Geophysics, 2006, 37, 355-362.	1.1	42
9	Applications of geophysics for the detection and exploration of kimberlites and lamproites. Journal of Geochemical Exploration, 1995, 53, 213-243.	3.2	37
10	3D time-domain airborne electromagnetic inversion based on secondary field finite-volume method. Geophysics, 2018, 83, E219-E228.	2.6	35
11	Airborne electromagnetic modelling options and their consequences in target definition. Exploration Geophysics, 2015, 46, 74-84.	1.1	34
12	Quantifying Airborne Induced Polarization effects in helicopter time domain electromagnetics. Journal of Applied Geophysics, 2016, 135, 495-502.	2.1	27
13	Survey design for multicomponent electromagnetic systems. Geophysics, 1984, 49, 265-273.	2.6	25
14	Quantifying AEM system characteristics using a ground loop. Geophysics, 2008, 73, F179-F188.	2.6	25
15	Quantitative estimation of intrinsic induced polarization and superparamagnetic parameters from airborne electromagnetic data. Geophysics, 2016, 81, E433-E446.	2.6	25
16	Comments on the electromagnetic "smoke ring" concept. Geophysics, 1998, 63, 1908-1913.	2.6	23
17	Doubling the effective skin depth with a local source. Geophysics, 1999, 64, 732-738.	2.6	23
18	Detection and correction of SPM effects in airborne EM surveys. Exploration Geophysics, 2013, 44, 6-15.	1.1	21

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19	First evidence of detecting surface nuclear magnetic resonance signals using a compact Bâ€field sensor. Geophysical Research Letters, 2014, 41, 4222-4229.	4.0	21
20	Reprocessing strategy to obtain quantitative early time data from historic VTEM surveys. ASEG Extended Abstracts, 2010, 2010, 1-4.	0.1	19
21	Breaks in lithology: Interpretation problems when handling 2D structures with a 1D approximation. Geophysics, 2010, 75, WA179-WA188.	2.6	19
22	Multiple conductor modeling using program MultiLOOP. , 1988, , .		18
23	Bathymetry and Seafloor Mapping Via One Dimensional Inversion IAnd Conductivity Depth Imaging of AEM. Exploration Geophysics, 2000, 31, 603-610.	1.1	18
24	Identification of calibration errors in helicopter electromagnetic (HEM) data through transform to the altitude-corrected phase-amplitude domain. Geophysics, 2006, 71, G27-G34.	2.6	18
25	Measuring AEM waveforms with a ground loop. Geophysics, 2008, 73, F213-F222.	2.6	18
26	Design and testing of ARMIT magnetic field sensors for EM systems. ASEG Extended Abstracts, 2012, 2012, 1-3.	0.1	18
27	A Geological Interpretation of Observed Electrical Structures in the Regolith: Lawlers, Western Australia. Exploration Geophysics, 2001, 32, 36-47.	1.1	17
28	Stripping very low frequency communication signals with minimum shift keying encoding from streamed time-domain electromagnetic data. Geophysics, 2015, 80, E343-E353.	2.6	17
29	3D-spectral CDIs: a fast alternative to 3D inversion?. Exploration Geophysics, 2015, 46, 12-18.	1.1	15
30	Predictions of bird swing from GPS coordinates. Geophysics, 2009, 74, F119-F126.	2.6	14
31	Measurement of static shift in MT and CSAMT surveys. Exploration Geophysics, 1998, 29, 494-498.	1.1	13
32	A case study of AEM bathymetry in Geographe Bay and over Cape Naturaliste, Western Australia, Part 2: 25 and 12.5 Hz GEOTEM. Exploration Geophysics, 2005, 36, 381-392.	1.1	13
33	Fitting superparamagnetic and distributed Cole-Cole parameters to airborne electromagnetic data: A case history from Quebec. Geophysics, 2016, 81, B211-B220.	2.6	13
34	Inductive Source Resistivity: A tool for outlining silicification in gold exploration. Exploration Geophysics, 1988, 19, 471-480.	1.1	12
35	The feasibility of electromagnetic gradiometer measurements. Geophysical Prospecting, 2001, 49, 309-320.	1.9	12
36	The international campaign on intercomparison between electrodes for geoelectrical measurements. Exploration Geophysics, 1998, 29, 484-488.	1.1	11

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37	Amplitude and phase correction of helicopter EM data. <i>Geophysics</i> , 2007, 72, F119-F126.	2.6	11
38	Comparing induced polarization responses from airborne inductive and galvanic ground systems: Tasmania. <i>Geophysics</i> , 2016, 81, E471-E479.	2.6	11
39	Automatic estimation of EM parameters in Tau-Domain. <i>Exploration Geophysics</i> , 1998, 29, 170-174.	1.1	10
40	Estimating subsurface porosity and salt loads using airborne geophysical data. <i>Near Surface Geophysics</i> , 2008, 6, 31-37.	1.2	10
41	Prediction and removal of rotation noise in airborne EM systems. <i>Exploration Geophysics</i> , 2014, 45, 147-153.	1.1	10
42	Comment on: Tarasov, A. & Titov, K., 2013, On the use of the Cole-Cole equations in spectral induced polarization, <i>Geophys. J. Int.</i> , 195, 352-356. <i>Geophysical Journal International</i> , 2015, 202, 529-532.	2.4	10
43	Definitive superparamagnetic source identification through spatial, temporal, and amplitude analysis of airborne electromagnetic data. <i>Geophysical Prospecting</i> , 2017, 65, 1071-1084.	1.9	10
44	Classification of Sign Changes in Borehole TEM Decays. <i>Exploration Geophysics</i> , 1987, 18, 331-339.	1.1	9
45	Modeling of the EM inductive limit surface currents. <i>Geophysics</i> , 2001, 66, 476-481.	2.6	9
46	Electrical and EM methods, 1980-2005. <i>The Leading Edge</i> , 2005, 24, s42-s45.	0.7	9
47	Comparing induced polarization responses from airborne inductive and galvanic ground systems: Lewis Ponds, New South Wales. <i>Geophysics</i> , 2016, 81, B179-B188.	2.6	9
48	Improving the Accuracy of Shallow Depth Determinations in AEM Sounding. <i>Exploration Geophysics</i> , 2004, 35, 203-207.	1.1	8
49	Superparamagnetism in ground and airborne electromagnetics: Geometrical and physical controls. <i>Geophysics</i> , 2017, 82, E347-E356.	2.6	8
50	Source-dependent bias of spherics in magnetotelluric responses. <i>Geophysics</i> , 2018, 83, E161-E171.	2.6	8
51	Block modelling as a check on the interpretation of stitched CDI sections from AEM data. <i>Exploration Geophysics</i> , 1998, 29, 191-194.	1.1	7
52	Physical properties of the regolith in the Lawlers area, Western Australia. <i>Exploration Geophysics</i> , 2000, 31, 229-235.	1.1	7
53	Simplified Electrical Structure Models at AEM Scales, Lawlers, Western Australia. <i>Exploration Geophysics</i> , 2001, 32, 29-35.	1.1	7
54	Electrical Structure of the Regolith in the Lawlers District, Western Australia. <i>Exploration Geophysics</i> , 2001, 32, 20-28.	1.1	7

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55	Model-Consistent Rescaling to Correct Amplitude Calibration Problems in HEM Data. Exploration Geophysics, 2004, 35, 277-282.	1.1	7
56	Predictive filter calculation of primary fields in a fixed-wing time-domain AEM system. Geophysics, 2010, 75, F97-F106.	2.6	7
57	Deep conductor delineation through improved EMFlow data processing. ASEG Extended Abstracts, 2010, 2010, 1-4.	0.1	7
58	Can Sulphides be Discriminated from Conductive Slates? A Case History at Dugald River. Exploration Geophysics, 1996, 27, 199-130.	1.1	6
59	Modelling the airborne electromagnetic response of a vertical contact. Exploration Geophysics, 2000, 31, 115-125.	1.1	6
60	Current channelling in time-domain airborne electromagnetic data. Exploration Geophysics, 2000, 31, 150-157.	1.1	6
61	Resistive limit modeling of airborne electromagnetic data. Geophysics, 2002, 67, 492-500.	2.6	6
62	Detection of a perfect conductor with an airborne electromagnetic system: The Gemini Field Test. Geophysics, 2013, 78, E249-E259.	2.6	6
63	Removing the regolith: EM defined structure fails to correct gravity at Elura. Exploration Geophysics, 1999, 30, 115-122.	1.1	5
64	Joint sensing of B and dB/dt responses. ASEG Extended Abstracts, 2013, 2013, 1-4.	0.1	5
65	Inversion of concentric loop electromagnetic data by transformation to an equivalent potential field response. Exploration Geophysics, 2010, 41, 240-249.	1.1	4
66	Estimation and geologic interpretation of regolith chargeability and superparamagnetic susceptibility in airborne electromagnetic data. Geophysics, 2020, 85, E153-E162.	2.6	4
67	Case Studies and Modelling Advances in Producing Conductivity-Depth Sections. Exploration Geophysics, 1988, 19, 309-312.	1.1	3
68	An assessment of the accuracy of boundaries picked by AEM sounding, with application to mineral exploration and salinity mapping. Exploration Geophysics, 2003, 34, 41-45.	1.1	3
69	Improving the accuracy of shallow depth determinations in AEM sounding. ASEG Extended Abstracts, 2003, 2003, 1-5.	0.1	3
70	Rapid Estimation of Shallow Seawater Depth from Airborne Electromagnetics. Exploration Geophysics, 2004, 35, 288-291.	1.1	3
71	Remote resistivity contrast mapping using the CARIS system at Terme de Caracalla archaeological site, Rome, Italy. Near Surface Geophysics, 2010, 8, 195-202.	1.2	3
72	Inversion of low-induction number conductivity meter data to predict seasonal saturation variation. Geophysics, 2011, 76, F395-F406.	2.6	3

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73	Predicting lightning sourced electromagnetic fields. Exploration Geophysics, 2018, 49, 425-433.	1.1	3
74	Stripping induced polarization effects from airborne electromagnetics to improve 3D conductivity inversion of a narrow palaeovalley. Geophysics, 2020, 85, B161-B167.	2.6	3
75	Ultra-Fast 3D parameterised AEM inversion using spectral methods. ASEG Extended Abstracts, 2013, 2013, 1-4.	0.1	3
76	Esoteric and Mundane Geophysics for Diamondiferous Pipe Exploration. Exploration Geophysics, 1995, 26, 131-137.	1.1	2
77	Dispersion constraints and the Hilbert transform for electromagnetic system response validation. Exploration Geophysics, 2011, 42, 1-6.	1.1	2
78	Airborne EM system comparison. , 2011, , .		2
79	3D EM Inversion: an Update on Capabilities and Outcomes. Preview, 2012, 2012, 24-27.	0.1	2
80	Three conductivity modelling algorithms and three 3D inversions of the Forrestania test site AEM anomaly. Exploration Geophysics, 2020, 51, 14-24.	1.1	2
81	3D EM at Work Selected Papers. Exploration Geophysics, 2006, 37, 222.	1.1	1
82	HEM calibration and bird'swing correction: An insular example. , 2008, , .		1
83	Transformation of coincident loop EM data to an equivalent potential field response. ASEG Extended Abstracts, 2010, 2010, 1-4.	0.1	1
84	Near-surface resistivity contrast mapping with a capacitive sensor array and an inductive source. Geophysics, 2011, 76, G13-G23.	2.6	1
85	Correcting for SPM effects in airborne EM. ASEG Extended Abstracts, 2013, 2013, 1-4.	0.1	1
86	Magnetotelluric distortions directly observed with lightning data. Geophysical Journal International, 2017, 210, 1171-1175.	2.4	1
87	Advances towards useful Airborne Induced Polarization surveys. , 2019, , .		1
88	Definitive SPM identification through spatial, temporal and amplitude analysis of airborne EM data. , 2015, , .		1
89	The effect of pendulum on tethered TEM systems and quantitative modeling. , 2010, , .		0
90	Electric Field measurements in air. , 2010, , .		0

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91	Using induction coil sensor optimization techniques for designing compact geophysical transmitters. ASEG Extended Abstracts, 2015, 2015, 1-4.	0.1	0
92	Evaluation of multifrequency airborne EM for opal prospect definition at Lightning Ridge, NSW. ASEG Extended Abstracts, 2003, 2003, 1-5.	0.1	0
93	Fitting SPM and distributed Cole-Cole parameters to AEM data. , 2016, , .		0