Philippe D De Smedt

List of Publications by Year
in descending order

65 papers	**1,978** citations	331670 **21** h-index

265206   **42**   g-index

65 all docs	**65** docs citations	**65** times ranked	**2207** citing authors

#	Article	IF	Citations
1	Novel insights into prehistoric land use at Stonehenge by combining electromagnetic and invasive methods with a semi-automated interpretation scheme. Journal of Archaeological Science, 2022, 143, 105557.	2.4	3
2	High-Resolution Surveying With Small-Loop Frequency Domain Electromagnetic Systems: Efficient Survey Design and Adaptive Processing. IEEE Geoscience and Remote Sensing Magazine, 2021, 9, 167-183.	9.6	6
3	Ambient temperature and relative humidityâ€"based drift correction in frequency domain electromagnetics using machine learning. Near Surface Geophysics, 2021, 19, 541-556.	1.2	5
4	A multi-proxy magnetic approach for monitoring large-scale airborne pollution impact. Science of the Total Environment, 2020, 743, 140718.	8.0	7
5	Probabilistic 1-D Inversion of Frequency-Domain Electromagnetic Data Using a Kalman Ensemble Generator. IEEE Transactions on Geoscience and Remote Sensing, 2020, 58, 3287-3297.	6.3	12
6	Combining resistivity and frequency domain electromagnetic methods to investigate submarine groundwater discharge in the littoral zone. Hydrology and Earth System Sciences, 2020, 24, 3539-3555.	4.9	17
7	A Comprehensive Study of Three Different Portable XRF Scanners to Assess the Soil Geochemistry of An Extensive Sample Dataset. Remote Sensing, 2019, 11, 2490.	4.0	26
8	Evaluating the potential of topsoil magnetic pollution mapping across different land use classes. Science of the Total Environment, 2019, 685, 345-356.	8.0	20
9	Can spectral analyses improve measurement of key soil fertility parameters with X-ray fluorescence spectrometry?. Geoderma, 2019, 350, 29-39.	5.1	41
10	Frequency-Domain Electromagnetic Forward and Sensitivity Modeling: Practical Aspects of Modeling a Magnetic Dipole in a Multilayered Half-Space. IEEE Geoscience and Remote Sensing Magazine, 2019, 7, 74-85.	9.6	20
11	Validating land-based FDEM data and derived conductivity maps: Assessment of signal calibration, signal attenuation and the impact of heterogeneity. Journal of Applied Geophysics, 2019, 164, 179-190.	2.1	7
12	Improving the reliability of soil EC-mapping: Robust apparent electrical conductivity (rECa) estimation in ground-based frequency domain electromagnetics. Geoderma, 2019, 337, 1155-1163.	5.1	16
13	Making sense of anomalies: Practices and challenges in the archaeological interpretation of geophysical data. , 2019, , 151-194.		5
14	Low signal-to-noise FDEM in-phase data: Practical potential for magnetic susceptibility modelling. Journal of Applied Geophysics, 2018, 152, 17-25.	2.1	14
15	Weichselian Lateglacial environmental and vegetation development in the Moervaart palaeolake area (NW Belgium); implications for former human occupation patterns. Review of Palaeobotany and Palynology, 2018, 248, 1-14.	1.5	18
16	The Younger Dryas and Preboreal landscape in the Moervaart area (northwestern Belgium) and the apparent decrease in human occupation. Vegetation History and Archaeobotany, 2018, 27, 697-715.	2.1	8
17	Durrington walls and the Stonehenge Hidden Landscape Project 2010â€"2016. Archaeological Prospection, 2018, 25, 255-269.	2.2	21
18	Removal of sensor tilt noise in fluxgate gradiometer survey data by applying oneâ€"dimensional wavelet filtering. Archaeological Prospection, 2017, 24, 353-360.	2.2	1

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19	Multiple oscillations during the Lateglacial as recorded in a multi-proxy, high-resolution record of the Moervaart palaeolake (NW Belgium). Quaternary Science Reviews, 2017, 162, 26-41.	3.0	21
20	Evaluating corrections for a horizontal offset between sensor and position data for surveys on land. Precision Agriculture, 2016, 17, 349-364.	6.0	14
21	Identifying and removing micro-drift in ground-based electromagnetic induction data. Journal of Applied Geophysics, 2016, 131, 14-22.	2.1	18
22	Integrating cone penetration testing into the 1D inversion of multi-receiver EMI data to reconstruct a complex stratigraphic landscape.. Catena, 2016, 147, 356-371.	5.0	5
23	Combining multi-receiver electromagnetic induction and stepped frequency ground penetrating radar for industrial site investigation. European Journal of Soil Science, 2015, 66, 688-698.	3.9	10
24	Urban soil exploration through multi-receiver electromagnetic induction and stepped-frequency ground penetrating radar. Environmental Sciences: Processes and Impacts, 2015, 17, 1271-1281.	3.5	4
25	Combining <scp>EMI</scp> and <scp>GPR</scp> for non-invasive soil sensing at the Stonehenge World Heritage Site: the reconstruction of a <scp>WW1</scp> practice trench. European Journal of Soil Science, 2015, 66, 166-178.	3.9	10
26	Comparing one- and two-dimensional EMI conductivity inverse modeling procedures for characterizing a two-layered soil. Geoderma, 2015, 241-242, 12-23.	5.1	12
27	Characterizing Compaction Variability with an Electromagnetic Induction Sensor in a Puddled Paddy Rice Field. Soil Science Society of America Journal, 2014, 78, 579-588.	2.2	18
28	Modeling within field variation of the compaction layer in a paddy rice field using a proximal soil sensing system. Soil Use and Management, 2014, 30, 99-108.	4.9	12
29	Integrating EMI and GPR data to enhance the three-dimensional reconstruction of a circular ditch system. Journal of Applied Geophysics, 2014, 101, 42-50.	2.1	11
30	On introducing an image-based 3D reconstruction method in archaeological excavation practice. Journal of Archaeological Science, 2014, 41, 251-262.	2.4	157
31	Comparing Apparent Magnetic Susceptibility Measurements of a Multi-receiver EMI Sensor with Topsoil and Profile Magnetic Susceptibility Data over Weak Magnetic Anomalies. Archaeological Prospection, 2014, 21, 103-112.	2.2	27
32	Unveiling the prehistoric landscape at Stonehenge through multi-receiver EMI. Journal of Archaeological Science, 2014, 50, 16-23.	2.4	35
33	An efficient calibration procedure for correction of drift in EMI survey data. Journal of Applied Geophysics, 2014, 110, 115-125.	2.1	51
34	Using bivariate multiple-point statistics and proximal soil sensor data to map fossil ice-wedge polygons. Geoderma, 2014, 213, 571-577.	5.1	11
35	Frequency domain electromagnetic induction survey in the intertidal zone: Limitations of low-induction-number and depth of exploration. Journal of Applied Geophysics, 2014, 100, 14-22.	2.1	40
36	Application of the topographic position index to heterogeneous landscapes. Geomorphology, 2013, 186, 39-49.	2.6	412

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37	Spatio-temporal modeling of soil characteristics for soilscape reconstruction. Geoderma, 2013, 207-208, 166-179.	5.1	16
38	Towards a three-dimensional cost-effective registration of the archaeological heritage. Journal of Archaeological Science, 2013, 40, 1108-1121.	2.4	282
39	A multidisciplinary approach to reconstructing Late Glacial and Early Holocene landscapes. Journal of Archaeological Science, 2013, 40, 1260-1267.	2.4	28
40	Beyond the unknown: understanding prehistoric patterns in the urbanised landscape of Flanders. Journal of Historical Geography, 2013, 40, 1-15.	0.7	4
41	Key variables for the identification of soil management classes in the aeolian landscapes of north–west Europe. Geoderma, 2013, 199, 99-105.	5.1	29
42	Hunter-gatherer responses to the changing environment of the Moervaart palaeolake (Nw Belgium) during the Late Glacial and Early Holocene. Quaternary International, 2013, 308-309, 162-177.	1.5	25
43	Reconstructing Phreatic Palaeogroundwater Levels in a Geoarchaeological Context: A Case Study in Flanders, Belgium. Geoarchaeology - an International Journal, 2013, 28, 170-189.	1.5	25
44	Mapping complex soil patterns with multiple–point geostatistics. European Journal of Soil Science, 2013, 64, 183-191.	3.9	16
45	Exploring the potential of multi-receiver EMI survey for geoarchaeological prospection: A 90 ha dataset. Geoderma, 2013, 199, 30-36.	5.1	40
46	Integrating multi–receiver electromagnetic induction measurements into the interpretation of the soil landscape around the school of gladiators at <scp>C</scp>arnuntum. European Journal of Soil Science, 2013, 64, 716-727.	3.9	19
47	The 3-D reconstruction of medieval wetland reclamation through electromagnetic induction survey. Scientific Reports, 2013, 3, 1517.	3.3	23
48	Identifying Soil Patterns at Different Spatial Scales with a Multi-Receiver EMI Sensor. Soil Science Society of America Journal, 2013, 77, 382-390.	2.2	18
49	Depth slicing of multi-receiver EMI measurements to enhance the delineation of contrasting subsoil features. Geoderma, 2012, 189-190, 514-521.	5.1	26
50	Using a multi-receiver survey of apparent electrical conductivity to reconstruct a Holocene tidal channel in a polder area. Catena, 2012, 95, 104-111.	5.0	16
51	Absolute Dating (14C and OSL) of the Formation of Coversand Ridges Occupied by Prehistoric Hunter-Gatherers in NW Belgium. Radiocarbon, 2012, 54, 715-726.	1.8	21
52	Towards an Integrated Methodology for Assessing Rural Settlement Landscapes in the Belgian Lowlands. Archaeological Prospection, 2012, 19, 141-145.	2.2	14
53	Electrical Conductivity Depth Modelling with a Multireceiver EMI Sensor for Prospecting Archaeological Features. Archaeological Prospection, 2012, 19, 21-30.	2.2	27
54	Comparing apparent electrical conductivity measurements on a paddy field under flooded and drained conditions. Precision Agriculture, 2012, 13, 384-392.	6.0	11

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55	Integrated geophysical archaeological prospection resulting in the discovery of the school of gladiators in the Roman town of Carnuntum in Austria. , 2012, , .		0
56	Delineating water management zones in a paddy rice field using a Floating Soil Sensing System. Agricultural Water Management, 2011, 102, 8-12.	5.6	14
57	Mapping depth-to-clay using fitted multiple depth response curves of a proximal EMI sensor. Geoderma, 2011, 162, 151-158.	5.1	16
58	Reconstructing palaeochannel morphology with a mobile multicoil electromagnetic induction sensor. Geomorphology, 2011, 130, 136-141.	2.6	45
59	Measuring the relative topographic position of archaeological sites in the landscape, a case study on the Bronze Age barrows in northwest Belgium. Journal of Archaeological Science, 2011, 38, 3435-3446.	2.4	45
60	Combining multiple signals of an electromagnetic induction sensor to prospect land for metal objects. Near Surface Geophysics, 2011, 9, 309-318.	1.2	22
61	A floating sensing system to evaluate soil and crop variability within flooded paddy rice fields. Precision Agriculture, 2011, 12, 850-859.	6.0	5
62	Digital Elevation Model generation for historical landscape analysis based on LiDAR data, a case study in Flanders (Belgium). Expert Systems With Applications, 2011, 38, 8178-8185.	7.6	45
63	Imaging a Polygonal Network of Ice-Wedge Casts with an Electromagnetic Induction Sensor. Soil Science Society of America Journal, 2011, 75, 2095-2100.	2.2	11
64	On the use of integrated process models to reconstruct prehistoric occupation, with examples from Sandy Flanders, Belgium. Geoarchaeology - an International Journal, 2010, 25, 784-814.	1.5	12
65	THE SOIL SCIENCE & ARCHAEO-GEOPHYSICS ALLIANCE (SAGA): going beyond prospection. Research Ideas and Outcomes, 0, 4, .	1.0	8