

Changwen Du

List of Publications by Year in descending order

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110
papers

3,481
citations

186209

28
h-index

161767

54
g-index

113
all docs

113
docs citations

113
times ranked

3495
citing authors

#	ARTICLE	IF	CITATIONS
1	A global spectral library to characterize the world's soil. <i>Earth-Science Reviews</i> , 2016, 155, 198-230.	4.0	546
2	Risk assessment of potentially toxic element pollution in soils and rice (<i>Oryza sativa</i>) in a typical area of the Yangtze River Delta. <i>Environmental Pollution</i> , 2009, 157, 2542-2549.	3.7	267
3	Removal of phosphate from aqueous solution by thermally treated natural palygorskite. <i>Water Research</i> , 2009, 43, 2907-2915.	5.3	181
4	Release Characteristics of Nutrients from Polymer-coated Compound Controlled Release Fertilizers. <i>Journal of Polymers and the Environment</i> , 2006, 14, 223-230.	2.4	147
5	Response of Rice (<i>Oryza sativa</i>) with Root Surface Iron Plaque Under Aluminium Stress. <i>Annals of Botany</i> , 2006, 98, 389-395.	1.4	92
6	Assessing soil constituents and labile soil organic carbon by mid-infrared photoacoustic spectroscopy. <i>Soil Biology and Biochemistry</i> , 2014, 77, 41-50.	4.2	87
7	Determination of soil properties using Fourier transform mid-infrared photoacoustic spectroscopy. <i>Vibrational Spectroscopy</i> , 2009, 49, 32-37.	1.2	85
8	Evaluation of soil fertility using infrared spectroscopy: a review. <i>Environmental Chemistry Letters</i> , 2009, 7, 97-113.	8.3	84
9	Effect of Long-Term Rice Straw Return on Soil Glomalin, Carbon and Nitrogen. <i>Pedosphere</i> , 2007, 17, 295-302.	2.1	75
10	Identification of agricultural Mediterranean soils using mid-infrared photoacoustic spectroscopy. <i>Geoderma</i> , 2008, 143, 85-90.	2.3	71
11	Application of FTIR-PAS and Raman spectroscopies for the determination of organic matter in farmland soils. <i>Talanta</i> , 2016, 158, 262-269.	2.9	60
12	Agricultural soil characterization by FTIR spectroscopy at micrometer scales: Depth profiling by photoacoustic spectroscopy. <i>Geoderma</i> , 2019, 335, 94-103.	2.3	58
13	Plants use alternative strategies to utilize nonexchangeable potassium in minerals. <i>Plant and Soil</i> , 2011, 343, 209-220.	1.8	57
14	Characterization of Soils Using Photoacoustic Mid-Infrared Spectroscopy. <i>Applied Spectroscopy</i> , 2007, 61, 1063-1067.	1.2	53
15	Enhancement of Phosphorus Solubility by Humic Substances in Ferrosols. <i>Pedosphere</i> , 2008, 18, 533-538.	2.1	53
16	Evaluation of Waterborne Coating for Controlled-Release Fertilizer Using Wurster Fluidized Bed. <i>Industrial & Engineering Chemistry Research</i> , 2010, 49, 9644-9647.	1.8	52
17	Application of Infrared Photoacoustic Spectroscopy in Soil Analysis. <i>Applied Spectroscopy Reviews</i> , 2011, 46, 405-422.	3.4	51
18	Characteristics and accumulation of heavy metals in sediments originated from an electroplating plant. <i>Journal of Hazardous Materials</i> , 2009, 163, 922-930.	6.5	50

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19	Estimation of nitrogen nutrition index in rice from UAV RGB images coupled with machine learning algorithms. <i>Computers and Electronics in Agriculture</i> , 2021, 189, 106421.	3.7	50
20	Prediction of nitrate release from polymer-coated fertilizers using an artificial neural network model. <i>Biosystems Engineering</i> , 2008, 99, 478-486.	1.9	45
21	Biodegradation of a biochar-modified waterborne polyacrylate membrane coating for controlled-release fertilizer and its effects on soil bacterial community profiles. <i>Environmental Science and Pollution Research</i> , 2015, 22, 8672-8682.	2.7	45
22	Detection of soil organic matter from laser-induced breakdown spectroscopy (LIBS) and mid-infrared spectroscopy (FTIR-ATR) coupled with multivariate techniques. <i>Geoderma</i> , 2019, 355, 113905.	2.3	45
23	Mathematical Model for Potassium Release from Polymer-coated Fertiliser. <i>Biosystems Engineering</i> , 2004, 88, 395-400.	1.9	40
24	Forensic soil analysis using laser-induced breakdown spectroscopy (LIBS) and Fourier transform infrared total attenuated reflectance spectroscopy (FTIR-ATR): Principles and case studies. <i>Forensic Science International</i> , 2020, 310, 110222.	1.3	40
25	Application of Nano Fe ^{III} -Tannic Acid Complexes in Modifying Aqueous Acrylic Latex for Controlled-Release Coated Urea. <i>Journal of Agricultural and Food Chemistry</i> , 2017, 65, 1030-1036.	2.4	39
26	A method combining FTIR-ATR and Raman spectroscopy to determine soil organic matter: Improvement of prediction accuracy using competitive adaptive reweighted sampling (CARS). <i>Computers and Electronics in Agriculture</i> , 2021, 191, 106549.	3.7	36
27	Application of mid-infrared photoacoustic spectroscopy in monitoring carbonate content in soils. <i>Sensors and Actuators B: Chemical</i> , 2013, 188, 1167-1175.	4.0	32
28	Effect of CO ₂ Enrichment on the Growth and Nutrient Uptake of Tomato Seedlings. <i>Pedosphere</i> , 2007, 17, 343-351.	2.1	31
29	Investigation of soil properties using different techniques of mid-infrared spectroscopy. <i>European Journal of Soil Science</i> , 2019, 70, 96-106.	1.8	30
30	Application of waterborne acrylic emulsions in coated controlled release fertilizer using reacted layer technology. <i>Chinese Journal of Chemical Engineering</i> , 2015, 23, 309-314.	1.7	28
31	Economic and Soil Environmental Benefits of Using Controlled-Release Bulk Blending Urea in the North China Plain. <i>Land Degradation and Development</i> , 2017, 28, 2370-2379.	1.8	27
32	Evaluating Plant-Available Potassium in Different Soils Using a Modified Sodium Tetraphenylboron Method. <i>Soil Science</i> , 2010, 175, 544-551.	0.9	26
33	Degradation of Polyacrylate in the Outdoor Agricultural Soil Measured by FTIR-PAS and LIBS. <i>Polymers</i> , 2018, 10, 1296.	2.0	26
34	Characterizing typical farmland soils in China using Raman spectroscopy. <i>Geoderma</i> , 2016, 268, 147-155.	2.3	25
35	Depth profiling of clay-xanthan complexes using step-scan mid-infrared photoacoustic spectroscopy. <i>Journal of Soils and Sediments</i> , 2010, 10, 855-862.	1.5	24
36	A 1915-2011 microscale record of soil organic matter under wheat cultivation using FTIR-PAS depth-profiling. <i>Agronomy for Sustainable Development</i> , 2014, 34, 803-811.	2.2	23

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37	Applying convolutional neural networks (CNN) for end-to-end soil analysis based on laser-induced breakdown spectroscopy (LIBS) with less spectral preprocessing. <i>Computers and Electronics in Agriculture</i> , 2022, 199, 107171.	3.7	23
38	STUDY ON THE PHYSIOLOGICAL MECHANISM OF BORON UTILIZATION EFFICIENCY IN RAPE CULTIVARS. <i>Journal of Plant Nutrition</i> , 2002, 25, 231-244.	0.9	21
39	Estimating Plant Nitrogen Concentration of Rice through Fusing Vegetation Indices and Color Moments Derived from UAV-RGB Images. <i>Remote Sensing</i> , 2021, 13, 1620.	1.8	20
40	Fast and nondestructive determination of protein content in rapeseeds (<i>Brassica napus</i> L.) using Fourier transform infrared photoacoustic spectroscopy (FTIR-PAS). <i>Journal of the Science of Food and Agriculture</i> , 2014, 94, 2239-2245.	1.7	19
41	Characterization of nano FeIII-tannic acid modified polyacrylate in controlled-release coated urea by Fourier transform infrared photoacoustic spectroscopy and laser-induced breakdown spectroscopy. <i>Polymer Testing</i> , 2017, 64, 101-108.	2.3	19
42	Rapid diagnosis of nitrogen status in rice based on Fourier transform infrared photoacoustic spectroscopy (FTIR-PAS). <i>Plant Methods</i> , 2019, 15, 94.	1.9	19
43	Degradation of Metal-Organic Framework Materials as Controlled-Release Fertilizers in Crop Fields. <i>Polymers</i> , 2019, 11, 947.	2.0	19
44	Application of FTIR-PAS in Rapid Assessment of Rice Quality under Climate Change Conditions. <i>Foods</i> , 2021, 10, 159.	1.9	19
45	Phosphate Adsorption on Granular Palygorskite: Batch and Column Studies. <i>Water Environment Research</i> , 2011, 83, 147-153.	1.3	18
46	Classifying rapeseed varieties using Fourier transform infrared photoacoustic spectroscopy (FTIR-PAS). <i>Computers and Electronics in Agriculture</i> , 2014, 107, 58-63.	3.7	18
47	Prediction of Rice Yield in East China Based on Climate and Agronomic Traits Data Using Artificial Neural Networks and Partial Least Squares Regression. <i>Agronomy</i> , 2021, 11, 282.	1.3	18
48	Effects of Boron and Calcium Supply on Calcium Fractionation in Plants and Suspension Cells of Rape Cultivars with Different Boron Efficiency. <i>Journal of Plant Nutrition</i> , 2003, 26, 789-806.	0.9	17
49	Soil mercury accumulation and transference to different crop grains. <i>Human and Ecological Risk Assessment (HERA)</i> , 2016, 22, 1242-1252.	1.7	17
50	Identification of Chinese medicinal fungus <i>Cordyceps sinensis</i> by depth-profiling mid-infrared photoacoustic spectroscopy. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2017, 173, 489-494.	2.0	17
51	Fast and Simultaneous Determination of Soil Properties Using Laser-Induced Breakdown Spectroscopy (LIBS): A Case Study of Typical Farmland Soils in China. <i>Soil Systems</i> , 2019, 3, 66.	1.0	17
52	Aqueous polyacrylate/poly(siliconeacrylate) emulsion coated fertilizers for slow nutrient release application. <i>Journal of Applied Polymer Science</i> , 2014, 131, .	1.3	16
53	Development of a Polyacrylate/Silica Nanoparticle Hybrid Emulsion for Delaying Nutrient Release in Coated Controlled-Release Urea. <i>Coatings</i> , 2019, 9, 88.	1.2	16
54	A Self-Adaptive Model for the Prediction of Soil Organic Matter Using Mid-Infrared Photoacoustic Spectroscopy. <i>Soil Science Society of America Journal</i> , 2016, 80, 238-246.	1.2	15

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55	Rapid and Nondestructive Detection of Pesticide Residues by Depth-Profiling Fourier Transform Infrared Photoacoustic Spectroscopy. <i>ACS Omega</i> , 2018, 3, 3548-3553.	1.6	15
56	In Situ Determination of Nitrate in Water Using Fourier Transform Mid-Infrared Attenuated Total Reflectance Spectroscopy Coupled with Deconvolution Algorithm. <i>Molecules</i> , 2020, 25, 5838.	1.7	15
57	Qualifications of Rice Growth Indicators Optimized at Different Growth Stages Using Unmanned Aerial Vehicle Digital Imagery. <i>Remote Sensing</i> , 2020, 12, 3228.	1.8	15
58	Comparison on the interaction of Al ³⁺ /nano-Al ₁₃ with calf thymus DNA /salmon sperm DNA. <i>Journal of Molecular Structure</i> , 2015, 1100, 154-161.	1.8	14
59	Solvent-Free Synthesis of Iron-Based Metal-Organic Frameworks (MOFs) as Slow-Release Fertilizers. <i>Polymers</i> , 2021, 13, 561.	2.0	14
60	Determination of total protein and wet gluten in wheat flour by Fourier transform infrared photoacoustic spectroscopy with multivariate analysis. <i>Journal of Food Composition and Analysis</i> , 2022, 106, 104349.	1.9	14
61	Soil variability description using Fourier transform mid-infrared photoacoustic spectroscopy coupling with RGB method. <i>Catena</i> , 2017, 152, 190-197.	2.2	13
62	Optimized self-adaptive model for assessment of soil organic matter using Fourier transform mid-infrared photoacoustic spectroscopy. <i>Chemometrics and Intelligent Laboratory Systems</i> , 2017, 171, 9-15.	1.8	13
63	Optimization of metal-organic (citric acid) frameworks for controlled release of nutrients. <i>RSC Advances</i> , 2019, 9, 32270-32277.	1.7	13
64	LIBS and FTIR-ATR spectroscopy studies of mineral-organic associations in saline soil. <i>Land Degradation and Development</i> , 2021, 32, 1786-1795.	1.8	13
65	Grain Yield Estimation in Rice Breeding Using Phenological Data and Vegetation Indices Derived from UAV Images. <i>Agronomy</i> , 2021, 11, 2439.	1.3	13
66	In Situ Measurement of Ammonia Concentration in Soil Headspace Using Fourier Transform Mid-Infrared Photoacoustic Spectroscopy. <i>Pedosphere</i> , 2015, 25, 605-612.	2.1	12
67	The Facile Modification of Polyacrylate Emulsion via Hexadecane to Enhance Controlled-release Profiles of Coated Urea. <i>Scientific Reports</i> , 2018, 8, 12279.	1.6	12
68	Fertilizing maize croppings with blends of slow/controlled-release and conventional nitrogen fertilizers. <i>Journal of Plant Nutrition and Soil Science</i> , 2021, 184, 227-237.	1.1	12
69	Control-released urea improved agricultural production efficiency and reduced the ecological and environmental impact in rice-wheat rotation system: A life-cycle perspective. <i>Field Crops Research</i> , 2022, 278, 108445.	2.3	12
70	Effects of modified clinoptilolite on phosphorus mobilisation and potassium or ammonium release in Ferrosols. <i>Soil Research</i> , 2006, 44, 285.	0.6	11
71	In situ Evaluation of Net Nitrification Rate in Terra Rossa Soil Using a Fourier Transform Infrared Attenuated Total Reflection 15N Tracing Technique. <i>Applied Spectroscopy</i> , 2009, 63, 1168-1173.	1.2	11
72	Characterization of animal manures using mid-infrared photoacoustic spectroscopy. <i>Bioresource Technology</i> , 2010, 101, 6273-6277.	4.8	11

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73	Two-Dimensional Visualization of Nitrogen Distribution in Leaves of Chinese Cabbage (<i>Brassica</i>) Tj ETQq1 1 0.784314 rgBT /Overlock Technique. Journal of Agricultural and Food Chemistry, 2016, 64, 7696-7701.	2.4	11
74	Potassium Movement and Transformation in an Acid Soil as Affected by Phosphorus. Soil Science Society of America Journal, 2006, 70, 2057-2064.	1.2	10
75	Use of FTIR-PAS combined with chemometrics to quantify nutritional information in rapeseeds (<i>Brassica napus</i>). Journal of Plant Nutrition and Soil Science, 2014, 177, 927-933.	1.1	10
76	Thermal post-treatment alters nutrient release from a controlled-release fertilizer coated with a waterborne polymer. Scientific Reports, 2015, 5, 13820.	1.6	10
77	Evaluation of Mercury Uptake and Distribution in Rice (<i>Oryza sativa</i> L.). Bulletin of Environmental Contamination and Toxicology, 2018, 100, 451-456.	1.3	10
78	Organic and Inorganic Carbon in Paddy Soil as Evaluated by Mid-Infrared Photoacoustic Spectroscopy. PLoS ONE, 2012, 7, e43368.	1.1	9
79	Determination of the contents of magnesium and potassium in rapeseeds using FTIR-PAS combined with least squares support vector machines and uninformative variable elimination. Analytical Methods, 2014, 6, 2586-2591.	1.3	9
80	Interaction between polyacrylate coatings used in controlled-release fertilizers and soils in wheat-rice rotation fields. Agriculture, Ecosystems and Environment, 2019, 286, 106650.	2.5	9
81	Characterization of Greenhouse Soil Properties Using Mid-infrared Photoacoustic Spectroscopy. Spectroscopy Letters, 2011, 44, 359-368.	0.5	8
82	Quantitative analysis of different nitrogen isotope labelled nitrates in paddy soil using mid-infrared attenuated total reflectance spectroscopy. Analytical Methods, 2017, 9, 5388-5394.	1.3	8
83	Release profile predictions of controlled release fertilisers: Least Squares Support Vector Machines. Biosystems Engineering, 2018, 172, 67-74.	1.9	8
84	Improved Accuracy of Phenological Detection in Rice Breeding by Using Ensemble Models of Machine Learning Based on UAV-RGB Imagery. Remote Sensing, 2021, 13, 2678.	1.8	8
85	Hydrophobic modification of waterborne polymer slows urea release and improves nitrogen use efficiency in rice. Science of the Total Environment, 2021, 794, 148612.	3.9	8
86	Rapid Determination of N Isotope Labeled Nitrate Using Fourier Transform Infrared Attenuated Total Reflection Spectroscopy. Chinese Journal of Analytical Chemistry, 2014, 42, 747-752.	0.9	7
87	Evaluation of net nitrification rates in paddy soil using mid-infrared attenuated total reflectance spectroscopy. Analytical Methods, 2017, 9, 748-755.	1.3	7
88	Responses of Leaf Cuticles to Rice Blast: Detection and Identification Using Depth-Profiling Fourier Transform Mid-Infrared Photoacoustic Spectroscopy. Plant Disease, 2020, 104, 847-852.	0.7	7
89	In Situ Monitoring of Nitrate Content in Leafy Vegetables Using Attenuated Total Reflectance Fourier-Transform Mid-infrared Spectroscopy Coupled with Machine Learning Algorithm. Food Analytical Methods, 2021, 14, 2237-2248.	1.3	7
90	In-situ rapid monitoring of nitrate in urban water bodies using Fourier transform infrared attenuated total reflectance spectroscopy (FTIR-ATR) coupled with deconvolution algorithm. Journal of Environmental Management, 2022, 317, 115452.	3.8	7

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91	Diagnosis of nitrogen status in Chinese cabbage (<i>Brassica rapa chinensis</i>) using the ratio of amide II to amide I in leaves based on mid-infrared photoacoustic spectroscopy. <i>Journal of Plant Nutrition and Soil Science</i> , 2015, 178, 888-895.	1.1	6
92	Application of Graphene-Oxide-Modified Polyacrylate Polymer for Controlled-Release Coated Urea. <i>Coatings</i> , 2018, 8, 64.	1.2	6
93	Optimization of measuring procedure of farmland soils using laser-induced breakdown spectroscopy. <i>Soil Science Society of America Journal</i> , 2020, 84, 1307-1326.	1.2	6
94	Evaluation of Soil Fertility Using Infrared Spectroscopy – A Review. , 2009, , 453-483.		5
95	Long-Term Dynamic of Cold Stress during Heading and Flowering Stage and Its Effects on Rice Growth in China. <i>Atmosphere</i> , 2022, 13, 103.	1.0	5
96	Development of Prediction Models for Estimating Key Rice Growth Variables Using Visible and NIR Images from Unmanned Aerial Systems. <i>Remote Sensing</i> , 2022, 14, 1384.	1.8	5
97	Characterization of Soil Humic Substances Using Mid-infrared Photoacoustic Spectroscopy. , 2013, , 43-47.		4
98	Classification of rapeseed colors using Fourier transform mid-infrared photoacoustic spectroscopy. <i>Analytical Methods</i> , 2014, 6, 1412.	1.3	4
99	Determination of Nitrogen in Rapeseed by Fourier Transform Infrared Photoacoustic Spectroscopy and Independent Component Analysis. <i>Analytical Letters</i> , 2015, 48, 1150-1162.	1.0	4
100	Characterization of the Release of Urea from Coated Fertilizer by Fourier Transform Infrared Spectroscopy with Attenuated Total Reflectance. <i>Analytical Letters</i> , 2015, 48, 2380-2390.	1.0	4
101	Fourier Transform Mid-Infrared Photoacoustic Spectroscopy for Presymptomatic Detection of Powdery Mildew Infection in <i>Rubus corchorifolius</i> L.. <i>Spectroscopy Letters</i> , 2015, 48, 610-615.	0.5	4
102	In situ detection of rice leaf cuticle responses to nitrogen supplies by depth-profiling Fourier transform photoacoustic spectroscopy. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2020, 228, 117759.	2.0	4
103	Technical Note: Characterisation of Loess Soils Using near Infrared Photoacoustic Spectroscopy. <i>Journal of Near Infrared Spectroscopy</i> , 2016, 24, 225-230.	0.8	3
104	Modified self-adaptive model for improving the prediction accuracy of soil organic matter by laser-induced breakdown spectroscopy. <i>Soil Science Society of America Journal</i> , 2020, 84, 1995-2009.	1.2	3
105	Combination of high-resolution laser-induced breakdown spectroscopy and least square method for reducing soil carbon overestimation due to iron interference. <i>Geoderma</i> , 2021, 385, 114881.	2.3	3
106	Biomimetic Modification of Water-Borne Polymer Coating with Carnauba Wax for Controlled Release of Urea. <i>International Journal of Molecular Sciences</i> , 2022, 23, 7422.	1.8	3
107	Sensing of Soil Organic Matter Using Laser-Induced Breakdown Spectroscopy Coupled with Optimized Self-Adaptive Calibration Strategy. <i>Sensors</i> , 2022, 22, 1488.	2.1	2
108	Effect of long-term fertilization on the transformations of water-extractable phosphorus in a fluvo-aquic soil. <i>Journal of Plant Nutrition and Soil Science</i> , 2011, 174, 20-27.	1.1	1

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109	Rapid Determination of Nitrate in Chinese Cabbage Using Fourier Transforms Mid-infrared Spectroscopy. Chinese Journal of Analytical Chemistry, 2013, 41, 1264.	0.9	1
110	Global Sensitivity Analysis for CERES-Rice Model under Different Cultivars and Specific-Stage Variations of Climate Parameters. Agronomy, 2021, 11, 2446.	1.3	1