Tianlong Zhang

List of Publications by Year
in descending order

52 papers	1,606 citations	331670 21 h-index	315739 38 g-index
52 all docs	52 docs citations	52 times ranked	864 citing authors

#	Article	IF	Citations
1	Quantitative and classification analysis of slag samples by laser induced breakdown spectroscopy (LIBS) coupled with support vector machine (SVM) and partial least square (PLS) methods. Journal of Analytical Atomic Spectrometry, 2015, 30, 368-374.	3.0	99
2	Application of laser-induced breakdown spectroscopy (LIBS) in environmental monitoring. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 181, 106218.	2.9	90
3	A novel approach for the quantitative analysis of multiple elements in steel based on laser-induced breakdown spectroscopy (LIBS) and random forest regression (RFR). Journal of Analytical Atomic Spectrometry, 2014, 29, 2323-2329.	3.0	87
4	Classification of iron ores by laser-induced breakdown spectroscopy (LIBS) combined with random forest (RF). Journal of Analytical Atomic Spectrometry, 2015, 30, 453-458.	3.0	81
5	Chemometrics in laser-induced breakdown spectroscopy. Journal of Chemometrics, 2018, 32, e2983.	1.3	79
6	Machine Learning Allows Calibration Models to Predict Trace Element Concentration in Soils with Generalized LIBS Spectra. Scientific Reports, 2019, 9, 11363.	3.3	68
7	Applications of laser-induced breakdown spectroscopy (LIBS) combined with machine learning in geochemical and environmental resources exploration. TrAC - Trends in Analytical Chemistry, 2020, 133, 116113.	11.4	66
8	A novel hybrid feature selection strategy in quantitative analysis of laser-induced breakdown spectroscopy. Analytica Chimica Acta, 2019, 1080, 35-42.	5.4	65
9	Classification of steel materials by laser-induced breakdown spectroscopy coupled with support vector machines. Applied Optics, 2014, 53, 544.	1.8	55
10	Rapid classification of archaeological ceramics via laser-induced breakdown spectroscopy coupled with random forest. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2018, 149, 288-293.	2.9	53
11	Classification of wines according to their production regions with the contained trace elements using laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 135, 91-101.	2.9	52
12	Determination of carbon and sulfur content in coal by laser induced breakdown spectroscopy combined with kernel-based extreme learning machine. Chemometrics and Intelligent Laboratory Systems, 2017, 167, 226-231.	3.5	48
13	Classification and discrimination of coal ash by laser-induced breakdown spectroscopy (LIBS) coupled with advanced chemometric methods. Journal of Analytical Atomic Spectrometry, 2017, 32, 1960-1965.	3.0	46
14	Classification of steel samples by laser-induced breakdown spectroscopy and random forest. Chemometrics and Intelligent Laboratory Systems, 2016, 157, 196-201.	3.5	45
15	A hybrid variable selection method based on wavelet transform and mean impact value for calorific value determination of coal using laser-induced breakdown spectroscopy and kernel extreme learning machine. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2019, 154, 75-81.	2.9	44
16	Laser-induced breakdown spectroscopy in archeological science: a review of its application and future perspectives. Applied Spectroscopy Reviews, 2019, 54, 573-601.	6.7	41
17	A method for improving the accuracy of calibration-free laser-induced breakdown spectroscopy (CF-LIBS) using determined plasma temperature by genetic algorithm (GA). Journal of Analytical Atomic Spectrometry, 2015, 30, 1336-1344.	3.0	40
18	Quantitative detection of harmful elements in alloy steel by LIBS technique and sequential backward selection-random forest (SBS-RF). Journal of Analytical Atomic Spectrometry, 2017, 32, 2194-2199.	3.0	38

#	Article	IF	Citations
19	Determination of coal properties using laser-induced breakdown spectroscopy combined with kernel extreme learning machine and variable selection. Journal of Analytical Atomic Spectrometry, 2018, 33, 2089-2097.	3.0	33
20	Classification of different types of slag samples by laser-induced breakdown spectroscopy (LIBS) coupled with random forest based on variable importance (VIRF). Analytical Methods, 2015, 7, 9171-9176.	2.7	28
21	Data fusion of laser induced breakdown spectroscopy (LIBS) and infrared spectroscopy (IR) coupled with random forest (RF) for the classification and discrimination of compound salvia miltiorrhiza. Chemometrics and Intelligent Laboratory Systems, 2020, 207, 104179.	3.5	25
22	Rapid discrimination of Salvia miltiorrhiza according to their geographical regions by laser induced breakdown spectroscopy (LIBS) and particle swarm optimization-kernel extreme learning machine (PSO-KELM). Chemometrics and Intelligent Laboratory Systems, 2020, 197, 103930.	3.5	23
23	Rapid quantitative analysis of the acidity of iron ore by the laser-induced breakdown spectroscopy (LIBS) technique coupled with variable importance measures-random forests (VIM-RF). Analytical Methods, 2019, 11, 3419-3428.	2.7	22
24	Four-metal-element quantitative analysis and pollution source discrimination in atmospheric sedimentation by laser-induced breakdown spectroscopy (LIBS) coupled with machine learning. Journal of Analytical Atomic Spectrometry, 2020, 35, 403-413.	3.0	21
25	Quantitative analysis of nonmetal elements in steel using laser-induced breakdown spectroscopy combined with random forest. Analytical Methods, 2015, 7, 2425-2432.	2.7	20
26	Quantitative analysis of polycyclic aromatic hydrocarbons in soil by infrared spectroscopy combined with hybrid variable selection strategy and partial least squares. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2021, 257, 119771.	3.9	20
27	Data Fusion of Raman and Near-Infrared Spectroscopies for the Rapid Quantitative Analysis of Methanol Content in Methanol–Gasoline. Energy & Fuels, 2019, 33, 12286-12294.	5.1	19
28	Novel Method Based on Hollow Laser Trapping-LIBS-Machine Learning for Simultaneous Quantitative Analysis of Multiple Metal Elements in a Single Microsized Particle in Air. Analytical Chemistry, 2021, 93, 2281-2290.	6.5	19
29	Classification of iron ore based on acidity and alkalinity by laser induced breakdown spectroscopy coupled with N-nearest neighbours (N3). Analytical Methods, 2016, 8, 6216-6221.	2.7	17
30	Acidity analysis of iron ore based on calibration-free laser-induced breakdown spectroscopy (CF-LIBS) combined with a binary search algorithm (BSA). RSC Advances, 2016, 6, 76813-76823.	3.6	17
31	Quantitative analysis of the major components of coal ash using laser induced breakdown spectroscopy coupled with a wavelet neural network (WNN). Analytical Methods, 2016, 8, 1674-1680.	2.7	17
32	Quantitative analysis of coal quality by mutual information-particle swarm optimization (MI-PSO) hybrid variable selection method coupled with spectral fusion strategy of laser-induced breakdown spectroscopy (LIBS) and fourier transform infrared spectroscopy (FTIR). Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 178, 106112.	2.9	17
33	Synchronous detection of heavy metal ions in aqueous solution by gold nanoparticle surface-enhanced laser-induced breakdown spectroscopy. Journal of Analytical Atomic Spectrometry, 2021, 36, 2639-2648.	3.0	17
34	Quantitative analysis of Fe content in iron ore via external calibration in conjunction with internal standardization method coupled with LIBS. Chemical Research in Chinese Universities, 2015, 31, 107-111.	2.6	16
35	Quantitative structure–activity relationship (QSAR) study of carcinogenicity of polycyclic aromatic hydrocarbons (PAHs) in atmospheric particulate matter by random forest (RF). Analytical Methods, 2019, 11, 1816-1821.	2.7	16
36	Hybrid variable selection strategy coupled with random forest (RF) for quantitative analysis of methanol in methanol-gasoline via Raman spectroscopy. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2021, 251, 119430.	3.9	16

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37	A single-beam-splitting technique combined with a calibration-free method for field-deployable applications using laser-induced breakdown spectroscopy. RSC Advances, 2015, 5, 4537-4546.	3.6	14
38	Metal-chelate induced nanoparticle aggregation enhanced laser-induced breakdown spectroscopy for ultra-sensitive detection of trace metal ions in liquid samples. Journal of Analytical Atomic Spectrometry, 2020, 35, 188-197.	3.0	14
39	A novel hybrid filter/wrapper method for feature selection in archaeological ceramics classification by laser-induced breakdown spectroscopy. Analyst, The, 2021, 146, 1023-1031.	3.5	13
40	*In situ* attenuated total reflection-Fourier transform infrared (ATR-FTIR) spectroscopy combined with non-negative matrix factorization for investigating the synthesis reaction mechanism of 3-amino-4-amino-oxime furazan. Analytical Methods, 2018, 10, 5817-5822.	2.7	12
41	A modified backward elimination approach for the rapid classification of Chinese ceramics using laser-induced breakdown spectroscopy and chemometrics. Journal of Analytical Atomic Spectrometry, 2020, 35, 518-525.	3.0	12
42	The detonation heat prediction of nitrogen-containing compounds based on quantitative structure-activity relationship (QSAR) combined with random forest (RF). Chemometrics and Intelligent Laboratory Systems, 2021, 213, 104249.	3.5	11
43	Laser induced breakdown spectroscopy combined with hybrid variable selection for the prediction of the environmental risk Nemerow index of heavy metals in oily sludge. Journal of Analytical Atomic Spectrometry, 2022, 37, 1099-1108.	3.0	11
44	Pollution risk estimation of the Cu element in atmospheric sedimentation samples by laser induced breakdown spectroscopy (LIBS) combined with random forest (RF). Analytical Methods, 2021, 13, 3424-3432.	2.7	10
45	Simultaneous quantitative analysis of four metal elements in oily sludge by laser induced breakdown spectroscopy coupled with wavelet transform-random forest (WT-RF). Chemometrics and Intelligent Laboratory Systems, 2019, 194, 103854.	3.5	9
46	A novel strategy for quantitative analysis of soil pH via laser-induced breakdown spectroscopy coupled with random forest. Plasma Science and Technology, 2020, 22, 074003.	1.5	9
47	A method of improving classification precision based on model population analysis of steel material for laser-induced breakdown spectroscopy. Analytical Methods, 2014, 6, 8374-8379.	2.7	8
48	Quantitative determination of Cr in ink by laser-induced breakdown spectroscopy(LIBS) using ZnO as adsorbent. Chemical Research in Chinese Universities, 2015, 31, 909-913.	2.6	8
49	Investigating the synthetic mechanism of 3,5-diamino-1,2,4-triazole by using fibre optic ATR-IR spectroscopy combined with kernel independent component analysis. Analytical Methods, 2015, 7, 4152-4158.	2.7	8
50	The spectral fusion of laser-induced breakdown spectroscopy (LIBS) and mid-infrared spectroscopy (MIR) coupled with random forest (RF) for the quantitative analysis of soil pH. Journal of Analytical Atomic Spectrometry, 2021, 36, 1084-1092.	3.0	7
51	Quantitative Analysis of Methanol in Methanol Gasoline by Calibration Transfer Strategy Based on Kernel Domain Adaptive Partial Least Squares(kda-PLS). Chemical Research in Chinese Universities, 0, , 1.	2.6	0
52	Evaluation of the potential ecological risk of metals in atmospherically deposited particulate matter via laser-induced breakdown spectroscopy combined with machine learning. Chinese Journal of Analytical Chemistry, 2022, , 100097.	1.7	0