Karel Novotny

List of Publications by Year
in descending order

76 papers	2,161 citations	201674 27 h-index	243625 44 g-index
77 all docs	77 docs citations	77 times ranked	1894 citing authors

#	Article	IF	Citations
1	Trace elemental analysis by laser-induced breakdown spectroscopyâ€"Biological applications. Surface Science Reports, 2012, 67, 233-243.	7.2	149
2	Mapping of lead, magnesium and copper accumulation in plant tissues by laser-induced breakdown spectroscopy and laser-ablation inductively coupled plasma mass spectrometry. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2009, 64, 67-73.	2.9	133
3	Investigation of heavy-metal accumulation in selected plant samples using laser induced breakdown spectroscopy and laser ablation inductively coupled plasma mass spectrometry. Applied Physics A: Materials Science and Processing, 2008, 93, 917-922.	2.3	71
4	Multi-instrumental Analysis of Tissues of Sunflower Plants Treated with Silver(I) Ions â€“ Plants as Bioindicators of Environmental Pollution. Sensors, 2008, 8, 445-463.	3.8	70
5	Impact of Laser-Induced Breakdown Spectroscopy data normalization on multivariate classification accuracy. Journal of Analytical Atomic Spectrometry, 2017, 32, 277-288.	3.0	70
6	Femtosecond laser spectrochemical analysis of plant samples. Laser Physics Letters, 2006, 3, 21-25.	1.4	67
7	Fast identification of biominerals by means of stand-off laserâ€induced breakdown spectroscopy using linear discriminant analysis and artificial neural networks. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2012, 73, 1-6.	2.9	64
8	Utilization of laser induced breakdown spectroscopy for investigation of the metal accumulation in vegetal tissues. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2007, 62, 1597-1605.	2.9	62
9	Mapping of different structures on large area of granite sample using laser-ablation based analytical techniques, an exploratory study. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2008, 63, 1139-1144.	2.9	60
10	Multivariate approach to the chemical mapping of uranium in sandstone-hosted uranium ores analyzed using double pulse Laser-Induced Breakdown Spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 123, 143-149.	2.9	56
11	Comparative investigation of toxicity and bioaccumulation of Cd-based quantum dots and Cd salt in freshwater plant Lemna minor L.. Ecotoxicology and Environmental Safety, 2018, 147, 334-341.	6.0	54
12	Algal Biomass Analysis by Laser-Based Analytical Techniquesâ€"A Review. Sensors, 2014, 14, 17725-17752.	3.8	53
13	Sunflower Plants as Bioindicators of Environmental Pollution with Lead (II) Ions. Sensors, 2009, 9, 5040-5058.	3.8	52
14	Combination of laser-induced breakdown spectroscopy and Raman spectroscopy for multivariate classification of bacteria. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2018, 139, 6-12.	2.9	50
15	Comparative study on fast classification of brick samples by combination of principal component analysis and linear discriminant analysis using stand-off and table-top laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2014, 101, 191-199.	2.9	49
16	Determination of aluminium in groundwater samples by GF-AAS, ICP-AES, ICP-MS and modelling of inorganic aluminium complexes. Environmental Monitoring and Assessment, 2011, 182, 71-84.	2.7	47
17	Short-term assessment of cadmium toxicity and uptake from different types of Cd-based Quantum Dots in the model plant Allium cepa L.. Ecotoxicology and Environmental Safety, 2018, 153, 23-31.	6.0	45
18	Mapping of the spatial distribution of silver nanoparticles in root tissues of Vicia faba by laser-induced breakdown spectroscopy (LIBS). Talanta, 2017, 173, 28-35.	5.5	43

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19	Determination of Plant Thiols by Liquid Chromatography Coupled with Coulometric and Amperometric Detection in Lettuce Treated by Lead(II) Ions. Electroanalysis, 2010, 22, 1248-1259.	2.9	42
20	Utilization of laserâ€assisted analytical methods for monitoring of lead and nutrition elements distribution in fresh and dried Capsicum annuum l. leaves. Microscopy Research and Technique, 2011, 74, 845-852.	2.2	42
21	The use of zinc and iron emission lines in the depth profile analysis of zinc-coated steel. Applied Surface Science, 2007, 253, 3834-3842.	6.1	40
22	Correlation of acoustic and optical emission signals produced at 1064 and 532Ânm laser-induced breakdown spectroscopy (LIBS) of glazed wall tiles. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2009, 64, 74-78.	2.9	40
23	Multielemental analysis of prehistoric animal teeth by laser-induced breakdown spectroscopy and laser ablation inductively coupled plasma mass spectrometry. Applied Optics, 2010, 49, C191.	2.1	40
24	Laser-Induced Breakdown Spectroscopy coupled with chemometrics for the analysis of steel: The issue of spectral outliers filtering. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 123, 114-120.	2.9	35
25	Fundamentals of standâ€off Raman scattering spectroscopy for explosive fingerprinting. Journal of Raman Spectroscopy, 2013, 44, 121-130.	2.5	31
26	Laser ablation methods for analysis of urinary calculi: Comparison study based on calibration pellets. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2013, 81, 43-49.	2.9	29
27	The effects of photon-upconversion nanoparticles on the growth of radish and duckweed: Bioaccumulation, imaging, and spectroscopic studies. Chemosphere, 2019, 225, 723-734.	8.2	28
28	Elemental analysis of soils and Salix polaris in the town of Pyramiden and its surroundings (Svalbard). Environmental Science and Pollution Research, 2016, 23, 10124-10137.	5.3	27
29	Synthesis, characterisation and extraction behaviour of calix[4]arene-based phosphonic acidsElectronic supplementary information (ESI) available: Tables S1â€“S3 and Figs. S1 and S2. See http://www.rsc.org/suppdata/p2/b1/b105489a/. Perkin Transactions II RSC, 2002, , 1370-1377.	1.1	26
30	Investigation of the microstructure and mineralogical composition of urinary calculi fragments by synchrotron radiation X-ray microtomography: a feasibility study. Urological Research, 2011, 39, 259-267.	1.5	26
31	Application of laser-induced breakdown spectroscopy to the analysis of algal biomass for industrial biotechnology. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2012, 74-75, 169-176.	2.9	26
32	The Content of the 14 Metals in Cancellous and Cortical Bone of the Hip Joint Affected by Osteoarthritis. BioMed Research International, 2015, 2015, 1-23.	1.9	26
33	Ageâ€related changes in the toothâ€“bone interface areaÂof acrodont dentition in the chameleon. Journal of Anatomy, 2016, 229, 356-368.	1.5	26
34	Determination of cadmium, chromium and copper in high salt samples by LA-ICP-OES after electrodepositionâ€”preliminary study. Mikrochimica Acta, 2010, 171, 145-150.	5.0	24
35	Optimization of liquid jet system for laser-induced breakdown spectroscopy analysis. Review of Scientific Instruments, 2016, 87, 043116.	1.3	24
36	Triple-pulse LIBS: laser-induced breakdown spectroscopy signal enhancement by combination of pre-ablation and re-heating laser pulses. Journal of Analytical Atomic Spectrometry, 2020, 35, 293-300.	3.0	24

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37	Improvement of the Laser-Induced Breakdown Spectroscopy method sensitivity by the usage of combination of Ag-nanoparticles and vacuum conditions. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 127, 48-55.	2.9	23
38	Investigation of the osteitis deformans phases in snake vertebrae by double-pulse laser-induced breakdown spectroscopy. Analytical and Bioanalytical Chemistry, 2010, 398, 1095-1107.	3.7	22
39	Effect of experimental parameters and resulting analytical signal statistics in laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 126, 6-10.	2.9	21
40	Feasibility of depth profiling of Zn-based coatings by laser ablation inductively coupled plasma optical emission and mass spectrometry using infrared Nd:YAG and ArF* lasers. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2005, 60, 307-318.	2.9	20
41	Speciation of copper, lead and cadmium in aquatic systems by circulating dialysis combined with flame AAS. Fresenius' Journal of Analytical Chemistry, 2000, 366, 209-212.	1.5	19
42	Development of a remote laser-induced breakdown spectroscopy system for investigation of calcified tissue samples. Applied Optics, 2010, 49, C16.	2.1	18
43	Infrared laser ablation study of pressed soil pellets with inductively coupled plasma atomic emission spectrometry. Analytical and Bioanalytical Chemistry, 2002, 374, 244-250.	3.7	17
44	Analysis of powdered tungsten carbide hard-metal precursors and cemented compact tungsten carbides using laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2007, 62, 1567-1574.	2.9	17
45	Depth-resolved analysis of historical painting model samples by means of laser-induced breakdown spectroscopy and handheld X-ray fluorescence. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2018, 147, 100-108.	2.9	17
46	A versatile interaction chamber for laser-based spectroscopic applications, with the emphasis on Laser-Induced Breakdown Spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2014, 101, 149-154.	2.9	16
47	Feasibility of Nanoparticle-Enhanced Laser Ablation Inductively Coupled Plasma Mass Spectrometry. Analytical Chemistry, 2018, 90, 11820-11826.	6.5	16
48	Detail investigation of toxicity, bioaccumulation, and translocation of Cd-based quantum dots and Cd salt in white mustard. Chemosphere, 2020, 251, 126174.	8.2	16
49	Application of self-organizing maps to the study of U-Zr-Ti-Nb distribution in sandstone-hosted uranium ores. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 131, 66-73.	2.9	15
50	Identification of quantum dots labeled metallothionein by fast scanning laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2014, 101, 220-225.	2.9	14
51	Laser-induced breakdown spectroscopy as a novel readout method for nanoparticle-based immunoassays. Mikrochimica Acta, 2019, 186, 629.	5.0	14
52	2d distribution mapping of quantum dots injected onto filtration paper by laser-induced breakdown spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2017, 131, 107-114.	2.9	12
53	Laser-induced breakdown spectroscopy as a readout method for immunocytochemistry with upconversion nanoparticles. Mikrochimica Acta, 2021, 188, 147.	5.0	12
54	Multivariate classification of echellograms: a new perspective in Laser-Induced Breakdown Spectroscopy analysis. Scientific Reports, 2017, 7, 3160.	3.3	9

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55	Comparison of different spectral resolution ICP-OES spectrometers for the determination of rare earth elements. Chemical Papers, 2019, 73, 2913-2921.	2.2	9
56	Dual imaging of uranium ore by Laser Ablation Inductively Coupled Plasma Mass Spectrometry and Laser Induced Breakdown Spectroscopy. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 186, 106312.	2.9	9
57	Provenance study of volcanic glass using 266â€“1064 nm orthogonal double pulse laser induced breakdown spectroscopy. Chemical Papers, 2013, 67, .	2.2	8
58	The use of laser-induced breakdown spectroscopy for the determination of fluorine concentration in glass ionomer cement. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2013, 88, 26-31.	2.9	8
59	Estimating the grade of Mg corrosion using laser-induced breakdown spectroscopy. Journal of Analytical Atomic Spectrometry, 2015, 30, 2099-2106.	3.0	8
60	Assessment of the most effective part of echelle laser-induced plasma spectra for further classification using Czerny-Turner spectrometer. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 124, 116-123.	2.9	8
61	Detection of visually unrecognizable braking tracks using Laser-Induced Breakdown Spectroscopy, a feasibility study. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2016, 118, 90-97.	2.9	8
62	Implementation of an autofocus algorithm based on searching the best in-focus image into a table-top laser-induced breakdown spectroscopy setup. Optical Engineering, 2009, 48, 103604.	1.0	7
63	The effect of nanoparticle presence on aerosol formation during nanoparticle-enhanced laser ablation inductively coupled plasma mass spectrometry. Journal of Analytical Atomic Spectrometry, 2020, 35, 2893-2900.	3.0	7
64	Machine learning in laser-induced breakdown spectroscopy as a novel approach towards experimental parameter optimization. Journal of Analytical Atomic Spectrometry, 2022, 37, 603-612.	3.0	6
65	Calibration graphs for steels by IR laser ablation inductively coupled plasma atomic emission spectrometry. Fresenius' Journal of Analytical Chemistry, 2001, 370, 387-392.	1.5	5
66	Vertical distribution of heavy metals in grain size fractions in sedimentary rocks: Mosinaâ€“Krajkowo water well field, Poland. Environmental Monitoring and Assessment, 2009, 155, 493-507.	2.7	5
67	Time-Dependent Growth of Silica Shells on CdTe Quantum Dots. Nanomaterials, 2018, 8, 439.	4.1	5
68	Comparison of the Level of Boron Concentrations in Black Teas with Fruit Teas Available on the Polish Market. Scientific World Journal, The, 2014, 2014, 1-8.	2.1	4
69	Determination of inorganic arsenic species As(III) and As(V) by high performance liquid chromatography with hydride generation atomic absorption spectrometry detection. Open Chemistry, 2004, 2, 82-90.	1.9	3
70	Utilization of selected laser-ablation-based diagnostic methods for study of elemental distribution in various solid samples. , 2010, , .		3
71	Influence of laser wavelength and laser energy on depth profiling of easel painting samples. Chemical Papers, 2019, 73, 2937-2943.	2.2	3
72	X-ray micro computed tomography-aided calibration of laser-induced breakdown spectroscopy depth profiling for archaeological ceramics examination. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2020, 172, 105965.	2.9	3

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73	Feasibility of direct analysis of algae contamination with chromium and copper on the filter with laser-induced breakdown spectroscopy and laser ablation inductively coupled plasma mass spectrometry. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2022, 195, 106488.	2.9	3
74	Mapping of nutrition elements and heavy metals in plant tissue slices by laser-induced breakdown spectroscopy. , 2009, , .		0
75	Multielemental mapping of archeological samples by Laser-Induced Breakdown Spectroscopy (LIBS). , 2009, , .		0
76	Utilization of the Laser-Induced Breakdown Spectroscopy (LIBS) for spectrochemical analysis of plant samples with high spatial resolution. , 2009, , .		0