

Stefan Zimmermann

List of Publications by Year in descending order

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107
papers

1,770
citations

279701

23
h-index

345118

36
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108
all docs

108
docs citations

108
times ranked

1238
citing authors

#	ARTICLE	IF	CITATIONS
1	Miniaturized Drift Tube Ion Mobility Spectrometer with Ultra-Fast Polarity Switching. <i>Analytical Chemistry</i> , 2022, 94, 777-786.	3.2	6
2	Detection of Volatile Toxic Industrial Chemicals with Classical Ion Mobility Spectrometry and High-Kinetic Energy Ion Mobility Spectrometry. <i>Analytical Chemistry</i> , 2022, 94, 1211-1220.	3.2	10
3	Wireless Low-Power Transfer for Galvanically Isolated High-Voltage Applications. <i>Electronics (Switzerland)</i> , 2022, 11, 923.	1.8	2
4	Fast Readout of Split-Ring Resonators Made Simple and Low-Cost for Application in HPLC. <i>Electronics (Switzerland)</i> , 2022, 11, 1139.	1.8	2
5	High Kinetic Energy Ion Mobility Spectrometry – Mass Spectrometry investigations of four inhalation anaesthetics: isoflurane, enflurane, sevoflurane and desflurane. <i>International Journal of Mass Spectrometry</i> , 2022, 475, 116831.	0.7	11
6	Towards a miniaturized on-site nano-high performance liquid chromatography electrospray ionization ion mobility spectrometer with online enrichment. , 2022, 1, 100011.		6
7	Impedance Characteristics of Monolayer and Bilayer Graphene Films with Biofilm Formation and Growth. <i>Sensors</i> , 2022, 22, 3548.	2.1	3
8	Ultrasensitive Ion Source for Drift Tube Ion Mobility Spectrometers Combining Optimized Sample Gas Flow with Both Chemical Ionization and Direct Ionization. <i>Analytical Chemistry</i> , 2022, 94, 9960-9969.	3.2	4
9	Formation of positive product ions from substances with low proton affinity in high kinetic energy ion mobility spectrometry. <i>Rapid Communications in Mass Spectrometry</i> , 2021, 35, e8998.	0.7	8
10	Towards a hand-held, fast, and sensitive gas chromatograph-ion mobility spectrometer for detecting volatile compounds. <i>Analytical and Bioanalytical Chemistry</i> , 2021, 413, 1009-1016.	1.9	19
11	Rational Design of Molecularly Imprinted Polymers Using Quaternary Ammonium Cations for Glyphosate Detection. <i>Sensors</i> , 2021, 21, 296.	2.1	6
12	Molecularly Imprinted Polymer-Based Sensors for Priority Pollutants. <i>Sensors</i> , 2021, 21, 2406.	2.1	23
13	Monitoring the volatile language of fungi using gas chromatography-ion mobility spectrometry. <i>Analytical and Bioanalytical Chemistry</i> , 2021, 413, 3055-3067.	1.9	10
14	How Geometry Affects Sensitivity of a Differential Transformer for Contactless Characterization of Liquids. <i>Sensors</i> , 2021, 21, 2365.	2.1	1
15	Analytical model for the signal-to-noise-ratio of drift tube ion mobility spectrometers. <i>TM Technisches Messen</i> , 2021, 88, 262-273.	0.3	9
16	Towards a Highly Sensitive Piezoelectric Nano-Mass Detection – A Model-Based Concept Study. <i>Sensors</i> , 2021, 21, 2533.	2.1	2
17	Toward Compact High-Performance Ion Mobility Spectrometers: Ion Gating in Ion Mobility Spectrometry. <i>Analytical Chemistry</i> , 2021, 93, 6062-6070.	3.2	19
18	Influence of Reduced Field Strength on Product Ion Formation in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). <i>Journal of the American Society for Mass Spectrometry</i> , 2021, 32, 1810-1820.	1.2	7

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19	Simulation of Cluster Dynamics of Proton-Bound Water Clusters in a High Kinetic Energy Ion-Mobility Spectrometer. <i>Journal of the American Society for Mass Spectrometry</i> , 2021, 32, 2436-2450.	1.2	4
20	Differential Inductive Sensing System for Truly Contactless Measuring of Liquids's Electromagnetic Properties in Tubing. <i>Sensors</i> , 2021, 21, 5535.	2.1	1
21	Coupling Droplet Microfluidics with Ion Mobility Spectrometry for Monitoring Chemical Conversions at Nanoliter Scale. <i>Analytical Chemistry</i> , 2021, 93, 13615-13623.	3.2	11
22	Preparation of Dräger Atlan A350 and General Electric Healthcare Carestation 650 anesthesia workstations for malignant hyperthermia susceptible patients. <i>BMC Anesthesiology</i> , 2021, 21, 315.	0.7	1
23	Negative Reactant Ion Formation in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). <i>Journal of the American Society for Mass Spectrometry</i> , 2020, 31, 1861-1874.	1.2	12
24	Compact and Sensitive Dual Drift Tube Ion Mobility Spectrometer with a New Dual Field Switching Ion Shutter for Simultaneous Detection of Both Ion Polarities. <i>Analytical Chemistry</i> , 2020, 92, 11834-11841.	3.2	10
25	Enhanced Resolving Power by Moving Field Ion Mobility Spectrometry. <i>Analytical Chemistry</i> , 2020, 92, 12967-12974.	3.2	6
26	Ion Mobility Shift of Isotopologues in a High Kinetic Energy Ion Mobility Spectrometer (HiKE-IMS) at Elevated Effective Temperatures. <i>Journal of the American Society for Mass Spectrometry</i> , 2020, 31, 2093-2101.	1.2	9
27	Field-Dependent Reduced Ion Mobilities of Positive and Negative Ions in Air and Nitrogen in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). <i>Journal of the American Society for Mass Spectrometry</i> , 2020, 31, 2191-2201.	1.2	12
28	Novel ion drift tube for high-performance ion mobility spectrometers based on a composite material. <i>International Journal for Ion Mobility Spectrometry</i> , 2020, 23, 75-81.	1.4	10
29	On-Line Coupling of Chip-Electrochromatography and Ion Mobility Spectrometry. <i>Analytical Chemistry</i> , 2020, 92, 15129-15136.	3.2	9
30	IMS Instrumentation I: Isolated data acquisition for ion mobility spectrometers with grounded ion sources. <i>International Journal for Ion Mobility Spectrometry</i> , 2020, 23, 69-74.	1.4	12
31	Positive Reactant Ion Formation in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). <i>Journal of the American Society for Mass Spectrometry</i> , 2020, 31, 1291-1301.	1.2	17
32	High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS) at 40 mbar. <i>Journal of the American Society for Mass Spectrometry</i> , 2020, 31, 1536-1543.	1.2	12
33	Contactless and continuous sodium concentration monitoring during continuous renal replacement therapy. <i>Sensors and Actuators B: Chemical</i> , 2020, 320, 128372.	4.0	4
34	Improving Ion Mobility Spectrometer Sensitivity through the Extended Field Switching Ion Shutter. <i>Analytical Chemistry</i> , 2020, 92, 4838-4847.	3.2	20
35	Analyzing Positive Reactant Ions in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS) by HiKE-IMS's MS. <i>Journal of the American Society for Mass Spectrometry</i> , 2020, 31, 812-821.	1.2	24
36	Non-radioactive electron capture detector for gas chromatography – A possible replacement for radioactive detectors. <i>Journal of Chromatography A</i> , 2019, 1606, 460384.	1.8	5

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37	Printed circuit board based segmented quadrupole ion guide. <i>International Journal of Mass Spectrometry</i> , 2019, 443, 32-40.	0.7	5
38	Ion Fragmentation and Filtering by Alpha Function in Ion Mobility Spectrometry for Improved Compound Differentiation. <i>Analytical Chemistry</i> , 2019, 91, 8941-8947.	3.2	12
39	GC-IMS headspace analyses allow early recognition of bacterial growth and rapid pathogen differentiation in standard blood cultures. <i>Applied Microbiology and Biotechnology</i> , 2019, 103, 9091-9101.	1.7	28
40	A Simple Printed Circuit Board-Based Ion Funnel for Focusing Low m/z Ratio Ions with High Kinetic Energies at Elevated Pressure. <i>Journal of the American Society for Mass Spectrometry</i> , 2019, 30, 1813-1823.	1.2	6
41	2D in Seconds: Coupling of Chip-HPLC with Ion Mobility Spectrometry. <i>Analytical Chemistry</i> , 2019, 91, 7613-7620.	3.2	28
42	Miniaturized high-performance drift tube ion mobility spectrometer. <i>International Journal for Ion Mobility Spectrometry</i> , 2019, 22, 77-83.	1.4	27
43	Ultra-high-resolution ion mobility spectrometry—current instrumentation, limitations, and future developments. <i>Analytical and Bioanalytical Chemistry</i> , 2019, 411, 6229-6246.	1.9	69
44	Comparison of spatial ion distributions from different ionization sources. <i>International Journal for Ion Mobility Spectrometry</i> , 2019, 22, 21-29.	1.4	10
45	Preparation of anaesthesia workstation for trigger-free anaesthesia. <i>European Journal of Anaesthesiology</i> , 2019, 36, 851-856.	0.7	12
46	A Differential Transformer for Noninvasive Continuous Sodium Monitoring During Dialysis Treatment. , 2019, , .		3
47	Non-radioactive electron source with nanosecond pulse modulation for atmospheric pressure chemical ionization. <i>Review of Scientific Instruments</i> , 2019, 90, 113306.	0.6	3
48	High-Resolution High Kinetic Energy Ion Mobility Spectrometer Based on a Low-Discrimination Tristate Ion Shutter. <i>Analytical Chemistry</i> , 2018, 90, 5603-5611.	3.2	71
49	Low anaesthetic waste gas concentrations in postanaesthesia care unit. <i>European Journal of Anaesthesiology</i> , 2018, 35, 534-538.	0.7	14
50	Monitoring of selected skin- and breath-borne volatile organic compounds emitted from the human body using gas chromatography ion mobility spectrometry (GC-IMS). <i>Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences</i> , 2018, 1076, 29-34.	1.2	67
51	Fast Orthogonal Separation by Superposition of Time of Flight and Field Asymmetric Ion Mobility Spectrometry. <i>Analytical Chemistry</i> , 2018, 90, 1114-1121.	3.2	13
52	Ein neues Detektorkonzept für die Flüssigchromatographie basierend auf einem Split-Ring-Resonator / A new detector concept for liquid chromatography based on a split-ring resonator. <i>TM Technisches Messen</i> , 2018, 85, s33-s37.	0.3	1
53	Acetone and perdeuterated acetone in UV-IMS. <i>International Journal for Ion Mobility Spectrometry</i> , 2018, 21, 49-53.	1.4	11
54	A Calixarene-Based Metal-Organic Framework for Highly Selective NO_2 Detection. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 12961-12965.	7.2	78

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55	A simple centripetal force model for explaining the focusing effect of ion funnels. International Journal of Mass Spectrometry, 2018, 432, 14-17.	0.7	1
56	A Simple Analytical Model for Predicting the Detectable Ion Current in Ion Mobility Spectrometry Using Corona Discharge Ionization Sources. Journal of the American Society for Mass Spectrometry, 2018, 29, 1425-1430.	1.2	15
57	Ion mobility spectrometer with orthogonal X-Ray source for increased sensitivity. Talanta, 2018, 185, 537-541.	2.9	19
58	Coupling of a High-Resolution Ambient Pressure Drift Tube Ion Mobility Spectrometer to a Commercial Time-of-flight Mass Spectrometer. Journal of the American Society for Mass Spectrometry, 2018, 29, 2208-2217.	1.2	9
59	Design and evaluation of split-ring resonators for aptamer-based biosensors. Journal of Sensors and Sensor Systems, 2018, 7, 101-111.	0.6	22
60	A universal relationship between optimum drift voltage and resolving power. International Journal for Ion Mobility Spectrometry, 2017, 20, 105-109.	1.4	24
61	Separation of Isotopologues in Ultra-High-Resolution Ion Mobility Spectrometry. Analytical Chemistry, 2017, 89, 1509-1515.	3.2	49
62	A sensitive gas chromatography detector based on atmospheric pressure chemical ionization by a dielectric barrier discharge. Journal of Chromatography A, 2017, 1483, 120-126.	1.8	4
63	XXX. Messtechnisches Symposium des AHMT in Hannover (Teil 2). TM Technisches Messen, 2017, 84, 547-548.	0.3	0
64	X-ray ionization differential ion mobility spectrometry. Talanta, 2017, 162, 159-166.	2.9	14
65	Silicon field emitter arrays produced via wafer dicing. , 2017, , .		2
66	XXX. Messtechnisches Symposium des AHMT in Hannover (Teil 1). TM Technisches Messen, 2017, 84, 147-148.	0.3	0
67	Pulsed electron source for atmospheric pressure chemical ionization in ion mobility spectrometry. , 2017, , .		1
68	Detection of Mercury Vapor in Air by Differential Heat Dissipation Measurements. Proceedings (mdpi), 2017, 1, 440.	0.2	1
69	Electron Capture Detector with Non-Radioactive Electron Source. Proceedings (mdpi), 2017, 1, 443.	0.2	3
70	Differential Inductive Sensor for Continuous Non-Invasive Cell Growth Monitoring in Disposable Bioreactors. Proceedings (mdpi), 2017, 1, 518.	0.2	4
71	Electron capture detector based on a non-radioactive electron source: operating parameters vs. analytical performance. Journal of Sensors and Sensor Systems, 2017, 6, 381-387.	0.6	6
72	Improving the analytical performance of ion mobility spectrometer using a non-radioactive electron source. International Journal for Ion Mobility Spectrometry, 2016, 19, 175-182.	1.4	10

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73	Identification of the Target Binding Site of Ethanolamine-Binding Aptamers and Its Exploitation for Ethanolamine Detection. <i>Analytical Chemistry</i> , 2015, 87, 677-685.	3.2	39
74	Non-invasive monitoring of bacterial growth and auto-induced protein production in a bioreactor with a closed-loop GC-IMS. <i>International Journal for Ion Mobility Spectrometry</i> , 2015, 18, 9-15.	1.4	15
75	Pushing a compact 15 cm long ultra-high resolution drift tube ion mobility spectrometer with $m/z=250$ to $m/z=425$ using peak deconvolution. <i>International Journal for Ion Mobility Spectrometry</i> , 2015, 18, 17-22.	1.4	38
76	An analytical model for the optimum drift voltage of drift tube ion mobility spectrometers with respect to resolving power and detection limits. <i>International Journal for Ion Mobility Spectrometry</i> , 2015, 18, 129-135.	1.4	24
77	Quantitative Detection of Benzene in Toluene- and Xylene-Rich Atmospheres Using High-Kinetic-Energy Ion Mobility Spectrometry (IMS). <i>Analytical Chemistry</i> , 2014, 86, 11841-11846.	3.2	45
78	Pharmacokinetic modeling of the transition of propofol from blood plasma to breathing gas. , 2014, , .		4
79	A gated atmospheric pressure drift tube ion mobility spectrometer time-of-flight mass spectrometer. <i>Journal of Chromatography A</i> , 2014, 1356, 241-248.	1.8	7
80	Investigation of ion cluster formation in a pulsed ion mobility spectrometer operating in the negative mode. <i>Sensors and Actuators B: Chemical</i> , 2014, 204, 467-473.	4.0	4
81	Bradbury-Nielsen vs. Field switching shutters for high resolution drift tube ion mobility spectrometers. <i>International Journal for Ion Mobility Spectrometry</i> , 2014, 17, 131-137.	1.4	51
82	High Kinetic Energy Ion Mobility Spectrometer: Quantitative Analysis of Gas Mixtures with Ion Mobility Spectrometry. <i>Analytical Chemistry</i> , 2014, 86, 7023-7032.	3.2	70
83	An analysis of variance type method to describe and compare steady states in clinical data. , 2013, , .		0
84	A compact high resolution ion mobility spectrometer for fast trace gas analysis. <i>Analyst, The</i> , 2013, 138, 5200.	1.7	96
85	Simultaneous detection of benzene and toluene using a pulsed ion mobility spectrometer. <i>Sensors and Actuators B: Chemical</i> , 2013, 188, 106-110.	4.0	16
86	A miniaturized non-radioactive electron emitter including a vacuum pressure gauge based on electric retarding field ion currents. , 2013, , .		1
87	Pulsed electron beams in ion mobility spectrometry. <i>Reviews in Analytical Chemistry</i> , 2012, 31, .	1.5	8
88	Investigation of ion-ion recombination at atmospheric pressure with a pulsed electron gun. <i>Analyst, The</i> , 2012, 137, 5105.	1.7	22
89	Towards a miniaturized non-radioactive electron emitter with proximity focusing. <i>International Journal for Ion Mobility Spectrometry</i> , 2012, 15, 223-229.	1.4	9
90	Signal decay curves obtained with a pulsed electron gun allow for improved analyte identification power of ion mobility spectrometers by distinction of monomer and dimer signals. <i>Sensors and Actuators B: Chemical</i> , 2012, 171-172, 1238-1243.	4.0	5

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91	Pulsed Ion Mobility Spectrometer for the Detection of Toluene 2, 4-Diisocyanate in Ambient Air. IEEE Sensors Journal, 2012, 12, 1748-1754.	2.4	13
92	Quantitative information in decay curves obtained with a pulsed ion mobility spectrometer. Analyst, The, 2012, 137, 2723.	1.7	4
93	Results of a transient simulation of a drift tube ion mobility spectrometer considering charge repulsion, ion loss at metallic surfaces and ion generation. International Journal for Ion Mobility Spectrometry, 2012, 15, 247-255.	1.4	15
94	Selective ion suppression as a pre-separation method in ion mobility spectrometry using a pulsed electron gun. International Journal for Ion Mobility Spectrometry, 2012, 15, 31-39.	1.4	10
95	Investigation of dimethyl methylphosphonate (DMMP) with an Ion mobility spectrometer using a pulsed electron source. International Journal for Ion Mobility Spectrometry, 2011, 14, 99-107.	1.4	19
96	Application of an ion mobility spectrometer with pulsed ionisation source in the detection of dimethyl methylphosphonate and toluene diisocyanate. , 2011, , .		1
97	Investigation of the influence of voltage parameters on decay times in an ion mobility spectrometer with a pulsed non-radioactive electron source. International Journal for Ion Mobility Spectrometry, 2010, 13, 95-101.	1.4	15
98	Application of a Nonradioactive Pulsed Electron Source for Ion Mobility Spectrometry. Analytical Chemistry, 2010, 82, 3756-3763.	3.2	44
99	System Design and Optimization of a Miniaturized Ion Mobility Spectrometer Using Finite-Element Analysis. IEEE Sensors Journal, 2009, 9, 377-382.	2.4	20
100	Miniaturized Low-Cost Ion Mobility Spectrometer for Fast Detection of Chemical Warfare Agents. Analytical Chemistry, 2008, 80, 6671-6676.	3.2	69
101	A miniaturized low-cost ion mobility spectrometer for fast detection of trace gases in air. , 2008, , .		1
102	Model-based resolution enhancement of a miniaturized ion mobility spectrometer. , 2008, , .		1
103	An ion-focusing aspiration condenser as an ion mobility spectrometer. Sensors and Actuators B: Chemical, 2007, 125, 428-434.	4.0	32
104	In-device enzyme immobilization: wafer-level fabrication of an integrated glucose sensor. Sensors and Actuators B: Chemical, 2004, 99, 163-173.	4.0	51
105	Miniaturized flame ionization detector for gas chromatography. Sensors and Actuators B: Chemical, 2002, 83, 285-289.	4.0	44
106	A Novel In-Device Enzyme Immobilization Method for Biomems, Demonstrated for a Continuous Glucose Monitor. , 2002, , 449-451.		1
107	Influence of Sample Gas Humidity on Product Ion Formation in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). Journal of the American Society for Mass Spectrometry, 0, , .	1.2	4