Stefan Zimmermann

List of Publications by Year
in descending order

107	1,770	279701 23	345118 36
papers	citations	h-index	g-index

108	108	108	1238
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A compact high resolution ion mobility spectrometer for fast trace gas analysis. Analyst, The, 2013, 138, 5200.	1.7	96
2	A Calixareneâ€Based Metalâ€“Organic Framework for Highly Selective NO₂ Detection. Angewandte Chemie - International Edition, 2018, 57, 12961-12965.	7.2	78
3	High-Resolution High Kinetic Energy Ion Mobility Spectrometer Based on a Low-Discrimination Tristate Ion Shutter. Analytical Chemistry, 2018, 90, 5603-5611.	3.2	71
4	High Kinetic Energy Ion Mobility Spectrometer: Quantitative Analysis of Gas Mixtures with Ion Mobility Spectrometry. Analytical Chemistry, 2014, 86, 7023-7032.	3.2	70
5	Miniaturized Low-Cost Ion Mobility Spectrometer for Fast Detection of Chemical Warfare Agents. Analytical Chemistry, 2008, 80, 6671-6676.	3.2	69
6	Ultra-high-resolution ion mobility spectrometryâ€”current instrumentation, limitations, and future developments. Analytical and Bioanalytical Chemistry, 2019, 411, 6229-6246.	1.9	69
7	Monitoring of selected skin- and breath-borne volatile organic compounds emitted from the human body using gas chromatography ion mobility spectrometry (GC-IMS). Journal of Chromatography B: Analytical Technologies in the Biomedical and Life Sciences, 2018, 1076, 29-34.	1.2	67
8	In-device enzyme immobilization: wafer-level fabrication of an integrated glucose sensor. Sensors and Actuators B: Chemical, 2004, 99, 163-173.	4.0	51
9	Bradbury-Nielsen vs. Field switching shutters for high resolution drift tube ion mobility spectrometers. International Journal for Ion Mobility Spectrometry, 2014, 17, 131-137.	1.4	51
10	Separation of Isotopologues in Ultra-High-Resolution Ion Mobility Spectrometry. Analytical Chemistry, 2017, 89, 1509-1515.	3.2	49
11	Quantitative Detection of Benzene in Toluene- and Xylene-Rich Atmospheres Using High-Kinetic-Energy Ion Mobility Spectrometry (IMS). Analytical Chemistry, 2014, 86, 11841-11846.	3.2	45
12	Miniaturized flame ionization detector for gas chromatography. Sensors and Actuators B: Chemical, 2002, 83, 285-289.	4.0	44
13	Application of a Nonradioactive Pulsed Electron Source for Ion Mobility Spectrometry. Analytical Chemistry, 2010, 82, 3756-3763.	3.2	44
14	Identification of the Target Binding Site of Ethanolamine-Binding Aptamers and Its Exploitation for Ethanolamine Detection. Analytical Chemistry, 2015, 87, 677-685.	3.2	39
15	Pushing a compact 15Âcm long ultra-high resolution drift tube ion mobility spectrometer with Râ€‰=â€‰250 to Râ€‰=â€‰425 using peak deconvolution. International Journal for Ion Mobility Spectrometry, 2015, 18, 17-22.	1.4	38
16	An ion-focusing aspiration condenser as an ion mobility spectrometer. Sensors and Actuators B: Chemical, 2007, 125, 428-434.	4.0	32
17	GC-IMS headspace analyses allow early recognition of bacterial growth and rapid pathogen differentiation in standard blood cultures. Applied Microbiology and Biotechnology, 2019, 103, 9091-9101.	1.7	28
18	2D in Seconds: Coupling of Chip-HPLC with Ion Mobility Spectrometry. Analytical Chemistry, 2019, 91, 7613-7620.	3.2	28

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19	Miniaturized high-performance drift tube ion mobility spectrometer. International Journal for Ion Mobility Spectrometry, 2019, 22, 77-83.	1.4	27
20	An analytical model for the optimum drift voltage of drift tube ion mobility spectrometers with respect to resolving power and detection limits. International Journal for Ion Mobility Spectrometry, 2015, 18, 129-135.	1.4	24
21	A universal relationship between optimum drift voltage and resolving power. International Journal for Ion Mobility Spectrometry, 2017, 20, 105-109.	1.4	24
22	Analyzing Positive Reactant Ions in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS) by HiKE-IMSâ€“MS. Journal of the American Society for Mass Spectrometry, 2020, 31, 812-821.	1.2	24
23	Molecularly Imprinted Polymer-Based Sensors for Priority Pollutants. Sensors, 2021, 21, 2406.	2.1	23
24	Investigation of ionâ€“ion-recombination at atmospheric pressure with a pulsed electron gun. Analyst, The, 2012, 137, 5105.	1.7	22
25	Design and evaluation of split-ring resonators for aptamer-based biosensors. Journal of Sensors and Sensor Systems, 2018, 7, 101-111.	0.6	22
26	System Design and Optimization of a Miniaturized Ion Mobility Spectrometer Using Finite-Element Analysis. IEEE Sensors Journal, 2009, 9, 377-382.	2.4	20
27	Improving Ion Mobility Spectrometer Sensitivity through the Extended Field Switching Ion Shutter. Analytical Chemistry, 2020, 92, 4838-4847.	3.2	20
28	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
29	Ion mobility spectrometer with orthogonal X-Ray source for increased sensitivity. Talanta, 2018, 185, 537-541.	2.9	19
30	Towards a hand-held, fast, and sensitive gas chromatograph-ion mobility spectrometer for detecting volatile compounds. Analytical and Bioanalytical Chemistry, 2021, 413, 1009-1016.	1.9	19
31	Toward Compact High-Performance Ion Mobility Spectrometers: Ion Gating in Ion Mobility Spectrometry. Analytical Chemistry, 2021, 93, 6062-6070.	3.2	19
32	Positive Reactant Ion Formation in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). Journal of the American Society for Mass Spectrometry, 2020, 31, 1291-1301.	1.2	17
33	Simultaneous detection of benzene and toluene using a pulsed ion mobility spectrometer. Sensors and Actuators B: Chemical, 2013, 188, 106-110.	4.0	16
34	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
35	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
36	Non-invasive monitoring of bacterial growth and auto-induced protein production in a bioreactor with a closed-loop GC-IMS. International Journal for Ion Mobility Spectrometry, 2015, 18, 9-15.	1.4	15

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37	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
38	X-ray ionization differential ion mobility spectrometry. Talanta, 2017, 162, 159-166.	2.9	14
39	Low anaesthetic waste gas concentrations in postanaesthesia care unit. European Journal of Anaesthesiology, 2018, 35, 534-538.	0.7	14
40	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
41	Fast Orthogonal Separation by Superposition of Time of Flight and Field Asymmetric Ion Mobility Spectrometry. Analytical Chemistry, 2018, 90, 1114-1121.	3.2	13
42	Ion Fragmentation and Filtering by Alpha Function in Ion Mobility Spectrometry for Improved Compound Differentiation. Analytical Chemistry, 2019, 91, 8941-8947.	3.2	12
43	Preparation of anaesthesia workstation for trigger-free anaesthesia. European Journal of Anaesthesiology, 2019, 36, 851-856.	0.7	12
44	Negative Reactant Ion Formation in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). Journal of the American Society for Mass Spectrometry, 2020, 31, 1861-1874.	1.2	12
45	Field-Dependent Reduced Ion Mobilities of Positive and Negative Ions in Air and Nitrogen in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). Journal of the American Society for Mass Spectrometry, 2020, 31, 2191-2201.	1.2	12
46	IMS Instrumentation I: Isolated data acquisition for ion mobility spectrometers with grounded ion sources. International Journal for Ion Mobility Spectrometry, 2020, 23, 69-74.	1.4	12
47	High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS) at 40 mbar. Journal of the American Society for Mass Spectrometry, 2020, 31, 1536-1543.	1.2	12
48	Acetone and perdeuterated acetone in UV-IMS. International Journal for Ion Mobility Spectrometry, 2018, 21, 49-53.	1.4	11
49	Coupling Droplet Microfluidics with Ion Mobility Spectrometry for Monitoring Chemical Conversions at Nanoliter Scale. Analytical Chemistry, 2021, 93, 13615-13623.	3.2	11
50	High Kinetic Energy Ion Mobility Spectrometry â€“ Mass Spectrometry investigations of four inhalation anaesthetics: isoflurane, enflurane, sevoflurane and desflurane. International Journal of Mass Spectrometry, 2022, 475, 116831.	0.7	11
51	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
52	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
53	Comparison of spatial ion distributions from different ionization sources. International Journal for Ion Mobility Spectrometry, 2019, 22, 21-29.	1.4	10
54	Compact and Sensitive Dual Drift Tube Ion Mobility Spectrometer with a New Dual Field Switching Ion Shutter for Simultaneous Detection of Both Ion Polarities. Analytical Chemistry, 2020, 92, 11834-11841.	3.2	10

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55	Novel ion drift tube for high-performance ion mobility spectrometers based on a composite material. International Journal for Ion Mobility Spectrometry, 2020, 23, 75-81.	1.4	10
56	Monitoring the volatile language of fungi using gas chromatography-ion mobility spectrometry. Analytical and Bioanalytical Chemistry, 2021, 413, 3055-3067.	1.9	10
57	Detection of Volatile Toxic Industrial Chemicals with Classical Ion Mobility Spectrometry and High-Kinetic Energy Ion Mobility Spectrometry. Analytical Chemistry, 2022, 94, 1211-1220.	3.2	10
58	Towards a miniaturized non-radioactive electron emitter with proximity focusing. International Journal for Ion Mobility Spectrometry, 2012, 15, 223-229.	1.4	9
59	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
60	Ion Mobility Shift of Isotopologues in a High Kinetic Energy Ion Mobility Spectrometer (HiKE-IMS) at Elevated Effective Temperatures. Journal of the American Society for Mass Spectrometry, 2020, 31, 2093-2101.	1.2	9
61	On-Line Coupling of Chip-Electrochromatography and Ion Mobility Spectrometry. Analytical Chemistry, 2020, 92, 15129-15136.	3.2	9
62	Analytical model for the signal-to-noise-ratio of drift tube ion mobility spectrometers. TM Technisches Messen, 2021, 88, 262-273.	0.3	9
63	Pulsed electron beams in ion mobility spectrometry. Reviews in Analytical Chemistry, 2012, 31, .	1.5	8
64	Formation of positive product ions from substances with low proton affinity in high kinetic energy ion mobility spectrometry. Rapid Communications in Mass Spectrometry, 2021, 35, e8998.	0.7	8
65	A gated atmospheric pressure drift tube ion mobility spectrometerâ€“time-of-flight mass spectrometer. Journal of Chromatography A, 2014, 1356, 241-248.	1.8	7
66	Influence of Reduced Field Strength on Product Ion Formation in High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS). Journal of the American Society for Mass Spectrometry, 2021, 32, 1810-1820.	1.2	7
67	A Simple Printed Circuit Boardâ€“Based Ion Funnel for Focusing Low m/z Ratio Ions with High Kinetic Energies at Elevated Pressure. Journal of the American Society for Mass Spectrometry, 2019, 30, 1813-1823.	1.2	6
68	Enhanced Resolving Power by Moving Field Ion Mobility Spectrometry. Analytical Chemistry, 2020, 92, 12967-12974.	3.2	6
69	Rational Design of Molecularly Imprinted Polymers Using Quaternary Ammonium Cations for Glyphosate Detection. Sensors, 2021, 21, 296.	2.1	6
70	Electron capture detector based on a non-radioactive electron source: operating parameters vs.Âanalytical performance. Journal of Sensors and Sensor Systems, 2017, 6, 381-387.	0.6	6
71	Miniaturized Drift Tube Ion Mobility Spectrometer with Ultra-Fast Polarity Switching. Analytical Chemistry, 2022, 94, 777-786.	3.2	6
72	Towards a miniaturized on-site nano-high performance liquid chromatography electrospray ionization ion mobility spectrometer with online enrichment. , 2022, 1, 100011.		6

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73	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. Sensors and Actuators B: Chemical, 2012, 171-172, 1238-1243.	4.0	5
74	Non-radioactive electron capture detector for gas chromatography â€" A possible replacement for radioactive detectors. Journal of Chromatography A, 2019, 1606, 460384.	1.8	5
75	Printed circuit board based segmented quadrupole ion guide. International Journal of Mass Spectrometry, 2019, 443, 32-40.	0.7	5
76	Quantitative information in decay curves obtained with a pulsed ion mobility spectrometer. Analyst, The, 2012, 137, 2723.	1.7	4
77	Pharmacokinetic modeling of the transition of propofol from blood plasma to breathing gas. , 2014, , .		4
78	Investigation of ion cluster formation in a pulsed ion mobility spectrometer operating in the negative mode. Sensors and Actuators B: Chemical, 2014, 204, 467-473.	4.0	4
79	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
80	Differential Inductive Sensor for Continuous Non-Invasive Cell Growth Monitoring in Disposable Bioreactors. Proceedings (mdpi), 2017, 1, 518.	0.2	4
81	Contactless and continuous sodium concentration monitoring during continuous renal replacement therapy. Sensors and Actuators B: Chemical, 2020, 320, 128372.	4.0	4
82	Simulation of Cluster Dynamics of Proton-Bound Water Clusters in a High Kinetic Energy Ion-Mobility Spectrometer. Journal of the American Society for Mass Spectrometry, 2021, 32, 2436-2450.	1.2	4
83	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
84	Ultrasensitive Ion Source for Drift Tube Ion Mobility Spectrometers Combining Optimized Sample Gas Flow with Both Chemical Ionization and Direct Ionization. Analytical Chemistry, 2022, 94, 9960-9969.	3.2	4
85	Electron Capture Detector with Non-Radioactive Electron Source. Proceedings (mdpi), 2017, 1, 443.	0.2	3
86	A Differential Transformer for Noninvasive Continuous Sodium Monitoring During Dialysis Treatment. , 2019, , .		3
87	Non-radioactive electron source with nanosecond pulse modulation for atmospheric pressure chemical ionization. Review of Scientific Instruments, 2019, 90, 113306.	0.6	3
88	Impedance Characteristics of Monolayer and Bilayer Graphene Films with Biofilm Formation and Growth. Sensors, 2022, 22, 3548.	2.1	3
89	Silicon field emitter arrays produced via wafer dicing. , 2017, , .		2
90	Towards a Highly Sensitive Piezoelectric Nano-Mass Detectionâ€"A Model-Based Concept Study. Sensors, 2021, 21, 2533.	2.1	2

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91	Wireless Low-Power Transfer for Galvanically Isolated High-Voltage Applications. Electronics (Switzerland), 2022, 11, 923.	1.8	2
92	Fast Readout of Split-Ring Resonators Made Simple and Low-Cost for Application in HPLC. Electronics (Switzerland), 2022, 11, 1139.	1.8	2
93	A miniaturized low-cost ion mobility spectrometer for fast detection of trace gases in air. , 2008, , .		1
94	Model-based resolution enhancement of a miniaturized ion mobility spectrometer. , 2008, , .		1
95	Application of an ion mobility spectrometer with pulsed ionisation source in the detection of dimethyl methylphosphonate and toluene diisocyanate. , 2011, , .		1
96	A miniaturized non-radioactive electron emitter including a vacuum pressure gauge based on electric retarding field ion currents. , 2013, , .		1
97	Pulsed electron source for atmospheric pressure chemical ionization in ion mobility spectrometry. , 2017, , .		1
98	Detection of Mercury Vapor in Air by Differential Heat Dissipation Measurements. Proceedings (mdpi), 2017, 1, 440.	0.2	1
99	Ein neues Detektorkonzept fÃ¼r die FlÃ¼ssigchromatographie basierend auf einem Split-Ring-Resonator / A new detector concept for liquid chromatography based on a split-ring resonator. TM Technisches Messen, 2018, 85, s33-s37.	0.3	1
100	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
101	How Geometry Affects Sensitivity of a Differential Transformer for Contactless Characterization of Liquids. Sensors, 2021, 21, 2365.	2.1	1
102	Differential Inductive Sensing System for Truly Contactless Measuring of Liquidsâ€² Electromagnetic Properties in Tubing. Sensors, 2021, 21, 5535.	2.1	1
103	A Novel In-Device Enzyme Immobilization Method for Biomems, Demonstrated for a Continuous Glucose Monitor. , 2002, , 449-451.		1
104	Preparation of DrÃger Atlan A350 and General Electric Healthcare Carestation 650 anesthesia workstations for malignant hyperthermia susceptible patients. BMC Anesthesiology, 2021, 21, 315.	0.7	1
105	An analysis of variance type method to describe and compare steady states in clinical data. , 2013, , .		0
106	XXX. Messtechnisches Symposium des AHMT in Hannover (Teil 2). TM Technisches Messen, 2017, 84, 547-548.	0.3	0
107	XXX. Messtechnisches Symposium des AHMT in Hannover (Teil 1). TM Technisches Messen, 2017, 84, 147-148.	0.3	0