

Alexander A Makarov

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/5768221/publications.pdf>

Version: 2024-02-01

113
papers

13,563
citations

41323

49
h-index

32815

100
g-index

125
all docs

125
docs citations

125
times ranked

12732
citing authors

#	ARTICLE	IF	CITATIONS
1	LASER IONIZATION MASS SPECTROMETRY AT 55: QUO VADIS?. <i>Mass Spectrometry Reviews</i> , 2022, 41, 100-151.	2.8	16
2	Abnormal (Hydroxy)proline Deuterium Content Redefines Hydrogen Chemical Mass. <i>Journal of the American Chemical Society</i> , 2022, 144, 2484-2487.	6.6	9
3	Frequency chasing of individual megadalton ions in an Orbitrap analyser improves precision of analysis in single-molecule mass spectrometry. <i>Nature Chemistry</i> , 2022, 14, 515-522.	6.6	24
4	Methods and limitations of stable isotope measurements via direct elution of chromatographic peaks using gas chromatography-Orbitrap mass spectrometry. <i>International Journal of Mass Spectrometry</i> , 2022, 477, 116848.	0.7	12
5	CORALS: A Laser Desorption/Ablation Orbitrap Mass Spectrometer for In Situ Exploration of Europa. , 2021, , .		10
6	Vacuum Laser Photoionization inside the C-trap of an Orbitrap Mass Spectrometer: Resonance-Enhanced Multiphoton Ionization High-Resolution Mass Spectrometry. <i>Analytical Chemistry</i> , 2021, 93, 9418-9427.	3.2	10
7	Exploring frontiers of orbitrap performance for long transients. <i>International Journal of Mass Spectrometry</i> , 2021, 466, 116607.	0.7	29
8	Using Orbitrap mass spectrometry to assess the isotopic compositions of individual compounds in mixtures. <i>International Journal of Mass Spectrometry</i> , 2020, 457, 116410.	0.7	29
9	Resolving heterogeneous macromolecular assemblies by Orbitrap-based single-particle charge detection mass spectrometry. <i>Nature Methods</i> , 2020, 17, 395-398.	9.0	121
10	Overtone spectroscopy of $\nu(\text{C}=\text{O})$ stretching vibration of hexafluoroacetone: Experimental and ab initio determination of peak positions, absolute intensities, and band shapes. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2020, 238, 118396.	2.0	2
11	Multiplexed mass spectrometry of individual ions improves measurement of proteoforms and their complexes. <i>Nature Methods</i> , 2020, 17, 391-394.	9.0	110
12	A Compact Quadrupole-Orbitrap Mass Spectrometer with FAIMS Interface Improves Proteome Coverage in Short LC Gradients. <i>Molecular and Cellular Proteomics</i> , 2020, 19, 716-729.	2.5	284
13	Fundamentals of Orbitrap analyzer. , 2019, , 37-61.		9
14	Orbitrap journey: taming the ion rings. <i>Nature Communications</i> , 2019, 10, 3743.	5.8	19
15	STORI Plots Enable Accurate Tracking of Individual Ion Signals. <i>Journal of the American Society for Mass Spectrometry</i> , 2019, 30, 2200-2203.	1.2	44
16	Surface-Induced Dissociation of Noncovalent Protein Complexes in an Extended Mass Range Orbitrap Mass Spectrometer. <i>Analytical Chemistry</i> , 2019, 91, 3611-3618.	3.2	61
17	High-Resolution Differential Ion Mobility Separations/Orbitrap Mass Spectrometry without Buffer Gas Limitations. <i>Analytical Chemistry</i> , 2019, 91, 6918-6925.	3.2	17
18	Identification of organic molecules with a laboratory prototype based on the Laser Ablation-CosmOrbitrap. <i>Planetary and Space Science</i> , 2019, 170, 42-51.	0.9	18

#	ARTICLE	IF	CITATIONS
19	Space-charge dynamics in Orbitrap mass spectrometers. <i>International Journal of Modern Physics A</i> , 2019, 34, 1942007.	0.5	12
20	Measurement of Individual Ions Sharply Increases the Resolution of Orbitrap Mass Spectra of Proteins. <i>Analytical Chemistry</i> , 2019, 91, 2776-2783.	3.2	57
21	Ion traps in modern mass spectrometry. <i>Mass Spectrometry Reviews</i> , 2019, 38, 150-168.	2.8	41
22	Petroleomics <i>via</i> Orbitrap mass spectrometry with resolving power above 1â€‰000â€‰000 at <i>m</i>/<i>z</i> > 200. <i>RSC Advances</i> , 2018, 8, 6183-6191.	1.7	58
23	Determination of Collision Cross-Sections of Protein Ions in an Orbitrap Mass Analyzer. <i>Analytical Chemistry</i> , 2018, 90, 5896-5902.	3.2	30
24	Expanding the structural analysis capabilities on an Orbitrap-based mass spectrometer for large macromolecular complexes. <i>Analyst, The</i> , 2018, 143, 100-105.	1.7	89
25	Integrable Models of Quantum Optics. <i>Bulletin of the Russian Academy of Sciences: Physics</i> , 2018, 82, 1556-1559.	0.1	1
26	New Feedthrough Insulator of the Compact Tandem-Accelerator with Vacuum Insulation. , 2018, , .		1
27	Limits for Resolving Isobaric Tandem Mass Tag Reporter Ions Using Phase-Constrained Spectrum Deconvolution. <i>Journal of Proteome Research</i> , 2018, 17, 4008-4016.	1.8	29
28	Dissecting ribosomal particles throughout the kingdoms of life using advanced hybrid mass spectrometry methods. <i>Nature Communications</i> , 2018, 9, 2493.	5.8	67
29	An Orbitrapâ€based laser desorption/ablation mass spectrometer designed for spaceflight. <i>Rapid Communications in Mass Spectrometry</i> , 2018, 32, 1875-1886.	0.7	36
30	Sequencing Grade Tandem Mass Spectrometry for Topâ€Down Proteomics Using Hybrid Electron Capture Dissociation Methods in a Benchtop Orbitrap Mass Spectrometer. <i>Analytical Chemistry</i> , 2018, 90, 10819-10827.	3.2	54
31	High-fidelity mass analysis unveils heterogeneity in intact ribosomal particles. <i>Nature Methods</i> , 2017, 14, 283-286.	9.0	145
32	Top-down analysis of immunoglobulin G isotypes 1 and 2 with electron transfer dissociation on a high-field Orbitrap mass spectrometer. <i>Journal of Proteomics</i> , 2017, 159, 67-76.	1.2	47
33	2016 ASMS Workshop Review: Next Generation LC/MS: Critical Insights and Future Perspectives. <i>Journal of the American Society for Mass Spectrometry</i> , 2017, 28, 1248-1249.	1.2	0
34	Triple-Stage Mass Spectrometry Unravels the Heterogeneity of an Endogenous Protein Complex. <i>Analytical Chemistry</i> , 2017, 89, 4708-4715.	3.2	52
35	Identification of Isomeric Ephedrines by Cold Ion UV Spectroscopy: Toward Practical Implementation. <i>Analytical Chemistry</i> , 2017, 89, 544-547.	3.2	15
36	Phase-Constrained Spectrum Deconvolution for Fourier Transform Mass Spectrometry. <i>Analytical Chemistry</i> , 2017, 89, 1202-1211.	3.2	38

#	ARTICLE	IF	CITATIONS
37	Analysis of molecular isotopic structures at high precision and accuracy by Orbitrap mass spectrometry. <i>International Journal of Mass Spectrometry</i> , 2017, 422, 126-142.	0.7	64
38	Engineering Nanodisc Scaffold Proteins for Native Mass Spectrometry. <i>Analytical Chemistry</i> , 2017, 89, 11189-11192.	3.2	43
39	Numerical simulation of ion transport in an atmosphere-to-vacuum interface taking into account gas dynamics and space charge. <i>European Journal of Mass Spectrometry</i> , 2017, 23, 187-191.	0.5	5
40	The 3D OrbiSIMS label-free metabolic imaging with subcellular lateral resolution and high mass-resolving power. <i>Nature Methods</i> , 2017, 14, 1175-1183.	9.0	327
41	Effects of quantum interference in spectra of cascade spontaneous emission from multilevel systems. <i>EPJ Web of Conferences</i> , 2017, 132, 02014.	0.1	0
42	Spectroscopy of systems of two identical atoms: effects of quantum interference. <i>EPJ Web of Conferences</i> , 2017, 132, 02023.	0.1	0
43	Integrable models of quantum optics. <i>EPJ Web of Conferences</i> , 2017, 161, 01013.	0.1	0
44	Ultraviolet Photodissociation Induced by Light-Emitting Diodes in a Planar Ion Trap. <i>Angewandte Chemie</i> , 2016, 128, 12605-12609.	1.6	4
45	Ultraviolet Photodissociation Induced by Light-Emitting Diodes in a Planar Ion Trap. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 12417-12421.	7.2	7
46	Orbitrap mass analyser for in situ characterisation of planetary environments: Performance evaluation of a laboratory prototype. <i>Planetary and Space Science</i> , 2016, 131, 33-45.	0.9	47
47	Orbitrap Mass Spectrometry. <i>Comprehensive Analytical Chemistry</i> , 2016, , 3-18.	0.7	10
48	Symmetry of Charge Partitioning in Collisional and UV Photon-Induced Dissociation of Protein Assemblies. <i>Journal of the American Chemical Society</i> , 2016, 138, 10860-10868.	6.6	42
49	Implementation of Ultraviolet Photodissociation on a Benchtop Q Exactive Mass Spectrometer and Its Application to Phosphoproteomics. <i>Analytical Chemistry</i> , 2016, 88, 2303-2310.	3.2	72
50	An informatic framework for decoding protein complexes by top-down mass spectrometry. <i>Nature Methods</i> , 2016, 13, 237-240.	9.0	59
51	Nonstatistical UV Fragmentation of Gas-Phase Peptides Reveals Conformers and Their Structural Features. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 1067-1071.	2.1	17
52	Design Study of an Atmospheric Pressure Photoionization Interface for GC-MS. <i>Journal of the American Society for Mass Spectrometry</i> , 2016, 27, 607-614.	1.2	25
53	High-resolution mass spectrometry of small molecules bound to membrane proteins. <i>Nature Methods</i> , 2016, 13, 333-336.	9.0	205
54	Control of Aberration and Space-Charge Effects in the Orbitrap Mass Analyzer. <i>Microscopy and Microanalysis</i> , 2015, 21, 176-181.	0.2	4

#	ARTICLE	IF	CITATIONS
55	Alexander A. Makarov. , 2015, , 138.		0
56	Tandem Native Mass-Spectrometry on Antibodyâ€“Drug Conjugates and Submillion Da Antibodyâ€“Antigen Protein Assemblies on an Orbitrap EMR Equipped with a High-Mass Quadrupole Mass Selector. Analytical Chemistry, 2015, 87, 6095-6102.	3.2	78
57	Intact Antibody Characterization Using Orbitrap Mass Spectrometry. ACS Symposium Series, 2015, , 289-315.	0.5	2
58	Evolution of Orbitrap Mass Spectrometry Instrumentation. Annual Review of Analytical Chemistry, 2015, 8, 61-80.	2.8	331
59	Colors for Molecular Masses: Fusion of Spectroscopy and Mass Spectrometry for Identification of Biomolecules. Analytical Chemistry, 2015, 87, 4607-4611.	3.2	34
60	Benchmarking Multiple Fragmentation Methods on an Orbitrap Fusion for Top-down Phospho-Proteoform Characterization. Analytical Chemistry, 2015, 87, 4152-4158.	3.2	99
61	Reprint of â€œEnhanced Fourier transform for Orbitrap mass spectrometryâ€ International Journal of Mass Spectrometry, 2015, 377, 338-344.	0.7	5
62	The Q Exactive HF, a Benchtop Mass Spectrometer with a Pre-filter, High-performance Quadrupole and an Ultra-high-field Orbitrap Analyzer. Molecular and Cellular Proteomics, 2014, 13, 3698-3708.	2.5	285
63	Defining the Stoichiometry and Cargo Load of Viral and Bacterial Nanoparticles by Orbitrap Mass Spectrometry. Journal of the American Chemical Society, 2014, 136, 7295-7299.	6.6	134
64	Fragmentation of Positively-Charged Biological Ions Activated with a Beam of High-Energy Cations. Analytical Chemistry, 2014, 86, 372-379.	3.2	24
65	Determination of rhenium and osmium complexes by surface-assisted laser desorption/ionization coupled to Orbitrap mass analyzer. Analytical and Bioanalytical Chemistry, 2014, 406, 3019-3023.	1.9	11
66	Discrimination of Leucine and Isoleucine in Peptides Sequencing with Orbitrap Fusion Mass Spectrometer. Analytical Chemistry, 2014, 86, 7017-7022.	3.2	61
67	Enhanced Fourier transform for Orbitrap mass spectrometry. International Journal of Mass Spectrometry, 2014, 369, 16-22.	0.7	66
68	Space-Charge Effects in An Electrostatic Multireflection Ion Trap. European Journal of Mass Spectrometry, 2014, 20, 131-142.	0.5	13
69	Novel Parallelized Quadrupole/Linear Ion Trap/Orbitrap Tribid Mass Spectrometer Improving Proteome Coverage and Peptide Identification Rates. Analytical Chemistry, 2013, 85, 11710-11714.	3.2	218
70	The Orbitrap mass analyzer with direct ion injection interfaced to a laser desorption/ionization ion source. Journal of Analytical Chemistry, 2013, 68, 1165-1169.	0.4	3
71	Orbitrap Mass Spectrometry. Analytical Chemistry, 2013, 85, 5288-5296.	3.2	454
72	From Protein Complexes to Subunit Backbone Fragments: A Multi-stage Approach to Native Mass Spectrometry. Analytical Chemistry, 2013, 85, 11163-11173.	3.2	148

#	ARTICLE	IF	CITATIONS
73	Ultra High Resolution Linear Ion Trap Orbitrap Mass Spectrometer (Orbitrap Elite) Facilitates Top Down LC MS/MS and Versatile Peptide Fragmentation Modes. <i>Molecular and Cellular Proteomics</i> , 2012, 11, O111.013698.	2.5	303
74	High-sensitivity Orbitrap mass analysis of intact macromolecular assemblies. <i>Nature Methods</i> , 2012, 9, 1084-1086.	9.0	347
75	Exploring an Orbitrap Analyzer for the Characterization of Intact Antibodies by Native Mass Spectrometry. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 12992-12996.	7.2	130
76	Analysis of Intact Monoclonal Antibody IgG1 by Electron Transfer Dissociation Orbitrap FTMS. <i>Molecular and Cellular Proteomics</i> , 2012, 11, 1758-1767.	2.5	137
77	Orbitrap mass spectrometry with resolving powers above 1,000,000. <i>International Journal of Mass Spectrometry</i> , 2012, 325-327, 80-85.	0.7	116
78	Advancing Cell Biology Through Proteomics in Space and Time (PROSPECTS). <i>Molecular and Cellular Proteomics</i> , 2012, 11, O112.017731.	2.5	55
79	Fourier Transform Mass Spectrometry. <i>Molecular and Cellular Proteomics</i> , 2011, 10, M111.009431.	2.5	171
80	Mass Spectrometry-based Proteomics Using Q Exactive, a High-performance Benchtop Quadrupole Orbitrap Mass Spectrometer. <i>Molecular and Cellular Proteomics</i> , 2011, 10, M111.011015.	2.5	701
81	Equilibrium ion distribution modeling in RF ion traps and guides with regard to Coulomb effects. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2011, 645, 141-145.	0.7	14
82	Coulomb dynamics of ion bunches in multi-reflection electrostatic traps. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2011, 645, 146-152.	0.7	14
83	Coupling liquid chromatography to Orbitrap mass spectrometry. <i>Journal of Chromatography A</i> , 2010, 1217, 3938-3945.	1.8	187
84	Theory and Practice of the Orbitrap Mass Analyzer. , 2010, , 251-272.		8
85	Advances in bioanalytical LC-MS using the Orbitrap mass analyzer. <i>Bioanalysis</i> , 2009, 1, 741-754.	0.6	46
86	A Dual Pressure Linear Ion Trap Orbitrap Instrument with Very High Sequencing Speed. <i>Molecular and Cellular Proteomics</i> , 2009, 8, 2759-2769.	2.5	398
87	Performance evaluation of a high-field orbitrap mass analyzer. <i>Journal of the American Society for Mass Spectrometry</i> , 2009, 20, 1391-1396.	1.2	147
88	Mass measurement and top-down HPLC/MS analysis of intact monoclonal antibodies on a hybrid linear quadrupole ion trap-orbitrap mass spectrometer. <i>Journal of the American Society for Mass Spectrometry</i> , 2009, 20, 1415-1424.	1.2	137
89	Dynamics of ions of intact proteins in the Orbitrap mass analyzer. <i>Journal of the American Society for Mass Spectrometry</i> , 2009, 20, 1486-1495.	1.2	161
90	A Proteomics Grade Electron Transfer Dissociation-Enabled Hybrid Linear Ion Trap-Orbitrap Mass Spectrometer. <i>Journal of Proteome Research</i> , 2008, 7, 3127-3136.	1.8	137

#	ARTICLE	IF	CITATIONS
91	Higher-energy C-trap dissociation for peptide modification analysis. <i>Nature Methods</i> , 2007, 4, 709-712.	9.0	844
92	Orbitrap Mass Analyzer – Overview and Applications in Proteomics. <i>Proteomics</i> , 2006, 6, 16-21.	1.3	180
93	Performance Evaluation of a Hybrid Linear Ion Trap/Orbitrap Mass Spectrometer. <i>Analytical Chemistry</i> , 2006, 78, 2113-2120.	3.2	663
94	Resonant ac Dipolar Excitation for Ion Motion Control in the Orbitrap Mass Analyzer. <i>Journal of Physical Chemistry A</i> , 2006, 110, 2682-2689.	1.1	25
95	Orbitrap mass analyzer. , 2006, , .		3
96	Dynamic range of mass accuracy in LTQ orbitrap hybrid mass spectrometer. <i>Journal of the American Society for Mass Spectrometry</i> , 2006, 17, 977-982.	1.2	358
97	The Orbitrap: a new mass spectrometer. <i>Journal of Mass Spectrometry</i> , 2005, 40, 430-443.	0.7	1,091
98	Mass spectrometry of stanozolol and its analogues using electrospray ionization and collision-induced dissociation with quadrupole-linear ion trap and linear ion trap-orbitrap hybrid mass analyzers. <i>Rapid Communications in Mass Spectrometry</i> , 2005, 19, 3369-3378.	0.7	73
99	Parts per Million Mass Accuracy on an Orbitrap Mass Spectrometer via Lock Mass Injection into a C-trap. <i>Molecular and Cellular Proteomics</i> , 2005, 4, 2010-2021.	2.5	1,395
100	Real-time observation of the dynamics of vibrational-energy redistribution within an isolated polyatomic molecule by spontaneous raman spectroscopy. <i>JETP Letters</i> , 2004, 80, 532-534.	0.4	11
101	<title>Metastable entangled states of atomic systems in macroscale: radiation dynamics and spectrum</title>. , 2004, , .		2
102	Spontaneous decay in a system of two spatially separated atoms (One-dimensional case). <i>Journal of Experimental and Theoretical Physics</i> , 2003, 97, 688-701.	0.2	18
103	Interfacing the Orbitrap Mass Analyzer to an Electrospray Ion Source. <i>Analytical Chemistry</i> , 2003, 75, 1699-1705.	3.2	268
104	Tandem time-of-flight mass spectrometer (TOF-TOF) with a quadratic-field ion mirror. <i>Review of Scientific Instruments</i> , 2002, 73, 2115-2123.	0.6	30
105	Electrostatic Axially Harmonic Orbital Trapping: A High-Performance Technique of Mass Analysis. <i>Analytical Chemistry</i> , 2000, 72, 1156-1162.	3.2	754
106	Ultrafast gas chromatography using time-of-flight mass spectrometry. <i>Rapid Communications in Mass Spectrometry</i> , 1999, 13, 237-241.	0.7	26
107	Supersonic molecular beam-hyperthermal surface ionisation coupled with time-of-flight mass spectrometry applied to trace level detection of polynuclear aromatic hydrocarbons in drinking water for reduced sample preparation and analysis time. , 1999, 13, 247-250.		13
108	In-series combination of a magnetic-sector mass spectrometer with a time-of-flight quadratic-field ion mirror. <i>Review of Scientific Instruments</i> , 1998, 69, 1650-1660.	0.6	25

#	ARTICLE	IF	CITATIONS
109	Application of secondary structures prepared on the base of track membrane technique for scanning tunneling microscopy. Radiation Measurements, 1995, 25, 699-702.	0.7	0
110	The application of nuclear track membranes for ion sampling to mass-spectrometer. Radiation Measurements, 1995, 25, 741-742.	0.7	0
111	Pitfalls on the road to the ideal time-of-flight mirror: ideal time-focusing in the second stage of tandem mass spectrometers. International Journal of Mass Spectrometry and Ion Processes, 1995, 146-147, 165-182.	1.9	22
112	Time-of-flight mass reflection with a large area of ion collection. International Journal of Mass Spectrometry and Ion Processes, 1993, 127, 45-55.	1.9	5
113	Ideal and quasi-ideal time focusing of charged particles. Journal Physics D: Applied Physics, 1991, 24, 533-540.	1.3	10