Alexander A Makarov

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	LASER IONIZATION MASS SPECTROMETRY AT 55: QUO VADIS?. Mass Spectrometry Reviews, 2022, 41, 100-151.	5.4	16
2	Abnormal (Hydroxy)proline Deuterium Content Redefines Hydrogen Chemical Mass. Journal of the American Chemical Society, 2022, 144, 2484-2487.	13.7	9
3	Frequency chasing of individual megadalton ions in an Orbitrap analyser improves precision of analysis in single-molecule mass spectrometry. Nature Chemistry, 2022, 14, 515-522.	13.6	24
4	Methods and limitations of stable isotope measurements via direct elution of chromatographic peaks using gas chromotography-Orbitrap mass spectrometry. International Journal of Mass Spectrometry, 2022, 477, 116848.	1.5	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. Analytical Chemistry, 2021, 93, 9418-9427.	6.5	10
7	Exploring frontiers of orbitrap performance for long transients. International Journal of Mass Spectrometry, 2021, 466, 116607.	1.5	29
8	Using Orbitrap mass spectrometry to assess the isotopic compositions of individual compounds in mixtures. International Journal of Mass Spectrometry, 2020, 457, 116410.	1.5	29
9	Resolving heterogeneous macromolecular assemblies by Orbitrap-based single-particle charge detection mass spectrometry. Nature Methods, 2020, 17, 395-398.	19.0	121
10	Overtone spectroscopy of v(C=O) stretching vibration of hexafluoroacetone: Experimental and ab initio determination of peak positions, absolute intensities, and band shapes. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2020, 238, 118396.	3.9	2
11	Multiplexed mass spectrometry of individual ions improves measurement of proteoforms and their complexes. Nature Methods, 2020, 17, 391-394.	19.0	110
12	A Compact Quadrupole-Orbitrap Mass Spectrometer with FAIMS Interface Improves Proteome Coverage in Short LC Gradients. Molecular and Cellular Proteomics, 2020, 19, 716-729.	3.8	284
13	Fundamentals of Orbitrap analyzer. , 2019, , 37-61.		9
14	Orbitrap journey: taming the ion rings. Nature Communications, 2019, 10, 3743.	12.8	19
15	STORI Plots Enable Accurate Tracking of Individual Ion Signals. Journal of the American Society for Mass Spectrometry, 2019, 30, 2200-2203.	2.8	44
16	Surface-Induced Dissociation of Noncovalent Protein Complexes in an Extended Mass Range Orbitrap Mass Spectrometer. Analytical Chemistry, 2019, 91, 3611-3618.	6.5	61
17	High-Resolution Differential Ion Mobility Separations/Orbitrap Mass Spectrometry without Buffer Gas Limitations. Analytical Chemistry, 2019, 91, 6918-6925.	6.5	17
18	Identification of organic molecules with a laboratory prototype based on the Laser Ablation-CosmOrbitrap. Planetary and Space Science, 2019, 170, 42-51.	1.7	18

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19	Space-charge dynamics in Orbitrap mass spectrometers. International Journal of Modern Physics A, 2019, 34, 1942007.	1.5	12
20	Measurement of Individual Ions Sharply Increases the Resolution of Orbitrap Mass Spectra of Proteins. Analytical Chemistry, 2019, 91, 2776-2783.	6.5	57
21	Ion traps in modern mass spectrometry. Mass Spectrometry Reviews, 2019, 38, 150-168.	5.4	41
22	Petroleomics <i>via</i> Orbitrap mass spectrometry with resolving power above 1 000 000 at <i>m</i> / <i>z</i> 200. RSC Advances, 2018, 8, 6183-6191.	3.6	58
23	Determination of Collision Cross-Sections of Protein Ions in an Orbitrap Mass Analyzer. Analytical Chemistry, 2018, 90, 5896-5902.	6.5	30
24	Expanding the structural analysis capabilities on an Orbitrap-based mass spectrometer for large macromolecular complexes. Analyst, The, 2018, 143, 100-105.	3.5	89
25	Integrable Models of Quantum Optics. Bulletin of the Russian Academy of Sciences: Physics, 2018, 82, 1556-1559.	0.6	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. Journal of Proteome Research, 2018, 17, 4008-4016.	3.7	29
28	Dissecting ribosomal particles throughout the kingdoms of life using advanced hybrid mass spectrometry methods. Nature Communications, 2018, 9, 2493.	12.8	67
29	An Orbitrapâ€based laser desorption/ablation mass spectrometer designed for spaceflight. Rapid Communications in Mass Spectrometry, 2018, 32, 1875-1886.	1.5	36
30	Sequencing Grade Tandem Mass Spectrometry for Top–Down Proteomics Using Hybrid Electron Capture Dissociation Methods in a Benchtop Orbitrap Mass Spectrometer. Analytical Chemistry, 2018, 90, 10819-10827.	6.5	54
31	High-fidelity mass analysis unveils heterogeneity in intact ribosomal particles. Nature Methods, 2017, 14, 283-286.	19.0	145
32	Top-down analysis of immunoglobulin G isotypes 1 and 2 with electron transfer dissociation on a high-field Orbitrap mass spectrometer. Journal of Proteomics, 2017, 159, 67-76.	2.4	47
33	2016 ASMS Workshop Review: Next Generation LC/MS: Critical Insights and Future Perspectives. Journal of the American Society for Mass Spectrometry, 2017, 28, 1248-1249.	2.8	0
34	Triple-Stage Mass Spectrometry Unravels the Heterogeneity of an Endogenous Protein Complex. Analytical Chemistry, 2017, 89, 4708-4715.	6.5	52
35	Identification of Isomeric Ephedrines by Cold Ion UV Spectroscopy: Toward Practical Implementation. Analytical Chemistry, 2017, 89, 544-547.	6.5	15
36	Phase-Constrained Spectrum Deconvolution for Fourier Transform Mass Spectrometry. Analytical Chemistry, 2017, 89, 1202-1211.	6.5	38

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37	Analysis of molecular isotopic structures at high precision and accuracy by Orbitrap mass spectrometry. International Journal of Mass Spectrometry, 2017, 422, 126-142.	1.5	64
38	Engineering Nanodisc Scaffold Proteins for Native Mass Spectrometry. Analytical Chemistry, 2017, 89, 11189-11192.	6.5	43
39	Numerical simulation of ion transport in an atmosphere-to-vacuum interface taking into account gas dynamics and space charge. European Journal of Mass Spectrometry, 2017, 23, 187-191.	1.0	5
40	The 3D OrbiSIMS—label-free metabolic imaging with subcellular lateral resolution and high mass-resolving power. Nature Methods, 2017, 14, 1175-1183.	19.0	327
41	Effects of quantum interference in spectra of cascade spontaneous emission from multilevel systems. EPJ Web of Conferences, 2017, 132, 02014.	0.3	Ο
42	Spectroscopy of systems of two identical atoms: effects of quantum interference. EPJ Web of Conferences, 2017, 132, 02023.	0.3	0
43	Integrable models of quantum optics. EPJ Web of Conferences, 2017, 161, 01013.	0.3	0
44	Ultraviolet Photodissociation Induced by Lightâ€Emitting Diodes in a Planar Ion Trap. Angewandte Chemie, 2016, 128, 12605-12609.	2.0	4
45	Ultraviolet Photodissociation Induced by Lightâ€Emitting Diodes in a Planar Ion Trap. Angewandte Chemie - International Edition, 2016, 55, 12417-12421.	13.8	7
46	Orbitrap mass analyser for in situ characterisation of planetary environments: Performance evaluation of a laboratory prototype. Planetary and Space Science, 2016, 131, 33-45.	1.7	47
47	Orbitrap Mass Spectrometry. Comprehensive Analytical Chemistry, 2016, , 3-18.	1.3	10
48	Symmetry of Charge Partitioning in Collisional and UV Photon-Induced Dissociation of Protein Assemblies. Journal of the American Chemical Society, 2016, 138, 10860-10868.	13.7	42
49	Implementation of Ultraviolet Photodissociation on a Benchtop Q Exactive Mass Spectrometer and Its Application to Phosphoproteomics. Analytical Chemistry, 2016, 88, 2303-2310.	6.5	72
50	An informatic framework for decoding protein complexes by top-down mass spectrometry. Nature Methods, 2016, 13, 237-240.	19.0	59
51	Nonstatistical UV Fragmentation of Gas-Phase Peptides Reveals Conformers and Their Structural Features. Journal of Physical Chemistry Letters, 2016, 7, 1067-1071.	4.6	17
52	Design Study of an Atmospheric Pressure Photoionization Interface for GC-MS. Journal of the American Society for Mass Spectrometry, 2016, 27, 607-614.	2.8	25
53	High-resolution mass spectrometry of small molecules bound to membrane proteins. Nature Methods, 2016, 13, 333-336.	19.0	205
54	Control of Aberration and Space-Charge Effects in the Orbitrap Mass Analyzer. Microscopy and Microanalysis, 2015, 21, 176-181.	0.4	4

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55	Alexander A. Makarov. , 2015, , 138.		Ο
56	Tandem Native Mass-Spectrometry on Antibody–Drug Conjugates and Submillion Da Antibody–Antigen Protein Assemblies on an Orbitrap EMR Equipped with a High-Mass Quadrupole Mass Selector. Analytical Chemistry, 2015, 87, 6095-6102.	6.5	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.	5.4	331
59	Colors for Molecular Masses: Fusion of Spectroscopy and Mass Spectrometry for Identification of Biomolecules. Analytical Chemistry, 2015, 87, 4607-4611.	6.5	34
60	Benchmarking Multiple Fragmentation Methods on an Orbitrap Fusion for Top-down Phospho-Proteoform Characterization. Analytical Chemistry, 2015, 87, 4152-4158.	6.5	99
61	Reprint of "Enhanced Fourier transform for Orbitrap mass spectrometry― International Journal of Mass Spectrometry, 2015, 377, 338-344.	1.5	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.	3.8	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.	13.7	134
64	Fragmentation of Positively-Charged Biological Ions Activated with a Beam of High-Energy Cations. Analytical Chemistry, 2014, 86, 372-379.	6.5	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.	3.7	11
66	Discrimination of Leucine and Isoleucine in Peptides Sequencing with Orbitrap Fusion Mass Spectrometer. Analytical Chemistry, 2014, 86, 7017-7022.	6.5	61
67	Enhanced Fourier transform for Orbitrap mass spectrometry. International Journal of Mass Spectrometry, 2014, 369, 16-22.	1.5	66
68	Space-Charge Effects in An Electrostatic Multireflection Ion Trap. European Journal of Mass Spectrometry, 2014, 20, 131-142.	1.0	13
69	Novel Parallelized Quadrupole/Linear Ion Trap/Orbitrap Tribrid Mass Spectrometer Improving Proteome Coverage and Peptide Identification Rates. Analytical Chemistry, 2013, 85, 11710-11714.	6.5	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.	0.9	3
71	Orbitrap Mass Spectrometry. Analytical Chemistry, 2013, 85, 5288-5296.	6.5	454
72	From Protein Complexes to Subunit Backbone Fragments: A Multi-stage Approach to Native Mass Spectrometry. Analytical Chemistry, 2013, 85, 11163-11173.	6.5	148

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73	Ultra High Resolution Linear Ion Trap Orbitrap Mass Spectrometer (Orbitrap Elite) Facilitates Top Down LC MS/MS and Versatile Peptide Fragmentation Modes. Molecular and Cellular Proteomics, 2012, 11, 0111.013698.	3.8	303
74	High-sensitivity Orbitrap mass analysis of intact macromolecular assemblies. Nature Methods, 2012, 9, 1084-1086.	19.0	347
75	Exploring an Orbitrap Analyzer for the Characterization of Intact Antibodies by Native Mass Spectrometry. Angewandte Chemie - International Edition, 2012, 51, 12992-12996.	13.8	130
76	Analysis of Intact Monoclonal Antibody IgG1 by Electron Transfer Dissociation Orbitrap FTMS. Molecular and Cellular Proteomics, 2012, 11, 1758-1767.	3.8	137
77	Orbitrap mass spectrometry with resolving powers above 1,000,000. International Journal of Mass Spectrometry, 2012, 325-327, 80-85.	1.5	116
78	Advancing Cell Biology Through Proteomics in Space and Time (PROSPECTS). Molecular and Cellular Proteomics, 2012, 11, O112.017731.	3.8	55
79	Fourier Transform Mass Spectrometry. Molecular and Cellular Proteomics, 2011, 10, M111.009431.	3.8	171
80	Mass Spectrometry-based Proteomics Using Q Exactive, a High-performance Benchtop Quadrupole Orbitrap Mass Spectrometer. Molecular and Cellular Proteomics, 2011, 10, M111.011015.	3.8	701
81	Equilibrium ion distribution modeling in RF ion traps and guides with regard to Coulomb effects. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 645, 141-145.	1.6	14
82	Coulomb dynamics of ion bunches in multi-reflection electrostatic traps. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2011, 645, 146-152.	1.6	14
83	Coupling liquid chromatography to Orbitrap mass spectrometry. Journal of Chromatography A, 2010, 1217, 3938-3945.	3.7	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. Bioanalysis, 2009, 1, 741-754.	1.5	46
86	A Dual Pressure Linear Ion Trap Orbitrap Instrument with Very High Sequencing Speed. Molecular and Cellular Proteomics, 2009, 8, 2759-2769.	3.8	398
87	Performance evaluation of a high-field orbitrap mass analyzer. Journal of the American Society for Mass Spectrometry, 2009, 20, 1391-1396.	2.8	147
88	Mass measurement and top-down HPLC/MS analysis of intact monoclonal antibodies on a hybrid linear quadrupole ion trap-orbitrap mass spectrometer. Journal of the American Society for Mass Spectrometry, 2009, 20, 1415-1424.	2.8	137
89	Dynamics of ions of intact proteins in the Orbitrap mass analyzer. Journal of the American Society for Mass Spectrometry, 2009, 20, 1486-1495.	2.8	161
90	A Proteomics Grade Electron Transfer Dissociation-Enabled Hybrid Linear Ion Trap-Orbitrap Mass Spectrometer. Journal of Proteome Research, 2008, 7, 3127-3136.	3.7	137

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91	Higher-energy C-trap dissociation for peptide modification analysis. Nature Methods, 2007, 4, 709-712.	19.0	844
92	Orbitrap Mass Analyzer – Overview and Applications in Proteomics. Proteomics, 2006, 6, 16-21.	2.2	180
93	Performance Evaluation of a Hybrid Linear Ion Trap/Orbitrap Mass Spectrometer. Analytical Chemistry, 2006, 78, 2113-2120.	6.5	663
94	Resonant ac Dipolar Excitation for Ion Motion Control in the Orbitrap Mass Analyzer. Journal of Physical Chemistry A, 2006, 110, 2682-2689.	2.5	25
95	Orbitrap mass analyzer. , 2006, , .		3
96	Dynamic range of mass accuracy in LTQ orbitrap hybrid mass spectrometer. Journal of the American Society for Mass Spectrometry, 2006, 17, 977-982.	2.8	358
97	The Orbitrap: a new mass spectrometer. Journal of Mass Spectrometry, 2005, 40, 430-443.	1.6	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. Rapid Communications in Mass Spectrometry, 2005, 19, 3369-3378.	1.5	73
99	Parts per Million Mass Accuracy on an Orbitrap Mass Spectrometer via Lock Mass Injection into a C-trap. Molecular and Cellular Proteomics, 2005, 4, 2010-2021.	3.8	1,395
100	Real-time observation of the dynamics of vibrational-energy redistribution within an isolated polyatomic molecule by spontaneous raman spectroscopy. JETP Letters, 2004, 80, 532-534.	1.4	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). Journal of Experimental and Theoretical Physics, 2003, 97, 688-701.	0.9	18
103	Interfacing the Orbitrap Mass Analyzer to an Electrospray Ion Source. Analytical Chemistry, 2003, 75, 1699-1705.	6.5	268
104	Tandem time-of-flight mass spectrometer (TOF-TOF) with a quadratic-field ion mirror. Review of Scientific Instruments, 2002, 73, 2115-2123.	1.3	30
105	Electrostatic Axially Harmonic Orbital Trapping:Â A High-Performance Technique of Mass Analysis. Analytical Chemistry, 2000, 72, 1156-1162.	6.5	754
106	Ultrafast gas chromatography using time-of-flight mass spectrometry. Rapid Communications in Mass Spectrometry, 1999, 13, 237-241.	1.5	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. Review of Scientific Instruments, 1998, 69, 1650-1660.	1.3	25

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109	Application of secondary structures prepared on the base of track membrane technique for scanning tunneling microscopy. Radiation Measurements, 1995, 25, 699-702.	1.4	0
110	The application of nuclear track membranes for ion sampling to mass-spectrometer. Radiation Measurements, 1995, 25, 741-742.	1.4	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.	1.8	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.	1.8	5
113	Ideal and quasi-ideal time focusing of charged particles. Journal Physics D: Applied Physics, 1991, 24, 533-540.	2.8	10