Marek Tulej

List of Publications by Year
in descending order

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112	2,249	218677	289244
papers	citations	26 h-index	40 g-index

123	123	123	1195
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Gas-Phase Electronic Transitions of Carbon Chain Anions Coinciding with Diffuse Interstellar Bands. Astrophysical Journal, 1998, 506, L69-L73.	4.5	146
2	Performance evaluation of a miniature laser ablation timeâ€ofâ€flight mass spectrometer designed for in situ investigations in planetary space research. Journal of Mass Spectrometry, 2013, 48, 1-15.	1.6	76
3	Coupling of LMS with a fs-laser ablation ion source: elemental and isotope composition measurements. Journal of Analytical Atomic Spectrometry, 2013, 28, 1256.	3.0	73
4	Highly accurate isotope composition measurements by a miniature laser ablation mass spectrometer designed for in situ investigations on planetary surfaces. Planetary and Space Science, 2013, 87, 1-13.	1.7	55
5	Performance evaluation of a miniature laser ablation timeâ€ofâ€flight mass spectrometer designed for in situ investigations in planetary space research. Journal of Mass Spectrometry, 2013, 48, i.	1.6	55
6	High-Resolution Chemical Depth Profiling of Solid Material Using a Miniature Laser Ablation/Ionization Mass Spectrometer. Analytical Chemistry, 2015, 87, 2037-2041.	6.5	54
7	Photodetachment spectroscopy of the C2nHâ^' (n=2â€“4) anions in the vicinity of their electron detachment threshold. Journal of Chemical Physics, 2002, 116, 6126-6131.	3.0	52
8	Photodetachment Spectrum of Iâ€C3documentclass{aastex} usepackage{amsbsy} usepackage{amsfonts} usepackage{amssymb} usepackage{bm} usepackage{mathrsfs} usepackage{pifont} usepackage{stmaryrd} usepackage{textcomp} usepackage{portland,xspace} usepackage{amsmath,amsxtra} usepackage[OT2,OT1]{fontenc} ewcommandcyr{ enewcommandmdefault{wncyr} enewcommandsfdefault{wncyss} enewcommandencodingdefault{OT2} ormalfont selectfont} DeclareTextFontCommand{extcyr}	4.5	51
9	A miniature mass analyser for in-situ elemental analysis of planetary materialâ€“performance studies. Analytical and Bioanalytical Chemistry, 2011, 399, 2185-2200.	3.7	50
10	Pressure-dependent N2 Q-branch fs-CARS measurements. Journal of Raman Spectroscopy, 2002, 33, 861-865.	2.5	48
11	Toward Three-Dimensional Chemical Imaging of Ternary Cuâ€“Snâ€“Pb Alloys Using Femtosecond Laser Ablation/Ionization Mass Spectrometry. Analytical Chemistry, 2017, 89, 1632-1641.	6.5	47
12	Electronic spectra of linear carbon anions. Chemical Physics, 1998, 228, 293-299.	1.9	44
13	Study of the main geochemical characteristics of Phobosâ€™ regolith using laser time-of-flight mass spectrometry. Solar System Research, 2010, 44, 376-384.	0.7	44
14	Chemical Composition of Micrometer-Sized Filaments in an Aragonite Host by a Miniature Laser Ablation/Ionization Mass Spectrometer. Astrobiology, 2015, 15, 669-682.	3.0	44
15	A neutral gas mass spectrometer for the investigation of lunar volatiles. Planetary and Space Science, 2012, 74, 264-269.	1.7	43
16	Collision induced rotational energy transfer probed by time-resolved coherent anti-Stokes Raman scattering. Journal of Chemical Physics, 2003, 118, 8223-8233.	3.0	41
17	Probing the Allende meteorite with a miniature laser-ablation mass analyser for space application. Planetary and Space Science, 2014, 101, 196-209.	1.7	41
18	Fully automatic and precise data analysis developed for timeâ€ofâ€flight mass spectrometry. Journal of Mass Spectrometry, 2017, 52, 580-590.	1.6	38

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19	Electronic spectroscopy of carbon chains and relevance to astrophysics. Faraday Discussions, 1998, 109, 109-119.	3.2	35
20	High-speed microstrip multi-anode multichannel plate detector system. Review of Scientific Instruments, 2017, 88, 045114.	1.3	35
21	Chemical and Optical Identification of Micrometer-Sized 1.9 Billion-Year-Old Fossils by Combining a Miniature Laser Ablation Ionization Mass Spectrometry System with an Optical Microscope. Astrobiology, 2018, 18, 1071-1080.	3.0	35
22	CAMAM: A Miniature Laser Ablation Ionisation Mass Spectrometer and Microscopeâ€Camera System for In Situ Investigation of the Composition and Morphology of Extraterrestrial Materials. Geostandards and Geoanalytical Research, 2014, 38, 441-466.	3.1	34
23	Quantitative measurement of the chemical composition of geological standards with a miniature laser ablation/ionization mass spectrometer designed forin situapplication in space research. Measurement Science and Technology, 2016, 27, 035904.	2.6	32
24	Electronic transitions of C3â¯ above the photodetachment threshold. Journal of Chemical Physics, 2000, 112, 3747-3753.	3.0	28
25	Optical diagnostics of diesel spray injections and combustion in a high-pressure high-temperature cell. Applied Physics B: Lasers and Optics, 2005, 80, 1039-1045.	2.2	28
26	Constraints on the exosphere of CoRoT-7b. Astronomy and Astrophysics, 2011, 525, A24.	5.1	28
27	Mass spectrometric analysis in planetary science: Investigation of the surface and the atmosphere. Solar System Research, 2012, 46, 408-422.	0.7	25
28	Prototype of the gas chromatographâ€“mass spectrometer to investigate volatile species in the lunar soil for the Luna-Resurs mission. Planetary and Space Science, 2015, 111, 126-133.	1.7	25
29	Towards matrixâ€free femtosecondâ€laser desorption mass spectrometry for in situ space research. Rapid Communications in Mass Spectrometry, 2016, 30, 1031-1036.	1.5	25
30	ORIGIN: a novel and compact Laser Desorption â€“ Mass Spectrometry system for sensitive in situ detection of amino acids on extraterrestrial surfaces. Scientific Reports, 2020, 10, 9641.	3.3	24
31	Towards Structural Analysis of Polymeric Contaminants in Electrodeposited Cu films. Electrochimica Acta, 2016, 199, 394-402.	5.2	23
32	0.2 to 10ÂkeV electrons interacting with water ice: Radiolysis, sputtering, and sublimation. Planetary and Space Science, 2018, 155, 91-98.	1.7	23
33	Electronic spectra of carbon chain anions: C2nHâ¯â€‰(n=5â€“12). Journal of Chemical Physics, 1999, 111, 9280-9286.	3.0	21
34	High depth-resolution laser ablation chemical analysis of additive-assisted Cu electroplating for microchip architectures. Journal of Analytical Atomic Spectrometry, 2015, 30, 2371-2374.	3.0	21
35	Theoretical and experimental study of the A2Îuâ€“X2Îg band system of C7â¯. Journal of Chemical Physics, 2000, 113, 9586-9592.	3.0	20
36	Determination of theortho-/para deuterium concentration ratio with femtosecond CARS. Journal of Raman Spectroscopy, 2003, 34, 989-993.	2.5	19

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37	Multiplex spectroscopy of stable and transient species in a molecular beam. Journal of Raman Spectroscopy, 2007, 38, 1022-1031.	2.5	19
38	Improved detection sensitivity for heavy trace elements using a miniature laser ablation ionisation mass spectrometer. Journal of Analytical Atomic Spectrometry, 2017, 32, 2182-2188.	3.0	19
39	Mass spectrometry of planetary exospheres at high relative velocity: direct comparison of open- and closed-source measurements. Geoscientific Instrumentation, Methods and Data Systems, 2017, 6, 1-8.	1.6	19
40	Depth Profiling and Cross-Sectional Laser Ablation Ionization Mass Spectrometry Studies of Through-Silicon-Vias. Analytical Chemistry, 2018, 90, 5179-5186.	6.5	19
41	Electronic Spectra of the Carbon Chain Anions C2n-1H-(n= 5â^'8) in the Gas Phase. Journal of Physical Chemistry A, 1999, 103, 9712-9716.	2.5	18
42	Spectroscopy of excited states of carbon anions above the photodetachment threshold. Faraday Discussions, 2000, 115, 383-393.	3.2	18
43	Laser Ablation/Ionisation Mass Spectrometry: Sensitive and Quantitative Chemical Depth Profiling of Solid Materials. Chimia, 2016, 70, 268.	0.6	18
44	Mineralogical determination in situ of a highly heterogeneous material using a miniaturized laser ablation mass spectrometer with high spatial resolution. International Journal of Astrobiology, 2016, 15, 133-146.	1.6	18
45	Degenerate and two-color resonant four-wave mixing applied to the rotational characterization of high-lying vibrational states of formaldehyde (Ãƒ,1A2). Journal of Raman Spectroscopy, 2006, 37, 376-383.	2.5	17
46	Electronic spectra of radicals in a supersonic slit-jet discharge by degenerate and two-color four-wave mixing. Physical Chemistry Chemical Physics, 2008, 10, 136-141.	2.8	17
47	Degenerate and twoâ€color resonant fourâ€wave mixing of C₂^{â^'} in a molecular beam environment. Journal of Raman Spectroscopy, 2010, 41, 853-858.	2.5	17
48	Sputtering of water ice films: A re-assessment with singly and doubly charged oxygen and argon ions, molecular oxygen, and electrons. Icarus, 2017, 291, 36-45.	2.5	17
49	Mass spectrometric analysis of the Mg plasma produced by double-pulse femtosecond laser irradiation. Journal of Analytical Atomic Spectrometry, 2018, 33, 1292-1303.	3.0	17
50	Reviewâ€"Laser Ablation Ionization Mass Spectrometry (LIMS) for Analysis of Electrodeposited Cu Interconnects. Journal of the Electrochemical Society, 2019, 166, D3190-D3199.	2.9	17
51	Stimulated emission pumping by two-color resonant four-wave mixing: rotational characterization of vibrationally excited HCO (Xlƒ 2 Aâ€²). Journal of Raman Spectroscopy, 2003, 34, 1037-1044.	2.5	16
52	Photo-fragment excitation spectroscopy (PHOFEX) by DFWM and LIF: propensities for H2CO ? HCO + H near the So threshold. Journal of Raman Spectroscopy, 2005, 36, 109-115.	2.5	16
53	Detection efficiency of microchannel plates for eâ^' and Ï€â^' in the momentum range from 17.5 to 345 MeV/c. Review of Scientific Instruments, 2015, 86, 083310.	1.3	16
54	Combining Anisotropic Etching and PDMS Casting for Three-Dimensional Analysis of Laser Ablation Processes. Analytical Chemistry, 2018, 90, 2692-2700.	6.5	16

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55	UV postâ€ionization laser ablation ionization mass spectrometry for improved nmâ€depth profiling resolution on Cr/Ni reference standard. Rapid Communications in Mass Spectrometry, 2020, 34, e8803.	1.5	16
56	Current Progress in Femtosecond Laser Ablation/Ionisation Time-of-Flight Mass Spectrometry. Applied Sciences (Switzerland), 2021, 11, 2562.	2.5	16
57	Electronic transition of C3Hâ^in the vicinity of the lowest photodetachment threshold. Molecular Physics, 2001, 99, 1397-1405.	1.7	15
58	Characterization of C4H in the A2Î and X2Î£+ states by double resonance four-wave mixing. Journal of Chemical Physics, 2011, 134, 164303.	3.0	15
59	On Applicability of a Miniaturised Laser Ablation Time of Flight Mass Spectrometer for Trace Elements Measurements. International Journal of Spectroscopy, 2012, 2012, 1-14.	1.6	15
60	The LMS-GT instrument â€“ a new perspective for quantification with the LIMS-TOF measurement technique. Journal of Analytical Atomic Spectrometry, 2019, 34, 2061-2073.	3.0	15
61	The Detection of Elemental Signatures of Microbes in Martian Mudstone Analogs Using High Spatial Resolution Laser Ablation Ionization Mass Spectrometry. Astrobiology, 2020, 20, 1224-1235.	3.0	15
62	Rotational structure of the origin band in the1Aâ€² â†X1Ïƒ+electronic transition of C4Hâ^and C4Dâ^. Molecular Physics, 2003, 101, 583-588.	1.7	14
63	Experimental investigation of the radiation shielding efficiency of a MCP detector in the radiation environment near Jupiterâ€™s moon Europa. Nuclear Instruments & Methods in Physics Research B, 2016, 383, 21-37.	1.4	13
64	Towards femtosecond laser ablation ionization mass spectrometric approaches for chemical depth-profiling analysis of lead-free Sn solder bumps with minimized side-wall contributions. Journal of Analytical Atomic Spectrometry, 2018, 33, 283-293.	3.0	13
65	First experimental data of sulphur ions sputtering water ice. Icarus, 2018, 312, 1-6.	2.5	13
66	Rotationally inelastic collisions between N2 and rare gases: an extension of the angular momentum scaling law. Chemical Physics Letters, 2003, 373, 251-257.	2.6	12
67	Effect of long duration UV irradiation on diamondlike carbon surfaces in the presence of a hydrocarbon gaseous atmosphere. Journal of Applied Physics, 2010, 108, .	2.5	12
68	Description of the Mass Spectrometer for the Jupiter Icy Moons Explorer Mission. , 2021, , .		12
69	Comparative study of degenerate four-wave mixing and cavity ringdown signal intensities of formaldehyde in a molecular beam. Journal of Raman Spectroscopy, 2006, 37, 680-688.	2.5	11
70	Surface charging of thick porous water ice layers relevant for ion sputtering experiments. Planetary and Space Science, 2016, 126, 63-71.	1.7	11
71	Shielding an MCP Detector for a Space-Borne Mass Spectrometer Against the Harsh Radiation Environment in Jupiterâ€™s Magnetosphere. IEEE Transactions on Nuclear Science, 2017, 64, 605-613.	2.0	11
72	High Energy Electron Radiation Exposure Facility at PSI. Journal of Applied Mathematics and Physics, 2014, 02, 910-917.	0.4	11

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73	Isotope abundance ratio measurements using femtosecond laser ablation ionization mass spectrometry. Journal of Mass Spectrometry, 2020, 55, e4660.	1.6	10
74	Feshbach resonances of the C3Hâ¯anion: laser autodetachment spectroscopy andab initiocalculations. Molecular Physics, 2004, 102, 1881-1889.	1.7	9
75	Insights into Laser Ablation Processes of Heterogeneous Samples: Toward Analysis of Through-Silicon-Vias. Analytical Chemistry, 2018, 90, 6666-6674.	6.5	9
76	Novel 2D binning approach for advanced LIMS depth profiling analysis. Journal of Analytical Atomic Spectrometry, 2019, 34, 1564-1570.	3.0	9
77	A method for improvement of mass resolution and isotope accuracy for laser ablation timeâ€ofâ€flight mass spectrometers. Journal of Chemometrics, 2019, 33, e3081.	1.3	9
78	Three-Dimensional Composition Analysis of SnAg Solder Bumps Using Ultraviolet Femtosecond Laser Ablation Ionization Mass Spectrometry. Analytical Chemistry, 2020, 92, 1355-1362.	6.5	9
79	Chemical analysis of a lunar meteorite by laser ablation mass spectrometry. Planetary and Space Science, 2020, 182, 104816.	1.7	9
80	The chemical composition and homogeneity of the Allende matrix. Planetary and Space Science, 2021, 204, 105251.	1.7	9
81	Feshbach states of the propadienylidene anion H2CCCÃ¢â‚¬â€œ. Physical Chemistry Chemical Physics, 2001, 3, 4674-4678.	2.8	8
82	Neutral molecular ZnX (X=O, OH, N) compounds in a molecular beam. Journal of Molecular Structure, 2006, 782, 67-72.	3.6	8
83	Laser Ablation Ionization Mass Spectrometry: A Space Prototype System for In Situ Sulphur Isotope Fractionation Analysis on Planetary Surfaces. Frontiers in Astronomy and Space Sciences, 2021, 8, .	2.8	8
84	The ORIGIN Space Instrument for Detecting Biosignatures and Habitability Indicators on a Venus Life Finder Mission. Aerospace, 2022, 9, 312.	2.2	8
85	Time-resolved investigation of the Î½1 ro-vibrational Raman band of H2CO with fs-CARS. Journal of Raman Spectroscopy, 2007, 38, 147-153.	2.5	7
86	Flight electronics of GC-mass spectrometer for investigation of volatiles in the lunar regolith. , 2018, , .		7
87	Determination of the microscopic mineralogy of inclusion in an amygdaloidal pillow basalt by fs-LIMS. Journal of Analytical Atomic Spectrometry, 2021, 36, 80-91.	3.0	7
88	On Topological Analysis of fs-LIMS Data. Implications for in Situ Planetary Mass Spectrometry. Frontiers in Artificial Intelligence, 2021, 4, 668163.	3.4	7
89	Chemical identification of microfossils from the 1.88â€Ga Gunflint chert: Towards empirical biosignatures using laser ablation ionization mass spectrometer. Journal of Chemometrics, 2021, 35, e3370.	1.3	7
90	Selective Detection of Radicals and Ions in a Slit-Jet Discharge by Degenerate and Two-Color Four-Wave Mixing. Journal of Physical Chemistry A, 2009, 113, 13402-13406.	2.5	6

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91	Rotationally Resolved Ground State Vibrational Levels of HC2S Studied by Two-Color Resonant Four-Wave Mixing. Journal of Physical Chemistry A, 2010, 114, 3329-3333.	2.5	6
92	Two-Color Photodetachment Study of the A³Îâ^'X³Î£^{â^'} Origin Band of C₅H^{â^'}. Journal of Physical Chemistry A, 2011, 115, 6878-6881.	2.5	6
93	The LIF Excitation Spectrum of Jet-Cooled 2,6-Dicyano-3, 5-Dimethylaniline. Journal of Fluorescence, 1999, 9, 123-132.	2.5	5
94	Electronic transitions of the C₅H^{â^'}anion. Molecular Physics, 2010, 108, 865-871.	1.7	5
95	Toward Detecting Polycyclic Aromatic Hydrocarbons on Planetary Objects with ORIGIN. Planetary Science Journal, 2022, 3, 43.	3.6	5
96	Investigation of the Surface Composition by Laser Ablation/Ionization Mass Spectrometry. , 2021, , .		4
97	Improved plasma stoichiometry recorded by laser ablation ionization mass spectrometry using a doubleâ€pulse femtosecond laser ablation ion source. Rapid Communications in Mass Spectrometry, 2021, 35, e9094.	1.5	4
98	Quantitative elemental analysis with the LMS-GT; a next-generation LIMS-TOF instrument. International Journal of Mass Spectrometry, 2021, 470, 116662.	1.5	4
99	Multiwavelength Ablation/Ionization and Mass Spectrometric Analysis of 1.88 Ga Gunflint Chert. Astrobiology, 2022, 22, 369-386.	3.0	4
100	TheËœA²Î_{3/2}â^'ËœX²Î_{3/2}electronic transition of HC₄S isotopologues. Molecular Physics, 2008, 106, 2709-2715.	1.7	3
101	Testing the Radiation Hardness of Thick-Film Resistors for a Time-Of-Flight Mass Spectrometer at Jupiter with 18 MeV Protons. , 2017, , .		3
102	A low energy ion beam facility for mass spectrometer calibration: First results. Review of Scientific Instruments, 2018, 89, 013305.	1.3	3
103	Decisions and Trade-Offs in the Design of a Mass Spectrometer for Jupiter's Icy Moons. , 2020, , .		3
104	Detecting the elemental and molecular signatures of life: Laser-based mass spectrometry technologies. , 2021, 53, .		3
105	Characterization of femtosecond laser ablation processes on as-deposited SnAg solder alloy using laser ablation ionization mass spectrometry. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2021, 180, 106145.	2.9	2
106	Correlation Network Analysis for Amino Acid Identification in Soil Samples With the ORIGIN Space-Prototype Instrument. Frontiers in Astronomy and Space Sciences, 2022, 9, .	2.8	2
107	Improved limit of detection of a high-resolution fs-LIMS instrument through mass-selective beam blanking. International Journal of Mass Spectrometry, 2022, 474, 116803.	1.5	1
108	High Mass Resolution fs-LIMS Imaging and Manifold Learning Reveal Insight Into Chemical Diversity of the 1.88ÂGa Gunflint Chert. Frontiers in Space Technologies, 2022, 3, .	1.4	1

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109	Collision induced rotational energy transfer. A new scaling law probed by fs CARS. , 2004, , 69-72.		0
110	Investigation of Coriolis Perturbations on the ro-vibrational Î½1 Band of H2CO with fs-CARS. , 2006, , .		0
111	Investigation of Coriolis Perturbations on the ro-vibrational ν 1 Band of H2CO with fs-CARS. Springer Series in Chemical Physics, 2007, , 567-569.	0.2	0
112	(Invited) Towards Spatially Resolved Chemical Analysis of Sn/Ag Solder Bumps By Means of Laser Ablation Ionization Mass Spectrometry (LIMS). ECS Meeting Abstracts, 2019, , .	0.0	0