

Martin Ferus

List of Publications by Year in descending order

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Version: 2024-02-01

62
papers

1,510
citations

361296

20
h-index

315616

38
g-index

67
all docs

67
docs citations

67
times ranked

1597
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum Dots in Peroxidase-like Chemistry and Formamide-Based Hot Spring Synthesis of Nucleobases. <i>Astrobiology</i> , 2022, , .	1.5	1
2	Nitrogen Oxide Production in Laser-Induced Breakdown Simulating Impacts on the Hadean Atmosphere. <i>Journal of Geophysical Research E: Planets</i> , 2022, 127, .	1.5	5
3	Asteroid Prospecting and Space Mining. <i>Space and Society</i> , 2022, , 217-232.	1.6	1
4	Morphology of Meteorite Surfaces Ablated by High-Power Lasers: Review and Applications. <i>Applied Sciences (Switzerland)</i> , 2022, 12, 4869.	1.3	2
5	New physical insights: Formamide discharge decomposition and the role of fragments in the formation of large biomolecules. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2022, 278, 121322.	2.0	1
6	Formamide-Based Post-impact Thermal Prebiotic Synthesis in Simulated Craters: Intermediates, Products and Mechanism. <i>Frontiers in Astronomy and Space Sciences</i> , 2022, 9, .	1.1	2
7	Application of a dielectric breakdown induced by high-power lasers for a laboratory simulation of meteor plasma. <i>Experimental Astronomy</i> , 2021, 51, 425-451.	1.6	11
8	Time-resolved Fourier transform infrared emission spectroscopy of CO $\hat{\nu}_1$ and $\hat{\nu}_2$ extended bands in the ground $X^1\Sigma^+$ state produced by formamide glow discharge. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2021, 262, 107521.	1.1	4
9	Prebiotic Route to Thymine from Formamide – A Combined Experimental – Theoretical Study. <i>Molecules</i> , 2021, 26, 2248.	1.7	1
10	Thermal Decomposition of Cocaine and Methamphetamine Investigated by Infrared Spectroscopy and Quantum Chemical Simulations. <i>ACS Omega</i> , 2021, 6, 14447-14457.	1.6	2
11	Micellar electrokinetic chromatography as a powerful analytical tool for research on prebiotic chemistry. <i>Microchemical Journal</i> , 2021, 167, 106022.	2.3	3
12	High resolution emission FT spectra of sodium in a microwave discharge: Intensity variation of the $D_{1,2}$ lines. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2021, 262, 107521.	1.1	1
13	$D_{1,2}$ lines in exoplanetary atmospheres. <i>Journal of Quantitative Spectroscopy and Radiative Transfer</i> , 2021, 262, 107521.	1.1	1
13	Mars: new insights and unresolved questions. <i>International Journal of Astrobiology</i> , 2021, 20, 394-426.	0.9	19
14	Primordial Radioactivity and Prebiotic Chemical Evolution: Effect of $\hat{\nu}_3$ Radiation on Formamide-Based Synthesis. <i>Journal of Physical Chemistry B</i> , 2020, 124, 8951-8959.	1.2	5
15	Ariel – a window to the origin of life on early earth?. <i>Experimental Astronomy</i> , 2020, , 1.	1.6	1
16	UV-Induced Nanoparticles-Formation, Properties and Their Potential Role in Origin of Life. <i>Nanomaterials</i> , 2020, 10, 1529.	1.9	8
17	One-Pot Hydrogen Cyanide-Based Prebiotic Synthesis of Canonical Nucleobases and Glycine Initiated by High-Velocity Impacts on Early Earth. <i>Astrobiology</i> , 2020, 20, 1476-1488.	1.5	24
18	Acidic Hydrogen Enhanced Photocatalytic Reduction of CO ₂ on Planetary Surfaces. <i>ACS Earth and Space Chemistry</i> , 2020, 4, 1001-1009.	1.2	6

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19	Elemental composition, mineralogy and orbital parameters of the Porangaba meteorite. <i>Icarus</i> , 2020, 341, 113670.	1.1	13
20	Formic Acid, a Ubiquitous but Overlooked Component of the Early Earth Atmosphere. <i>Chemistry - A European Journal</i> , 2020, 26, 12075-12080.	1.7	15
21	Prebiotic synthesis at impact craters: the role of Fe-clays and iron meteorites. <i>Chemical Communications</i> , 2019, 55, 10563-10566.	2.2	13
22	The Chemistry of CO ₂ and TiO ₂ . <i>Springer Briefs in Molecular Science</i> , 2019, , .	0.1	3
23	Photochemical Reduction of CO ₂ on Terrestrial Planets. , 2019, , .		0
24	Formation of Methane and (Per)Chlorates on Mars. <i>ACS Earth and Space Chemistry</i> , 2019, 3, 221-232.	1.2	24
25	Comparative SIFT-MS, GC-MS and FTIR analysis of methane fuel produced in biogas stations and in artificial photosynthesis over acidic anatase TiO ₂ and montmorillonite. <i>Journal of Molecular Spectroscopy</i> , 2018, 348, 152-160.	0.4	14
26	A chemical survey of exoplanets with ARIEL. <i>Experimental Astronomy</i> , 2018, 46, 135-209.	1.6	249
27	Dust Motions in Magnetized Turbulence: Source of Chemical Complexity. <i>Astrophysical Journal Letters</i> , 2018, 866, L23.	3.0	17
28	Calibration-free quantitative elemental analysis of meteor plasma using reference laser-induced breakdown spectroscopy of meteorite samples. <i>Astronomy and Astrophysics</i> , 2018, 610, A73.	2.1	24
29	Time-resolved Fourier transform infrared spectroscopy and updated system of neutral oxygen (O I) levels. , 2018, , .		0
30	Formation of nucleobases in a Miller-Urey reducing atmosphere. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 4306-4311.	3.3	120
31	Spontaneous oxygen isotope exchange between carbon dioxide and natural clays: Refined rate constants referenced to TiO ₂ (anatase/rutile). <i>Applied Clay Science</i> , 2017, 137, 6-10.	2.6	3
32	The origin of methane and biomolecules from a CO ₂ cycle on terrestrial planets. <i>Nature Astronomy</i> , 2017, 1, 721-726.	4.2	27
33	Recording and evaluation of high resolution optical meteor spectra and comparative laboratory measurements using laser ablation of solid meteorite specimens. , 2017, , .		1
34	High Energy Radical Chemistry Formation of HCN-rich Atmospheres on early Earth. <i>Scientific Reports</i> , 2017, 7, 6275.	1.6	70
35	Prebiotic synthesis of nucleic acids and their building blocks at the atomic level – merging models and mechanisms from advanced computations and experiments. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 20047-20066.	1.3	48
36	Spectroscopic investigations of high-energy-density plasma transformations in a simulated early reducing atmosphere containing methane, nitrogen and water. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 27317-27325.	1.3	11

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37	Spontaneous oxygen isotope exchange between carbon dioxide and oxygen containing minerals (Do) Tj ETQq1 1 0.784314 rgBT /Ove		
38	Spontaneous Oxygen Isotope Exchange between Carbon Dioxide and Oxygen-Containing Minerals: Do the Minerals "Breathe" CO ₂ ?. Journal of Physical Chemistry C, 2016, 120, 508-516.	1.5	11
39	Photocatalytic transformation of CO ₂ to CH ₄ and CO on acidic surface of TiO ₂ anatase. Optical Materials, 2016, 56, 80-83.	1.7	18
40	TiO ₂ -catalyzed synthesis of sugars from formaldehyde in extraterrestrial impacts on the early Earth. Scientific Reports, 2016, 6, 23199.	1.6	31
41	Oxygen Atom Exchange between Gaseous CO ₂ and TiO ₂ Nanoclusters. Journal of Physical Chemistry C, 2015, 119, 3605-3612.	1.5	18
42	Meteorite-catalyzed synthesis of nucleosides and other prebiotic compounds. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7109-7110.	3.3	20
43	Spontaneous and photoinduced conversion of CO ₂ on TiO ₂ anatase. , 2015, , .		0
44	High-energy chemistry of formamide: A unified mechanism of nucleobase formation. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 657-662.	3.3	159
45	Spontaneous and Photoinduced Conversion of CO ₂ on TiO ₂ Anatase (001)/(101) Surfaces. Journal of Physical Chemistry C, 2014, 118, 26845-26850.	1.5	18
46	Room temperature spontaneous conversion of OCS to CO ₂ on the anatase TiO ₂ surface. Chemical Communications, 2014, 50, 7712-7715.	2.2	9
47	Optical absorption spectroscopy with 1310 nm wavelength wafer-fused vertical-cavity surface-emitting lasers. , 2014, , .		0
48	High-Energy Chemistry of Formamide: A Simpler Way for Nucleobase Formation. Journal of Physical Chemistry A, 2014, 118, 719-736.	1.1	73
49	Near-infrared wafer-fused vertical-cavity surface-emitting lasers for HF detection. Journal of Quantitative Spectroscopy and Radiative Transfer, 2014, 147, 53-59.	1.1	9
50	The application of high-resolution IR spectroscopy and isotope labeling for detailed investigation of TiO ₂ /gas interface reactions. Optical Materials, 2013, 36, 159-162.	1.7	20
51	Laser ablation of CsI: time-resolved Fourier-transform infrared spectra of atomic cesium in the 800-8000 cm ⁻¹ range. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 1112.0.9		18
52	Photochemistry and Gas-Phase FTIR Spectroscopy of Formic Acid Interaction with Anatase Ti ₁₈ O ₂ Nanoparticles. Journal of Physical Chemistry C, 2012, 116, 11200-11205.	1.5	38
53	Time-Resolved Fourier Transform Emission Spectroscopy of He/CH ₄ in a Positive Column Discharge. Journal of Physical Chemistry A, 2012, 116, 3137-3147.	1.1	18
54	On the Road from Formamide Ices to Nucleobases: IR-Spectroscopic Observation of a Direct Reaction between Cyano Radicals and Formamide in a High-Energy Impact Event. Journal of the American Chemical Society, 2012, 134, 20788-20796.	6.6	58

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55	Laser Spark Formamide Decomposition Studied by FT-IR Spectroscopy. Journal of Physical Chemistry A, 2011, 115, 12132-12141.	1.1	38
56	HNC/HCN Ratio in Acetonitrile, Formamide, and BrCN Discharge. Journal of Physical Chemistry A, 2011, 115, 1885-1899.	1.1	35
57	Oxygen-Isotope Exchange between CO ₂ and Solid Ti ₁₈ O ₂ . Journal of Physical Chemistry C, 2011, 115, 11156-11162.	1.5	35
58	Oxygen-isotope labeled titania: Ti ₁₈ O ₂ . Physical Chemistry Chemical Physics, 2011, 13, 11583.	1.3	46
59	Time-Resolved Fourier Transform Emission Spectroscopy of CF ₃ Br and CF ₃ CFHCF ₃ in a Pulsed Electrical Discharge. Plasma Chemistry and Plasma Processing, 2011, 31, 417-426.	1.1	3
60	Investigation of laser-plasma chemistry in CO-N ₂ -H ₂ O mixtures using ¹⁸ O labeled water. Chemical Physics Letters, 2009, 472, 14-18.	1.2	29
61	A study of thermal decomposition and combustion products of disposable polyethylene terephthalate (PET) plastic using high resolution fourier transform infrared spectroscopy, selected ion flow tube mass spectrometry and gas chromatography mass spectrometry. Molecular Physics, 2008, 106, 1205-1214.	0.8	50
62	ANN-LIBS analysis of mixture plasmas: detection of xenon. Journal of Analytical Atomic Spectrometry, 0, , .	1.6	4