# Thomas M Orlando

List of Publications by Year
in descending order



| 92 | 3,990 | 147801 31 | 123424 61 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 94 | 94 | 94 | 4761 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Indirect solar receiver development for the thermal extraction of H2O(v) from lunar regolith: Heat and mass transfer modeling. Acta Astronautica, 2022, 190, 365-376. | 3.2 | 4 |
| 2 | Electron-Stimulated Formation and Release of Molecular Hydrogen and Oxygen from Boehmite Nanoplatelet Films. Journal of Physical Chemistry C, 2022, 126, 2542-2547. | 3.1 | 2 |
| 3 | Particles and Photons as Drivers for Particle Release from the Surfaces of the Moon and Mercury. Space Science Reviews, 2022, 218, 1. | 8.1 | 19 |
| 4 | Temperature programmed desorption comparison of lunar regolith to lunar regolith simulants LMS-1 and LHS-1. Earth and Planetary Science Letters, 2022, 592, 117632. | 4.4 | 3 |
| 5 | Molecular water detected on the sunlit Moon by SOFIA. Nature Astronomy, 2021, 5, 121-127. | 10.1 | 104 |
| 6 | Photon-In/Photon-Out X-ray Free-Electron Laser Studies of Radiolysis. Applied Sciences (Switzerland), 2021, 11, 701. | 2.5 | 1 |
| 7 | Characterization of H2O transport through Johnson Space Center number 1A lunar regolith simulant at low pressure for in-situ resource utilization. Physics of Fluids, 2021, 33, . | 4.0 | 4 |
| 8 | Inâ€flight particulate matter concentrations in commercial flights are likely lower than other indoor environments. Indoor Air, 2021, 31, 1484-1494. | 4.3 | 3 |
| 9 | Water Group Exospheres and Surface Interactions on the Moon, Mercury, and Ceres. Space Science Reviews, 2021, 217, 1. | 8.1 | 21 |
| 10 | Thermal evolution of water and hydrogen from Apollo lunar regolith grains. Earth and Planetary Science Letters, 2021, 571, 117107. | 4.4 | 4 |
| 11 | Advection diffusion model for gas transport within a packed bed of JSC-1A regolith simulant. Acta Astronautica, 2020, 169, 32-39. | 3.2 | 8 |
| 12 | Photonâ€Stimulated Desorption of MgS as a Potential Source of Sulfur in Mercury's Exosphere. Journal of Geophysical Research E: Planets, 2020, 125, e2020JE006479. | 3.6 | 5 |
| 13 | Electron Spin-Polarization Dependent Damage to Chiral Amino Acid <scp>l</scp>-Histidine. Journal of Physical Chemistry Letters, 2020, 11, 10182-10187. | 4.6 | 10 |
| 14 | Efficient Intermolecular Energy Exchange and Soft Ionization of Water at Nanoplatelet Interfaces. Journal of Physical Chemistry Letters, 2020, 11, 10088-10093. | 4.6 | 4 |
| 15 | Investigation of Water Interactions With Apollo Lunar Regolith Grains. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006147. | 3.6 | 11 |
| 16 | A New In Situ Quasi-continuous Solar-wind Source of Molecular Water on Mercury. Astrophysical Journal Letters, 2020, 891, L43. | 8.3 | 16 |
| 17 | Direct Damage of Deoxyadenosine Monophosphate by Low Energy Electrons Probed by X-Ray Photoelectron Spectroscopy. Journal of Physical Chemistry B, 2020, 124, 1585-1591. | 2.6 | 6 |
| 18 | Electron- and Thermal-Stimulated Synthesis of Water on Boehmite (Î³-AlOOH) Nanoplates. Journal of Physical Chemistry C, 2019, 123, 18986-18992. | 3.1 | 8 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | A Stark Contrast to Modern Earth: Phosphate Mineral Transformation and Nucleoside Phosphorylation in an Ironâ€•and Cyanideâ€Rich Early Earth Scenario. Angewandte Chemie - International Edition, 2019, 58, 16981-16987. | 13.8 | 26 |
| 20 | Characterization and Simulation of Natural Pyrite Surfaces: A Combined Experimental and Theoretical Study. Journal of Physical Chemistry C, 2019, 123, 26397-26405. | 3.1 | 13 |
| 21 | A Stark Contrast to Modern Earth: Phosphate Mineral Transformation and Nucleoside Phosphorylation in an Ironâ€•and Cyanideâ€Rich Early Earth Scenario. Angewandte Chemie, 2019, 131, 17137-17143. | 2.0 | 3 |
| 22 | Prebiotic Phosphorylation of Uridine using Diamidophosphate in Aerosols. Scientific Reports, 2019, 9, 13527. | 3.3 | 13 |
| 23 | Low energy secondary electron induced damage of condensed nucleotides. Journal of Chemical Physics, 2019, 150, 204709. | 3.0 | 11 |
| 24 | Space Weathering Induced Via Microparticle Impacts: 2. Dust Impact Simulation and Meteorite Target Analysis. Journal of Geophysical Research E: Planets, 2019, 124, 1084-1099. | 3.6 | 15 |
| 25 | Space Weathering Induced Via Microparticle Impacts: 1. Modeling of Impact Velocities and Flux of Micrometeoroids From Cometary, Asteroidal, and Interstellar Origin in the Main Asteroid Belt and the Nearâ€Earth Environment. Journal of Geophysical Research E: Planets, 2019, 124, 1044-1083. | 3.6 | 2 |
| 26 | Sweep Jet Collection Laser-Induced Acoustic Desorption Atmospheric Pressure Photoionization for Lipid Analysis Applications. Journal of the American Society for Mass Spectrometry, 2019, 30, 647-658. | 2.8 | 7 |
| 27 | Molecular Water Adsorption and Reactions on Î±-Al<sub>2</sub>O<sub>3</sub>(0001) and Î±-Alumina Particles. Journal of Physical Chemistry C, 2018, 122, 9540-9551. | 3.1 | 25 |
| 28 | Reactive Adsorption of Humid SO<sub>2</sub> on Metalâ€“Organic Framework Nanosheets. Journal of Physical Chemistry C, 2018, 122, 10413-10422. | 3.1 | 35 |
| 29 | Catalyst: Radiation Effects on Volatiles and Exploration of Asteroids and the Lunar Surface. CheM, 2018, 4, 8-12. | 11.7 | 6 |
| 30 | Boehmite and Gibbsite Nanoplates for the Synthesis of Advanced Alumina Products. ACS Applied Nano Materials, 2018, 1, 7115-7128. | 5.0 | 79 |
| 31 | Solar Windâ€Induced Water Cycle on the Moon. Geophysical Research Letters, 2018, 45, 10,959. | 4.0 | 45 |
| 32 | A Possible Path to Prebiotic Peptides Involving Silica and Hydroxy Acidâ€Mediated Amide Bond Formation. ChemBioChem, 2018, 19, 1913-1917. | 2.6 | 14 |
| 33 | Interactions on External MOF Surfaces: Desorption of Water and Ethanol from CuBDC Nanosheets. Langmuir, 2017, 33, 10153-10160. | 3.5 | 27 |
| 34 | Investigating potential sources of Mercury's exospheric Calcium: Photon-stimulated desorption of Calcium Sulfide. Journal of Geophysical Research E: Planets, 2016, 121, 137-146. | 3.6 | 16 |
| 35 | Laser-Induced Acoustic Desorption Atmospheric Pressure Photoionization via VUV-Generating Microplasmas. Journal of the American Society for Mass Spectrometry, 2016, 27, 1805-1812. | 2.8 | 19 |
| 36 | Microplasma Ionization of Volatile Organics for Improving Air/Water Monitoring Systems On-Board the International Space Station. Journal of the American Society for Mass Spectrometry, 2016, 27, 1203-1210. | 2.8 | 10 |

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|---|---|---|---|
| 37 | Parameters affecting intracellular delivery of molecules using laser-activated carbon nanoparticles. Nanomedicine: Nanotechnology, Biology, and Medicine, 2016, 12, 1003-1011. | 3.3 | 10 |
| 38 | Nucleoside phosphorylation by the mineral schreibersite. Scientific Reports, 2015, 5, 17198. | 3.3 | 82 |
| 39 | Biomolecular Damage Induced by Ionizing Radiation: The Direct and Indirect Effects of Low-Energy Electrons on DNA. Annual Review of Physical Chemistry, 2015, 66, 379-398. | 10.8 | 347 |
| 40 | H2O and O(3PJ) photodesorption from amorphous solid water deposited on a lunar mare basalt. Icarus, 2015, 255, 44-50. | 2.5 | 14 |
| 41 | Temperature programmed desorption studies of water interactions with Apollo lunar samples 12001 and 72501. Icarus, 2015, 255, 24-29. | 2.5 | 53 |
| 42 | O(3PJ) formation and desorption by 157-nm photoirradiation of amorphous solid water. Journal of Chemical Physics, 2014, 140, 094702. | 3.0 | 6 |
| 43 | Prebiotic synthesis of triazines from urea: a theoretical study of free radical routes to melamine, ammeline, ammelide and cyanuric acid. RSC Advances, 2014, 4, 32375-32382. | 3.6 | 18 |
| 44 | The relationship between interfacial bonding and radiation damage in adsorbed DNA. Physical Chemistry Chemical Physics, 2014, 16, 15319-15325. | 2.8 | 19 |
| 45 | UV Photon-Induced Water Decomposition on Zirconia Nanoparticles. Journal of Physical Chemistry C, 2014, 118, 12789-12795. | 3.1 | 12 |
| 46 | Radiation Processing of Formamide and Formamide:Water Ices on Silicate Grain Analogue. Journal of Physical Chemistry A, 2014, 118, 1228-1236. | 2.5 | 17 |
| 47 | Photodissociation of water and O(<sup>3</sup>P<sub>J</sub>) formation on a lunar impact melt breccia. Journal of Geophysical Research E: Planets, 2014, 119, 894-904. | 3.6 | 11 |
| 48 | Mercuryâ€™s Weather-Beaten Surface: Understanding Mercury in the Context of Lunar and Asteroidal Space Weathering Studies. Space Science Reviews, 2014, 181, 121-214. | 8.1 | 108 |
| 49 | Mechanisms and cross sections for water desorption from a lunar impact melt breccia. Journal of Geophysical Research E: Planets, 2014, 119, 884-893. | 3.6 | 11 |
| 50 | Kinetic Energy Dependence of Spin Filtering of Electrons Transmitted through Organized Layers of DNA. Journal of Physical Chemistry C, 2013, 117, 22307-22313. | 3.1 | 21 |
| 51 | Theoretical Study of the Decomposition of Formamide in the Presence of Water Molecules. Journal of Physical Chemistry A, 2013, 117, 2543-2555. | 2.5 | 41 |
| 52 | Space-Weathering of Solar System Bodies: A Laboratory Perspective. Chemical Reviews, 2013, 113, 9086-9150. | 47.7 | 130 |
| 53 | Excimer laser reduction and patterning of graphite oxide. Carbon, 2013, 53, 81-89. | 10.3 | 107 |
| 54 | Desorption Electrospray Ionization Imaging Mass Spectrometry as a Tool for Investigating Model Prebiotic Reactions on Mineral Surfaces.. Analytical Chemistry, 2013, 85, 1276-1279. | 6.5 | 19 |

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|---|---|---|---|
| 55 | Mechanisms of H2O desorption from amorphous solid water by 157-nm irradiation: An experimental and theoretical study. Journal of Chemical Physics, 2013, 139, 164702. | 3.0 | 31 |
| 56 | Water interactions with micronized lunar surrogates JSCâ€1A and albite under ultraâ€high vacuum with application to lunar observations. Journal of Geophysical Research E: Planets, 2013, 118, 105-115. | 3.6 | 34 |
| 57 | Adsorption of Formamide on Kaolinite Surfaces: A Combined Infrared Experimental and Theoretical Study. Journal of Physical Chemistry C, 2012, 116, 23981-23991. | 3.1 | 36 |
| 58 | Theoretical Study of Formamide Decomposition Pathways. Journal of Physical Chemistry A, 2011, 115, 841-851. | 2.5 | 82 |
| 59 | Electron-stimulated desorption of silicates: A potential source for ions in Mercury's space environment. Journal of Geophysical Research, 2011, 116, . | 3.3 | 28 |
| 60 | Electron transport and precipitation at Mercury during the MESSENGER flybys: Implications for electron-stimulated desorption. Planetary and Space Science, 2011, 59, 2026-2036. | 1.7 | 30 |
| 61 | Intermolecular Coulomb Decay at Weakly Coupled Heterogeneous Interfaces. Physical Review Letters, 2011, 107, 016104. | 7.8 | 34 |
| 62 | Guanine, Adenine, and Hypoxanthine Production in UVâ€Irradiated Formamide Solutions: Relaxation of the Requirements for Prebiotic Purine Nucleobase Formation. ChemBioChem, 2010, 11, 1240-1243. | 2.6 | 178 |
| 63 | Signatures of epitaxial graphene grown on Si-terminated 6H-SiC (0001). Surface Science, 2010, 604, 84-88. | 1.9 | 19 |
| 64 | Low-energy electron-stimulated desorption of cations and neutrals from Si(111)-(7Ã—7):C2D2. Journal of Chemical Physics, 2010, 132, 214704. | 3.0 | 3 |
| 65 | Formation of Graphene Features from Direct Laser-Induced Reduction of Graphite Oxide. Journal of Physical Chemistry Letters, 2010, 1, 2633-2636. | 4.6 | 211 |
| 66 | Probing low-energy electron induced DNA damage using single photon ionization mass spectrometry. International Journal of Mass Spectrometry, 2008, 277, 314-320. | 1.5 | 32 |
| 67 | Roles of Water, Acidity, and Surface Morphology in Surface-Assisted Laser Desorption/Ionization of Amino Acids. Journal of Physical Chemistry C, 2008, 112, 6953-6960. | 3.1 | 41 |
| 68 | Low-energy electron diffraction and induced damage in hydrated DNA. Journal of Chemical Physics, 2008, 128, 195102. | 3.0 | 62 |
| 69 | Site-dependent electron-stimulated reactions in water films on TiO2(110). Journal of Chemical Physics, 2007, 127, 224706. | 3.0 | 13 |
| 70 | Electron-Stimulated Oxidation of Thin Water Films Adsorbed on TiO<sub>2</sub>(110). Journal of Physical Chemistry C, 2007, 111, 16319-16329. | 3.1 | 44 |
| 71 | Inelastic electron scattering and energy-selective negative ion reactions in molecular films on silicon surfaces. Applied Surface Science, 2007, 253, 6646-6656. | 6.1 | 10 |
| 72 | Analysis of Organoselenium and Organic Acid Metabolites by Laser Desorption Single Photon Ionization Mass Spectrometry. Analytical Chemistry, 2006, 78, 8386-8394. | 6.5 | 24 |

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|---|---|---|---|
| 73 | Zone specificity in low energy electron stimulated desorption of Cl+ from reconstructed Si(111)-7Ã—7:Cl surfaces. Surface Science, 2006, 600, L245-L249. | 1.9 | 5 |
| 74 | The chemical nature of Europa surface material and the relation to a subsurface ocean. Icarus, 2005, 177, 528-533. | 2.5 | 73 |
| 75 | The importance of pores in the electron stimulated production of D2 and O2 in low temperature ice. Surface Science, 2005, 593, 180-186. | 1.9 | 35 |
| 76 | Low-energy(5â€“250eV)electron-stimulated desorption ofH+,H2+, andH+(H2O)nfrom low-temperature water ice surfaces. Physical Review B, 2005, 72, . | 3.2 | 33 |
| 77 | Role of Water in Electron-Initiated Processes and Radical Chemistry:â€‰ Issues and Scientific Advances. Chemical Reviews, 2005, 105, 355-390. | 47.7 | 560 |
| 78 | Probing Water Interactions and Vacancy Production on Gadolinia-Doped Ceria Surfaces Using Electron Stimulated Desorption. Journal of Physical Chemistry B, 2005, 109, 11257-11262. | 2.6 | 9 |
| 79 | Stimulated Desorption of Cations from Pristine and Acidic Low-Temperature Water Ice Surfaces. Physical Review Letters, 2004, 92, 187602. | 7.8 | 32 |
| 80 | The reactions of NO2 and CH3CHO with Na-Y zeolite and the relevance to plasma-activated lean NOx catalysis. Catalysis Today, 2004, 89, 151-157. | 4.4 | 15 |
| 81 | Electron-Stimulated Desorption of H+, H2+, OH+, and H+(H2O)nfrom Water-Covered Zirconia Surfaces. Journal of Physical Chemistry B, 2003, 107, 9370-9376. | 2.6 | 19 |
| 82 | Electron-stimulated desorption of D2O coadsorbed with CO2 ice at VUV and EUV energies. Journal of Chemical Physics, 2003, 118, 8898-8904. | 3.0 | 8 |
| 83 | Brines exposed to Europa surface conditions. Journal of Geophysical Research, 2002, 107, 4-1. | 3.3 | 81 |
| 84 | Thermal and radiation stability of the hydrated salt minerals epsomite, mirabilite, and natron under Europa environmental conditions. Journal of Geophysical Research, 2001, 106, 3311-3319. | 3.3 | 104 |
| 85 | Role of Excitons in Electron- and Photon-Stimulated Desorption of Neutrals from Alkali Halides. Physical Review Letters, 2001, 86, 536-539. | 7.8 | 27 |
| 86 | Low-energy (5â€“100 eV) electron- and ultraviolet (6.4 eV) photon-stimulated desorption of neutral fragments from NaNO3 single crystals. Applied Surface Science, 1998, 127-129, 1-6. | 6.1 | 10 |
| 87 | Electron-stimulated desorption of D+from D2O ice: Surface structure and electronic excitations. Physical Review B, 1997, 56, 4925-4937. | 3.2 | 58 |
| 88 | Photon-stimulated desorption of O(3P) and NO(2Î) fromNaNO3single crystals. Physical Review B, 1997, 55, 13246-13252. | 3.2 | 18 |
| 89 | Observation of Negative Ion Resonances in Amorphous Ice via Low-Energy (5â€“40 eV) Electron-Stimulated Production of Molecular Hydrogen. Physical Review Letters, 1996, 77, 3983-3986. | 7.8 | 84 |
| 90 | Kinetic and internal energy distributions of molecular hydrogen produced from amorphous ice by impact of 100 eV electrons. Nuclear Instruments & Methods in Physics Research B, 1995, 101, 179-183. | 1.4 | 31 |

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|---|---|---|---|
| 91 | Low-Energy (5â€“120 eV) Electron-Stimulated Dissociation of AmorphousD2O Ice: D(2S), O(3P2,1,0), and O(1D2) Yields and Velocity Distributions. Physical Review Letters, 1995, 75, 2606-2609. | 7.8 | 129 |
| 92 | Lowâ€energy electronâ€stimulated production of molecular hydrogen from amorphous water ice. Journal of Chemical Physics, 1994, 101, 3282-3286. | 3.0 | 121 |