

# Margaret A Tolbert

## List of Publications by Year in descending order

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87  
papers

3,767  
citations

101543

36  
h-index

144013

57  
g-index

87  
all docs

87  
docs citations

87  
times ranked

3370  
citing authors

#	ARTICLE	IF	CITATIONS
1	Organic haze on Titan and the early Earth. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18035-18042.	7.1	205
2	Deliquescence behavior of organic/ammonium sulfate aerosol. Geophysical Research Letters, 2002, 29, 23-1-23-4.	4.0	152
3	Atmospheric condensed-phase reactions of glyoxal with methylamine. Geophysical Research Letters, 2009, 36, .	4.0	147
4	Hygroscopic growth of ammonium sulfate/dicarboxylic acids. Journal of Geophysical Research, 2003, 108, .	3.3	130
5	CHEMISTRY AND MICROPHYSICS OF POLAR STRATOSPHERIC CLOUDS AND CIRRUS CLOUDS. Annual Review of Physical Chemistry, 2000, 51, 473-499.	10.8	109
6	Depositional ice nucleation onto crystalline hydrated NaCl particles: a new mechanism for ice formation in the troposphere. Atmospheric Chemistry and Physics, 2012, 12, 1121-1134.	4.9	107
7	Kinetics of acid-catalyzed aldol condensation reactions of aliphatic aldehydes. Atmospheric Environment, 2007, 41, 6212-6224.	4.1	102
8	Uptake of HNO <sub>3</sub> on ice under upper tropospheric conditions. Geophysical Research Letters, 1997, 24, 1391-1394.	4.0	99
9	Depositional ice nucleation on solid ammonium sulfate and glutaric acid particles. Atmospheric Chemistry and Physics, 2010, 10, 2307-2317.	4.9	94
10	Measurements of the vapor pressure of cubic ice and their implications for atmospheric ice clouds. Geophysical Research Letters, 2006, 33, .	4.0	93
11	Importance of aerosol composition, mixing state, and morphology for heterogeneous ice nucleation: A combined field and laboratory approach. Journal of Geophysical Research, 2012, 117, .	3.3	93
12	Spectroscopic evidence against nitric acid trihydrate in polar stratospheric clouds. Nature, 1995, 375, 218-221.	27.8	89
13	State transformations and ice nucleation in amorphous (semi-)solid organic aerosol. Atmospheric Chemistry and Physics, 2013, 13, 5615-5628.	4.9	82
14	Heterogeneous interaction of formaldehyde with cold sulfuric acid: Implications for the upper troposphere and lower stratosphere. Journal of Geophysical Research, 1997, 102, 16099-16107.	3.3	76
15	Heterogeneous ice nucleation on phase-separated organic-sulfate particles: effect of liquid vs. glassy coatings. Atmospheric Chemistry and Physics, 2013, 13, 4681-4695.	4.9	73
16	FTIR studies of low temperature sulfuric acid aerosols. Geophysical Research Letters, 1995, 22, 1105-1108.	4.0	70
17	Depositional ice nucleation on crystalline organic and inorganic solids. Journal of Geophysical Research, 2006, 111, .	3.3	69
18	Interaction of HCl with Ice: Investigation of the Predicted Trihydrate, Hexahydrate, and Monolayer Regimes. Journal of Physical Chemistry A, 1997, 101, 4979-4986.	2.5	67

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19	The Interaction of Methanol, Acetone, and Acetaldehyde with Ice and Nitric Acid-Doped Ice: Implications for Cirrus Clouds. <i>Journal of Physical Chemistry A</i> , 2002, 106, 2882-2888.	2.5	66
20	Phase changes in internally mixed maleic acid/ammonium sulfate aerosols. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	66
21	Haze Aerosols in the Atmosphere of Early Earth: Manna from Heaven. <i>Astrobiology</i> , 2004, 4, 409-419.	3.0	61
22	Parameterization for the relative humidity dependence of light extinction: Organic ammonium sulfate aerosol. <i>Journal of Geophysical Research</i> , 2007, 112, .	3.3	61
23	Optical properties of Titan and early Earth haze laboratory analogs in the mid-visible. <i>Icarus</i> , 2010, 207, 903-913.	2.5	59
24	Sensitivity of Aerosol Refractive Index Retrievals Using Optical Spectroscopy. <i>Aerosol Science and Technology</i> , 2014, 48, 1133-1144.	3.1	58
25	Acid-catalyzed reactions of hexanal on sulfuric acid particles: Identification of reaction products. <i>Atmospheric Environment</i> , 2006, 40, 6863-6878.	4.1	56
26	An analysis of large HNO <sub>3</sub> -containing particles sampled in the Arctic stratosphere during the winter of 1999/2000. <i>Journal of Geophysical Research</i> , 2002, 107, SOL 41-1.	3.3	55
27	Nitrogen Incorporation in CH <sub>4</sub> -N <sub>2</sub> Photochemical Aerosol Produced by Far Ultraviolet Irradiation. <i>Astrobiology</i> , 2012, 12, 315-326.	3.0	54
28	Key factors influencing the relative humidity dependence of aerosol light scattering. <i>Geophysical Research Letters</i> , 2006, 33, .	4.0	53
29	Reduction in Haze Formation Rate on Prebiotic Earth in the Presence of Hydrogen. <i>Astrobiology</i> , 2009, 9, 447-453.	3.0	52
30	IN SITU MEASUREMENTS OF THE SIZE AND DENSITY OF TITAN AEROSOL ANALOGS. <i>Astrophysical Journal Letters</i> , 2013, 770, L10.	8.3	52
31	Infrared characterization of water uptake by low-temperature Na-montmorillonite: Implications for Earth and Mars. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	49
32	Contact efflorescence as a pathway for crystallization of atmospherically relevant particles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 15815-15820.	7.1	45
33	Potential Climatic Impact of Organic Haze on Early Earth. <i>Astrobiology</i> , 2011, 11, 135-149.	3.0	43
34	Heterogeneous uptake of nitric acid on Na-montmorillonite clay as a function of relative humidity. <i>Journal of Geophysical Research</i> , 2006, 111, .	3.3	40
35	The role of benzene photolysis in Titan haze formation. <i>Icarus</i> , 2014, 233, 233-241.	2.5	40
36	Constraining the Potential Liquid Water Environment at Gale Crater, Mars. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 1156-1167.	3.6	40

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37	Growth of nitric acid hydrates on thin sulfuric acid films. <i>Geophysical Research Letters</i> , 1994, 21, 867-870.	4.0	39
38	Laboratory investigations of Titan haze formation: In situ measurement of gas and particle composition. <i>Icarus</i> , 2018, 301, 136-151.	2.5	37
39	THE INFLUENCE OF BENZENE AS A TRACE REACTANT IN TITAN AEROSOL ANALOGS. <i>Astrophysical Journal Letters</i> , 2013, 766, L4.	8.3	36
40	Polar Clouds and Sulfate Aerosols. <i>Science</i> , 1996, 272, 1597-0.	12.6	35
41	THE EFFECT OF CARBON MONOXIDE ON PLANETARY HAZE FORMATION. <i>Astrophysical Journal</i> , 2014, 781, 53.	4.5	34
42	Long Working-Distance Optical Trap for in Situ Analysis of Contact-Induced Phase Transformations. <i>Analytical Chemistry</i> , 2015, 87, 6186-6194.	6.5	33
43	Uptake of reactive nitrogen on cirrus cloud particles in the upper troposphere and lowermost stratosphere. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	32
44	Surface Sensitive Studies of the Reactive Uptake of Chlorine Nitrate on Ice. <i>Journal of Physical Chemistry A</i> , 1997, 101, 9954-9963.	2.5	31
45	Heterogeneous Reaction of Gaseous Nitric Acid on $\hat{1}^3$ -Phase Iron(III) Oxide. <i>Journal of Physical Chemistry A</i> , 2004, 108, 1560-1566.	2.5	31
46	Chemical composition of Titan's haze: Are PAHs present?. <i>Geophysical Research Letters</i> , 2004, 31, n/a-n/a.	4.0	30
47	A laboratory investigation of the relative humidity dependence of light extinction by organic compounds from lignin combustion. <i>Environmental Research Letters</i> , 2008, 3, 045003.	5.2	29
48	The Formation of Sulfate and Elemental Sulfur Aerosols under Varying Laboratory Conditions: Implications for Early Earth. <i>Astrobiology</i> , 2010, 10, 773-781.	3.0	29
49	Follow the Carbon: Isotopic Labeling Studies of Early Earth Aerosol. <i>Astrobiology</i> , 2016, 16, 822-830.	3.0	29
50	Formation of model polar stratospheric cloud films. <i>Geophysical Research Letters</i> , 1992, 19, 2417-2420.	4.0	28
51	Deposition and immersion-mode nucleation of ice by three distinct samples of volcanic ash. <i>Atmospheric Chemistry and Physics</i> , 2015, 15, 7523-7536.	4.9	28
52	Evaporation studies of model polar stratospheric cloud films. <i>Geophysical Research Letters</i> , 1996, 23, 2145-2148.	4.0	27
53	Variation of the infrared spectra of nitric acid hydrates with formation conditions: Impact on PSC identification. <i>Geophysical Research Letters</i> , 1999, 26, 707-710.	4.0	26
54	Optical growth of highly viscous organic/sulfate particles. <i>Journal of Atmospheric Chemistry</i> , 2014, 71, 145-156.	3.2	25

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55	Ice nucleation in internally mixed ammonium sulfate/dicarboxylic acid particles. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	22
56	Changes in Soil Cohesion Due to Water Vapor Exchange: A Proposed Dryâ€Flow Trigger Mechanism for Recurring Slope Lineae on Mars. <i>Geophysical Research Letters</i> , 2020, 47, e2020GL087618.	4.0	22
57	Ice nucleation in sulfuric acid/organic aerosols: implications for cirrus cloud formation. <i>Atmospheric Chemistry and Physics</i> , 2006, 6, 3231-3242.	4.9	21
58	The aqueous stability of a Mars salt analog: Instant Mars. <i>Journal of Geophysical Research E: Planets</i> , 2015, 120, 588-598.	3.6	21
59	Studies of Polar Stratospheric Cloud Formation. <i>Accounts of Chemical Research</i> , 2001, 34, 545-553.	15.6	20
60	Laboratory Investigations on the Survival of <i>Bacillus subtilis</i> Spores in Deliquescent Salt Mars Analog Environments. <i>Astrobiology</i> , 2017, 17, 997-1008.	3.0	20
61	Infrared spectroscopic study of the low-temperature phase behavior of ammonium sulfate. <i>Journal of Geophysical Research</i> , 2002, 107, AAC 4-1-AAC 4-9.	3.3	19
62	Exploring the Atmosphere of Neoproterozoic Earth: The Effect of O <sub>2</sub> on Haze Formation and Composition. <i>Astrophysical Journal</i> , 2018, 858, 119.	4.5	18
63	The Effect of Marsâ€Relevant Soil Analogs on the Water Uptake of Magnesium Perchlorate and Implications for the Nearâ€Surface of Mars. <i>Journal of Geophysical Research E: Planets</i> , 2018, 123, 2076-2088.	3.6	18
64	Brown Carbon Production by Aqueous-Phase Interactions of Glyoxal and SO <sub>2</sub> . <i>Environmental Science &amp; Technology</i> , 2020, 54, 4781-4789.	10.0	18
65	Solubility and freezing effects of Fe <sup>2+</sup> and Mg <sup>2+</sup> in H <sub>2</sub> SO <sub>4</sub> solutions representative of upper tropospheric and lower stratospheric sulfate particles. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	16
66	Crystal nucleation initiated by transient ion-surface interactions at aerosol interfaces. <i>Science Advances</i> , 2017, 3, e1700425.	10.3	16
67	Impact of nitric acid on ice evaporation rates. <i>Geophysical Research Letters</i> , 1999, 26, 823-826.	4.0	15
68	Measurements of large stratospheric particles in the Arctic polar vortex. <i>Journal of Geophysical Research</i> , 2003, 108, .	3.3	15
69	The Influence of Gas-phase Chemistry on Organic Haze Formation. <i>Astrophysical Journal Letters</i> , 2019, 885, L6.	8.3	15
70	Cooling Enhancement of Aerosol Particles Due to Surfactant Precipitation. <i>Journal of Physical Chemistry A</i> , 2010, 114, 7070-7076.	2.5	12
71	Seeded Crystal Growth of Internally Mixed Organicâ€Inorganic Aerosols: Impact of Organic Phase State. <i>Journal of Physical Chemistry A</i> , 2021, 125, 8668-8679.	2.5	12
72	Polar stratospheric clouds during SOLVE/THESEO: Comparison of lidar observations with in situ measurements. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	11

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73	Chemical Composition of Gas-Phase Positive Ions during Laboratory Simulations of Titan's Haze Formation. ACS Earth and Space Chemistry, 2019, 3, 202-211.	2.7	11
74	UV absorption spectra of H <sub>2</sub> O/HNO <sub>3</sub> films. Geophysical Research Letters, 1996, 23, 2757-2760.	4.0	10
75	Uptake of Acetic Acid on Thin Ammonium Nitrate Films as a Function of Temperature and Relative Humidity. Journal of Physical Chemistry A, 2004, 108, 11314-11320.	2.5	10
76	Immersion and Contact Efflorescence Induced by Mineral Dust Particles. Journal of Physical Chemistry A, 2018, 122, 1303-1311.	2.5	10
77	The Effect of Oxygen on Organic Haze Properties. Astrophysical Journal Letters, 2018, 859, L2.	8.3	10
78	Compositional and Mineralogical Effects on Ice Nucleation Activity of Volcanic Ash. Atmosphere, 2018, 9, 238.	2.3	9
79	Impact of Hydrogen Sulfide on Photochemical Haze Formation in Methane/Nitrogen Atmospheres. ACS Earth and Space Chemistry, 2020, 4, 897-904.	2.7	8
80	Heterogeneous Reactions of Chlorine Nitrate and Dinitrogen Pentoxide on Sulfuric Acid Surfaces Representative of Global Stratospheric Aerosol Particles. Israel Journal of Chemistry, 1994, 34, 355-363.	2.3	7
81	The Impact of Molecular Oxygen on Anion Composition in a Hazy Archean Earth Atmosphere. Astrobiology, 2020, 20, 658-669.	3.0	4
82	Trace H <sub>2</sub> S Promotes Organic Aerosol Production and Organosulfur Compound Formation in Archean Analog Haze Photochemistry Experiments. Geophysical Research Letters, 2022, 49, .	4.0	4
83	Nitric acid condensation on ice: 1. Non-HNO <sub>3</sub> constituent of NO <sub>y</sub> condensing cirrus particles on upper tropospheric. Journal of Geophysical Research, 2006, 111, .	3.3	3
84	Nitric acid condensation on ice: 2. Kinetic limitations, a possible "cloud clock" for determining cloud parcel lifetime. Journal of Geophysical Research, 2007, 112, .	3.3	3
85	Probing Heterogeneous Efflorescence of Mars-Relevant Salts with an Optical Levitator. ACS Earth and Space Chemistry, 2020, 4, 1947-1956.	2.7	1
86	Laboratory studies of ice nucleation in sulfate particles: Implications for cirrus clouds. AIP Conference Proceedings, 2000, , .	0.4	0
87	Phase changes in internally mixed organic/sulfate aerosols. AIP Conference Proceedings, 2000, , .	0.4	0