Athanasios Nenes

List of Publications by Citations

413 papers	23,974 citations	81 h-index	143 g-index
579 ext. papers	27,684 ext. citations	6.7 avg, IF	7 L-index

#	Paper	IF	Citations
413	Organic aerosol and global climate modelling: a review. *Atmospheric Chemistry and Physics*, **2005**, 5, 1053-1123	6.8	2482
412	ISORROPIA II: a computationally efficient thermodynamic equilibrium model for K⁺Ca²⁺Mg²⁺NH₄<sup&g aerosols. *Atmospheric Chemistry and Physics*, **2007**, 7, 4639-4659	6.8	1809
411	ISORROPIA: A New Thermodynamic Equilibrium Model for Multiphase Multicomponent Inorganic Aerosols. *Aquatic Geochemistry*, **1998**, 4, 123-152	1.7	967
410	A Continuous-Flow Streamwise Thermal-Gradient CCN Chamber for Atmospheric Measurements. *Aerosol Science and Technology*, **2005**, 39, 206-221	3.4	648
409	Effects of anthropogenic emissions on aerosol formation from isoprene and monoterpenes in the southeastern United States. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 37-42	11.5	393
408	Particle phase acidity and oligomer formation in secondary organic aerosol. *Environmental Science & Technology*, **2004**, 38, 6582-9	10.3	323
407	Improving our fundamental understanding of the role of aerosol-cloud interactions in the climate system. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 5781-90	11.5	314
406	Fine-particle water and pH in the southeastern United States. *Atmospheric Chemistry and Physics*, **2015**, 15, 5211-5228	6.8	312
405	Microbiome of the upper troposphere: species composition and prevalence, effects of tropical storms, and atmospheric implications. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 2575-80	11.5	297
404	Continued development and testing of a new thermodynamic aerosol module for urban and regional air quality models. *Atmospheric Environment*, **1999**, 33, 1553-1560	5.3	271
403	Phytoplankton and cloudiness in the Southern Ocean. *Science*, **2006**, 314, 1419-23	33.3	263
402	Mapping the Operation of the DMT Continuous Flow CCN Counter. *Aerosol Science and Technology*, **2006**, 40, 242-254	3.4	256
401	High aerosol acidity despite declining atmospheric sulfate concentrations over the past 15 years. *Nature Geoscience*, **2016**, 9, 282-285	18.3	250
400	Parameterization of cloud droplet formation in global climate models. *Journal of Geophysical Research*, **2003**, 108,		248
399	Iron mobilization in mineral dust: Can anthropogenic SO2 emissions affect ocean productivity?. *Geophysical Research Letters*, **2003**, 30,	4.9	231
398	Characteristics, sources, and transport of aerosols measured in spring 2008 during the aerosol, radiation, and cloud processes affecting Arctic Climate (ARCPAC) Project. *Atmospheric Chemistry and Physics*, **2011**, 11, 2423-2453	6.8	217
397	Global atmospheric particle formation from CERN CLOUD measurements. *Science*, **2016**, 354, 1119-1124	33.3	207

396	Evolution of brown carbon in wildfire plumes. *Geophysical Research Letters*, **2015**, 42, 4623-4630	4.9	206
395	Highly Acidic Ambient Particles, Soluble Metals, and Oxidative Potential: A Link between Sulfate and Aerosol Toxicity. *Environmental Science & Technology*, **2017**, 51, 2611-2620	10.3	205
394	A critical evaluation of proxy methods used to estimate the acidity of atmospheric particles. *Atmospheric Chemistry and Physics*, **2015**, 15, 2775-2790	6.8	203
393	Continued development of a cloud droplet formation parameterization for global climate models. *Journal of Geophysical Research*, **2005**, 110,		203
392	In-cloud oxalate formation in the global troposphere: a 3-D modeling study. *Atmospheric Chemistry and Physics*, **2011**, 11, 5761-5782	6.8	179
391	The 2010 California Research at the Nexus of Air Quality and Climate Change (CalNex) field study. *Journal of Geophysical Research D: Atmospheres*, **2013**, 118, 5830-5866	4.4	178
390	CCN activity and droplet growth kinetics of fresh and aged monoterpene secondary organic aerosol. *Atmospheric Chemistry and Physics*, **2008**, 8, 3937-3949	6.8	174
389	Examining the effects of anthropogenic emissions on isoprene-derived secondary organic aerosol formation during the 2013 Southern Oxidant and Aerosol Study (SOAS) at the Look Rock, Tennessee ground site. *Atmospheric Chemistry and Physics*, **2015**, 15, 8871-8888	6.8	170
388	Dust and pollution: A recipe for enhanced ocean fertilization?. *Journal of Geophysical Research*, **2005**, 110,		170
387	The Acidity of Atmospheric Particles and Clouds. *Atmospheric Chemistry and Physics*, **2020**, 20, 4809-4888	6.8	165
386	Comprehensive simultaneous shipboard and airborne characterization of exhaust from a modern container ship at sea. *Environmental Science & Technology*, **2009**, 43, 4626-40	10.3	162
385	Development and application of the Model of Aerosol Dynamics, Reaction, Ionization, and Dissolution (MADRID). *Journal of Geophysical Research*, **2004**, 109,		158
384	Can chemical effects on cloud droplet number rival the first indirect effect?. *Geophysical Research Letters*, **2002**, 29, 29-1-29-4	4.9	156
383	Relating CCN activity, volatility, and droplet growth kinetics of β-caryophyllene secondary organic aerosol. *Atmospheric Chemistry and Physics*, **2009**, 9, 795-812	6.8	148
382	Past, Present and Future Atmospheric Nitrogen Deposition. *Journals of the Atmospheric Sciences*, **2016**, 73, 2039-2047	2.1	147
381	Chemical physics. Single-molecule spectroscopy comes of age. *Science*, **2001**, 292, 1671-2	33.3	144
380	Description and evaluation of GMXe: a new aerosol submodel for global simulations (v1). *Geoscientific Model Development*, **2010**, 3, 391-412	6.3	142
379	Climatic effects of 1950–2050 changes in US anthropogenic aerosols – Part 1: Aerosol trends and radiative forcing. *Atmospheric Chemistry and Physics*, **2012**, 12, 3333-3348	6.8	136

378	Atmospheric acidification of mineral aerosols: a source of bioavailable phosphorus for the oceans. *Atmospheric Chemistry and Physics*, **2011**, 11, 6265-6272	6.8	130
377	Cloud condensation nuclei measurements in the marine boundary layer of the Eastern Mediterranean: CCN closure and droplet growth kinetics. *Atmospheric Chemistry and Physics*, **2009**, 9, 7053-7066	6.8	130
376	Fine particle pH and the partitioning of nitric acid during winter in the northeastern United States. *Journal of Geophysical Research D: Atmospheres*, **2016**, 121, 10,355	4.4	129
375	Air pollution-aerosol interactions produce more bioavailable iron for ocean ecosystems. *Science Advances*, **2017**, 3, e1601749	14.3	128
374	Fine particle pH and gas–particle phase partitioning of inorganic species in Pasadena, California, during the 2010 CalNex campaign. *Atmospheric Chemistry and Physics*, **2017**, 17, 5703-5719	6.8	128
373	Gas/particle partitioning of water-soluble organic aerosol in Atlanta. *Atmospheric Chemistry and Physics*, **2009**, 9, 3613-3628	6.8	125
372	Comprehensive airborne characterization of aerosol from a major bovine source. *Atmospheric Chemistry and Physics*, **2008**, 8, 5489-5520	6.8	124
371	On the implications of aerosol liquid water and phase separation for organic aerosol mass. *Atmospheric Chemistry and Physics*, **2017**, 17, 343-369	6.8	122
370	Scanning Mobility CCN Analysis—A Method for Fast Measurements of Size-Resolved CCN Distributions and Activation Kinetics. *Aerosol Science and Technology*, **2010**, 44, 861-871	3.4	120
369	Investigation of molar volume and surfactant characteristics of water-soluble organic compounds in biomass burning aerosol. *Atmospheric Chemistry and Physics*, **2008**, 8, 799-812	6.8	120
368	Climatic effects of 1950–2050 changes in US anthropogenic aerosols – Part 2: Climate response. *Atmospheric Chemistry and Physics*, **2012**, 12, 3349-3362	6.8	119
367	Revising the hygroscopicity of inorganic sea salt particles. *Nature Communications*, **2017**, 8, 15883	17.4	116
366	On the effect of dust particles on global cloud condensation nuclei and cloud droplet number. *Journal of Geophysical Research*, **2011**, 116, n/a-n/a		116
365	High levels of ammonia do not raise fine particle pH sufficiently to yield nitrogen oxide-dominated sulfate production. *Scientific Reports*, **2017**, 7, 12109	4.9	115
364	Particle water and pH in the eastern Mediterranean: source variability and implications for nutrient availability. *Atmospheric Chemistry and Physics*, **2016**, 16, 4579-4591	6.8	115
363	Top-of-atmosphere radiative forcing affected by brown carbon in the upper troposphere. *Nature Geoscience*, **2017**, 10, 486-489	18.3	114
362	Saharan dust event impacts on cloud formation and radiation over Western Europe. *Atmospheric Chemistry and Physics*, **2012**, 12, 4045-4063	6.8	112
361	Processing of biomass-burning aerosol in the eastern Mediterranean during summertime. *Atmospheric Chemistry and Physics*, **2014**, 14, 4793-4807	6.8	111

360	Comment on "Wandering minds: the default network and stimulus-independent thought". *Science*, **2007**, 317, 43; author reply 43	33.3	111
359	Prediction of cloud condensation nucleus number concentration using measurements of aerosol size distributions and composition and light scattering enhancement due to humidity. *Journal of Geophysical Research*, **2007**, 112,		108
358	Changes in Light Absorptivity of Molecular Weight Separated Brown Carbon Due to Photolytic Aging. *Environmental Science & Technology*, **2017**, 51, 8414-8421	10.3	107
357	. *Tellus, Series B: Chemical and Physical Meteorology*, **2001**, 53, 133-149	3.3	105
356	Modification of aerosol mass and size distribution due to aqueous-phase SO2 oxidation in clouds: Comparisons of several models. *Journal of Geophysical Research*, **2003**, 108,		104
355	Analysis of CCN activity of Arctic aerosol and Canadian biomass burning during summer 2008. *Atmospheric Chemistry and Physics*, **2013**, 13, 2735-2756	6.8	103
354	Cloud condensation nuclei closure during the International Consortium for Atmospheric Research on Transport and Transformation 2004 campaign: Effects of size-resolved composition. *Journal of Geophysical Research*, **2007**, 112,		103
353	pH of Aerosols in a Polluted Atmosphere: Source Contributions to Highly Acidic Aerosol. *Environmental Science & Technology*, **2017**, 51, 4289-4296	10.3	102
352	MADM-A New Multicomponent Aerosol Dynamics Model. *Aerosol Science and Technology*, **2000**, 32, 482-502	3.4	101
351	Measurements of cloud condensation nuclei activity and droplet activation kinetics of fresh unprocessed regional dust samples and minerals. *Atmospheric Chemistry and Physics*, **2011**, 11, 3527-3541	6.8	100
350	An integrated modeling study on the effects of mineral dust and sea salt particles on clouds and precipitation. *Atmospheric Chemistry and Physics*, **2011**, 11, 873-892	6.8	100
349	Atmospheric amines and ammonia measured with a chemical ionization mass spectrometer (CIMS). *Atmospheric Chemistry and Physics*, **2014**, 14, 12181-12194	6.8	99
348	On the link between ocean biota emissions, aerosol, and maritime clouds: Airborne, ground, and satellite measurements off the coast of California. *Global Biogeochemical Cycles*, **2009**, 23, n/a-n/a	5.9	98
347	Aerosol hygroscopicity and CCN activation kinetics in a boreal forest environment during the 2007 EUCAARI campaign. *Atmospheric Chemistry and Physics*, **2011**, 11, 12369-12386	6.8	95
346	Impact of fuel quality regulation and speed reductions on shipping emissions: implications for climate and air quality. *Environmental Science & Technology*, **2011**, 45, 9052-60	10.3	95
345	An assessment of the ability of three-dimensional air quality models with current thermodynamic equilibrium models to predict aerosol NO3 *Journal of Geophysical Research*, **2005**, 110,		95
344	Aerosol cloud drop concentration closure in warm cumulus. *Journal of Geophysical Research*, **2004**, 109, n/a-n/a		95
343	Differences between downscaling with spectral and grid nudging using WRF. *Atmospheric Chemistry and Physics*, **2012**, 12, 3601-3610	6.8	93

342	Parameterizing the competition between homogeneous and heterogeneous freezing in ice cloud formation polydisperse ice nuclei. *Atmospheric Chemistry and Physics*, **2009**, 9, 5933-5948	6.8	93
341	Implementation of dust emission and chemistry into the Community Multiscale Air Quality modeling system and initial application to an Asian dust storm episode. *Atmospheric Chemistry and Physics*, **2012**, 12, 10209-10237	6.8	91
340	Droplet nucleation: Physically-based parameterizations and comparative evaluation. *Journal of Advances in Modeling Earth Systems*, **2011**, 3,	7.1	90
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337	A STUDY OF PROCESSES THAT GOVERN THE MAINTENANCE OF AEROSOLS IN THE MARINE BOUNDARY LAYER. *Journal of Aerosol Science*, **1999**, 30, 503-532	4.3	88
336	Comprehensively accounting for the effect of giant CCN in cloud activation parameterizations. *Atmospheric Chemistry and Physics*, **2010**, 10, 2467-2473	6.8	87
335	Thermodynamic characterization of Mexico City aerosol during MILAGRO 2006. *Atmospheric Chemistry and Physics*, **2009**, 9, 2141-2156	6.8	86
334	Aerosol cloud drop concentration closure for clouds sampled during the International Consortium for Atmospheric Research on Transport and Transformation 2004 campaign. *Journal of Geophysical Research*, **2007**, 112,		84
333	Surfactants from the gas phase may promote cloud droplet formation. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 2723-8	11.5	83
332	Will black carbon mitigation dampen aerosol indirect forcing?. *Geophysical Research Letters*, **2010**, 37, n/a-n/a	4.9	81
331	How quickly do cloud droplets form on atmospheric particles?. *Atmospheric Chemistry and Physics*, **2008**, 8, 1043-1055	6.8	80
330	On the volatility and production mechanisms of newly formed nitrate and water soluble organic aerosol in Mexico City. *Atmospheric Chemistry and Physics*, **2008**, 8, 3761-3768	6.8	80
329	Analysis of urban gas phase ammonia measurements from the 2002 Atlanta Aerosol Nucleation and Real-Time Characterization Experiment (ANARChE). *Journal of Geophysical Research*, **2006**, 111,		80
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324	Effectiveness of ammonia reduction on control of fine particle nitrate. *Atmospheric Chemistry and Physics*, **2018**, 18, 12241-12256	6.8	78
323	Cloud Activating Properties of Aerosol Observed during CELTIC. *Journals of the Atmospheric Sciences*, **2007**, 64, 441-459	2.1	77
322	Evaluation of a new cloud droplet activation parameterization with in situ data from CRYSTAL-FACE and CSTRIPE. *Journal of Geophysical Research*, **2005**, 110,		76
321	Airborne cloud condensation nuclei measurements during the 2006 Texas Air Quality Study. *Journal of Geophysical Research*, **2011**, 116,		75
320	Investigation of cloud condensation nuclei properties and droplet growth kinetics of the water-soluble aerosol fraction in Mexico City. *Journal of Geophysical Research*, **2010**, 115,		75
319	Chapter 7. Secondary Ice Production - current state of the science and recommendations for the future. *Meteorological Monographs*, **2016**,	5.7	74
318	Global distribution and climate forcing of marine organic aerosol: 1. Model improvements and evaluation. *Atmospheric Chemistry and Physics*, **2011**, 11, 11689-11705	6.8	74
317	Size-resolved CCN distributions and activation kinetics of aged continental and marine aerosol. *Atmospheric Chemistry and Physics*, **2011**, 11, 8791-8808	6.8	74
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315	Impact of biomass burning on cloud properties in the Amazon Basin. *Journal of Geophysical Research*, **2003**, 108,		73
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313	Inorganic chemistry calculations using HETV vectorized solver for the SO42NO3NH4+ system based on the ISORROPIA algorithms. *Atmospheric Environment*, **2003**, 37, 2279-2294	5.3	71
312	On the link between hygroscopicity, volatility, and oxidation state of ambient and water-soluble aerosols in the southeastern United States. *Atmospheric Chemistry and Physics*, **2015**, 15, 8679-8694	6.8	69
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310	Parameterization of cirrus cloud formation in large-scale models: Homogeneous nucleation. *Journal of Geophysical Research*, **2008**, 113,		68
309	Chemical and dynamical effects on cloud droplet number: Implications for estimates of the aerosol indirect effect. *Journal of Geophysical Research*, **2004**, 109, n/a-n/a		68
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307	Importance of adsorption for CCN activity and hygroscopic properties of mineral dust aerosol. *Geophysical Research Letters*, **2009**, 36,	4.9	66

306	Cloud condensation nuclei activity of isoprene secondary organic aerosol. *Journal of Geophysical Research*, **2011**, 116,		65
305	Simulating Aqueous-Phase Isoprene-Epoxydiol (IEPOX) Secondary Organic Aerosol Production During the 2013 Southern Oxidant and Aerosol Study (SOAS). *Environmental Science & Technology*, **2017**, 51, 5026-5034	10.3	64
304	Chemical Amplification (or Dampening) of the Twomey Effect: Conditions Derived from Droplet Activation Theory. *Journals of the Atmospheric Sciences*, **2004**, 61, 919-930	2.1	64
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302	Ship impacts on the marine atmosphere: insights into the contribution of shipping emissions to the properties of marine aerosol and clouds. *Atmospheric Chemistry and Physics*, **2012**, 12, 8439-8458	6.8	62
301	Parameterizing the competition between homogeneous and heterogeneous freezing in cirrus cloud formation monodisperse ice nuclei. *Atmospheric Chemistry and Physics*, **2009**, 9, 369-381	6.8	62
300	Molar mass, surface tension, and droplet growth kinetics of marine organics from measurements of CCN activity. *Geophysical Research Letters*, **2008**, 35, n/a-n/a	4.9	62
299	Cloud condensation nuclei as a modulator of ice processes in Arctic mixed-phase clouds. *Atmospheric Chemistry and Physics*, **2011**, 11, 8003-8015	6.8	61
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297	Hygroscopicity and composition of California CCN during summer 2010. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		59
296	Cloud condensation nuclei activity and droplet activation kinetics of wet processed regional dust samples and minerals. *Atmospheric Chemistry and Physics*, **2011**, 11, 8661-8676	6.8	59
295	Biomass-burning impact on CCN number, hygroscopicity and cloud formation during summertime in the eastern Mediterranean. *Atmospheric Chemistry and Physics*, **2016**, 16, 7389-7409	6.8	58
294	Changes in dissolved iron deposition to the oceans driven by human activity: a 3-D global modelling study. *Biogeosciences*, **2015**, 12, 3973-3992	4.6	58
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291	Atmospheric evolution of molecular-weight-separated brown carbon from biomass burning. *Atmospheric Chemistry and Physics*, **2019**, 19, 7319-7334	6.8	57
290	Microphysical explanation of the RH-dependent water affinity of biogenic organic aerosol and its importance for climate. *Geophysical Research Letters*, **2017**, 44, 5167-5177	4.9	56
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288	Development and initial application of the global-through-urban weather research and forecasting model with chemistry (GU-WRF/Chem). *Journal of Geophysical Research*, **2012**, 117,		55
287	Scanning Flow CCN Analysis—A Method for Fast Measurements of CCN Spectra. *Aerosol Science and Technology*, **2009**, 43, 1192-1207	3.4	55
286	Acceleration of oxygen decline in the tropical Pacific over the past decades by aerosol pollutants. *Nature Geoscience*, **2016**, 9, 443-447	18.3	53
285	Black carbon radiative heating effects on cloud microphysics and implications for the aerosol indirect effect 1. Extended Köhler theory. *Journal of Geophysical Research*, **2002**, 107, AAC 23-1-AAC 23-9		52
284	Characteristic updrafts for computing distribution-averaged cloud droplet number and stratocumulus cloud properties. *Journal of Geophysical Research*, **2010**, 115,		51
283	Parameterization of cloud droplet formation in large-scale models: Including effects of entrainment. *Journal of Geophysical Research*, **2007**, 112,		51
282	Synthesis of the Southeast Atmosphere Studies: Investigating Fundamental Atmospheric Chemistry Questions. *Bulletin of the American Meteorological Society*, **2018**, 99, 547-567	6.1	50
281	Aerosol mixing state, hygroscopic growth and cloud activation efficiency during MIRAGE 2006. *Atmospheric Chemistry and Physics*, **2013**, 13, 5049-5062	6.8	50
280	Effect of primary organic sea spray emissions on cloud condensation nuclei concentrations. *Atmospheric Chemistry and Physics*, **2012**, 12, 89-101	6.8	50
279	Instrumentation and Measurement Strategy for the NOAA SENEX Aircraft Campaign as Part of the Southeast Atmosphere Study 2013. *Atmospheric Measurement Techniques*, **2016**, 9, 3063-3093	4	50
278	Inorganic salts interact with oxalic acid in submicron particles to form material with low hygroscopicity and volatility. *Atmospheric Chemistry and Physics*, **2014**, 14, 5205-5215	6.8	49
277	Simulating the fine and coarse inorganic particulate matter concentrations in a polluted megacity. *Atmospheric Environment*, **2010**, 44, 608-620	5.3	49
276	Influence of Atmospheric Processes on the Solubility and Composition of Iron in Saharan Dust. *Environmental Science & Technology*, **2016**, 50, 6912-20	10.3	47
275	The relationship between cloud condensation nuclei (CCN) concentration and light extinction of dried particles: indications of underlying aerosol processes and implications for satellite-based CCN estimates. *Atmospheric Chemistry and Physics*, **2015**, 15, 7585-7604	6.8	47
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272	Effect of solute dissolution kinetics on cloud droplet formation: Extended Köhler theory. *Journal of Geophysical Research*, **2007**, 112,		46
271	Understanding nitrate formation in a world with less sulfate. *Atmospheric Chemistry and Physics*, **2018**, 18, 12765-12775	6.8	45

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263	Bioavailable atmospheric phosphorous supply to the global ocean: a 3-D global modeling study. *Biogeosciences*, **2016**, 13, 6519-6543	4.6	43
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260	Adjoint sensitivity of global cloud droplet number to aerosol and dynamical parameters. *Atmospheric Chemistry and Physics*, **2012**, 12, 9041-9055	6.8	42
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255	Atmospheric new particle formation as a source of CCN in the eastern Mediterranean marine boundary layer. *Atmospheric Chemistry and Physics*, **2015**, 15, 9203-9215	6.8	39
254	Aerosol hygroscopicity at high (99 to 100%) relative humidities. *Atmospheric Chemistry and Physics*, **2010**, 10, 1329-1344	6.8	39
253	Coupling between Land Ecosystems and the Atmospheric Hydrologic Cycle through Biogenic Aerosol Pathways. *Bulletin of the American Meteorological Society*, **2005**, 86, 1738-1742	6.1	39

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248	An overview of the ORACLES (ObseRvations of Aerosols above CLouds and their intEractionS) project: aerosol□cloud□adiation interactions in the southeast Atlantic basin. *Atmospheric Chemistry and Physics*, **2021**, 21, 1507-1563	6.8	37
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40	Ship impacts on the marine atmosphere: insights into the contribution of shipping emissions to the properties of marine aerosol and clouds		1
39	A coupled observation–modeling approach for studying activation kinetics from measurements of CCN activity		1
38	Understanding cirrus ice crystal number variability for different heterogeneous ice nucleation spectra		1
37	Particle water and pH in the Eastern Mediterranean: sources variability and implications for nutrients availability		1

36	Parameterizing the competition between homogeneous and heterogeneous freezing in ice cloud formation polydisperse ice nuclei		1
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