Tuukka Petäjä

List of Publications by Year in descending order

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493 papers 38,963 citations

4383 86 h-index 166 g-index

831 all docs

831 docs citations

times ranked

831

13191 citing authors

| # | Article | IF | CITATIONS |
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| 1 | Formation and growth rates of ultrafine atmospheric particles: a review of observations. Journal of Aerosol Science, 2004, 35, 143-176. | 1.8 | 2,034 |
| 2 | A large source of low-volatility secondary organic aerosol. Nature, 2014, 506, 476-479. | 13.7 | 1,448 |
| 3 | Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation. Nature, 2011, 476, 429-433. | 13.7 | 1,114 |
| 4 | Direct Observations of Atmospheric Aerosol Nucleation. Science, 2013, 339, 943-946. | 6.0 | 876 |
| 5 | Molecular understanding of sulphuric acid–amine particle nucleation in the atmosphere. Nature, 2013, 502, 359-363. | 13.7 | 774 |
| 6 | The Role of Sulfuric Acid in Atmospheric Nucleation. Science, 2010, 327, 1243-1246. | 6.0 | 694 |
| 7 | Radiative Absorption Enhancements Due to the Mixing State of Atmospheric Black Carbon. Science, 2012, 337, 1078-1081. | 6.0 | 618 |
| 8 | Enhanced haze pollution by black carbon in megacities in China. Geophysical Research Letters, 2016, 43, 2873-2879. | 1.5 | 590 |
| 9 | Recent advances in understanding secondary organic aerosol: Implications for global climate forcing. Reviews of Geophysics, 2017, 55, 509-559. | 9.0 | 548 |
| 10 | The role of low-volatility organic compounds in initial particle growth in the atmosphere. Nature, 2016, 533, 527-531. | 13.7 | 540 |
| 11 | Ion-induced nucleation of pure biogenic particles. Nature, 2016, 533, 521-526. | 13.7 | 528 |
| 12 | Toward Direct Measurement of Atmospheric Nucleation. Science, 2007, 318, 89-92. | 6.0 | 478 |
| 13 | A new atmospherically relevant oxidant of sulphur dioxide. Nature, 2012, 488, 193-196. | 13.7 | 465 |
| 14 | Oxidation Products of Biogenic Emissions Contribute to Nucleation of Atmospheric Particles. Science, 2014, 344, 717-721. | 6.0 | 456 |
| 15 | Atmospheric sulphuric acid and aerosol formation: implications from atmospheric measurements for nucleation and early growth mechanisms. Atmospheric Chemistry and Physics, 2006, 6, 4079-4091. | 1.9 | 444 |
| 16 | A high-resolution mass spectrometer to measure atmospheric ion composition. Atmospheric Measurement Techniques, 2010, 3, 1039-1053. | 1.2 | 436 |
| 17 | Measurement of the nucleation of atmospheric aerosol particles. Nature Protocols, 2012, 7, 1651-1667. | 5.5 | 435 |
| 18 | Atmospheric new particle formation from sulfuric acid and amines in a Chinese megacity. Science, 2018, 361, 278-281. | 6.0 | 415 |

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| 19 | Hygroscopic properties of submicrometer atmospheric aerosol particles measured with H-TDMA instruments in various environments—a review. Tellus, Series B: Chemical and Physical Meteorology, 2022, 60, 432. | 0.8 | 401 |
| 20 | Atmospheric sulphuric acid and neutral cluster measurements using CI-APi-TOF. Atmospheric Chemistry and Physics, 2012, 12, 4117-4125. | 1.9 | 393 |
| 21 | Organic condensation: a vital link connecting aerosol formation to cloud condensation nuclei (CCN) concentrations. Atmospheric Chemistry and Physics, 2011, 11, 3865-3878. | 1.9 | 392 |
| 22 | Ozone and fine particle in the western Yangtze River Delta: an overview of 1 yr data at the SORPES station. Atmospheric Chemistry and Physics, 2013, 13, 5813-5830. | 1.9 | 352 |
| 23 | The contribution of organics to atmospheric nanoparticle growth. Nature Geoscience, 2012, 5, 453-458. | 5.4 | 350 |
| 24 | Sulfuric acid and OH concentrations in a boreal forest site. Atmospheric Chemistry and Physics, 2009, 9, 7435-7448. | 1.9 | 348 |
| 25 | New particle formation in the free troposphere: A question of chemistry and timing. Science, 2016, 352, 1109-1112. | 6.0 | 348 |
| 26 | Organic aerosol components derived from 25 AMS data sets across Europe using a consistent ME-2 based source apportionment approach. Atmospheric Chemistry and Physics, 2014, 14, 6159-6176. | 1.9 | 308 |
| 27 | Atmospheric new particle formation and growth: review of field observations. Environmental Research Letters, 2018, 13, 103003. | 2.2 | 308 |
| 28 | Molecular understanding of atmospheric particle formation from sulfuric acid and large oxidized organic molecules. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17223-17228. | 3.3 | 300 |
| 29 | A review of the anthropogenic influence on biogenic secondary organic aerosol. Atmospheric Chemistry and Physics, 2011, 11, 321-343. | 1.9 | 297 |
| 30 | Intense atmospheric pollution modifies weather: a case of mixed biomass burning with fossil fuel combustion pollution in eastern China. Atmospheric Chemistry and Physics, 2013, 13, 10545-10554. | 1.9 | 286 |
| 31 | Cloud condensation nuclei production associated with atmospheric nucleation: a synthesis based on existing literature and new results. Atmospheric Chemistry and Physics, 2012, 12, 12037-12059. | 1.9 | 285 |
| 32 | Enhanced air pollution via aerosol-boundary layer feedback in China. Scientific Reports, 2016, 6, 18998. | 1.6 | 285 |
| 33 | Contrasting trends of PM2.5 and surface-ozone concentrations in China from 2013 to 2017. National Science Review, 2020, 7, 1331-1339. | 4.6 | 284 |
| 34 | Particle Size Magnifier for Nano-CN Detection. Aerosol Science and Technology, 2011, 45, 533-542. | 1.5 | 283 |
| 35 | Warming-induced increase in aerosol number concentration likely to moderate climate change. Nature Geoscience, 2013, 6, 438-442. | 5.4 | 282 |
| 36 | On the roles of sulphuric acid and low-volatility organic vapours in the initial steps of atmospheric new particle formation. Atmospheric Chemistry and Physics, 2010, 10, 11223-11242. | 1.9 | 262 |

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| 37 | New particle formation in Beijing, China: Statistical analysis of a 1-year data set. Journal of Geophysical Research, 2007, 112, . | 3.3 | 257 |
| 38 | Relationship between aerosol oxidation level and hygroscopic properties of laboratory generated secondary organic aerosol (SOA) particles. Geophysical Research Letters, 2010, 37, . | 1.5 | 257 |
| 39 | Particulate matter pollution over China and the effects of control policies. Science of the Total Environment, 2017, 584-585, 426-447. | 3.9 | 252 |
| 40 | EUCAARI ion spectrometer measurements at 12 European sites – analysis of new particle formation events. Atmospheric Chemistry and Physics, 2010, 10, 7907-7927. | 1.9 | 248 |
| 41 | Chemistry of Atmospheric Nucleation: On the Recent Advances on Precursor Characterization and Atmospheric Cluster Composition in Connection with Atmospheric New Particle Formation. Annual Review of Physical Chemistry, 2014, 65, 21-37. | 4.8 | 242 |
| 42 | Molecular-scale evidence of aerosol particle formation via sequential addition of HIO3. Nature, 2016, 537, 532-534. | 13.7 | 237 |
| 43 | The Formation of Highly Oxidized Multifunctional Products in the Ozonolysis of Cyclohexene. Journal of the American Chemical Society, 2014, 136, 15596-15606. | 6.6 | 236 |
| 44 | Atmospheric ions and nucleation: a review of observations. Atmospheric Chemistry and Physics, 2011, 11, 767-798. | 1.9 | 228 |
| 45 | Gas phase formation of extremely oxidized pinene reaction products in chamber and ambient air. Atmospheric Chemistry and Physics, 2012, 12, 5113-5127. | 1.9 | 222 |
| 46 | Neutral molecular cluster formation of sulfuric acid–dimethylamine observed in real time under atmospheric conditions. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 15019-15024. | 3.3 | 208 |
| 47 | On the growth of nucleation mode particles: source rates of condensable vapor in polluted and clean environments. Atmospheric Chemistry and Physics, 2005, 5, 409-416. | 1.9 | 205 |
| 48 | The role of VOC oxidation products in continental new particle formation. Atmospheric Chemistry and Physics, 2008, 8, 2657-2665. | 1.9 | 202 |
| 49 | Laboratory study on new particle formation from the reaction OH + SO ₂ : influence of experimental conditions, H ₂ O vapour, NH ₃ and the amine tert-butylamine on the overall process. Atmospheric Chemistry and Physics, 2010, 10, | 1.9 | 194 |
| 50 | Growth rates of nucleation mode particles in HyytiÃÃduring 2003â^'2009: variation with particle size, season, data analysis method and ambient conditions. Atmospheric Chemistry and Physics, 2011, 11, 12865-12886. | 1.9 | 173 |
| 51 | Composition and temporal behavior of ambient ions in the boreal forest. Atmospheric Chemistry and Physics, 2010, 10, 8513-8530. | 1.9 | 170 |
| 52 | Rapid growth of new atmospheric particles by nitric acid and ammonia condensation. Nature, 2020, 581, 184-189. | 13.7 | 169 |
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| 54 | Quantification of the volatility of secondary organic compounds in ultrafine particles during nucleation events. Atmospheric Chemistry and Physics, 2011, 11, 9019-9036. | 1.9 | 160 |

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| 56 | Atmospheric nucleation: highlights of the EUCAARI project and future directions. Atmospheric Chemistry and Physics, 2010, 10, 10829-10848. | 1.9 | 144 |
| 57 | Adsorptive uptake of water by semisolid secondary organic aerosols. Geophysical Research Letters, 2015, 42, 3063-3068. | 1.5 | 139 |
| 58 | Oxidation of SO ₂ by stabilized Criegee intermediate (sCI) radicals as a crucial source for atmospheric sulfuric acid concentrations. Atmospheric Chemistry and Physics, 2013, 13, 3865-3879. | 1.9 | 131 |
| 59 | The Green Ocean Amazon Experiment (GoAmazon2014/5) Observes Pollution Affecting Gases, Aerosols, Clouds, and Rainfall over the Rain Forest. Bulletin of the American Meteorological Society, 2017, 98, 981-997. | 1.7 | 128 |
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| 65 | Enhanced sulfate formation by nitrogen dioxide: Implications from in situ observations at the SORPES station. Journal of Geophysical Research D: Atmospheres, 2015, 120, 12679-12694. | 1.2 | 122 |
| 66 | Seasonal variation of CCN concentrations and aerosol activation properties in boreal forest. Atmospheric Chemistry and Physics, 2011, 11, 13269-13285. | 1.9 | 121 |
| 67 | Polluted dust promotes new particle formation and growth. Scientific Reports, 2014, 4, 6634. | 1.6 | 121 |
| 68 | Overview of the MOSAiC expedition: Atmosphere. Elementa, 2022, 10, . | 1.1 | 121 |
| 69 | lon production rate in a boreal forest based on ion, particle and radiation measurements. Atmospheric Chemistry and Physics, 2004, 4, 1933-1943. | 1.9 | 120 |
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| 79 | Aerosol size distribution and new particle formation in the western Yangtze River Delta of China: 2 years of measurements at the SORPES station. Atmospheric Chemistry and Physics, 2015, 15, 12445-12464. | 1.9 | 112 |
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| 89 | Measurements of ocean derived aerosol off the coast of California. Journal of Geophysical Research, 2012, 117, . | 3.3 | 100 |
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| 92 | Hygroscopic properties of ultrafine aerosol particles in the boreal forest: diurnal variation, solubility and the influence of sulfuric acid. Atmospheric Chemistry and Physics, 2007, 7, 211-222. | 1.9 | 95 |
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| 96 | Atmospheric data over a solar cycle: no connection between galactic cosmic rays and new particle formation. Atmospheric Chemistry and Physics, 2010, 10, 1885-1898. | 1.9 | 89 |
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| 100 | Do small spores disperse further than large spores?. Ecology, 2014, 95, 1612-1621. | 1.5 | 87 |
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| 104 | Connection of Sulfuric Acid to Atmospheric Nucleation in Boreal Forest. Environmental Science & Enviro | 4.6 | 84 |
| 105 | On the composition of ammonia–sulfuric-acid ion clusters during aerosol particle formation. Atmospheric Chemistry and Physics, 2015, 15, 55-78. | 1.9 | 84 |
| 106 | Long-term analysis of clear-sky new particle formation events and nonevents in HyytiÃÞĀÞAtmospheric Chemistry and Physics, 2017, 17, 6227-6241. | 1,9 | 84 |
| 107 | Estimating the atmospheric concentration of Criegee intermediates and their possible interference in a FAGE-LIF instrument. Atmospheric Chemistry and Physics, 2017, 17, 7807-7826. | 1.9 | 82 |
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| 112 | Characteristic features of air ions at Mace Head on the west coast of Ireland. Atmospheric Research, 2008, 90, 278-286. | 1.8 | 77 |
| 113 | Contribution of sulfuric acid and oxidized organic compounds to particle formation and growth. Atmospheric Chemistry and Physics, 2012, 12, 9427-9439. | 1.9 | 76 |
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| 115 | Long-term observation of air pollution-weather/climate interactions at the SORPES station: a review and outlook. Frontiers of Environmental Science and Engineering, 2016, 10, 1. | 3.3 | 75 |
| 116 | Applicability of condensation particle counters to measure atmospheric clusters. Atmospheric Chemistry and Physics, 2008, 8, 4049-4060. | 1.9 | 74 |
| 117 | Hygroscopic properties and cloud condensation nuclei activation of limonene-derived organosulfates and their mixtures with ammonium sulfate. Atmospheric Chemistry and Physics, 2015, 15, 14071-14089. | 1.9 | 74 |
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| 120 | Sub-3 nm particle size and composition dependent response of a nano-CPC battery. Atmospheric Measurement Techniques, 2014, 7, 689-700. | 1.2 | 73 |
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| 122 | Experimental Observation of Strongly Bound Dimers of Sulfuric Acid: Application to Nucleation in the Atmosphere. Physical Review Letters, 2011, 106, 228302. | 2.9 | 72 |
| 123 | Aerosols and nucleation in eastern China: first insights from the new SORPES-NJU station. Atmospheric Chemistry and Physics, 2014, 14, 2169-2183. | 1.9 | 72 |
| 124 | BAECC: A Field Campaign to Elucidate the Impact of Biogenic Aerosols on Clouds and Climate. Bulletin of the American Meteorological Society, 2016, 97, 1909-1928. | 1.7 | 71 |
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| 126 | Ambient observations of dimers from terpene oxidation in the gas phase: Implications for new particle formation and growth. Geophysical Research Letters, 2017, 44, 2958-2966. | 1.5 | 71 |

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| 130 | Differing Mechanisms of New Particle Formation at Two Arctic Sites. Geophysical Research Letters, 2021, 48, e2020GL091334. | 1.5 | 70 |
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| 133 | Organic aerosol concentration and composition over Europe: insights from comparison of regional model predictions with aerosol mass spectrometer factor analysis. Atmospheric Chemistry and Physics, 2014, 14, 9061-9076. | 1.9 | 68 |
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| 135 | Horizontal homogeneity and vertical extent of new particle formation events. Tellus, Series B: Chemical and Physical Meteorology, 2007, 59, 362-371. | 0.8 | 66 |
| 136 | Size distributions, sources and source areas of water-soluble organic carbon in urban background air. Atmospheric Chemistry and Physics, 2008, 8, 5635-5647. | 1.9 | 66 |
| 137 | The role of highly oxygenated moleculesÂ(HOMs) in determining the composition of ambient ions in the boreal forest. Atmospheric Chemistry and Physics, 2017, 17, 13819-13831. | 1.9 | 66 |
| 138 | Photo-oxidation of Aromatic Hydrocarbons Produces Low-Volatility Organic Compounds. Environmental Science & Environmental Scie | 4.6 | 66 |
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