

## Markku Kulmala Kirjallinen toiminta / List of publications

### 1 10 most important publications

1. Kulmala M, 2003, How Particles Nucleate and Grow. *Science* 302, 1000-1001.
2. Kulmala M., Vehkamäki H., Petäjä T., Dal Maso M., Lauri A., Kerminen V.-M., Birmili W., McMurry P.H., 2004, Formation and growth rates of ultrafine atmospheric particles: A review of observations. *J. Aerosol Sci.*, 35, 143-176.
3. Kulmala M., T. Suni, K.E.J. Lehtinen, M. Dal Maso, M. Boy, A. Reissell, Ü. Rannik, P. Aalto, P. Keronen, H. Hakola, J. Bäck, T. Hoffmann, T. Vesala, P. Hari, 2004, A new feedback mechanism linking forests, aerosols, and climate, *Atmos. Chem. Phys.* 4, 557-562
4. Kulmala M., L. Laakso, K.E.J. Lehtinen, I. Riipinen, M. Dal Maso, T. Anttila, V.-M. Kerminen, U. Hörrak, M. Vana and H. Tammet, 2004, Initial steps of aerosol growth, *Atmos. Chem. Phys.* 4 2553-2560
5. Kulmala, M., Lehtinen, K.E.J. and Laaksonen, A., 2006, Cluster activation theory as an explanation of the linear dependence between formation rate of 3 nm particles and sulphuric acid concentration. *Atmos. Chem. Phys.*, 6, 787-793.
6. Kulmala, M., Riipinen, I., Sipilä, M., Manninen, H., Petäjä, T., Junninen, H., Dal Maso, M., Mordas, G., Mirme, A., Vana, M., Hirsikko, A., Laakso, L., Harrison, R M., Hanson, I., Leung, C., Palmer, R., Lehtinen, K. E. J., and Kerminen V.-M., 2007, Towards direct measurement of atmospheric nucleation, *Science*, 318, 89-92, 10.1126/science.1144124
7. Kulmala M et al.: General overview: European Integrated project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) - integrating aerosol research from nano to global scales, *Atmospheric Chemistry and Physics*, 11, 13061-13143, 2011
8. Kulmala M. and Petäjä T., Soil Nitrites Influence Atmospheric Chemistry, *Science*, 333, 1586-1587, 2011
9. Kulmala M, Petäjä T, Nieminen T, Sipilä M, Manninen HE, Lehtipalo K, Dal Maso M, Aalto PP, Junninen H, Paasonen P, Riipinen I, Lehtinen KEJ, Laaksonen A, Kerminen VM: Measurement of the nucleation of atmospheric aerosol particles, *NATURE PROTOCOLS*, 7, 1651-1667, 2012
10. Markku Kulmala, Jenni Kontkanen, Heikki Junninen, Katrianne Lehtipalo, Hanna E. Manninen, Tuomo Nieminen, Tuukka Petäjä, Mikko Sipilä, Siegfried Schobesberger, Pekka Rantala, Alessandro Franchin, Tuija Jokinen, Emma Jrvinen, Mikko Äijälä, Juha Kangasluoma, Jani Hakala, Pasi P. Aalto, Pauli Paasonen, Jyri Mikkil, Joonas Vanhanen, Juho Aalto, Hannele Hakola, Ulla Makkonen, Taina Ruuskanen, Roy L. Mauldin III, Jonathan Duplissy, Hanna Vehkamäki, Jaana Bck, Aki Kortelainen, Ilona Riipinen, Theo Kurtz, Murray V. Johnston, James N. Smith, Mikael Ehn, Thomas F. Mentel, Kari E. J. Lehtinen, Ari Laaksonen, Veli-Matti Kerminen, Douglas R. Worsnop., Direct observations of atmospheric aerosol nucleation, *Science*, 339, 943 DOI: 10.1126/science.1227385 (2013)

### 2 Papers in Nature or Science

1. Markku Kulmala, Ari Laaksonen, Robert J. Charlson, Pekka Korhonen: Clouds without supersaturation. *Nature* Vol. 388, 336-337, 1997.
2. Markku Kulmala, Liisa Pirjola, Jyrki M. Mäkelä: Stable Sulphate Clusters as a Source of New Atmospheric Particles. *Nature*, 404, 66-69, 2000
3. Robert J. Charlson, John H. Seinfeld, Athanasios Nenes, Markku Kulmala, Ari Laaksonen, M. Cristina Facchini: Reshaping the theory of cloud formation. *Science*, 292, 2026-2027, 2001
4. C.D. O'Dowd, P.P. Aalto, K. Hämeri, M. Kulmala, T. Hoffmann: Aerosol formation: atmospheric particles from organic vapours. *Nature*, 416, 497-498, 2002

5. C.D. O'Dowd, J.L. Jimenez, R. Bahreini, R.C. Flagan, J. H. Seinfeld, K. Hämeri, L. Pirjola, M. Kulmala, S. G. Jennings, T. Hoffmann: Marine aerosol formation from biogenic iodide emissions. *Nature*, 417, 632-636, 2002.
6. Markku Kulmala: How Particles Nucleate and Grow *Science*, 302, 1000-1001, 2003
7. Pertti Hari, Maarit Raivonen, Timo Vesala, J. William Munger, Kim Pilegaard, Markku Kulmala: Ultraviolet radiation generates NO<sub>x</sub> emissions from Scots pine shoots. *Nature*, 422, 134, 2003
8. C.D. O'Dowd, J.L. Jimenez, R. Bahreini, R.C. Flagan, J. H. Seinfeld, K. Hämeri, L. Pirjola, M. Kulmala, S. G. Jennings, T. Hoffmann: Reply to "Marine Aerosols and iodide emissions" by G. McFiggans. *Nature*, 433 (7026), E13-E14, 2005
9. T. Berndt, O. Böge, F. Stratmann, J. Heintzenberg, M. Kulmala: Reapid formation of new sulfuric acid particles at near-atmospheric conditions. *Science*, 307 (5710), 698-700, 2005
10. P. Tunved, H.C. Hansson, V.-M. Kerminen, J. Ström, M. Dal Maso, H. Lihavainen, Y. Viisanen, P.P. Aalto, M. Komppula and M. Kulmala, High natural aerosol loading over boreal forests, *Science* 312 (2006) 261-263
11. M Kulmala, I Riipinen, M Sipilä, H E Manninen, T Petäjä, H Junninen, M Dal Maso, G Mordas, A Mirme, M Vana, A Hirsikko, L Laakso, R M Harrison, I Hanson, C Leung, K E J Lehtinen and V-M Kerminen, Toward direct measurement of atmospheric nucleation, *Science* 318 (2007) 89-92
12. PM Winkler, G Steiner, A Vrtala, H Vehkamäki, M Noppel, KEJ Lehtinen, GP Reischl, PE Wagner and M Kulmala, Heterogeneous nucleation experiments bridging the scale from molecular ion clusters to nanoparticles, *Science* 319 (2008) 1374-1377
13. D Rosenfeld, U Lohmann, GB Raga, CD O'Dowd, M Kulmala, S Fuzzi, A Reissell and MO Andreae, Flood or drought: How do aerosols affect precipitation? *Science* 321 (2008) 1309-1313
14. Arneth, Almut, Unger, Nadine, Kulmala, Markku, Andreae, Meinrat O. (2009) Clean the Air, Heat the Planet? *Science*, 326, 672-673
15. Jimenez, J.L., Canagaratna, M.R., Donahue, N. M., Prevot, N. M., Zhang, Q., Kroll, J. H., DeCarlo, P. F., Allan, J. D., Coe, H., Ng, N. L., Aiken, A. C., Docherty, K. S., Ulbrich, I. M., Grieshop, A. P., Robinson, A.L., Duplissy, J., Smith, J. D., Wilson, K. R., Lanz, V. A., Hueglin, C., Sun, Y. L., Tian, J., Laaksonen, A., Raatikainen, T., Rautiainen, J., Vaattovaara, P., Ehn, M., Kulmala, M., Tomlinson, J. M., Collins, D. R., Cubison, M. J., Dunlea, E. J., Huffman, J. A., Onasch, T. B., Alfarra, M. R., Williams, P. I., Bower, K., Kondo, Y., Schneider, J., Drewnick, F., Borrmann, S., Weimer, S., Demerjian, K., Salcedo, D., Cottrell, L., Griffin, R., Takami, A., Miyoshi, T., Hatakeyama, S., Shimono, A., Sun, J.Y., Zhang, Y.M., Dzepina, K., Kimmel, J.R., Sueper, D., Jayne, J.T., Herndon, S.C., Trimborn, A.M., Williams, L.R., Wood, E.C., Middlebrook, A.M., Kolb, C.E., Baltensperger, U. and Worsnop, D.R.: Evolution of Organic Aerosols in the Atmosphere, *Science*, 326, 1525-1529, 2009
16. Sipilä M., Berndt T., Petäjä, Brus D., Vanhanen J., Stratmann F., Patokoski J., Mauldin III R.L., Hyvärinen A.-P., Lihavainen H. and Kulmala M.: The Role of Sulphuric Acid in Atmospheric Nucleation, *Science*, 327, 1243-1246, 2010
17. Virtanen A., Joutsensaari J., Koop T., Kannosto J., Yli-Pirilä P., Leskinen J., Mäkelä J.M., Holopainen J.K., Pöschl U., Kulmala M., Worsnop D.R., Laaksonen A.: An amorphous solid state of biogenic secondary organic aerosol particles, *Nature*, 467, 824-827, 2010
18. Kirkby, Jasper, Curtius, Joachim, Almeida, Joao, Dunne, Eimear, Duplissy, Jonathan, Ehrhart, Sebastian, Franchin, Alessandro, Gagne, Stephanie, Ickes, Luisa, Kuerten, Andreas, Kupc, Agnieszka, Metzger, Axel, Riccobono, Francesco, Rondo, Linda, Schobesberger, Siegfried, Tsagkogeorgas, Georgios, Wimmer, Daniela, Amorim, Antonio, Bianchi, Federico, Breitenlechner, Martin, David, Andre, Dommen, Josef, Downard, Andrew, Ehn, Mikael, Flagan, Richard C., Haider, Stefan, Hansel, Armin, Hauser, Daniel, Jud, Werner, Junninen, Heikki, Kreissl, Fabian, Kvashin, Alexander, Laaksonen, Ari, Lehtipalo, Katrianne, Lima, Jorge, Lovejoy, Edward R., Makhmutov, Vladimir, Mathot, Serge, Mikkila, Jyri, Minginette, Pierre, Mogo, Sandra, Nieminen, Tuomo, Onnela, Antti, Pereira, Paulo, Petaja, Tuukka, Schnitzhofer, Ralf, Seinfeld, John H., Sipila, Mikko, Stozhkov, Yuri, Stratmann, Frank, Tome, Antonio, Vanhanen, Joonas, Viisanen, Yrjo, Vrtala, Aron, Wagner, Paul E., Walther, Hansueli, Weingartner, Ernest, Wex, Heike, Winkler, Paul M., Carslaw,

- Kenneth S., Worsnop, Douglas R., Baltensperger, Urs, Kulmala, Markku: Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation, *NATURE*, Volume: 476 Issue: 7361 Pages: 429-U77 DOI: 10.1038/nature10343, 2011
19. Kulmala M. and Petäjä T., Soil Nitrites Influence Atmospheric Chemistry, *Science*, Volume 3333, Pages 1586-1587, 2011
  20. Mauldin RL, Berndt T, Sipila M, Paasonen P, Petäjä T, Kim S, Kurten T, Stratmann F, Kerminen VM, Kulmala M: A new atmospherically relevant oxidant of sulphur dioxide, *NATURE*, Volume: 488, Issue: 7410, Pages: 193-+, DOI: 10.1038/nature11278, 2012
  21. Markku Kulmala, Jenni Kontkanen, Heikki Junninen, Katrianne Lehtipalo, Hanna E. Manninen, Tuomo Nieminen, Tuukka Petäjä, Mikko Sipilä, Siegfried Schobesberger, Pekka Rantala, Alessandro Franchin, Tuija Jokinen, Emma Järvinen, Mikko Äijälä, Juha Kangasluoma, Jani Hakala, Pasi P. Aalto, Pauli Paasonen, Jyri Mikkilä, Joonas Vanhanen, Juho Aalto, Hannele Hakola, Ulla Makkonen, Taina Ruuskanen, Roy L. Mauldin III, Jonathan Duplissy, Hanna Vehkamäki, Jaana Bäck, Aki Kortelainen, Ilona Riipinen, Theo Kurten, Murray V. Johnston, James N. Smith, Mikael Ehn, Thomas F. Mentel, Kari E. J. Lehtinen, Ari Laaksonen, Veli-Matti Kerminen, Douglas R. Worsnop., Direct observations of atmospheric aerosol nucleation, *Science*, 339, 943 DOI: 10.1126/science.1227385 (2013)
  22. Almeida J, Schobesberger S, Kurten A, Ortega IK, Kupiainen-Maatta O, Praplan AP, Adamov A, Amorim A, Bianchi F, Breitenlechner M, David A, Dommen J, Donahue NM, Downard A, Dunne E, Duplissy J, Ehrhart S, Flagan RC, Franchin A, Guida R, Hakala J, Hansel A, Heinritzi M, Henschel H, Jokinen T, Junninen H, Kajos M, Kangasluoma J, Keskinen H, Kupc A, Kurten T, Kvashin AN, Laaksonen A, Lehtipalo K, Leiminger M, Leppä J, Loukonen V, Makhmutov V, Mathot S, McGrath MJ, Nieminen T, Olenius T, Onnela A, Petaja T, Riccobono F, Riipinen I, Rissanen M, Rondo L, Ruuskanen T, Santos FD, Sarnela N, Schallhart S, Schnitzhofer R, Seinfeld JH, Simon M, Sipilä M, Stozhkov Y, Stratmann F, Tome A, Trostl J, Tsagkogeorgas G, Vaattovaara P, Viisanen Y, Virtanen A, Vrtala A, Wagner PE, Weingartner E, Wex H, Williamson C, Wimmer D, Ye PL, Yli-Juuti T, Carslaw KS, Kulmala M, Curtius J, Baltensperger U, Worsnop DR, Vehkamäki H, Kirkby J: Molecular understanding of sulphuric acid-amine particle nucleation in the atmosphere, *NATURE*, Volume: 502, Issue: 7471, Pages: 359-+, DOI: 10.1038/nature12663, 2013
  23. Ehn M, Thornton JA, Kleist E, Sipilä M, Junninen H, Pullinen I, Springer M, Rubach F, Tillmann R, Lee B, Lopez-Hilfiker F, Andres S, Acir IH, Rissanen M, Jokinen T, Schobesberger S, Kangasluoma J, Kontkanen J, Nieminen T, Kurten T, Nielsen LB, Jorgensen S, Kjaergaard HG, Canagaratna M, Dal Maso M, Berndt T, Petaja T, Wahner A, Kerminen VM, Kulmala M, Worsnop DR, Wildt J, Mentel TF: A large source of low-volatility secondary organic aerosol, *NATURE*, Volume: 506, Issue: 7489, Pages: 476-+, 2014
  24. Riccobono F, Schobesberger S, Scott CE, Dommen J, Ortega IK, Rondo L, Almeida J, Amorim A, Bianchi F, Breitenlechner M, David A, Downard A, Dunne EM, Duplissy J, Ehrhart S, Flagan RC, Franchin A, Hansel A, Junninen H, Kajos M, Keskinen H, Kupc A, Kurten A, Kvashin AN, Laaksonen A, Lehtipalo K, Makhmutov V, Mathot S, Nieminen T, Onnela A, Petaja T, Praplan AP, Santos FD, Schallhart S, Seinfeld JH, Sipilä M, Spracklen DV, Stozhkov Y, Stratmann F, Tome A, Tsagkogeorgas G, Vaattovaara P, Viisanen Y, Vrtala A, Wagner PE, Weingartner E, Wex H, Wimmer D, Carslaw KS, Curtius J, Donahue NM, Kirkby J, Kulmala M, Worsnop DR, Baltensperger U: Oxidation Products of Biogenic Emissions Contribute to Nucleation of Atmospheric Particles, *SCIENCE*, Volume: 344, Issue: 6185, Pages: 717-721, DOI: 10.1126/science.1243527, 2014

### 3 Julkaisut / Publications

#### 3.1 Väitöskirja / PhD Dissertation

Markku Kulmala: Nucleation as an aerosol physical problem. University of Helsinki. Report Series in Physics HU-P-D52, 1988 (väitöskirja)

### 3.2 Artikkelit kokoomateoksissa, joissa on käytetty arviointijärjestelmää / Peer reviewed articles in books

1. Markku Kulmala: Simulating the Formation of Acid Aerosols. In Acidification in Finland. Ed. by Pekka Kauppi, Pia Anttila, Kaarle Kenttämies, Springer Verlag, Berlin, 1990, pp. 95 – 110.
2. Markku Kulmala, Timo Vesala, Ari Laaksonen: Physical Chemistry of Aerosol Formation. In Chemical Processes in Aerosols. Ed. by K. Spurny, CRC Press, Boca Raton, Florida 2000, pp. 23 – 46.
3. A. Bogdan, M. Kulmala: Pyrogenic Silica and Alumina. In Encyclopedia of Surface and Colloid Science. Ed. by A. Hubbard, Marsel Dekker, New York, 2002, pp. 4396 – 4410.
4. Kulmala M., Nieminen T., Chellapermal R., Makkonen R., Bäck J., Kerminen V-M: Climate Feedbacks Linking the Increasing Atmospheric CO<sub>2</sub> Concentration, BVOC Emissions, Aerosols and Clouds in Forest Ecosystems. In Niinemets, Ü. & Monson R.K. (eds.) Biology, controls and models of tree volatile organic compound emissions. Tree Physiology vol. 5. Springer, Netherlands 2013, pp. 489508

### 3.3 Artikkelit tieteellisissä aikakauslehdissä, joissa käytetään arviointijärjestelmää / Peer reviewed journal articles

1. M. Kulmala, V. Riihluoma, T. Raunemaa: Particle Emission from Gasoline Powered Vehicles: Emission, Deposition and Re-emission Under Different Traffic Density Situations. J. Aerosol Sci., Vol. 17, No. 6, pp. 973 - 983 1986
2. T. Raunemaa, P. Hari, J. Kukkonen, M. Kulmala, M. Karhula: Analysis of The Bark of The Scots Pine As a Method of Studying Environmental Changes. Water, Air and Soil Pollution, Vol. 32 pp. 445 - 453, 1987
3. Y. Viisanen, J. Hatakka, S. Ahonen and M. Kulmala: Measurement of Particulate Carbon in Atmospheric Aerosol in Helsinki. Aerosol Science and Technology, Vol. 10, pp. 224 - 229, 1989
4. T. Raunemaa, A. Laaksonen, M. Kulmala and A. Hautojärvi: Capillary Impactor with Optical Detection in Collection of Carbonaceous Particles. Aerosol Science and Technology, Vol. 10, 386 - 389, 1989
5. Taisto Raunemaa, Markku Kulmala, Helena Saari, Markus Olin, Marita H. Kulmala: Indoor Air Aerosol Model: Transport Indoors and Deposition of Fine and Coarse Particles. Aerosol Science and Technology Vol 11, pp. 11-25, 1989
6. J. Kukkonen, T. Vesala, M. Kulmala: The Interdependence of Evaporation and Settling for Airborne Freely Falling Droplets. Journal of Aerosol Science Vol 20, No. 7, pp. 749-763, 1989
7. H. Saari, S. Luokkanen, M. Kulmala, S. Lehtinen, T. Raunemaa: Isolation and Characterization of Hot Particles from Chernobyl Fallout in Southwestern Finland. Health Physics Vol. 57, No. 6, pp. 975-984, 1989
8. Markku Kulmala, Ari Laaksonen: Binary nucleation of water-sulfuric acid system: Comparison of classical theories with different H<sub>2</sub>SO<sub>4</sub> saturation vapor pressures. J. Chem. Phys. 93:696-701, 1990.
9. J. Kalkkinen, T. Vesala, M. Kulmala: Binary Droplet Evaporation in the Presence of an Inert Gas: an Exact Solution of the Maxwell-Stefan Equations. Int. Comm. Heat Mass Transfer, Vol. 18, pp. 117 - 126, 1991
10. Markku Kulmala, Ari Laaksonen, Jorma Jokiniemi: Numerical Simulation of Binary Nucleation of Hydrogen Iodide and Water Vapours. J. Aerosol Sci. Vol. 22, pp. 149 - 157, 1991
11. Markku Kulmala, Timo Vesala: Condensation in the Continuum Regime. J. Aerosol Sci. Vol. 22, pp. 337 - 346, 1991
12. Markku Kulmala, Mihalis Lazaridis, Ari Laaksonen, Timo Vesala: Extended hydrates interaction model: Hydrate formation and the energetics of binary homogeneous nucleation. J. Chem. Phys. Vol. 94, pp. 7411 - 7413, 1991

13. Ari Laaksonen, Markku Kulmala: Homogeneous Heteromolecular Nucleation of Sulphuric Acid and Water Vapours in Stratospheric Conditions: a Theoretical Study of the Effect of Hydrate Interaction. *J. Aerosol Sci.* Vol. 22, pp. 779-787, 1991
14. Ari Laaksonen, Markku Kulmala: An explicit cluster model for binary nuclei in water – alcohol systems. *J. Chem. Phys.* Vol. 95, pp. 6745 - 6748, 1991.
15. Mihalis Lazaridis, Markku Kulmala, Ari Laaksonen: Binary heterogeneous nucleation of water–sulphuric acid system: the effect of hydrate interaction. *J. Aerosol Sci.* Vol. 22, pp. 823-830, 1991
16. Markku Kulmala, Ari Laaksonen, Steven L. Girshick: The self-consistency correction to homogeneous nucleation: extension to binary systems. *J. Aerosol Sci.* Vol. 23, pp. 309-312, 1992
17. Mihalis Lazaridis, Markku Kulmala, Boris Z. Gorbunov: Binary heterogeneous nucleation at a non-uniform surface. *J. Aerosol Sci.* Vol. 23, pp. 457-466, 1992
18. Timo Vesala, Markku Kulmala: Comparisons of uncoupled, film theoretical and exact solutions for binary droplet evaporation and condensation. *Physica A* Vol. 192, pp. 107-123, 1993
19. S.V. Mani, M. Kulmala, T. Vesala: Evaporation of polydisperse aerosols in humid environment. *Int. J. Heat Mass Transfer.* Vol. 36, pp. 705-711, 1993.
20. Markku Kulmala, Timo Vesala, Paul E. Wagner: An analytical expression for the rate of binary condensational growth. *Proc. R. Soc. Lond. A*, Vol. 441, pp. 589-605, 1993.
21. I.J. Ford, A. Laaksonen, M. Kulmala: Modification of the Dillmann-Meier theory of homogeneous nucleation. *J. Chem. Phys.*, Vol. 99, pp. 764-765, 1993.
22. Markku Kulmala: Condensational Growth and Evaporation in the Transition Regime: An analytical expression. *Aerosol Science and Technology*, Vol. 19, pp. 381-388, 1993.
23. Markku Kulmala: Comments on "New Explicit Equations for Accurate Calculation of Hydrometeors by the Diffusion of Water Vapor". *Journal of Atmospheric Science*, Vol. 50., No. 24, p. 4103, 1993.
24. M. Kulmala, A. Laaksonen, P. Korhonen, T. Vesala, T. Ahonen, J.C. Barrett: The effect of atmospheric nitric acid vapour on CCN activation. *J. Geophys Res.*, Vol. 98, No. D12, pp. 22949-22958, 1993.
25. A. Laaksonen, M. Kulmala, P.E. Wagner: On the cluster compositions in the classical binary nucleation theory. *J. Chem. Phys.*, Vol. 99, pp. 6832 - 6835, 1993.
26. Michael P. Anisimov, Kaarle Hämeri, Markku Kulmala: Construction and test of laminar flow diffusion chamber: homogeneous nucleation of DBP and n-Hexanol. *J. Aerosol Sci.*, Vol. 25, pp. 23-32, 1994 .
27. Y. Viisanen, R. Strey, A. Laaksonen, M. Kulmala: Measurement of the molecular content of binary nuclei. II. Use of the nucleation rate surface for water – ethanol. *J. Chem. Phys.*, Vol. 100, pp. 6062 – 6072, 1994.
28. A. Laaksonen, I.J. Ford, M. Kulmala: Revised parametrization of the Dillmann-Meier theory of homogeneous nucleation. *Phys. Rev. E*. Vol. 49, pp 5517 – 5524, 1994.
29. Pertti Hari, Markku Kulmala, Toivo Pohja, Tapani Lahti, Erkki Siivola, Lauri Palva, Pasi Aalto, Kaarle Hämeri, Timo Vesala, Sari Luoma, Erkki Pulliainen: Air Pollution in Eastern Lapland: Challenge for and Environmental Measurement Station. *Silva Fennica* Vol. 28, pp. 29 – 39, 1994.
30. Juha Nikmo, Jaakko Kukkonen, Timo Vesala, Markku Kulmala: A Model for Mass and Heat Transfer in an Aerosol Cloud. *J. Hazardous Materials* Vol. 38, pp. 293 – 311, 1994.
31. Evgeni Zapadinsky, Boris Gorbunov, Vladimir Voloshin, Markku Kulmala: Monte Carlo Calculation of Ice Cluster Energy on the Substrate with a Similar Structure. *J. Colloid and Interface Sci.* Vol. 166, pp. 286 – 293, 1994.
32. J. Kukkonen, M. Kulmala, J. Nikmo, T. Vesala, D.M. Webber, T. Wren: The Homogeneous Equilibrium Approximation in Models of Aerosols Cloud Dispersion. *Atmospheric Environment* Vol. 28, pp. 2763 – 2776, 1994.

33. Pekka Nygren, Pertti Hari, Taisto Raunemaa, Markku Kulmala, Sinikka Luokkanen, Maria Holmberg, Eero Nikinmaa: Behaviour of Cesium-137 from Chernobyl Fallout in a Scots Pine Canopy in southern Finland. *Can. J. For. Res.*, Vol. 24, pp. 1210 – 1215, 1994.
34. Hanna Vehkamäki, Pentti Paatero, Markku Kulmala, Ari Laaksonen: Binary Nucleation Kinetics: A Matrix Method. *J. Chem. Phys.*, Vol. 101, pp. 9997 – 10002, 1994.
35. A.A. Lushnikov, T. Vesala, M. Kulmala, P. Hari: A Semiphenomenological Model for Stomatal Gas Transport. *J. Theor. Biol.*, Vol. 171, pp. 291-301, 1994
36. Markku Kulmala, Veli-Matti Kerminen, Ari Laaksonen: Simulations on the effect of sulphuric acid formation on atmospheric aerosol concentrations. *Atmospheric Environment*, Vol. 29, pp. 377-382, 1995.
37. Markku Kulmala, Pekka Korhonen, Ari Laaksonen, Timo Vesala: Changes in cloud properties due to  $\text{NO}_x$  emissions. *Geophysical Research Letters*, Vol. 22, pp. 239-242, 1995.
38. Markku Kulmala, Timo Vesala, Jaroslav Schwartz, Jiri Smolik: Mass Transfer from a Drop - II: Theoretical Analysis of Temperature Dependent Mass Flux Correlation. *The International Journal of Heat and Mass Transfer*, Vol. 38, pp. 1705-1708, 1995.
39. T. Vesala, K. Hämeri, T. Ahonen, M. Kulmala, P. Hari, T. Pohja, E. Krissinel', N. Shokhirev, A.A. Lushnikov: Experimental and Numerical Analysis of Stomata: Absorption of Sulphur Dioxide and Transpiration by Pine Needles. *Atmospheric Environment*, Vol. 29, pp. 825-836, 1995.
40. M. Kulmala, H. Vehkamäki, T. Vesala, J.C. Barrett, C.F. Clement: Aerosol Formation in Diffusive Boundary Layer: Binary Homogeneous Nucleation of Ammonia and Water Vapours. *J. Aerosol Sci.*, Vol. 26, pp. 547-558, 1995.
41. Evgeni L. Zapadinsky, Markku Kulmala: Helmholtz free energy of a cluster on the coherent substrate: Monte Carlo calculations. *J. Chem. Phys.*, Vol. 102, 6858-6864, 1995.
42. A. Robert MacKenzie, Markku Kulmala, Ari Laaksonen, Timo Vesala: On theories of type 1 polar stratospheric cloud formation. *J. Geophys Res.*, Vol. 100, No. D6, pp. 11275-11288, 1995.
43. K. Hämeri, J. Augustin, M. Kulmala, T. Vesala, J. Mäkelä, P. Aalto, E. Krissinel': Evaluation of homogeneous droplet formation inside UCPC (TSI model 3025). *J. Aerosol Sci.*, Vol. 26, pp. 1003-1008, 1995.
44. A.A. Lushnikov and M. Kulmala: Source Enhanced Condensation in Monocomponent Disperse Systems. *Phys. Rev. E.*, Vol. 52, 1658-1668, 1995.
45. E.L. Zapadinsky, K.K. Sabelfeld, M. Kulmala, B.Z. Gorbunov, D.M. Rackimulova: Heterogeneous Nucleation in Non-Uniform Media: Numerical Simulations. *J. Aerosol Sci.*, Vol. 26, 1189-1195, 1995.
46. Anatoli Bogdan, Markku Kulmala, Boris Gorbunov, Alexander Kruppa: NMR study of Phase transition in pure water and binary  $\text{H}_2\text{O}/\text{HNO}_3$  films adsorbed on surface of pyrogenic silica. *J. Colloid and Interface Sci.*, Vol. 177, 79-87, 1996.
47. P. Korhonen, M. Kulmala, T. Vesala: Model Simulation of the Amount of Soluble Mass During Cloud Droplet Formation. *Atmospheric Environment*, Vol. 30, 1773-1785, 1996.
48. Kaarle Hämeri, Pasi Aalto, Markku Kulmala, Esko Sammaljärvi, Erik Spring, Pekka Pihkala: Formation of respirable particles during ski waxing. *J. Aerosol Science*, Vol. 27, 339-344, 1996.
49. Markku Kulmala, Pekka Korhonen, Timo Vesala, Hans-Christen Hansson, Kevin Noone, Birgitta Svenningsson: The effect of hygroscopicity on cloud droplet formation. *Tellus B*, Vol. 48B, 347-360, 1996.
50. A.A. Lushnikov, M. Kulmala, H. Arstila, E.L. Zapadinsky: Source Enhanced Condensation of a Single Component Vapor in the Transition Regime. *J. Aerosol Science*, Vol. 27, 853-867, 1996.
51. Charles F. Clement, Markku Kulmala, Timo Vesala: Theoretical consideration on sticking probabilities. *J. Aerosol Science*, Vol. 27, 869-882, 1996.

52. P. Korhonen, M. Kulmala, H.-C. Hansson, I.B. Svenningsson, N. Rusko: Hygroscopicity of pre-existing particle distribution and formation of cloud droplets: a model study. *Atmospheric Research*, Vol. 41, 249-266, 1996.
53. Kaarle Hämeri, Markku Kulmala, Pasi Aalto, Kirsti Leszczynski, Reijo Visuri, Kari Hämeikoski: The investigation of aerosol particle formation in urban background area of Helsinki. *Atmospheric Research*, Vol. 41, 281-298, 1996.
54. Kaarle Hämeri, Markku Kulmala, Evgenii Krissinel', Gennadi Kodenov: Homogeneous Nucleation in a Laminar Flow Diffusion Chamber: The Operation Principles and Possibilities for Quantitative Rate Measurements. *J. Chem. Phys.*, Vol. 105, 7683-7695, 1996.
55. Kaarle Hämeri, Markku Kulmala: Homogeneous Nucleation in a Laminar Flow Diffusion Chamber: The Effect of Temperature and Carrier Gas on Dibutyl Phthalate Vapour Nucleation Rate at High Supersaturations. *J. Chem. Phys.* Vol. 105, 7696-7704, 1996.
56. P.K. Quinn, T.L. Anderson, T.S. Bates, R. Dlugi, J. Heintzenberg, W. von Hoyningen-Huene, M. Kulmala, P.B. Russel and E. Swietlicki: Closure in Tropospheric Aerosol-Climate Research: A Review and Future Needs for Addressing Aerosol Direct Shortwave Radiative Forcing. *Beitr. Phys. Atmosph.* Vol. 69, 547-577, 1996
57. Markku Kulmala, Ari Laaksonen, Pasi Aalto, Timo Vesala, Liisa Pirjola, Veli-Matti Kerminen, Pekka Korhonen, Risto Hillamo, Aki Virkkula, Minna Aurela: Formation, growth, and properties of atmospheric aerosol particles and cloud droplets. *Geophysica* Vol. 32, 217-233, 1996
58. Timo Mattila, Markku Kulmala, Timo Vesala: On the condensational growth of a multicomponent droplet. *J. Aerosol Sci.* Vol. 28, 553-564, 1997.
59. Timo Vesala, Markku Kulmala, Richard Rudolf, Aron Vrtala, Paul E. Wagner: Models for condensational growth of binary aerosol particles. *J. Aerosol Sci.* Vol. 28, 565-598, 1997.
60. J.M. Mäkelä, P. Aalto, V. Jokinen, T. Pohja, A. Nissinen, S. Palmroth, T. Markkanen, K. Seitonen, H. Lihavainen, M. Kulmala: Observations of ultrafine aerosol particle formation and growth in boreal forest. *Geophysical Research Letters* Vol. 24, 1219-1222, 1997.
61. A. Wiedensohler, H.-C. Hansson, D. Orsini, M. Wendisch, F. Wagner, K.N. Bower, T.W. Choullarton, M. Wells, M. Parkin, K. Acker, W. Wieprecht, M.C. Facchini, J.A. Lind, S. Fuzzi, B.G. Arends, M. Kulmala: Night-time Formation and Occurrence of New Particles Associated with Orographic Clouds. *Atmospheric Environment* Vol. 31, 2545-2559, 1997. . Vol. 28, 901-917, 1997.
62. Hanna Arstila, Oleg V. Vasil'ev, Markku Kulmala: The role of the attractive potential of a droplet in unary and binary steady state nucleation. *J. Chem. Phys.* Vol. 107, 544-549, 1997.
63. Yrjö Viisanen, Markku Kulmala, Ari Laaksonen: Experiments on gas-liquid nucleation of sulfuric acid water. *J. Chem. Phys.* Vol. 107, 920-926, 1997.
64. Markku Kulmala, Ari Laaksonen, Robert J. Charlson, Pekka Korhonen: Clouds without supersaturation. *Nature* Vol. 388, 336-337, 1997.
65. Tuula Ahonen, Pasi Aalto, Üllar Rannik, Markku Kulmala, E. Douglas Nilsson, Sari Palmroth, Hanna Ylitalo, Pertti Hari: Variations and vertical profiles of trace gas and aerosol concentrations and CO<sub>2</sub> exchange in Eastern Lapland. *Atmospheric Environment* Vol. 31, 3351-3362, 1997.
66. Anatoli Bogdan, Markku Kulmala: Effect of acids on the water vapor uptake by pyrogenic silica. *J. Colloid and Interface Sci.*, Vol. 191, 95-101, 1997.
67. Markku Kulmala, Üllar Rannik, Evgeni L. Zapadinsky, Charles F. Clement: The effect of saturation fluctuations on droplet growth. *J. Aerosol Sci.*, Vol. 28, 1395-1409, 1997.
68. Ari Laaksonen, Jukka Hienola, Markku Kulmala, Frank Arnold: Supercooled cirrus cloud formation modified by nitric acid pollution of upper troposphere. *Geophys. Res. Letters*, Vol. 24, 3009-3012, 1997.
69. Gintautas Buzorius, Üllar Rannik, Jyrki M. Mäkelä, Timo Vesala, Markku Kulmala: Vertical aerosol particle fluxes measured by Eddy Covariance Technique Using Condensational Particle Counter. *J. Aerosol Sci.*, Vol. 29, 157-171, 1998.

70. E. Douglas Nilsson, Markku Kulmala: The potential for atmospheric mixing processes to enhance the binary nucleation rate. *J. Geophys. Res.*, Vol. 103, 1381-1389, 1998.
71. Liisa Pirjola, Markku Kulmala: Modelling the formation of  $\text{H}_2\text{SO}_4$  -  $\text{H}_2\text{O}$  particles in rural, urban and marine conditions. *Atmospheric Research*, Vol. 46, 321-347, 1998.
72. J. Smolik, J. Schwarz, M. Kulmala: Experimental determination of ventilation coefficients for 1-hexanol drops in air. *Atmospheric Research*, Vol. 46, 361-369, 1998.
73. Ari Laaksonen, Pekka Korhonen, Markku Kulmala, Robert J. Charlson: Modification of the Köhler Equation to Include Soluble Trace Gases and Slightly Soluble Substances. *J. Atmospheric Sci.*, Vol. 55, 853-862, 1998.
74. Liisa Pirjola, Ari Laaksonen, Pasi Aalto, Markku Kulmala: Sulfate Aerosol Formation in the Arctic Boundary Layer. *J. Geophys. Res.*, Vol. 103, 8309-8321, 1998.
75. Markku Kulmala, Ari Laaksonen, Liisa Pirjola: Parameterizations for sulfuric acid / water nucleation rates. *J. Geophys. Res.*, Vol. 103, 8301-8307, 1998.
76. A.R. MacKenzie, A. Laaksonen, E. Batris, M. Kulmala: The Turnbull correlation and the freezing of stratospheric aerosol droplets. *J. Geophys. Res.*, Vol. 103, 10875-10884, 1998.
77. Martin Wilck, Kaarle Hämeri, Frank Stratmann, Markku Kulmala: Determination of homogeneous nucleation rates from laminar flow diffusion chamber data. *J. Aerosol Sci.*, Vol. 29, 899-911, 1998.
78. Kari E.J. Lehtinen, Markku Kulmala, Timo Vesala, Jorma K. Jokiniemi: Analytical methods to calculate condensation rates of a multicomponent droplet. *J. Aerosol Sci.*, Vol. 29, 1035-1044, 1998.
79. Bogdan, A., Kulmala, M., Avramenko, N.: Reduction of enthalpy of fusion and anomalies during phase transitions in finely divided water. *Phys.Rev.Letters*, 81, 1042-1045, 1998
80. Markku Kulmala, Anne Toivonen, Timo Mattila, Pekka Korhonen: Variations of cloud droplet concentrations and the optical properties of clouds due to changing hygroscopicity: A model study. *J. Geophys. Res.*, 103, 16183-16195, 1998.
81. A.A. Lushnikov, M. Kulmala: Dimers in nucleating vapors. *Phys. Rev. E*, 58, 3157-3167, 1998.
82. A.A. Lushnikov, Markku Kulmala: Nucleation controlled formation and growth of disperse particles. *Physical Review Letters*, 81, 5165-5168, 1998
83. Marian de Reus, Johan Ström, Markku Kulmala, Liisa Pirjola, Jos Lelieveld, Cornelius Schiller, Martin Zöger: Airborne aerosol measurements in the tropopause region and the dependence of new particle formation on pre-existing particle number concentration. *J. Geophys. Res.*, 103, 31255-31263, 1998
84. Markku Kulmala, Anne Toivonen, Jyrki M. Mäkelä, Ari Laaksonen: Analysis of the growth of nucleation mode observed in Boreal forest. *Tellus B*, 50B, 449-462, 1998.
85. T. Vesala, J. Haataja, P. Aalto, N. Altimir, G. Buzorius, E. Garam, K. Hämeri, H. Ilvesniemi, V. Jokinen, P. Keronen, T. Lahti, T. Markkanen, J.M. Mäkelä, E. Nikinmaa, S. Palmroth, L. Palva, T. Pohja, J. Pumpanen, U. Rannik, E. Siivola, H. Ylitalo, P. Hari and M. Kulmala: Long-term field measurements of atmosphere-surface interactions in boreal forest combining forest ecology, micrometeorology, aerosol physics and atmospheric chemistry. *Trends in Heat, Mass & Momentum Transfer*, 4, 17-35, 1998
86. Hanna Arstila, Pekka Korhonen, Markku Kulmala: Ternary Nucleation: Kinetics and Application to Water-Ammonia-Hydrochloric Acid System. *J. Aerosol Sci.*, 30, 131-138, 1999.
87. G. Buzorius, K. Hämeri, J. Pekkanen, M. Kulmala: Spatial variation of aerosol number concentration in Helsinki city. *Atmospheric Environment*, 33, 553-565, 1999.
88. M. Väkevä, K. Hämeri, M. Kulmala, R. Lahdes, J. Ruuskanen, T. Laitinen: Street level versus rooftop concentrations of submicron aerosol particles and gaseous pollutants in an urban street canyon Lahti, Finland. *Atmospheric Environment*, 33, 1385-1397, 1999
89. Markku Kulmala, Ari Asmi, Liisa Pirjola: Indoor air aerosol model: the effect of outdoor air, filtration and ventilation on indoor concentrations. *Atmospheric Environment*, 33, 2133-2144, 1999



90. Markku Kulmala, Jukka Hienola, Liisa Pirjola, Timo Vesala, Masahiko Shimmo, Nuria Altimir, Pertti Hari: A model for  $\text{NO}_x$ - $\text{O}_3$ -terpene chemistry in chamber measurements of plant gas exchange. *Atmospheric Environment*, 33, 2145-2156, 1999
91. A. Bogdan, M. Kulmala: Aerosol silica as a possible candidate for the heterogeneous formation of nitric acid hydrates in the stratosphere. *Geophys. Res. Letters*, 26, 1433-1436, 1999
92. Liisa Pirjola, Markku Kulmala, Martin Wilck, Albrecht Bischoff, Frank Stratmann, Eckhard Otto: Formation of sulphuric acid aerosols and cloud condensation nuclei: an expression for significant nucleation and model comparison. *J. Aerosol Sci.*, 30, 1079-1094, 1999
93. Colin O'Dowd, Gordon McFiggans, David J. Creasey, Liisa Pirjola, Claudia Hoell, Michael H. Smith, Beverley J. Allan, John M.C. Plane, Dwayne E. Heard, James D. Lee, Michael Pilling, Markku Kulmala: On the photochemical production of new particles in the coastal boundary layer. *Geophysical Research Letters*, 26, 1707-1710, 1999
94. P. Hari, P. Keronen, J. Bäck, N. Altimir, T. Linkosalo, T. Pohja, M. Kulmala, T. Vesala: An improvement of the method for calibrating measurements of photosynthetic  $\text{CO}_2$  flux. *Plant, Cell and Environment*, 22, 1297-1302, 1999.
95. P. Korhonen, M. Kulmala, A. Laaksonen, Y. Viisanen, R. McGraw, J.H. Seinfeld: Ternary nucleation of  $\text{H}_2\text{SO}_4$ ,  $\text{NH}_3$  and  $\text{H}_2\text{O}$  in the atmosphere. *J. Geophys. Res.*, 104, 26349-26353, 1999.
96. E.J. Becker, C.D. O'Dowd, C. Hoell, P. Aalto, J.M. Mäkelä, M. Kulmala: Organic contribution to sub-micron aerosol evolution over the boreal forest - a case study. *Phys. Chem. Chem. Phys.*, 1, 5511-5516, 1999
97. Ari Laaksonen, Liisa Pirjola, Markku Kulmala, Karl-Heinz Wohlfrom, Frank Arnold, Frank Raes: Upper tropospheric  $\text{SO}_2$  conversion into sulfuric acid aerosols and cloud condensation nuclei. *J. Geophys. Res.*, 105, 1459-1469, 2000.
98. Jyrki M. Mäkelä, Ismo K. Koponen, Pasi Aalto, Markku Kulmala: Modal structure of number size distribution of ambient submicron particles at a Boreal forest site. *J. Aerosol Sci.*, 595-611, 2000.
99. Markku Kulmala, Liisa Pirjola, Jyrki M. Mäkelä: Stable Sulphate Clusters as a Source of New Atmospheric Particles. *Nature*, 404, 66-69, 2000
100. K.N. Bower, T.W. Choulaton, M.W. Gallanher, K.M. Beswick, M. Flynn, A.G. Allen, B.M. Davidson, J.D. James, L. Robertson, R.M. Harrison, C.N. Hewitt, J.N. Cape, G.G. McFadyen, C. Milford, M.A. Sutton, B.G. Martinsson, G. Frank, E. Swietlicki, J. Zhou, O.H. Berg, B. Menten, G. Papaspiropoulos, H.-C. Hansson, C. Leck, M. Kulmala, P. Aalto, M. Väkevä, A. Berner, M. Bizjak, S. Fuzzi, P. Laj, M.C. Facchini, G. Orsi, L. Ricci, M. Nielsens, B.J. Allan, H. Coe, G. McFiggans, J.M.C. Plane, J.L. Collett Jr, K.F. Moore, D.E. Sherman: ACE-2 HILLCLOUD: An overview of the ACE-2 Ground Based Cloud Experiment Tellus, B52, 749-777, 2000
101. Alex A. Lushnikov, Markku Kulmala: Foreign aerosol in nucleating vapour. *J. Aerosol Sci.*, 31, 651-672, 2000
102. Veli-Matti Kerminen, Aki Virkkula, Risto Hillamo, Anthony S. Wexler, Markku Kulmala: Secondary organics and atmospheric cloud condensation nuclei production. *J. Geophys. Res.*, 105, 9255-9264, 2000.
103. Veli-Matti Kerminen, Liisa Pirjola, Michael Boy, Arkke Eskola, Kimmo Teinilä, Lauri Laakso, Ari Asmi, Jukka Hienola, Antti Lauri, Veera Vainio, Kari Lehtinen, Markku Kulmala: Interaction between  $\text{SO}_2$  and submicron atmospheric particles. *Atmospheric Research*, 54, 41-57, 2000
104. G. Buzorius, Ü. Rannik, J. M. Mkel, P. Keronen, T. Vesala, M. Kulmala: Vertical aerosol fluxes measured by eddy covariance method and deposition of nucleation mode particles above a Scots pine forest in Southern Finland. *J. Geophys. Res.*, 105, 19905-19916, 2000
105. E. Douglas Nilsson, Liisa Pirjola, Markku Kulmala: The effect of atmospheric waves on aerosol nucleation and size distribution. *J. Geophys. Res.*, 105, 19917-19926, 2000
106. A.A. Lushnikov and M. Kulmala: Nucleation burst in a coagulating system. *Phys. Rev. E.*, 62, 4932-4939, 2000.

107. M. de Reus, J. Ström, J. Curtius, L. Pirjola, E. Vignati, F. Arnold, H.C. Hansson, M. Kulmala, J. Lelieveld, F. Raes: Aerosol Production and growth in upper free troposphere. *J. Geophys. Res.*, 105, 24751-24762, 2000.
108. L. Pirjola, C.D. O'Dowd, I.M. Brooks, M. Kulmala: Can new particle formation occur in the clean marine boundary layer? *J. Geophys. Res.*, 105, 26531-26546, 2000
109. M. Kulmala, K. Hämeri, J.M. Mäkelä, P.P. Aalto, L. Pirjola, M. Väkevä, E.D. Nilsson, I.K. Koponen, G. Buzorius, P. Keronen, U. Rannik, L. Laakso, T. Vesala, K. Bigg, W. Seidl, R. Forkel, T. Hoffmann, J. Spanke, R. Janson, M. Shimmo, H.-C. Hansson, C.D. O'Dowd, E. Becker, J. Paatero, K. Teinilä, Y. Viisanen, A. Laaksonen, E. Swietlicki, J. Salm, P. Hari, N. Altimir, R. Weber: Biogenic aerosol formation in the boreal forest. *Boreal Environment Research*, 5, 281-297, 2000
110. Jyrki M. Mäkelä, Miikka Dal Maso, Liisa Pirjola, Petri Keronen, Lauri Laakso, Markku Kulmala, Ari Laaksonen: Characteristic of the atmospheric particle formation at a Boreal forest site in Southern Finland. *Boreal Environment Research*, 5, 299-313, 2000
111. M. Kulmala, U. Rannik, L. Pirjola, M. Dal Maso, J. Karimäki, A. Asmi, A. Jäppinen, V. Karhu, H. Korhonen, S.-P. Malvikko, J. Raittila, S. Romakkaniemi, T. Suni, S. Yli-Koivisto, J. Paatero, P. Hari, T. Vesala: Characterization of atmospheric trace gas and aerosol concentrations at forest sites in southern and northern Finland using back trajectories. *Boreal Environment Research*, 5, 315-336, 2000
112. C.D. O'Dowd, E. Becker, J.M. Mäkelä, M. Kulmala: Aerosol physico-chemical characteristics over a boreal forest determined by volatility analysis. *Boreal Environment Research*, 5, 337-348, 2000
113. Pasi P. Aalto, Markku Kulmala: Using a cloud condensation nuclei counter to study CCN properties and concentrations. *Boreal Environment Research*, 5, 349-359, 2000
114. L. Pirjola, M. Kulmala: Aerosol dynamical model MULTIMONO. *Boreal Environment Research*, 5, 361-374, 2000
115. M. Kulmala, P. Korhonen, L. Laakso, L. Pirjola: Nucleation in Boreal forest boundary layer. *Environmental and Chemical Physics*, 22, 46-53, 2000.
116. Ü. Rannik, T. Petäjä, G. Buzorius, P. Aalto, T. Vesala, M. Kulmala: Deposition of nucleation mode particles into a Scots pine forest. *Environmental and Chemical Physics*, 22, 97-102, 2000.
117. C.F. Clement, L. Pirjola, M. dal Maso, J.M. Mäkelä, M. Kulmala: Analysis of particle formation bursts observed in Finland. *J. Aerosol Sci.*, 32, 217-236, 2001
118. Jukka Hienola, Markku Kulmala, Ari Laaksonen: Condensation and Evaporation of Water Vapor in MIXed Aerosols of Liquid Droplets and Ice: Numerical Comparison of Growth Rate Expressions. *J. Aerosol Sci.*, 32, 351-374, 2001
119. Ismo K. Koponen, Ari Asmi, Petri Keronen, Katri Puhto, Markku Kulmala: Indoor Air Measurement Campaign in Helsinki, Finland 1999 – The Effect of Outdoor Air Pollution on Indoor Air. *Atmospheric Environment*, 35, 1465-1477, 2001
120. Jiri Smolik, Lucie Dzubova, Jaroslav Schwartz, Markku Kulmala: Evaporation of ventilated water droplet: connection between heat and mass transfer. *J. Aerosol Sci.*, 32, 739-748, 2001
121. T. Vesala, A.U. Hannemann, B.P. Luo, M. Kulmala, Th. Peter: Rigorous treatment of time-dependent trace gas uptake by droplets including bulk diffusion and surface accommodation. *J. Aerosol Sci.*, 32, 843-860, 2001
122. Markku Kulmala, Paul E. Wagner: Mass accommodation and uptake coefficients - a quantitative comparison *J. Aerosol Sci.*, 32, 833-841, 2001
123. R. Rudolf, A. Vrtala, M. Kulmala, T. Vesala, Y. Viisanen, P.E. Wagner: Experimental study of sticking probabilities for condensation of nitric acid – water vapor mixtures. *J. Aerosol Sci.*, 32, 913-932, 2001
124. Robert J. Charlson, John H. Seinfeld, Athanasios Nenes, Markku Kulmala, Ari Laaksonen, M. Cristina Facchini: Reshaping the theory of cloud formation. *Science*, 292, 2026-2027, 2001

125. A.A. Lushnikov, M. Kulmala: Kinetics of nucleation controlled formation and condensation growth of disperse particles. *Phys. Rev. E*, 63, 061109, 2001
126. H. Lihavainen, Y. Viisanen, M. Kulmala: Homogeneous nucleation of n-pentanol in a laminar flow diffusion chamber. *J. Chem. Phys.*, 144, 10031-10038, 2001
127. M. Kulmala, K. Hämeri, P.P. Aalto, J.M. Mäkelä, L. Pirjola, E.D. Nilsson, G. Buzorius, Ü. Rannik, M. Dal Maso, W. Seidl, T. Hoffmann, R. Jansson, H.-C. Hansson, Y. Viisanen, A. Laaksonen, C.D. O'Dowd: Overview of the international project on Biogenic aerosol formation in the boreal forest (BIOFOR). *Tellus*, 53B, 324-343, 2001
128. Pasi Aalto, Kaarle Hämeri, Edo Becker, Rodney Weber, Jaan Salm, Jyrki M. Mäkelä, Claudia Hoell, Colin D. O'Dowd, Hans Karlsson, Hans-Christen Hansson, Minna Väkevä, Ismo K. Koponen, Gintautas Buzorius and Markku Kulmala. Physical characterization of aerosol particles during nucleation events. *Tellus*, 53B, 344-358, 2001
129. K. Hämeri, M. Väkevä, P.P. Aalto, M. Kulmala, E. Swietlicki, J. Zhou, W. Seidl, E. Becker and C. D. O'Dowd. Hygroscopic and CCN properties of aerosol particles in boreal forests. *Tellus*, 53B, 359-379, 2001
130. G. Buzorius, Ü. Rannik, D. Nilsson, M. Kulmala: Vertical fluxes, and micrometeorology during aerosol particle formation events. *Tellus*, 53B, 394-405, 2001
131. E.D. Nilsson, Ü. Rannik, M. Kulmala, G. Buzorius, C.D. O'Dowd: Effect of the continental boundary layer evolution, convection, turbulence and entrainment on aerosol formation. *Tellus* 53B, 441-461, 2001.
132. M. Kulmala, M. Dal Maso, J. M. Mäkelä, L. Pirjola, M. Väkevä, P. Aalto, P. Miikkulainen, K. Hämeri, C.D. O'Dowd: On the formation, growth and composition of nucleation mode particles. *Tellus*, 53B, 479-490, 2001
133. Liisa Pirjola, Markku Kulmala: Development of particle size and composition distribution with a novel aerosol dynamics model, *Tellus*, 53B, 491-509, 2001
134. A.A. Lushnikov, M. Kulmala: Nonsingular self-preserving regimes of coagulation-condensation. *Phys. Rev. E.*, 64, 031605, 2001
135. M. Boy, M. Kulmala: Nucleation events in the continental boundary layer: Influence of physical and meteorological parameters. *Atm. Chem. Phys. Discuss.*, 1, 239-276, 2001; *Atmos. Chem. Phys.*, 2, 1-16, 2002
136. Veli-Matti Kerminen, Liisa Pirjola, Markku Kulmala: How significantly does coagulation scavenging limit atmospheric particle production? *J. Geophys. Res.*, 106, 24119 - 24125, 2001.
137. D. Petersen, R. Ortner, A. Vrtala, P.E. Wagner, M. Kulmala, A. Laaksonen: Soluble - insoluble transition in binary heterogeneous nucleation. *Phys. Rev. Lett.*, 87, 225703, 2001
138. M. Väkevä, M. Kulmala, F. Stratmann, K. Hämeri: Field measurements of hygroscopic properties and state of mixing of nucleation mode particles. *Atm. Chem. Phys. Discuss.*, 1, 379-409, 2001; *Atmos. Chem. Phys.*, 2, 55-66, 2002
139. Colin D. O'Dowd, Edo Becker, Markku Kulmala: Mid-latitude North-Atlantic aerosol characteristics in clean and polluted air. *Atmos. Res.*, 58, 167-185, 2001
140. M. Kulmala, A. Lauri, H. Vehkamäki, A. Laaksonen, D. Petersen, P.E. Wagner: Strange Predictions by Binary Heterogeneous Nucleation Theory Compared with a quantitative Experiment". *J. Phys. Chem. B*, 105, 11800-11808, 2001
141. M. Noppel, H. Vehkamäki, M. Kulmala: An improved model for hydrate formation in sulfuric acid-water nucleation. *J. Chem. Phys.*, 116, 218-228, 2002
142. Alexander Fladerer, Markku Kulmala, Reinhard Strey: Test of the applicability of Kulmala's analytical expression for the mass flux of growing droplets in highly supersaturated systems: Growth of homogeneously nucleated water droplets. (Technical note). *J. Aerosol Sci.*, 33, 391-399, 2002

143. N. Altimir, T. Vesala, P. Keronen, M. Kulmala, P. Hari: Methodology for direct field measurements of ozone flux to foliage with shoot chambers. *Atmospheric Environment*, 36, 19-29, 2002
144. Veli-Matti Kerminen, Markku Kulmala: Analytical formulae connecting the “real” and the “apparent” nucleation rate and the nuclei number concentration for atmospheric nucleation events. *J. Aerosol Sci.*, 33, 609-622, 2002
145. C.D. O’Dowd, P.P. Aalto, K. Hämeri, M. Kulmala, T. Hoffmann: Aerosol formation: atmospheric particles from organic vapours. *Nature*, 416, 497-498, 2002
146. Tareq Hussein, Kaarle Hämeri, Markku Kulmala: Long term indoor-outdoor aerosol measurements in Helsinki, Finland. *Boreal Environment Research*, 7, 141-150, 2002.
147. C.D. O’Dowd, J.L. Jimenez, R. Bahreini, R.C. Flagan, J. H. Seinfeld, K. Hämeri, L. Pirjola, M. Kulmala, S. G. Jennings, T. Hoffmann: Marine aerosol formation from biogenic iodide emissions. *Nature*, 417, 632-636, 2002.
148. I. Napari, M. Noppel, H. Vehkamäki, M. Kulmala: An improved model for ternary nucleation of sulfuric acid - ammonia - water. *J. Chem. Phys.*, 116, 4221-4227, 2002.
149. Üllar Rannik, Nuria Altimir, Jukka Raittila, Tanja Suni, Anca Gaman, Tareq Hussein, Teemu Hölttä, Hannu Lassila, Maria Latokartano, Antti Lauri, Anas Natsheh, Tuukka Petäjä, Riikka Sorjamaa, Hanna Ylä-Mella, Petri Keronen, Frank Berninger, Timo Vesala, Pertti Hari, Markku Kulmala: Fluxes of carbon dioxide and water vapour over Scots pine forest and clearing. *Agricultural and Forest Meteorology*, 111, 187-2002, 2002.
150. A.A. Lushnikov, M. Kulmala: Singular self-preserving regimes of coagulation processes. *Phys. Rev. E.*, 65 (4), 041604, 2002
151. Masahiko Shimmo, Heidi Adler, Tuulia Hyötyläinen, Kari Hartonen, Markku Kulmala, and Marja-Liisa Riekkola: Analysis of Particulate Polycyclic Aromatic Hydrocarbons by On-line Copuled Supercritical Fluid Extraction - Liquid Chromatography - Gas Chromatography - Mass Spectrometry. *Atmospheric Environment*, 36, 2985-2995, 2002
152. Athanasios Nenes, Robert J. Charlson, M. Cristina Facchini, Markku Kulmala, Ari Laaksonen, John H. Seinfeld: Can chemical effects on cloud droplet number rival the first indirect effect? *Geophysical Research Letters*, 29, No 17, 1848, doi:10.1029/2002GL015295, 2002
153. M. Boy, M. Kulmala: Influence of spectral solar radiance on the formation of new particles in the continental boundary layer. *Atm. Chem. Phys. Discuss.*, 2, 1317-1350, 2002
154. K.E.J. Lehtinen, M. Kulmala: A model for particle formation and growth in the atmosphere with molecular resolution in size. *Atmospheric Chemistry and Physics Discuss.* 2, 1791-1807, 2002; *Atmos. Chem. Phys.* 3, 251-257, 2003
155. K. Hämeri, I.K. Koponen, P.P. Aalto, and M. Kulmala, M.: The particle detection efficiency of the TSI-3007 condensation particle counter, *J. Aerosol Sci.* 33, 1463-1469, 2002
156. I. Salma, M. Dal Maso, M. Kulmala, G. Zaray: Modal characteristics of particulate matter in urban atmospheric aerosols. *Microchemical Journal*, 73, 19-26, 2002
157. I. Napari, M. Kulmala, H. Vehkamäki: Ternary nucleation of inorganic acids, ammonia, and water. *J. Chem. Phys.*, 117, 8418-8425, 2002
158. Tatu Anttila, Veli-Matti Kerminen, Markku Kulmala: A tool for estimating the contribution of water-soluble organic compounds to the particle mass and condensational growth in the atmosphere. *Atmospheric Environment*, 36, 5897-5980, 2002
159. Liisa Pirjola, Hannele Korhonen, Markku Kulmala: Condensation/evaporation of insoluble organic vapour as functions of source rate and saturation vapour pressure. *J. Geophys. Res.*, 107, D11, 10.1029/2001JD001228, 2002
160. C.D. O’Dowd, K. Hämeri, J.M. Mäkelä, L. Pirjola, M. Kulmala, S.G. Jennings, H. Berresheim, H.-C. Hansson, G. de Leeuw, G.J. Kunz, A.G. Allen, C.N. Hewitt, A. Jackson, Y. Viisanen, T. Hoffmann: A dedicated study of new particle formation and fate in the coastal environment (PARFORCE): Overview of objectives and initial achievements. *J. Geophys. Res.*, 107, D19, 8108, 10.1029/2001JD000555, 2002

161. C.D. O'Dowd, K. Hämeri, J.M. Mäkelä, M. Väkevä, P.P. Aalto, G. de Leeuw, G.J. Kunz, E. Becker, H.-C. Hansson, A.G. Allen, R.M. Harrison, H. Berresheim, C. Kleefeld, M. Geever, S. G. Jennigs, M. Kulmala: Coastal new particle formation: Environmental conditions and aerosol physico-chemical characteristics during nucleation bursts. *J. Geophys. Res.*, 107, D19, 8107, 10.1029/2000JD000206, 2002
162. M. Kulmala, P. Korhonen, I. Napari, A. Karlsson, H. Berresheim, C.D. O'Dowd: Aerosol formation during PARFORCE: Ternary Nucleation of H<sub>2</sub>SO<sub>4</sub>, NH<sub>3</sub> and H<sub>2</sub>O. *J. Geophys. Res.*, 107, D19, 8111, 10.1029/2001JD000900, 2002
163. L. Pirjola, C.D. O'Dowd, M. Kulmala: A model prediction of the yield of CCN from coastal nucleation events *J. Geophys. Res.*, D19, 10.10129/2000JD000213, 2002
164. H. Berresheim, T. Elste, H.G. Tremmel, A.G. Allen, H.-C. Hansson, K. Rosman, M. Dal Maso, J.M. Mäkelä, M. Kulmala, C.D. O'Dowd: Gas-aerosol relationships of H<sub>2</sub>SO<sub>4</sub>, MSA and OH: Observations in the coastal marine boundary layer at Mace Head, Ireland. *J. Geophys. Res.*, 107, D19, 8100, 10.1029/2000JD000229, 2002
165. M. Dal Maso, M. Kulmala, K.E.J. Lehtinen, J.M. Mäkelä, P. Aalto, C.D. O'Dowd: Condensation and coagulation sinks and formation of nucleation mode particles in coastal and boreal forest boundary layers. *J. Geophys. Res.*, 107, D19, 10.1029/2001JD001053, 2002.
166. I. Napari, M. Noppel, H. Vehkamäki, M. Kulmala: Parameterization of ternary nucleation rates for H<sub>2</sub>SO<sub>4</sub>-NH<sub>3</sub>-H<sub>2</sub>O vapors. *J. Geophys. Res.*, 107, D19, 4381, 10.1029/2002JD002132, 2002
167. Lauri Laakso, Jyrki M. Mäkelä, Liisa Pirjola, Markku Kulmala: Model studies on ion-induced nucleation in the atmosphere. *J. Geophys. Res.*, 107, D20, 4427, 10.1029/2002JD002140, 2002
168. H. Vehkamäki, M. Kulmala, I. Napari, K.E.J. Lehtinen, C. Timmreck, M. Noppel, A. Laaksonen: An improved parameterization for sulfuric acid/water nucleation rates for tropospheric and stratospheric conditions. *J. Geophys. Res.*, 107, D22, 4622, 10.1029/2002JD002184, 2002
169. Ismo K. Koponen, Aki Virkkula, Risto Hillamo, Veli-Matti Kerminen, Markku Kulmala: Number size distributions and concentrations of marine aerosols: observations during a cruise between the English Channel and the coast of Antarctica. *J. Geophys. Res.*, 107, D24, 4753, 10.1029/2002JD002533, 2002
170. Evgeni Zapadinsky, Liisa Pirjola, Markku Kulmala: Effect of Cross-correlated fluctuations on the aerosol dynamics: Monte Carlo Simulations. *Monte Carlo Methods and Applications*, 8, 405-419, 2002
171. A. Bogdan, M. Kulmala: Finely divided aqueous systems: fundamental and application aspects. *Current Topics in Colloid & Interface Science*. 5, 141-156, 2002
172. Jukka Hienola, Markku Kulmala, Ari Laaksonen: Model studies on the effect of nitric acid vapour on cirrus cloud activation. *Atm. Res.*, 65, 235-250, 2003
173. A.B. Nadytko, E.R. Shchukin, M. Kulmala, K.E.J. Lehtinen, A. Laaksonen: Evaporation and Condensational Growth of Liquid Droplets in Non-Isothermal Gas Mixtures. *Aerosol Sci. Tech.*, 37, 315-324, 2003
174. Mia Pohjola, Liisa Pirjola, Jaakko Kukkonen, Markku Kulmala: Modelling of the influence of aerosol processes for the dispersion of vehicular exhaust plumes in street environment. *Atmospheric Environment*, 37, 339-351, 2003
175. K.E.J. Lehtinen, M. Kulmala, P. Ctyroky, T. Futschek, R. Hintzenberger: Effect of electrolyte diffusion on the growth of NaCl particles by water vapour condensation. *J. Physical Chemistry A.*, 107, 346-350, 2003
176. Pertti Hari, Maarit Raivonen, Timo Vesala, J. William Munger, Kim Pilegaard, Markku Kulmala: Ultraviolet radiation generates NO<sub>x</sub> emissions from Scots pine shoots. *Nature*, 422, 134, 2003
177. H. Adler, H. Siren, M. Kulmala, M.-L. Riekkola: Capillary electrophoretic separation of dicarboxylic acids in atmospheric aerosol particles. *J. Chromatography A*, 990, 133-141, 2003

178. P.E. Wagner, D. Kaller, A. Vrtala, A. Lauri, M. Kulmala, A. Laaksonen: Nucleation probability in binary heterogeneous nucleation of water – *n*-propanol vapor mixtures on insoluble and soluble nanoparticles. *Phys. Rev. E*, 67, 021605, 2003
179. J. J. de Hartog, G. Hoek, A. Peters, K.L. Timonen, A. Ibaldo-Mulli, B. Brunekreef, J. Heinrich, P. Tiittanen, J.H. van Wijnen, W. Kreyling, M. Kulmala, J. Pekkanen: Effects of Fine and Ultrafine Particles on Cardiorespiratory Symptoms in Elderly Subjects with Coronary Heart Disease. *American Journal of Epidemiology*, 157, 613-623, 2003
180. K. Hämeri, A. Gaman, T. Hussein, J. Räisänen, R. Niemelä, P.P. Aalto, and M. Kulmala: Particle concentration profile in a vertical displacement flow: A study in an industrial hall, *Appl. Occup. Env. Hyg.*, 18, 183-192, 2003
181. P. Tunved, H.-C. Hansson, M. Kulmala, P. Aalto, Y. Viisanen, H. Karlsson, A. Kristensson, E. Swietlicki, M. Dal Maso, J. Ström, M. Komppula: One year boundary layer aerosol size distribution data from five Nordic background stations. *Atmos. Chem. Phys. Discuss.*, 3, 2783-2833, 2003; *Atmos. Chem. Phys.*, 3, 2183-2205, 2003
182. M. Boy, T. Petj, M. Dal Maso, Ü. Rannik, J. Rinne, P. Aalto, A. Laaksonen, P. Vaattovaara, J. Joutsensaari, T. Hoffmann, J. Warnke, M. Apostolaki, E. G. Stephanou, M. Tsapakis, A. Kouvarakis, C. Pio, A. Carvalho, A. Römpp, G. Moortgat, C. Spirig, A. Guenther, J. Greenberg, P. Ciccioli and M. Kulmala: Overview of the field measurement campaign in Hyytiälä, August 2001 in the frame of the EU project OSOA. *Atmos. Chem. Phys. Discuss.*, 3, 3769-3831, 2003 *Atmos. Chem. Phys.*, 4, 657-678, 2004
183. A. Bogdan, M. Kulmala, A.R. MacKenzie, A. Laaksonen: The study of finely divided aqueous systems as an aid to understand the surface chemistry of PSCs: The case of HCl/H<sub>2</sub>O and HNO<sub>3</sub>/HCl/H<sub>2</sub>O systems. *J. Geophys. Res.*, 108 (D10), art. no. 4303, 2003
184. A. Bogdan, M.J. Molina, M. Kulmala, A.R. MacKenzie, A. Laaksonen: The study of finely divided aqueous systems as an aid to understand the surface formation mechanisms of PSCs: The case of HNO<sub>3</sub>/H<sub>2</sub>O and H<sub>2</sub>SO<sub>4</sub>/H<sub>2</sub>O systems. *J. Geophys. Res.*, 108 (D10), art. no. 4302, 2003
185. L. Pirjola, S. Tyro, L. Tarrason, M. Kulmala: A monodisperse aerosol dynamics module - a promising candidate for use in long-range transport models: Box-model tests. *J. Geophys. Res.*, 108, art. no. 4258, 2003
186. G. Buzorius, Ü. Rannik, P. Aalto, M. dal Maso, E.D. Nilsson, K.E.J. Lehtinen, M. Kulmala: On Particle formation prediction in continental boreal forest using micrometeorological parameters. *J. Geophys. Res.*, 108, 4377, 10.1029/2002JD002850, 2003
187. G. Buzorius, Ü. Rannik, D. Nilsson, T. Vesala, T., M. Kulmala: Evaluation of particle size dependent dry deposition velocity measurements for particles smaller than 100 nm. *J. Aerosol Sci.*, 34, 747-764, 2003
188. M. Komppula, H. Lihavainen, J. Hatakka, J. Paatero, P. Aalto, M. Kulmala, Y. Viisanen: Observations of new particle formation and size distributions at two different heights and surroundings in subarctic area in Northern Finland. *J. Geophys. Res.*, 108, art. no. 4295, 2003
189. Lauri Laakso, Tareq Hussein, Päivi Aarnio, Mika Komppula, Veijo Hiltunen, Yrjö Viisanen, Markku Kulmala: Diurnal and annual characteristics of particle mass and number concentrations in urban, rural and Arctic environments in Finland, *Atmospheric Environment*, 37, 2629-2641, 2003
190. L. Laakso, T. Grönholm, Ü. Rannik, H. Vehkamäki, M. Kosmala, V. Fiedler, M. Kulmala: Ultrafine particle scavenging coefficients calculated from six years field measurements. *Atmospheric Environment*, 37, 3605-3613, 2003
191. H. Vehkamäki, M. Kulmala, K.E.J. Lehtinen, M. Noppel: Modelling binary homogeneous nucleation of water - sulphuric acid vapours: parameterisation for high temperature emissions. *Env. Science Technology*, 37, 3392-3398, 2003
192. H. Korhonen, K.E.J. Lehtinen, L. Pirjola, I. Napari, H. Vehkamäki, M. Noppel, M. Kulmala: Simulation of atmospheric nucleation mode: a comparison of nucleation models and size distribution representations. *J. Geophys. Res.*, 4471, doi:10.1029/2002JD003305

193. Ü. Rannik, P. Aalto, P. Keronen, T. Vesala, M. Kulmala: Interpretation of aerosol particle fluxes over pine forest: Dry deposition and random errors. *J. Geophys. Res.*, 108, 4544, doi:10.1029/2003JD003542, 2003
194. K. Plauskaite, A. Gaman, K.E.J. Lehtinen, G. Mordas, V. Ulevicius, M. Kulmala: A comparison study of meteorological parameters, trace gases and nucleation events at preila and Hyytil. *Env. Physics and Chemistry*, 25, 60-69, 2003
195. I.K. Koponen, A. Virkkula, R. Hillamo, V.-M. Kerminen, M. Kulmala: Number size distributions and concentrations of the continental summer aerosols in Queen Maud Land, Antarctica. *J. Geophys. Res.*, 108, 4587, doi:10.1029/2003JD003614, 2003
196. H. Korhonen, I. Napari, C. Timmreck, H. Vehkamäki, L. Pirjola, K.E.J. Lehtinen, A. Lauri, M. Kulmala: Heterogeneous nucleation as a potential sulphate coating mechanism of atmospheric mineral dust particles and implications of coated dust on new particle formation. *J. Geophys. Res.*, 108, 4546, doi:10.1029/2003JD003553, , 2003
197. L. Laakso, M. Kulmala, K.E.J. Lehtinen: The effect of condensation rate enhancement factor on 3-nm (diameter) particle formation in binary ion-induced and homogeneous nucleation. *J. Geophys. Res.*, 108, 4574, doi:10.1029/2003JD003432, 2003
198. M. Noppel, H. Vehkamäki, M. Kulmala: Reversible work of formation of a layer of a new phase on a spherical conductor within a uniform multicomponent macroscopic mother phase. *J. Chem. Phys.*, 119, 10733-10744, 2003
199. Tareq Hussein, Arto Puustinen, Pasi P. Aalto, Jyrki M. Mäkelä, Kaarle Hämeri, Markku Kulmala: Urban aerosol number size distributions, *Atmos. Chem. Phys. Discuss.*, 3, 5139-5184, 2003, *Atmos. Chem. Phys.* 4, 391-411, 2004
200. M. Kulmala, T. Suni, K.E.J. Lehtinen, M. Dal Maso, A. Reissell, Ü. Rannik, P. Aalto, P. Keronen, H. Hakola, J. Bäck, T. Hoffmann, T. Vesala, P. Hari: A new feedback mechanism linking forest, aerosols and climate, *Atmos. Chem. Phys. Discuss.*, 3, 6039-6107, 2003, *Atmos. Chem. Phys.*, 4, 557-562, 2004
201. M. Boy, Ü. Rannik, K.E.J. Lehtinen, V. Tarvainen, H. Hakola, M. Kulmala: Nucleation events in the continental boundary layer - long term statistical analysis of aerosol relevant characteristics. *J. Geophys. Res.*, 108, 4547, doi:10.1029/2003JD003838, 2003
202. Markku Kulmala: How Particles Nucleate and Grow *Science*, 302, 1000-1001, 2003
203. Andreas Limbeck, Markku Kulmala, Hans Puxbaum: Substantial secondary organic aerosol formation in the atmosphere via heterogeneous polymerization of isoprene on acidic particles. *Geophys. Res. Letters*, Art No 1996, 2003
204. Theo Kurten, Markku Kulmala, Miikka Dal Maso, Tanja Suni, Anni Reissell, Hanna Vehkamäki, Pertti Hari, Ari Laaksonen, Yrjö Viisanen, Timo Vesala: Estimations of different forest-related contributions to the radiative balance using observations in Southern Finland. *Boreal Environment Research*, 8, 275-285, 2003
205. T. Suni, J. Rinne, A. Reissell, N. Altimir, P. Keronen, Ü. Rannik, M. Dal Maso, M. Kulmala, T. Vesala: Long-term measurements of surface fluxes above a Scots pine forest in Hyytiälä, southern Finland, 1996-2001 *Boreal Environment Research*, 8, 287-301, 2003
206. T.M. Ruuskanen, A. Reissell, P. Keronen, P.P. Aalto, L. Laakso, T. Grönholm, P. Hari, M. Kulmala: Atmospheric trace gas and aerosol concentration measurements in eastern Lapland. *Boreal Environment Research*, 8, 335-349 , 2003
207. Mika Komppula, Miikka Dal Maso, Heikki Lihavainen, Pasi Aalto, Markku Kulmala, Yrjö Viisanen: Comparison of new particle formation events at two locations in northern Finland. *Boreal Environment Research*, 8, 395-404, 2003
208. K.E.J. Lehtinen, H. Korhonen, M. Dal Maso, M. Kulmala: On the concept of condensation sink diameter. *Boreal Environment Research*, 8, 405-411, 2003
209. H. Kokkola, S. Romakkaniemi, M. Kulmala, A. Laaksonen: A cloud microphysics model including trace gas condensation and sulphate chemistry. *Boreal Environment Research*, 8, 413-424, 2003

210. P. Keronen, A. Reissell, Ü. Rannik, E. Siivola, T. Pohja, V. Hiltunen, P. Hari, M. Kulmala, T. Vesala: Ozone flux measurements over a Scots pine forest site using eddy covariance method: performance evaluation and comparison with flux-profile method. *Boreal Environment Research*, 8, 425-443, 2003
211. M. Raivonen, T. Vesala, P. Keronen, M. Kulmala, P. Hari: Measuring leaf-level NO<sub>x</sub> flux in field conditions: the role of blank chambers. *Boreal Environment Research*, 445-455, 2003
212. A.B. Nadytko, J. Mäkelä, F. Yu, M. Kulmala, A. Laaksonen: Comparison of experimental mobility equivalent diameter for small cluster ions with theoretical particle diameter corrected by effect of vapor polarity. *Chemical Physics Letters*, 382, 6-11, 2003
213. Lihavainen H., Kerminen V.-M., Komppula M., Hatakka J., Aaltonen V., Kulmala M. & Viisanen Y. 2003. Production of "potential" cloud condensation nuclei associated with atmospheric new particle formation in northern Finland. *J. Geophys. Res.* 108: 4782 doi: 10.1029/2003JD003887, 2003
214. Masahiko Shimmo, Pii Anttila, Kari Hartonen, Tuulia Hyötyläinen, Jussi Paatero, Markku Kulmala, Marja-Liisa Riekkola: Identification of organic compounds in atmospheric aerosol particles by on-line supercritical fluid extraction – liquid chromatography – gas chromatography – mass spectrometry. *J. Chromatography A*, 1022, 151-159, 2003
215. Masahiko Shimmo, Jaana Jäntti, Pasi Aalto, Kari Hartonen, Tuulia Hyötyläinen, Markku Kulmala, Marja-Liisa Riekkola: Characterisation of organic compounds in aerosol particles in Finnish forest by on-line coupled supercritical fluid extraction - liquid chromatography - gas chromatography - mass spectrometry. *Analytical and Bioanalytical Chemistry* 378, 1982-1990, 2004.
216. A.I. Gaman, M. Kulmala, H. Vehkamäki, I. Napari, M. Mircea, M.C. Facchini, A. Laaksonen: Binary homogeneous nucleation in water-succinic acid and water-glutaric acid systems. *J. Chem. Phys.*, 120, 282-291, 2004
217. N. Altimir, J.-P. Tuovinen, T. Vesala, M. Kulmala, P. Hari: Measurements of ozone removal by Scots pine shoots: calibration of a stomatal uptake model including the non-stomatal component. *Atmospheric Environment*, 38, 2387-2398, 2004
218. M. Kulmala, H. Vehkamäki, T. Petäjä, M. dal Maso, A. Lauri, V.-M. Kerminen, W. Birmili, P.H. McMurry: Formation and growth rates of ultrafine atmospheric particles: A review of observations. *J. Aerosol Sci.*, 35, 143-176, 2004
219. M. Kulmala, M. Boy, T. Suni, A. Gaman, M. Raivonen, V. Aaltonen, H. Adler, T. Anttila, V. Fiedler, T. Grönholm, H. Hellen, E. Herrmann, R. Jalonen, M. Jussila, M. Komppula, M. Kosmala, K. Plauskaite, R. Reis, N. Savola, P. Soini, S. Virtanen, P. Aalto, M. Dal Maso, H. Hakola, P. Keronen, H. Vehkamäki, Ü. Rannik, K.E.J. Lehtinen, P. Hari: Aerosols in boreal forest: wintertime relations between formation events and bio-geo-chemical activity. *Boreal Environment Research*, 9, 63-74, 2004
220. P. Mönkkönen, Uma, R., Srinivasan, D., Koponen, I.K., Lehtinen, K.E.J., Hämeri, K., Suresh, R., Sharma, V.P. and Kulmala M.: Relationship and Variations of Aerosol Number and PM<sub>10</sub> Mass Concentrations in a Highly Polluted Urban Environment – New Delhi, India, *Atmos. Environ.*, 38, 425–433, 2004
221. Mönkkönen, P., I.K. Koponen, K.E.J. Lehtinen, R. Uma, D. Srinivasan, K. Hämeri and M. Kulmala: Death of nucleation and Aitken mode particles: Observations at extreme atmospheric conditions and their theoretical explanation, *J. Aerosol Sci.*, 35, 781-787, 2004
222. Anttila T, Kerminen, V.-M., Kulmala, M., Laaksonen, A., and O'Dowd, C.D.: Modelling the formation of organic particles in the atmosphere. *Atmospheric Chemistry and Physics Discussions*, 3, 6147-6178, 2003; *Atmospheric Chemistry and Physics*, 4, 1071-1083, 2004
223. Kulmala, M., Kerminen, V.-M., Anttila, T., Laaksonen, A., and O'Dowd C.D.: Organic aerosol formation via sulphate cluster activation. *Journal of Geophysical Research*, 109, D04205, doi:10.1029/2003JD003961, 2004
224. A. Gaman, Ü. Rannik, P. Aalto, T. Pohja, E. Siivola, M. Kulmala, T. Vesala: Relaxed eddy accumulation system for size-resolved aerosol particle flux measurements. *J. Atmospheric and Oceanic Technology*, 21, 933-943, 2004



225. Veli-Matti Kerminen, Kari E.J. Lehtinen, Tatu Anttila, Markku Kulmala: Dynamics of atmospheric nucleation mode particles: a timescale analysis. *Tellus*, 56B, 135-146, 2004
226. Korhonen H., Lehtinen K.E.J., Kulmala M. Multicomponent Aerosol Dynamic Model UHMA: Model development and validation, *Atmos. Chem. Phys. Discuss.* 4, 471-506, 2004 *Atmos. Chem. Phys.* 4, 757-771, 2004
227. A.A. Lushnikov, M. Kulmala: Charging of aerosol particles in the near free-molecule regime. *The European Physical Journal D*, 29, 345-355, 2004
228. K.E.J. Lehtinen, U. Backman, J.J. Jokiniemi, M. Kulmala: Three-body collisions as a particle formation mechanism in silver nanoparticle synthesis. *J. Colloid and Interface Science*, 274, 526-530, 2004
229. M. Shimmo, K. Saarnio, P. Aalto, T. Hyötyläinen, M. Kulmala, M.-L. Riekkola: Particle size distribution and gas-particle partition on aromatic hydrocarbons in Helsinki urban area. *J. Atmospheric Chemistry*, 47, 223-241, 2004
230. J. Pekkanen, M. Kulmala: Exposure assessment of ultrafine particles in epidemiological time series studies. *Scandinavian Journal of Work, Environment and Health*, 30 S2, 9-18, 2004
231. T. Hussein, K. Hämeri, P. Aalto, L. Kakko, M. Kulmala: Particle size characterization and indoor-to-outdoor relationship in atmospheric aerosols in Helsinki. *Scandinavian Journal of Work, Environment and Health*, 30 S2, 54-62 2004
232. A. Asmi, L. Pirjola, M. Kulmala: A sectional indoor aerosol model. *Scandinavian Journal of Work, Environment and Health*, 30, S2, 64-73, 2004
233. Antti-Pekka Hyvärinen, Heikki Lihavainen, Yrjö Viisanen, Markku Kulmala: Homogeneous Nucleation rates of higher n-alcohols measured in laminar flow diffusion chamber. *J. Chem. Phys.*, 120, 11621-11633, 2004
234. L. Pirjola, K. E. J. Lehtinen, H.-C. Hansson, M. Kulmala: How important is nucleation in regional/global modelling? *Geophys. Res. Letters*, 31, L12109, doi:10.1029/2004GL019525, 2004
235. Charles F. Clement, Kari E.J. Lehtinen, Markku Kulmala: Size diffusion for the growth of newly nucleated aerosol. *J. Aerosol Sci.*, 35, 1439-1451, 2004
236. Paul M. Winkler, Aron Vrtala, Paul E. Wagner, Markku Kulmala, Kari E.J. Lehtinen, Timo Vesala: Mass and Thermal accommodation during gas-liquid condensation of water. *Phys. Rev. Letters*, 93, Art. No. 075701, 2004
237. Jarkko Niemi, Heikki Tervahattu, Hanna Vehkamäki, Markku Kulmala, Tarja Koskentalo, Markus Sillanpää: Characterization and source identification of fine particle episode in Finland. *Atmospheric Environment*, 38, 5003-5014, 2004
238. J. Virta, M. Koivula, T. Hussein, S. Koponen, H. Hakkarainen, H.R. Kymäläinen, K. Hämeri, M. Kulmala, M. Hautala: Emissions from thermal insulations - Development and characteristics of the test apparatus. *Buiding and Environment*, 40, 797-802, 2005
239. L. Laakso, T. Anttila, K.E.J. Lehtinen, P.P. Aalto, M. Kulmala, U. Hörrak, J. Paatero, M. Hanke, F. Arnold: Kinetic nucleation and ions in boreal particle formation events. *Atmospheric Chemistry and Physics Discussions*, 4, 3911-3945, 2004 *Atmospheric Chemistry and Physics*, 4, 2353-2366, 2004
240. L. Laakso, T. Petäjä, K.E.J. Lehtinen, M. Kulmala, J. Paatero, U. Hörrak, H. Tammet, J. Joutsensaari: Ion production rate in a boreal forest based on on ion, particle and radiation measurements. *Atmospheric Chemistry and Physics Discussions*, 4, 3947-3973, 2004; *Atmospheric Chemistry and Physics*, 4, 1895-1912
241. H. Vehkamäki, M. Dal Maso, T. Hussein, R. Flanagan, A. Hyvärinen, J. Lauros, J. Merikanto, P. Mönkkönen, M. Pihlatie, K. Salminen, L. Sogacheva, T. Thum, T. Ruuskanen, P. Keronen, P.P. Aalto, P. Hari, K.E.J. Lehtinen, Ü. Rannik, M. Kulmala: Atmospheric particle formation events at Värriö measurement station in Finnish Lapland 1998-2002. *Atmospheric Chemistry and Physics Discussions*, 4, 3535-3563, 2004; *Atmospheric Chemistry and Physics*, 4, 2015-2023, 2004

242. K. Sellegri, M. Hanke, B. Umann, F. Arnold, M. Kulmala: Measurements of organic gases during aerosol formation events in the boreal forest atmosphere during QUEST. *Atmospheric Chemistry and Physics Discussions*, 4, 4641-4664, 2004; *Atmospheric Chemistry and Physics*, 5, 373-384, 2005.
243. H. Tammet, M. Kulmala: Simulation tool for atmospheric aerosol nucleation bursts. *J. Aerosol Sci.* 36, 173-196, 2005
244. H. Vehkamäki, I. Napari, M. Kulmala, M. Noppel: Stable ammonium bisulphate clusters in the atmosphere. *Phys. Rev. Letters*, 93, Art. No. 148501, 2004
245. Veli-Matti Kerminen, Tatu Anttila, Kari E.J. Lehtinen, Markku Kulmala: Parametrization for atmospheric new-particle formation: application to a system involving sulfuric and condensable water-soluble organic vapors. *Aerosol Science and Technology*, 38, 1001-1008, 2004
246. T. Vesala, M. Kulmala, P.E. Wagner: Comment on "Postnucleation droplet growth in supersaturated gas with arbitrary vapor concentration". *J. Geophys. Res.*, 109, Art.No. D21209, 2004.
247. Marko Vana, Markku Kulmala, Miikka Dal Maso, Urmars Hörrak, Eduard Tamm: Comparative study of nucleation mode aerosol particles and intermediate air ions formation events at three sites. *J. Geophys. Res.*, 109, Art. No. D17201, 2004.
248. P. Mönkkönen, I.K. Koponen, K.E.J. Lehtinen, K. Hämeri, R. Uma, M. Kulmala: Measurements in highly polluted Asian mega city: observations of aerosol number size distribution, modal parameters and nucleation events. *Atmospheric Chemistry and Physics Discussions*, 4, 5407-5431, 2004; *Atmospheric Chemistry and Physics* 5, 57-66, 2005
249. M. Kulmala, L. Laakso, K.E.J. Lehtinen, I. Riipinen, M. Dal Maso, T. Anttila, V.-M. Kerminen, U. Hörrak, H. Tammet: Initial steps of aerosol growth. *Atmospheric Chemistry and Physics Discussions*, 4, 5433-5454, 2004; *Atmospheric Chemistry and Physics* 4, 2553-2560
250. M. Boy, M. Kulmala, T.M. Ruuskanen, M. Pihlatie, A. Reissell, P.P. Aalto, M. Dal Maso, H. Hellen, H. Hakola, R. Jansson, M. Hanke, F. Arnold: Sulfuric acid closure and contribution to nucleation mode particle growth. *Atmospheric Chemistry and Physics Discussions*, 4, 6341-6377, 2004 *Atmospheric Chemistry and Physics*, 5, 863-878, 2005.
251. V. Tarvainen, H. Hakola, H. Hellen, J. Bäck, P. Hari, M. Kulmala: Temperature and light dependence of the VOC emissions of Scots pine. *Atmospheric Chemistry and Physics Discussions*, 4, 6691-6718, 2004 *ATMOSPHERIC CHEMISTRY AND PHYSICS* 5: 989-998 MAR 22 2005
252. M. Kulmala, T. Petäjä, P. Mönkkönen, I.K. Koponen, M. Dal Maso, P.P. Aalto, K.E.J. Lehtinen, V.-M. Kerminen: On the growth of nucleation mode particles: source rates of condensable vapor in polluted and clean environments. *Atmospheric Chemistry and Physics Discussions*, 4, 6943-6966, 2004 *Atmospheric Chemistry and Physics*, 5, 409-416, 2005
253. A. Laaksonen, T. Vesala, M. Kulmala, P.M. Winkler, P.E. Wagner: On cloud modelling and the mass accommodation coefficient of water. *Atmospheric Chemistry and Physics Discussions*, 4, 7281-7290, 2004; *Commentary on cloud modelling and the mass accommodation coefficient of water.* *Atmospheric Chemistry and Physics*, 5, 461-464, 2005
254. K. Hämeri, T. Hussein, M. Kulmala, P. Aalto: Measurements of fine and ultrafine particles in Helsinki: connection between outdoor and indoor air quality. *Boreal Environment Research*, 9, 459-467, 2004.
255. T. Petäjä, V.-M. Kerminen, K. Hämeri, P. Vaattovaara, J. Joutsensaari, W. Junkermann, A. Laaksonen, M. Kulmala: Effects of SO<sub>2</sub> oxidation on ambient aerosol growth in water and ethanol vapours. *Atmospheric Chemistry and Physics Discussions*, 4, 7725-7755, 2004. *Atmospheric Chemistry and Physics* 5, 767-779, 2005
256. P. Tunved, H. Korhonen, J. Ström, H.-C. Hansson, K.E.J. Lehtinen, M. Kulmala: A pseudo-Lagrangian model study of the size distribution properties over Scandinavia: transport from Aspvreten to Värriö. *Atmospheric Chemistry and Physics Discussions*, 4, 7757-7794, 2004.
257. A.A. Lushnikov, M. Kulmala: Flux-matching theory of particle charging. *Physical Review E*, 70, 046413, 2004

258. P. Davidovits, D.R. Worsnop, J.T. Jayne, C.E. Kolb, P. Winkler, A. Vrtala, P.E. Wagner, M. Kulmala, K.E.J. Lehtinen, T. Vesala, M. Mozurkewich: Mass accommodation coefficient of water vapor on liquid water. *Geophys. Res. Letters*, 31, Art. No. L22111, 2004
259. T. Hussein, K. Hämeri, P.P. Aalto, P. Paatero, M. Kulmala: Modal structure and spatial-temporal variations of urban and suburban aerosols in Helsinki - Finland. *Atm. Environment*, 39, 1655-1668, 2005
260. H. Korhonen, V.-M. Kerminen, M. Kulmala: Development and application of new analytical method to estimate the condensable vapour concentrations in the atmosphere. *J. Geophys. Res.* 110, D05201, 2005
261. M. Komppula, H. Lihavainen, V.-M. Kerminen, M. Kulmala, Y. Viisanen: Measurements of cloud droplet activation of aerosol particles at a clean subarctic background site. *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES* 110 (D6): Art. No. D06204 MAR 22 2005
262. H. Tervahattu, J. Juhanaja, V. Vaida, A.F. Tuck, J.V. Niemi, K. Kupiainen, M. Kulmala, H. Vehkamäki: Fatty acids on continental sulfate aerosol particles. *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES* 110 (D6): Art. No. D06207 MAR 25 2005
263. C.D. O'Dowd, J.L. Jimenez, R. Bahreini, R.C. Flagan, J. H. Seinfeld, K. Hämeri, L. Pirjola, M. Kulmala, S. G. Jennings, T. Hoffmann: Reply to "Marine Aerosols and iodide emissions" by G. McFiggans. *Nature*, 433 (7026), E13-E14, 2005
264. T. Berndt, O. Böge, F. Stratmann, J. Heintzenberg, M. Kulmala: Reapid formation of new sulfuric acid particles at near-atmospheric conditions. *Science*, 307 (5710), 698-700, 2005
265. E. Zapadinsky, A. Lauri, M. Kulmala: The molecular approach to heterogeneous nucleation. *J. Chem. Phys.* 122, 114709, 2005
266. A. Määttänen, H. Vehkamäki, A. Lauri, S. Merikallio, J. Kauhanen, H. Savijärvi, M. Kulmala: Nucleation studies in the Martian atmosphere. *J. Geophys Res.-Planets* 110(E2), E02002, 2005
267. Tisler P, Zapadinsky E, Kulmala M: Initiation of rain by turbulence-induced condensational growth of cloud droplets. *GEOPHYSICAL RESEARCH LETTERS* 32 (6): Art. No. L06806 MAR 19 2005
268. Vesala T, Suni T, Rannik U, Keronen P, Markkanen T, Sevanto S, Gronholm T, Smolander S, Kulmala M, Ilvesniemi H, Ojansuu R, Uotila A, Levula J, Makela A, Pumpanen J, Kolari P, Kulmala L, Altimir N, Berninger F, Nikinmaa E, Hari P: Effect of thinning on surface fluxes in a boreal forest. *GLOBAL BIOGEOCHEMICAL CYCLES* 19 (2): Art. No. GB2001 APR 2 2005
269. P. Anttila, T. Hyötyläinen, A. Heikkilä, M. Jussila, J. Finell, M. Kulmala, M.-L. Riekkola: Determination of organic acids in aerosol particles from a coniferous forest by liquid chromatography - mass spectrometry. *J. Separation Science*, 28, 337-346, 2005
270. Tunved P, Nilsson ED, Hansson HC, Strom J, Kulmala M, Aalto P, Viisanen Y: Aerosol characteristics of air masses in northern Europe: Influences of location, transport, sinks, and sources. *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES* 110 (D7): Art. No. D07201 APR 2 2005
271. Kulmala M, Lehtinen KEJ, Laakso L, Mordas G, Hameri K: On the existence of neutral atmospheric clusters. *BOREAL ENVIRONMENT RESEARCH* 10 (2): 79-87 APR 25 2005
272. Paatero P, Aalto P, Picciotto S, Bellander T, Castano G, Cattani G, Cyrus J, Kulmala M, Lanki T, Nyberg F, Pekkanen J, Peters A, Sunyer J, Forastiere F: Estimating time series of aerosol particle number concentrations in the five HEAPSS cities on the basis of measured air pollution and meteorological variables. *ATMOSPHERIC ENVIRONMENT* 39 (12): 2261-2273 APR 2005
273. Niemi JV, Tervahattu H, Virkkula A, Hillamo R, Teinila K, Koponen IK, Kulmala M: Continental impact on marine boundary layer coarse particles over the Atlantic Ocean between Europe and Antarctica. *ATMOSPHERIC RESEARCH* 75, 301-321, 2005
274. Fiedler V, Dal Maso M, Boy M, Aufmhoff H, Hoffmann J, Schuck T, Birmili W, Hanke M, Uecker J, Arnold F, Kulmala M: The contribution of sulphuric acid to atmospheric particle formation and growth: a comparison between boundary layers in Northern and Central Europe *ATMOSPHERIC CHEMISTRY AND PHYSICS* 5, 1773-1785, 2005

275. Kerminen VM, Lihavainen H, Komppula M, Viisanen Y, Kulmala M: Direct observational evidence linking atmospheric aerosol formation and cloud droplet activation. *Geophys. Res. Letters*, 32, Art. No. L14803, 2005
276. Hussein T, Hämeri K, Heikkinen MSA, Kulmala M: Indoor and outdoor particle size characterization at a family house in Espoo-Finland *Atmospheric Environment*, 39, 3697-3709, 2005
277. Virta J, Koivula M, Hussein T, Koponen S, Hakkarainen H, Kymäläinen HR, Hämeri K, Kulmala M, Hautala M: Emissions from thermal insulations - Part 1: development and characteristics of the test apparatus *BUILDING AND ENVIRONMENT* 40 (6): 797-802 JUN 2005
278. Aalto P, Hämeri K, Paatero P, Kulmala M, Bellander T, Berglind N, Bouso L, Castano-Vinyals G, Sunyer J, Cattani G, Marconi A, Cyrus J, von Klot S, Peters A, Zetzsche K, Lanki T, Pekkanen J, Nyberg F, Sjøvall B, Forastiere F: Aerosol particle number concentration measurements in five European cities using TSI-3022 condensation particle counter over a three-year period during health effects pollution on susceptible subpopulations *J. of the Air & Waste Management Association* 55, 1064-1076, 2005
279. Niemi JV, Tervahattu H, Vehkamäki H, Martikainen J, Laakso L, Kulmala M, Aarnio P, Koskentalo T, Sillanpää M, Makkonen U: Characterization of aerosol particle episodes in Finland caused by wildfires in Eastern Europe *Atmospheric Chemistry and Physics*, 5, 2299-2310, 2005
280. Mönkkönen P, Pai P, Maynard A, Lehtinen KEJ, Hämeri K, Rechkemmer P, Ramachandran G, Prasad B, Kulmala M: Fine particle number and mass concentration measurements in urban Indian households *Science of the Total Environment* 347, 131-147, 2005
281. B. Wehner, T. Petäjä, M. Boy, C. Engler, W. Birmili, T. Tuch, A. Wiedensohler, M. Kulmala: The contribution of sulfuric acid and non-volatile compounds on the growth of freshly formed atmospheric aerosols. *Geophys. Res. Letters*, 32, Art. No. L17810, 2005
282. H. Korhonen, V.-M. Kerminen, K.E.J. Lehtinen, M. Kulmala: CCN activation and cloud processing in sectional aerosol models with low size resolution. *Atmospheric Chemistry and Physics*, 5, 2561-2570, 2005
283. A.A. Lushnikov, M. Kulmala: A kinetic theory of particle charging in the free-molecule regime. *J. Aerosol Sci.*, 36, 1069-1088, 2005
284. T. Anttila, H. Vehkamäki, I. Napari and M. Kulmala: Effect of ammonium bisulphate formation on atmospheric water-sulphuric acid-ammonia nucleation. *Boreal Environ Res* 10, 511-523, 2005
285. P. Anttila, T. Rissanen, M. Shimmo, M. Kallio, T. Hyötyläinen, M. Kulmala and M.-L. Riekkola: Organic compounds in atmospheric aerosols from a Finnish coniferous forest. *Boreal Environ Res* 10, 371-384, 2005
286. J. Bäck, P. Hari, H. Hakola, E. Juurola and M. Kulmala: Dynamics of monoterpene emissions in *Pinus sylvestris* during early spring. *Boreal Environ Res* 10, 409-424, 2005
287. M. Dal Maso, M. Kulmala, I. Riipinen, R. Wagner, T. Hussein, P.P. Aalto and K.E.J. Lehtinen: Formation and growth of fresh atmospheric aerosols: eight years of aerosol size distribution data from SMEAR II, Hyytiälä, Finland. *Boreal Environ Res* 10, 323-336, 2005
288. A. Grini, H. Korhonen, K.E.J. Lehtinen, I.S.A. Isaksen and M. Kulmala: A combined photochemistry/aerosol dynamics model: model development and a study of new particle formation. *Boreal Environ Res* 10, 525-541, 2005
289. P. Hari and M. Kulmala: Station for measuring ecosystem-atmosphere relations (SMEAR II). *Boreal Environ Res* 10, 315-322, 2005
290. A. Hirsikko, L. Laakso, U. Hörrak, P.P. Aalto, V.-M. Kerminen and M. Kulmala: Annual and size dependent variation of growth rates and ion concentrations in boreal forest. *Boreal Environ Res* 10, 357-369, 2005
291. T. Hussein, M. Dal Maso, T. Petäjä, I.K. Koponen, P. Paatero, P.P. Aalto, K. Hämeri and M. Kulmala: Evaluation of an automatic algorithm for fitting the particle number size distributions. *Boreal Environ Res* 10, 337-355, 2005

292. S. Hyvönen, H. Junninen, L. Laakso, M. Dal Maso, T. Grönholm, B. Bonn, P. Keronen, P. Aalto, V. Hiltunen, T. Pohja, S. Launiainen, P. Hari, H. Mannila, M. Kulmala: A look at aerosol formation using data mining techniques, *Atmos Chem Phys* 5, 3345-3356, 2005
293. I. Kourttchev, T. Ruuskanen, W. Maenhaut, M. Kulmala and M. Claeys: Observation of 2-methyltetrols and related photo-oxidation products of isoprene in boreal forest aerosols from Hyytiälä, Finland, *Atmos Chem Phys* 5, 2761-2770, 2005
294. M. Kulmala, P. Hari, A. Laaksonen, T. Vesala and Y. Viisanen: Research Unit of Physics, Chemistry and Biology of Atmospheric Composition and Climate Change: overview of recent results. *Boreal Environ Res* 10, 459-477, 2005
295. Y.S. Lyubovtseva, L. Sogacheva, M. Dal Maso, B. Bonn, P. Keronen and M. Kulmala: Seasonal variations of trace gases, meteorological parameters, and formation of aerosols in boreal forests. *Boreal Environ Res* 10, 493-510, 2005
296. G. Mordas, M. Kulmala, T. Petäjä, P.P. Aalto, V. Matulevicius, V. Grigoraitis, V. Ulevicius, V. Grauslys, A. Ukkonen and K. Hämeri: Design and performance characteristics of a condensation particle counter UF-02proto. *Boreal Environ Res* 10, 543-552, 2005
297. J. Rinne, T.M. Ruuskanen, A. Reissell, R. Taipale, H. Hakola and M. Kulmala: On-line PTR-MS measurements of atmospheric concentrations of volatile organic compounds in a European boreal forest ecosystem. *Boreal Environ Res* 10, 425-436, 2005
298. T.M. Ruuskanen, P. Kolari, J. Bäck, M. Kulmala, J. Rinne, H. Hakola, R. Taipale, M. Raivonen, N. Altimir and P. Hari: On-line field measurements of monoterpene emissions from Scots pine by proton-transfer-reaction mass spectrometry. *Boreal Environ Res* 10, 553-567, 2005
299. S. Saarikoski, T. Mäkelä, R. Hillamo, P.P. Aalto, V.-M. Kerminen and M. Kulmala: Physico-chemical characterization and mass closure of size-segregated atmospheric aerosols in Hyytiälä, Finland. *Boreal Environ Res* 10, 385-400, 2005
300. L. Sogacheva, M. Dal Maso, V.-M. Kerminen and M. Kulmala: Probability of nucleation events and aerosol particle concentration in different air mass types arriving at Hyytiälä, southern Finland, based on back trajectories analysis. *Boreal Environ Res* 10, 479-491, 2005
301. Gaman AI, Napari I, Winkler PM, Vehkamäki H, Wagner PE, Strey R, Viisanen Y, Kulmala M: Homogeneous nucleation of n-nonane and n-propanol mixtures: A comparison of classical nucleation theory and experiments. *JOURNAL OF CHEMICAL PHYSICS* 123 (24): Art. No. 244502 DEC 22 2005
302. Hussein T, Korhonen H, Herrmann E, Hämeri KH, Lehtinen KEJ, Kulmala M: Emission rates due to indoor activities: Indoor aerosol model development, evaluation, and applications. *AEROSOL SCIENCE AND TECHNOLOGY* 39 (11): 1111-1127 NOV 2005
303. von Klot S, Peters A, Aalto P, Bellander T, Berglind N, D'Ippoliti D, Elosua R, Hormann A, Kulmala M, Lanki T, Lowel H, Pekkanen J, Picciotto S, Sunyer J, Forastiere F (HEAPSS Study Grp): Ambient air pollution is associated with increased risk of hospital cardiac readmissions of myocardial infarction survivors in five European cities. *CIRCULATION* 112 (20): 3073-3079 NOV 15 2005
304. P. Tunved, H.C. Hansson, V.-M. Kerminen, J. Ström, M. Dal Maso, H. Lihavainen, Y. Viisanen, P.P. Aalto, M. Komppula and M. Kulmala, High natural aerosol loading over boreal forests, *Science* 312 (2006) 261-263
305. A. Bogdan, M.J. Molina, K. Sassen and M. Kulmala, Formation of low-temperature cirrus from H<sub>2</sub>SO<sub>4</sub>/H<sub>2</sub>O aerosol droplets, *J Phys Chem A* 110 (2006) 12541-12542
306. A. Virkkula, I.K. Koponen, K. Teinil, R. Hillamo, V.-M. Kerminen and M. Kulmala, Effective real refractive index of dry aerosols in the Antarctic boundary layer, *Geophys Res Lett* 33 (2006) L06805
307. R.E.P. Sotiropoulou, E. Tagaris, C. Pilinis, T. Anttila and M. Kulmala, Modeling new particle formation during air pollution episodes: Impacts on aerosol and cloud condensation nuclei, *Aerosol Sci Technol* 40 (2006) 557-572

308. J.D. Allan, M.R. Alfarra, K.N. Bower, H. Coe, J.T. Jayne, D.R. Worsnop, P.P. Aalto, M. Kulmala, T. Hyötylinen, F. Cavalli and A. Laaksonen, Size and composition measurements of background aerosol and new particle growth in a Finnish forests during QUEST 2 using an Aerodyne Aerosol Mass Spectrometer, *Atmos Chem Phys* 6 (2006) 315-327
309. M. Kulmala, K.E.J. Lehtinen and A. Laaksonen, Cluster activation theory as an explanation of the linear dependence between formation rate of 3 nm particles and sulphuric acid concentration, *Atmos Chem Phys* 6 (2006) 787-793
310. V. Aaltonen, H. Lihavainen, V.-M. Kerminen, M. Komppula, J. Hatakka, K. Eneroth, M. Kulmala and Y. Viisanen, Measurements of optical properties of atmospheric aerosols in Northern Finland, *Atmos Chem Phys* 6 (2006) 1155-1164
311. S. Fuzzi, M.O. Andreae, B.J. Huebert, M. Kulmala, T.C. Bond, M. Boy, Doherty SJ, Guenther A, Kanakidou M, Kawamura K, Kerminen VM, Lohmann U, Russell LM, Poschl U., Critical assessment of the current state of scientific knowledge, terminology, and research needs concerning the role of organic aerosols in the atmosphere, climate, and global change, *Atmos Chem Phys* 6 (2006) 2017-2038
312. M. Komppula, S.-L. Sihto, H. Korhonen, H. Lihavainen, V.-M. Kerminen, M. Kulmala and Y. Viisanen, New particle formation in air mass transported between two measurement sites in Northern Finland, *Atmos Chem Phys* 6 (2006) 2811-2824
313. H. Tammiet, U. Hörrak, L. Laakso and M. Kulmala, Factors of air ion balance in a coniferous forest according to measurements in Hyytilä, Finland, *Atmos Chem Phys* 6 (2006) 3377-3390
314. Virkkula, A., Teinila, K., Hillamo, R., Kerminen, V. -M., Saarikoski, S., Aurela, M., Viidanoja, J., Paatero, J., Koponen, I. K., Kulmala, M., Chemical composition of boundary layer aerosol over the Atlantic Ocean and at an Antarctic site, *Atmos Chem Phys* 6 (2006) 3407-3421
315. S.-L. Sihto, M. Kulmala, V.-M. Kerminen, M. Dal Maso, T. Petj, H. Korhonen, F. Arnold, R. Janson, M. Boy, A. Laaksonen and K.E.J. Lehtinen, Atmospheric sulphuric acid and aerosol formation: implications from atmospheric measurements for nucleation and early growth mechanisms, *Atmos Chem Phys* 6 (2006) 4079-4091
316. M. Boy, O. Hellmuth, H. Korhonen, E.D. Nilsson, D. ReVelle, A. Turnipseed, F. Arnold and M. Kulmala, MALTE - model to predict new aerosol formation in the lower troposphere, *Atmos Chem Phys* 6 (2006) 4499-4517
317. P. Risnen, A. Bogdan, K. Sassen, M. Kulmala and M.J. Molina, Impact of H<sub>2</sub>SO<sub>4</sub>/H<sub>2</sub>O coating and ice crystal size on radiative properties of sub-visible cirrus, *Atmos Chem Phys* 6 (2006) 4659-4667
318. J.V. Niemi, S. Saarikoski, H. Tervahattu, T. Mkel, R. Hillamo, H. Vehkamäki, L. Sogacheva and M. Kulmala, Changes in background aerosol composition in Finland during polluted and clean periods studied by TEM/EDX individual particle analysis, *Atmos Chem Phys* 6 (2006) 5049-5066
319. D.V. Spracklen, K.S. Carslaw, M. Kulmala, V.-M. Kerminen, G.W. Mann and S.-L. Sihto, The contribution of boundary layer nucleation events to total particle concentrations on regional and global scales, *Atmos Chem Phys* 6 (2006) 5631-5648
320. M.A. Pohjola, L. Pirjola, J. Kukkonen and M. Kulmala, Correction to modelling of the influence of aerosol processes for the dispersion of vehicular exhaust plumes in street environment, *Atmospheric Environment* 40 (2006) 311-314
321. T. Hussein, A. Karppinen, J. Kukkonen, J. Hrkönen, P.P. Aalto, K. Hmeri, V.-M. Kerminen and M. Kulmala, Meteorological dependence of size-fractionated number concentrations of urban aerosol particles, *Atmos Environ* 40 (2006) 1427-1440
322. T. Hussein, T. Glytsos, J. Ondracek, P. Dohnyosova, V. Zdimal, K. Hmeri, M. Lazaridis, J. Smolik and M. Kulmala, Particle size characterization and emission rates during indoor activities in a house, *Atmos Environ* 40 (2006) 4285-4307
323. M. Raivonen, B. Bonn, M.J. Sanz, T. Vesala, M. Kulmala and P. Hari, UV-induced NO<sub>y</sub> emissions from Scots pine: Could they originate from photolysis of deposited HNO<sub>3</sub>? *Atmos Environ* 40 (2006) 6201-6213

324. E. Vartiainen, M. Kulmala, T.M. Ruuskanen, R. Taipale, J. Rinne and H. Vehkamki, Formation and growth of indoor air aerosol particles as a result of D-limonene oxidation, *Atmos Environ* 40 (2006) 7882-7892
325. Sillanpaa, M., Hillamo, R., Saarikoski, S., Frey, A., Pennanen, A., Makkonen, U., Spolnik, Z., Van Grieken, R., Branis, M., Brunekreef, B., Chalbot, M.-C., Kuhlbusch, Th., Sunyer, J., Kerminen, V.-M., Kulmala, M., Salonen, R.O., Chemical composition and mass closure of particulate matter at six urban sites in Europe, *Atmos Environ* 40 (2006) Suppl. 2, 212-223
326. J. Lauros, E.D. Nilsson, H. Vehkamki and M. Kulmala, Atmospheric variability and binary homogeneous nucleation: A parametrisation and conditions required for a significant effect, *Atmos Res* 82 (2006) 503-513
327. I. Napari, R. Makkonen, M. Kulmala and H. Vehkamki, Parameterization of ammonia and water content of atmospheric droplets with fixed number of sulfuric acid molecules, *Atmos Res* 82 (2006) 514-522
328. M. Vana, E. Tamm, U. Hörrak, A. Mirme, H. Tammet, L. Laakso, P.P. Aalto and M. Kulmala, Charging state of atmospheric nanoparticles during the nucleation burst events, *Atmos Res* 82 (2006) 536-546
329. I. Riipinen, B. Svenningsson, M. Bilde, A. Gaman, K.E.J. Lehtinen and M. Kulmala, A method for determining thermophysical properties of organic material in aqueous solutions: Succinic acid, *Atmos Res* 82 (2006) 579-590
330. H. Hakola, V. Tarvainen, J. Bck, H. Ranta, B. Bonn, J. Rinne and M. Kulmala, Seasonal variation of mono- and sesquiterpene emission rates of Scots pine, *Biogeosciences* 3 (2006) 93-101
331. N. Altimir, P. Kolari, J.-P. Tuovinen, T. Vesala, J. Bck, T. Suni, M. Kulmala and P. Hari, Foliage surface ozone deposition: a role for surface moisture? *Biogeosciences* 3 (2006) 209-228
332. T. Rissanen, T. Hyötylinen, M. Kallio, J. Kronholm, M. Kulmala and M.-L. Riekkola, Characterization of organic compounds in aerosol particles from a coniferous forest by GC-MS, *Chemosphere* 64 (2006) 1185-1195
333. C.F. Clement, L. Pirjola, C.H. Twohy, I.J. Ford and M. Kulmala, Analytic and numerical calculations of the formation of a sulphuric acid aerosol in the upper troposphere, *J Aerosol Sci* 37 (2006) 1717-1729
334. A.-P. Hyvrinen, H. Lihavainen, A. Gaman, L. Vairila, H. Ojala, M. Kulmala and Y. Viisanen, Surface tensions and densities of oxalic, malonic, succinic, maleic, malic, and cis-pinonic acids, *J Chem Eng Data* 51 (2006) 255-260
335. A.-P. Hyvrinen, D. Brus, V. Zdimal, J. Smolik, M. Kulmala, Y. Viisanen and H. Lihavainen, The carrier gas pressure effect in a laminar flow diffusion chamber, homogeneous nucleation of n-butanol in helium, *J Chem Phys* 124 (2006) 224304
336. A. Lauri, E. Zapadinsky, H. Vehkamki and M. Kulmala, Comparison between the classical theory predictions and molecular simulation results for heterogeneous nucleation of argon, *J Chem Phys* 125 (2006) 164712
337. A. Virkkula, K. Teinil, R. Hillamo, V.-M. Kerminen, S. Saarikoski, M. Aurela, I.K. Koponen and M. Kulmala, Chemical size distributions of boundary layer aerosol over the Atlantic Ocean and at an Antarctic site, *J Geophys Res* 111 (2006) D05306
338. M. Kulmala, A. Reissell, M. Sipil, B. Bonn, T.M. Ruuskanen, K.E.J. Lehtinen, V.-M. Kerminen and J. Ström, Deep convective clouds as aerosol production engines: Role of insoluble organics, *J Geophys Res* 111 (2006) D17202
339. P.M. Winkler, A. Vrtala, R. Rudolf, P.E. Wagner, I. Riipinen, T. Vesala, K.E.J. Lehtinen, Y. Viisanen and M. Kulmala, Condensation of water vapor: Experimental determination of mass and thermal accommodation coefficients, *J Geophys Res* 111 (2006) D19202
340. T. Kurten, M.R. Sundberg, H. Vehkamki, M. Noppel, J. Blomqvist and M. Kulmala, Ab initio and density functional theory reinvestigation of gas-phase sulfuric acid monohydrate and ammonium hydrogen sulfate, *J Phys Chem A* 110 (2006) 7178-7188

341. E. Herrmann, H. Lihavainen, A.-P. Hyvärinen, I. Riipinen, M. Wilek, F. Stratmann and M. Kulmala, Nucleation simulations using the fluid dynamics software FLUENT with the fine particle model FPM, *J Phys Chem A* 110 (2006) 12448-12455
342. A. Lauri, I. Riipinen, J.A. Ketoja, H. Vehkamäki and M. Kulmala, Theoretical and experimental study on phase transitions and mass fluxes of supersaturated water vapor onto different insoluble flat surfaces, *Langmuir* 22 (2006) 10061-10065
343. P. Tunved, H. Korhonen, J. Ström, H.C. Hansson, K.E.J. Lehtinen and M. Kulmala, Is nucleation capable of explaining observed aerosol integral number increase during southerly transport over Scandinavia?, *Tellus B* 58 (2006) 129-140
344. L. Laakso, I. Koponen, P. Mönkkönen, M. Kulmala, V.-M. Kerminen, B. Wehner, A. Wiedensohler, Z. Wu and M. Hu, Aerosol particles in the developing world; a comparison between New Delhi in India and Beijing in China, *Water, Air and Soil Pollution* 173 (2006) 5-20
345. Petaja, T., Mordas, G., Manninen, H., Aalto, P. P., Hameri, K., Kulmala, M., Detection efficiency of a water-based TSI Condensation Particle Counter 3785 *AEROSOL SCIENCE AND TECHNOLOGY* 40 (12), 1090-1097, 2006
346. Lanki, T., Pekkanen, J., Aalto, P., Elosua, R., Berglind, N., D'Ippoliti, D., Kulmala, M., Nyberg, F., Peters, A., Picciotto, S., Salomaa, V., Sunyer, J., Tiittanen, P., von Klot, S., Forastiere, F., Associations of traffic related air pollutants with hospitalisation for first acute myocardial infarction: the HEAPSS study. *OCCUPATIONAL AND ENVIRONMENTAL MEDICINE* 63 (12): 844-851, 2006
347. Kulmala, M., Hämeri, K., McMurry, P. H., Taisto Raunemaa (1939-2006) - Obituary *JOURNAL OF AEROSOL SCIENCE* 37 (11): 1649-1650, 2006
348. Hamed, A., Joutsensaari, J., Mikkonen, S., Sogacheva, L., Dal Maso, M., Kulmala, M., Cavalli, F., Fuzzi, S., Facchini, M. C., Decesari, S., Mircea, M., Lehtinen, K. E. J., Laaksonen, A. Nucleation and growth of new particles in Po Valley, Italy *ATMOSPHERIC CHEMISTRY AND PHYSICS* 7: 355-376, 2007
349. Vehkamäki, H., Määttä, A., Lauri, A., Napari, I., Kulmala, M., Technical note: The heterogeneous Zeldovich factor, *ATMOSPHERIC CHEMISTRY AND PHYSICS* 7: 309-313, 2007
350. Ehn, M., Petäjä, T., Aufmhoff, H., Hämeri, K., Arnold, F., Laaksonen, A., Kulmala, M., Hygroscopic properties of ultrafine aerosol particles in the boreal forest: diurnal variation, solubility and the influence of sulfuric acid. *ATMOSPHERIC CHEMISTRY AND PHYSICS* 7: 211-222, 2007
351. Hirsikko, A., Bergman, T., Laakso, L., Dal Maso, M., Riipinen, I., Hörrak, U., Kulmala, M., Identification and classification of the formation of intermediate ions measured in boreal forest, *ATMOSPHERIC CHEMISTRY AND PHYSICS* 7: 201-210, 2007
352. Sogacheva, L., Hamed, A., Facchini, M. C., Kulmala, M., Laaksonen, A., Relation of air mass history to nucleation events in Po Valley, Italy, using back trajectories analysis, *ATMOSPHERIC CHEMISTRY AND PHYSICS* 7: 839-853, 2007
353. Ehn, M., Petäjä T., Birmili, W., Junninen, H., Aalto, P., Kulmala, M., Non-volatile residuals of newly formed atmospheric particles in the boreal forest, *ATMOSPHERIC CHEMISTRY AND PHYSICS* 7: 677-684, 2007
354. Hirsikko A., Paatero J., Hatakka J., Kulmala M. (2007). The <sup>222</sup>Rn activity concentration, external radiation dose and air ion production rates in a boreal forest in Finland between March 2000 and June 2006. *Boreal Env. Res.* 12, 265-278.
355. Hirsikko A., Yli-Juuti T., Nieminen T., Vartiainen E., Laakso L., Hussein T. and Kulmala M. (2007) Indoor and outdoor air ions and aerosol particles in the urban atmosphere of Helsinki: characteristics, sources and formation. *Boreal Env. Res.* 12, 295-310.
356. Komppula M., Vana M., Kerminen V.-M., Lihavainen H., Viisanen Y., Hörrak U., Komsaare K., Tamm E., Hirsikko A., Laakso L. and Kulmala M. (2007). Size distributions of atmospheric ions in the Baltic Sea region. *Boreal Env. Res.* 12, 323-336.



357. Kulmala M. and Tammet H. (2007) Finnish-Estonian air ion and aerosol workshops. *Boreal Env. Res.* 12, 237-245.
358. Kurten T., Noppel N., Vehkamäki H., Salonen M. and Kulmala M. (2007) Quantum chemical studies of hydrate formation of H<sub>2</sub>SO<sub>4</sub> and HSO<sub>4</sub>. *Boreal Env. Res.* 12, 431-453.
359. Laakso L., Grönholm T., Kulmala L., Haapanala S., Hirsikko A., Lovejoy E.R., Kazil J., Kurtn T., Boy M., Nilsson E.D., Sogachev A., Riipinen I., Stratmann F. and Kulmala M. (2007). Hot-air balloon as a platform for boundary layer profile measurements during particle formation. *Boreal Env. Res.* 12, 279-294.
360. Lihavainen H., Komppula M., Kerminen V.-M., Järvinen H., Viisanen Y., Lehtinen K.E.J., Vana M. and Kulmala M. (2007). Size distributions of atmospheric ions inside clouds and in cloud-free air at a remote continental site. *Boreal Env. Res.* 12, 337-344.
361. Mirme A., Tamm E., Mordas G., Vana M., Uin J., Mirme S., Bernotas T., Laakso L., Hirsikko A. and Kulmala M. (2007) A wide-range multi-channel Air Ion Spectrometer. *Boreal Env. Res.* 12, 247-264.
362. Parts T.-E., Luts A., Laakso L., Hirsikko A., Grönholm T. and Kulmala M. (2007) Chemical composition of waterfall-induced air ions: spectrometry vs. simulations. *Boreal Env. Res.* 12, 409-420.
363. Tammet H. and Kulmala M. (2007) Simulating aerosol nucleation bursts in a coniferous forest. *Boreal Env. Res.* 12, 421-430.
364. Tiitta P., Miettinen P., Vaattovaara P., Laaksonen A., Joutsensaari J., Hirsikko A., Aalto P. and Kulmala M. (2007). Road-side measurements of aerosol and ion number size distributions: a comparison with remote site measurements. *Boreal Env. Res.* 12, 311-321.
365. Vartiainen E., Kulmala M., Ehn M., Hirsikko A., Junninen H., Petäjä T., Sogatcheva L., Kuokka S., Hillamo R., Skorokhod A., Belikov I., Elansky N. and Kerminen V.-M. (2007) Ion and particle number concentrations and size distributions along the Trans-Siberian railroad. *Boreal Env. Res.* 12, 375-396.
366. Virkkula A., Hirsikko A., Vana M., Aalto P.P., Hillamo R. and Kulmala M. (2007) Charged particle size distributions and analysis of particle formation events at the Finnish Antrarcctic research station Aboa. *Boreal Env. Res.* 12, -397-408.
367. M Kulmala, I Riipinen, M Sipilä, H E Manninen, T Petäjä, H Junninen, M Dal Maso, G Mordas, A Mirme, M Vana, A Hirsikko, L Laakso, R M Harrison, I Hanson, C Leung, K E J Lehtinen and V-M Kerminen, Toward direct measurement of atmospheric nucleation, *Science* 318 (2007) 89-92
368. J Kettunen, T Lanki, P Tiittanen, P P Aalto, T Koskentalo, M Kulmala, V Salomaa and J Pekkanen, Associations of fine and ultrafine particulate air pollution with stroke mortality in an area of low air pollution levels, *Stroke* 38 (2007) 918-922
369. H Siebert, B Wehner, O Hellmuth, F Stratmann, M Boy and M Kulmala, New-particle formation in connection with a nocturnal low-level jet: Observations and modeling results, *Geophys Res Lett* 34 (2007) L16822
370. H Vehkamäki, A Määttänen, A Lauri, I Napari and M Kulmala, Technical Note: The heterogeneous Zeldovich factor, *Atmos Chem Phys* 7 (2007) 309-313
371. L Laakso, S Gagn, T Petäjä, A Hirsikko, P P Aalto, M Kulmala and V-M Kerminen, Detecting charging state of ultra-fine particles: instrumental development and ambient measurements, *Atmos Chem Phys* 7 (2007) 1333-1345
372. C D O'Dowd, Y J Yoon, W Junkerman, P Aalto, M Kulmala, H Lihavainen and Y Viisanen, Airborne measurements of nucleation mode particles I: coastal nucleation and growth rates, *Atmos Chem Phys* 7 (2007) 1491-1501
373. S Haapanala, J Rinne, H Hakola, H Helln, L Laakso, H Lihavainen, R Janson, C O'Dowd and M Kulmala, Boundary layer concentrations and landscape scale emissions of volatile organic compounds in early spring, *Atmos Chem Phys* 7 (2007) 1869-1878

374. I Riipinen, S-L Sihto, M Kulmala, F Arnold, M Dal Maso, W Birmili, K Saarnio, K Teinilä, V-M Kerminen, A Laaksonen and K E J Lehtinen, Connections between atmospheric sulphuric acid and new particle formation during QUEST III-IV campaigns in Heidelberg and Hyytiälä, *Atmos Chem Phys* 7 (2007) 1899-1914
375. J Damski, L Thölix, L Backman, J Kaurola, P Taalas, J Austin, N Butchart and M Kulmala, A chemistry-transport model simulation of middle atmospheric ozone from 1980 to 2019 using coupled chemistry GCM winds and temperatures, *Atmos Chem Phys* 7 (2007) 2165-2181
376. L Laakso, A Hirsikko, T Grönholm, M Kulmala, A Luts and T-E Parts, Waterfalls as sources of small charged aerosol particles, *Atmos Chem Phys* 7 (2007) 2271-2275
377. T Petäjä, V-M Kerminen, M Dal Maso, H Junninen, I K Koponen, T Hussein, P P Aalto, S Andronopoulos, D Robin, K Hämeri, J G Bartzis and M Kulmala, Sub-micron atmospheric aerosols in the surroundings of Marseille and Athens: physical characterization and new particle formation, *Atmos Chem Phys* 7 (2007) 2705-2720
378. T Kurten, L Torpo, M R Sundberg, V-M Kerminen, H Vehkamäki and M Kulmala, Estimating the NH<sub>3</sub>:H<sub>2</sub>SO<sub>4</sub> ratio of nucleating clusters in atmospheric conditions using quantum chemical methods, *Atmos Chem Phys* 7 (2007) 2765-2773
379. B Bonn, A Hirsikko, H Hakola, T Kurten, L Laakso, M Boy, M Dal Maso, J M Mäkelä and M Kulmala, Ambient sesquiterpene concentration and its link to air ion measurements, *Atmos Chem Phys* 7 (2007) 2893-2916
380. J Rinne, R Taipale, T Markkanen, T M Ruuskanen, H Hellen, M K Kajos, T Vesala and M Kulmala, Hydrocarbon fluxes above a Scots pine forest canopy: measurements and modeling, *Atmos Chem Phys* 7 (2007) 3361-3372
381. T M Ruuskanen, M Kaasik, P P Aalto, U Hörrak, M Vana, M Mrtensson, Y J Yoon, P Keronen, G Mordas, D Ceburnis, E D Nilsson, C O'Dowd, M Noppel, T Alliksaar, J Ivask, M Sofiev, M Prank and M Kulmala, Concentrations and fluxes of aerosol particles during the LAPBIAT measurement campaign at Vrü field station, *Atmos Chem Phys* 7 (2007) 3683-3700
382. T Hussein, J Kukkonen, H Korhonen, M Pohjola, L Pirjola, D Wraith, J Härkönen, K Teinilä, I K Koponen, A Karppinen, R Hillamo and M Kulmala, Evaluation and modeling of the size fractionated aerosol particle number concentration measurements nearby a major road in Helsinki - Part II: Aerosol measurements within the SAPHIRE project, *Atmos Chem Phys* 7 (2007) 4081-4094
383. J Lauros, E D Nilsson, M Dal Maso and M Kulmala, Contribution of mixing in the ABL to new particle formation based on observations, *Atmos Chem Phys* 7 (2007) 4781-4792
384. S Kuokka, K Teinilä, K Saarnio, M Aurela, M Sillanpää, R Hillamo, V-M Kerminen, K Pyy, E Vartiainen, M Kulmala, A I Skorokhod, N F Elansky and I B Belikov, Using a moving measurement platform for determining the chemical composition of atmospheric aerosols between Moscow and Vladivostok, *Atmos Chem Phys* 7 (2007) 4793-4805
385. M Vesterinen, KEJ Lehtinen, M Kulmala and A Laaksonen, Effect of particle phase oligomer formation on aerosol growth, *Atmos Environ* 41 (2007) 1768-1776
386. A Puustinen, K Hämeri, J Pekkanen, M Kulmala, J de Hartog et al., Spatial variation of particle number and mass over four European cities, *Atmos Environ* 41 (2007) 6622-6636
387. J Damski, L Thölix, L Backman, P Taalas and M Kulmala, FinROSE - middle atmospheric chemistry transport model, *Boreal Environ Res* 12 (2007) 535-550
388. L Järvi, A-J Punkka, D M Schultz, T Petäjä, H Hohti, J Rinne, T Pohja, M Kulmala, P Hari and T Vesala, Micrometeorological observations of a microburst in Southern Finland, *Boundary Layer Meteorol* 125 (2007) 343-359
389. I K Koponen, I Riipinen, A Hienola, M Kulmala and M Bilde, Thermodynamic properties of malonic, succinic and glutaric acids: Evaporation rates and saturation vapor pressures, *Environ Sci Technol* 41 (2007) 3926-3933

390. M Kulmala, G Mordas, T Petäjä, T Grönholm, P P Aalto, H Vehkamäki, A I Hienola, E Herrmann, M Sipilä, I Riipinen, H E Manninen, K Hämeri, F Stratmann, M Bilde, P M Winkler, W Birmili and P E Wagner, The condensation particle counter battery (CPCB): A new tool to investigate the activation properties of nanoparticles, *J Aerosol Sci* 38 (2007) 289-304
391. K E J Lehtinen, M Dal Maso, M Kulmala and V-M Kerminen, Estimating nucleation rates from apparent particle formation rates and vice-versa: Revised formulation of the Kerminen-Kulmala equation, *J Aerosol Sci* 38 (2007) 988-994
392. AI Hienola, PM Winkler, PE Wagner, H Vehkamäki, A Lauri, I Napari and M Kulmala, Estimation of line tension and contact angle from heterogeneous nucleation experimental data, *J Chem Phys* 126 (2007) 094705
393. H Vehkamäki, A Määttänen, A Lauri, M Kulmala, P Winkler, A Vrtala and P E Wagner, Heterogeneous multicomponent nucleation theorems for the analysis of nanoclusters, *J Chem Phys* 126 (2007) 174707
394. A Määttänen, H Vehkamäki, A Lauri, I Napari and M Kulmala, Two-component heterogeneous nucleation kinetics and an application to Mars, *J Chem Phys* 127 (2007) 134710
395. N Kivekäs, VM Kerminen, C Engler, H Lihavainen, M Komppula, Y Viisanen and M Kulmala, Particle number to volume concentration ratios at two measurements sites in Finland, *J Geophys Res* 112 (2007) D04209
396. T Kurten, L Torpo, CG Ding, H Vehkamäki, MR Sundberg, K Laasonen and M Kulmala, A density functional study on water.sulfuric acid-ammonia clusters and implications for atmospheric cluster formation, *J Geophys Res* 112 (2007) D04210
397. S C Pryor, S E Larsen, L L Sorensen, R J Barthelmie, T Gronholm, M Kulmala, S Launiainen, Rannik and T Vesala, Particle fluxes over forests: Analyses of flux methods and functional dependencies, *J Geophys Res* 112 (2007) D07205
398. Z J Wu, M Hu, S Liu, B Wehner, S Bauer, A M Sling, A Wiedensohler, T Petäjä, M Dal Maso and M Kulmala, New particle formation in Beijing, China: Statistical analysis of a 1-year data set, *J Geophys Res* 112 (2007) D09209
399. Y R Peng, U Lohmann, R Leaitch and M Kulmala, An investigation into the aerosol dispersion effect through the activation process in marine stratus clouds, *J Geophys Res* 112 (2007) D11117
400. J Merikanto, I Napari, H Vehkamäki, T Anttila and M Kulmala, New parameterization of sulfuric acid-ammonia-water ternary nucleation rates at tropospheric conditions, *J Geophys Res* 112 (2007) D15207
401. T Kurten, B Bonn, H Vehkamäki and M Kulmala, Computational study of the reaction between biogenic stabilized Criegee intermediates and sulfuric acid, *J Phys Chem A* 111 (2007) 3394-3401
402. M Dal Maso, L Sogacheva, P P Aalto, I Riipinen, M Komppula, P Tunved, L Korhonen, V Suur-Uski, A Hirsikko, T Kurtn, V-M Kerminen, H Lihavainen, Y Viisanen, H-C Hansson and M Kulmala, Aerosol size distribution measurements at four Nordic field stations: identification, analysis and trajectory analysis of new particle formation bursts, *Tellus B* 59 (2007) 350-361
403. B Wehner, H Siebert, F Stratmann, T Tuch, A Wiedensohler, T Petäjä, M Dal Maso and M Kulmala, Horizontal homogeneity and vertical extent of new particle formation events, *Tellus B* 59 (2007) 362-371
404. T Grönholm, P P Aalto, V Hiltunen, Ü Rannik, J Rinne, L Laakso, S Hyvönen, T Vesala and M Kulmala, Measurements of aerosol particle dry deposition velocity using the relaxed eddy accumulation technique, *Tellus B* 59 (2007) 381-386
405. C Engler, H Lihavainen, M Komppula, V-M Kerminen, M Kulmala and Y Viisanen, Continuous measurements of aerosol properties at the Baltic Sea, *Tellus B* 59 (2007) 728-741
406. L Torpo, T Kurten, H Vehkamäki, K Laasonen, M R Sundberg and M Kulmala, Significance of ammonia in growth of atmospheric nanoclusters, *J Phys Chem A* 111 (2007) 10671-10674

407. I Riipinen, IK Koponen, GP Frank, A-P Hyvärinen, J Vanhanen, H Lihavainen, KEJ Lehtinen, M Bilde and M Kulmala, Adipic and malonic acid aqueous solutions: Surface tensions and saturation vapor pressures, *J Phys Chem A* 111 (2007) 12995-13002
408. M Sipilä, AA Lushnikov, L Khriachtchev, M Kulmala, H Tervahattu and M Rsnen, Experimental observation of two-photon photoelectric effect from silver aerosol nanoparticles, *New J Physics* 9 (2007) 368
409. V.-M. Kerminen, T Anttila, T Petäjä, L Laakso, S Gagne, K E J Lehtinen and M Kulmala, Charging state of the atmospheric nucleation mode: Implications for separating neutral and ion-induced nucleation, *J Geophys Res* 112 (2007) D21205
410. U Uhrner, S von Löwis, H Vehkamäki, B Wehner, S Brsel, M Hermann, F Stratmann, M Kulmala and A Wiedensohler, Dilution and aerosol dynamics within a diesel car exhaust plume - CDF simulations of on-road measurement conditions, *Atmos Environ* 41 (2007) 7440-7461
411. PM Winkler, G Steiner, A Vrtala, H Vehkamäki, M Noppel, KEJ Lehtinen, GP Reischl, PE Wagner and M Kulmala, Heterogeneous nucleation experiments bridging the scale from molecular ion clusters to nanoparticles, *Science* 319 (2008) 1374-1377
412. DV Spracklen, KS Carslaw, M Kulmala, V-M Kerminen, S-L Sihto, I Riipinen, J Merikanto, GW Mann, MP Chipperfield, A Wiedensohler, W Birmili and H Lihavainen, Contribution of particle formation to global cloud condensation nuclei concentrations, *Geophys Res Lett* 35 (2008) L06808
413. G Mordas, HE Manninen, T Petäjä, PP Aalto, K Hämeri and M Kulmala, On operation of the ultra-fine water-based CPC TSI3786 and comparison with other TSI models (TSI3776, TSI3772, TSI3025, TSI3010, TSI3007), *Aerosol Sci Technol* 42 (2008) 152-158
414. J Parshintsev, J Nurmi, I Kilpeläinen, K Hartonen, M Kulmala and M-L Riekkola, Preparation of beta-caryophyllene oxidation products and their determination in ambient aerosol samples, *Anal Bioanal Chem* 390 (2008) 913-919
415. T Suni, M Kulmala, A Hirsikko, T Bergman, L Laakso, P P Aalto, R Leuning, H Cleugh, S Zegelin, D Hughes, E van Gorsel, M Kitchen, M Vana, U Hörrak, S Mirme, A Mirme, S Sevanto, J Twining and C Tardos, Formation and characteristics of ions and charged aerosol particles in a native Australian Eucalypt forest, *Atmos Chem Phys* 8 (2008) 129-139
416. U Hörrak, PP Aalto, J Salm, K Komsaare, H Tammet, JM Mäkelä, L Laakso and M Kulmala, Variation and balance of positive air ion concentrations in a boreal forest, *Atmos Chem Phys* 8 (2008) 655-675
417. L Jrvi, H Junninen, A Karppinen, R Hillamo, A Virkkula, T Mäkelä, T Pakkanen and M Kulmala, Temporal variations in black carbon concentrations with different time scales in Helsinki during 1996-2005, *Atmos Chem Phys* 8 (2008) 1017-1027
418. M Boy et al. with M Kulmala, New particle formation in the Front Range of the Colorado Rocky Mountains, *Atmos Chem Phys* 8 (2008) 1577-1590
419. H Kokkola, H Korhonen, KEJ Lehtinen, R Makkonen, A Asmi, S Järvenoja, T Anttila, A-I Partanen, M Kulmala, H Järvinen, A Laaksonen and V-M Kerminen, SALSA - a Sectional Aerosol module for Large Scale Applications, *Atmos Chem Phys* 8 (2008) 2469-2483
420. A Laaksonen, M Kulmala, CD O'Dowd, J Joutsensaari, P Vaattovaara, S Mikkonen, KEJ Lehtinen, L Sogacheva, M Dal Maso, P Aalto, T Petäjä, A Sogachev et al., The role of VOC oxidation products in continental new particle formation, *Atmos Chem Phys* 8 (2008) 2657-2665
421. IK Ortega, T Kurten, H Vehkamäki and M Kulmala, The role of ammonia in sulfuric acid ion induced nucleation, *Atmos Chem Phys* 8 (2008) 2859-2867
422. G Hoek, et al. with M Kulmala, A Puustinen and K Hämeri, Indoor-outdoor relationships of particle number and mass in four European cities, *Atmos Environ* 42 (2008) 156-169
423. P Aarnio, J Martikainen, T Hussein, I Valkama, H Vehkamäki, L Sogacheva, J Härkönen, A Karppinen, T Koskentalo, J Kukkonen and M Kulmala, Analysis and evaluation of selected PM10 pollution episodes in the Helsinki Metropolitan Area in 2002, *Atmos Environ* 42 (2008) 3992-4005

424. M Dal Maso, L Sogacheva, MP Anisimov, M Arshinov, A Baklanov, B Belan, TV Khodzher, VA Obolkin, A Staroverova, A Vlasov, VA Zagaynov, A Lushnikov, YuS Lyubovtseva, I Riipinen, V-M Kerminen and M Kulmala, Aerosol particle formation events at two Siberian stations inside the boreal forest, *Boreal Env Res* 13 (2008) 81-92
425. A-P Hyvärinen, D Brus, V Zdimal, J Smolik, M Kulmala, Y Viisanen and H Lihavainen, Erratum: "The carrier gas pressure effect in a laminar flow diffusion chamber, homogeneous nucleation of n-butanol in helium" [*J Chem Phys* 124 (2006) 224304], *J Chem Phys* 128 (2008) 109901
426. D Brus, A-P Hyvärinen, J Wedekind, Y Viisanen, M Kulmala, V Zdimal, J Smolik and H Lihavainen, The homogeneous nucleation of 1-pentanol in a laminar flow diffusion chamber: The effect of pressure and kind of carrier gas, *J Chem Phys* 128 (2008) 134312
427. H Lihavainen, Y Viisanen and M Kulmala, Erratum: "Homogeneous nucleation of n-pentanol in a laminar flow diffusion chamber" [*J Chem Phys* 114 (2001) 10031], *J Chem Phys* 128 (2008) 139902
428. I Kourtchev, T M Ruuskanen, P Keronen, L Sogacheva, M Dal Maso, A Reissell, X Chi, R Vermeylen, M Kulmala, W Maenhaut and M Claeys, Determination of isoprene and alpha-/beta-pinene oxidation products in boreal forest aerosols from Hyytiälä, Finland: diel variations and possible link with particle formation events, *Plant Biology* 10 (2008) 138-149
429. S C Pryor, M Callagher, H Sievering, S E Larsen, R J Barthelmie, F Birsan, E Nemitz, J Rinne, M Kulmala, T Gränholm, R Taipale and T Vesala, A Review of measurement and modelling results of particle atmosphere-surface exchange, *Tellus* 60B (2008) 42-75
430. T Hussein and M Kulmala, Indoor aerosol modeling: Basic principles and practical applications, *Water Air Soil Pollut: Focus* 8 (2008) 23-34
431. D Rosenfeld, U Lohmann, GB Raga, CD O'Dowd, M Kulmala, S Fuzzi, A Reissell and MO Andreae, Flood or drought: How do aerosols affect precipitation? *Science* 321 (2008) 1309-1313
432. G Mordas, M Sipilä and M Kulmala, Nanometer particle detection by the condensation particle counter UF-02proto, *Aerosol Sci Technol* 42 (2008) 521-527
433. M Sipilä, K Lehtipalo, M Kulmala, T Petäjä, H Junninen, PP Aalto, HE Manninen, E-M Kyrö, E Asmi, I Riipinen, J Curtius, A Kurten, S Borrmann and CD O'Dowd, Applicability of condensation particle counters to measure atmospheric clusters, *Atmos Chem Phys* 8 (2008) 4049-4060
434. T Kurten, V Loukonen, H Vehkamäki and M Kulmala, Amines are likely to enhance neutral and ion-induced sulfuric acid-water nucleation in the atmosphere more effectively than ammonia, *Atmos Chem Phys* 8 (2008) 4095-4103
435. L Laakso, H Laakso, PP Aalto, P Keronen, T Petäjä, T Nieminen, T Pohja, E Siivola, M Kulmala, N Kgabi, M Molefe, D Mabaso, D Phalatse, K Pienaar and V-M Kerminen, Basic characteristics of atmospheric particles, trace gases and meteorology in a relatively clean Southern African Savannah environment, *Atmos Chem Phys* 8 (2008) 4823-4839
436. LH Young, DR Benson, FR Kameel, JR Pierce, H Junninen, M Kulmala and S-H Lee, Laboratory studies of H<sub>2</sub>SO<sub>4</sub>/H<sub>2</sub>O binary homogeneous nucleation from the SO<sub>2</sub>+OH reaction: evaluation of the experimental setup and preliminary results, *Atmos Chem Phys* 8 (2008) 4997-5016
437. J Kannosto, A Virtanen, M Lemmetty, JM Mäkelä, J Keskinen, H Junninen, T Hussein, P Aalto and M Kulmala, Mode resolved density of atmospheric aerosol particles, *Atmos Chem Phys* 8 (2008) 5327-5337
438. H Timonen, S Saarikoski, O Tolonen-Kivimäki, M Aurela, K Saarnio, T Petäjä, PP Aalto, M Kulmala, T Pakkanen and R Hillamo, Size distributions, sources and source areas of water-soluble organic carbon in urban background air, *Atmos Chem Phys* 8 (2008) 5635-5647
439. AP Leskinen, M Kulmala and KEJ Lehtinen, Growth of nucleation mode particles: Source rates of condensable vapour in a smog chamber, *Atmos Environ* 42 (2008) 7405-7411
440. T Viskari, H Järvinen, T Anttila, V-M Kerminen, KEJ Lehtinen, H Korhonen, S-L Sihto and M Kulmala, Duration of tangent-linear regime in sectional multi-component aerosol dynamics, *J Aerosol Sci* 39 (2008) 723-736

441. S-H Lee, L-H Young, DR Benson, T Suni, M Kulmala, H Junninen, TL Campos, DC Rogers and J Jensen, Observations of nighttime new particle formation in the troposphere, *J Geophys Res* 113 (2008) D10210
442. B Bonn, M Kulmala, I Riipinen, S-L Sihto and TM Ruuskanen, How biogenic terpenes govern the correlation between sulfuric acid concentrations and new particle formation, *J Geophys Res* 113 (2008) D12209
443. N Kivekäs, V-M Kerminen, T Anttila, H Korhonen, H Lihavainen, M Komppula and M Kulmala, Parameterization of cloud droplet activation using a simplified treatment of the aerosol number size distribution, *J Geophys Res* 113 (2008) D15207
444. M Kulmala, V-M Kerminen, A Laaksonen, I Riipinen, M Sipilä, TM Ruuskanen, L Sogacheva, P Hari et al., Overview of the biosphere-aerosol-cloud-climate interactions (BACCI) studies, *Tellus* 60B (2008) 300-317
445. S Gagne, L Laakso, T Petäjä, V-M Kerminen and M Kulmala, Analysis of one year of Ion-DMPS data from the SMEAR II station, Finland, *Tellus* 60B (2008) 318-329
446. A Kristensson, M Dal Maso, E Swietlicki, T Hussein, J Zhou, V-M Kerminen and M Kulmala, Characterization of new particle formation events at a background site in Southern Sweden: relation to air mass history, *Tellus* 60B (2008) 330-344
447. B Svenningsson, A Arneth, S Hayward, T Holst, A Massling, E Swietlicki, A Hirsikko, H Junninen, I Riipinen, M Vana, M Dal Maso, T Hussein and M Kulmala, Aerosol particle formation events and analysis of high growth rates observed above a subarctic wetland-forest mosaic, *Tellus* 60B (2008) 353-364
448. H Junninen, M Hulkkonen, I Riipinen, T Nieminen, A Hirsikko, T Suni, M Boy, S-H Lee, M Vana, H Tammet, V-M Kerminen and M Kulmala, Observations on nocturnal growth of atmospheric clusters, *Tellus* 60B (2008) 365-371
449. SC Pryor, RJ Barthelmie, LL Sorensen, SE Larsen, AM Sempreviva, T Grönholm, Ü Rannik, M Kulmala and T Vesala, Upward fluxes of particles over forests: when, where, why? *Tellus* 60B (2008) 372-380
450. E Swietlicki, H-C Hansson, K Hmeri, B Svenningsson, A Massling, G McFiggans, PH McMurry, T Petäjä, P Tunved, M Gysel, D Topping, E Weingartner, U Baltensperger, J Rissler, A Wiedensohler and M Kulmala, Hygroscopic properties of submicrometer atmospheric aerosol particles measured with H-TDMA instruments in various environments - a review, *Tellus* 60B (2008) 432-469
451. P Tunved, J Ström, M Kulmala, V-M Kerminen, M Dal Maso, B Svenningsson, C Lunder and H-C Hansson, The natural aerosol over Northern Europe and its relation to antropogenic emissions - implications of important climate feedbacks, *Tellus* 60B (2008) 473-484
452. L Sogacheva, L Saukkonen, ED Nilsson, M Dal Maso, DM Schultz, G de Leeuw and M Kulmala, New aerosol particle formation in different synoptic situations at Hyytiälä, Southern Finland, *Tellus* 60B (2008) 485-494
453. M Dal Maso, A Hyvärinen, M Komppula, P Tunved, V-M Kerminen, H Lihavainen, Y Viisanen, H-C Hansson and M Kulmala, Annual and interannual variation in boreal forest aerosol particle number and volume concentration and their connection to particle formation, *Tellus* 60B (2008) 495-508
454. T Hussein, J Martikainen, H Junninen, L Sogacheva, R Wagner, M Dal Maso, I Riipinen, PP Aalto and M Kulmala, Observation of regional new particle formation in the urban atmosphere, *Tellus* 60B (2008) 509-521
455. JI Halonen, T Lanki, T Yli-Tuomi, M Kulmala, P Tiittanen and J Pekkanen, Urban air pollution, and asthma and COPD hospital emergency room visits, *Thorax* 63 (2008) 635-641
456. T Berndt, F Stratmann, S Bräsel, J Heintzenberg, A Laaksonen and M Kulmala, SO<sub>2</sub> oxidation products other than H<sub>2</sub>SO<sub>4</sub> as a trigger of new particle formation. Part 1: Laboratory investigations, *Atmos Chem Phys* 8 (2008) 6365-6374

457. R Taipale, TM Ruuskanen, J Rinne, MK Kajos, H Hakola, T Pohja and M Kulmala, Technical Note: Quantitative long-term measurements of VOC concentrations by PTR-MS measurement, calibration, and volume mixing ratio calculation methods, *Atmos Chem Phys* 8 (2008) 6681-6698
458. H Lihavainen, V-M Kerminen, M Komppula, A-P Hyvärinen, J Laakia, S Saarikoski, U Makkonen, N Kivekäs, R Hillamo, M Kulmala and Y Viisanen, Measurements of the relation between aerosol properties and microphysics and chemistry of low level liquid water clouds in Northern Finland, *Atmos Chem Phys* 8 (2008) 6925-6938
459. A Laaksonen, M Kulmala, T Berndt, F Stratmann, S Mikkonen, A Ruuskanen, KEJ Lehtinen, M Dal Maso, P Aalto, T Petäjä, I Riipinen, S-L Sihto, R Janson, F Arnold, M Hanke, J cker, B Umann, K Sellegri, CD O'Dowd and Y Viisanen, SO<sub>2</sub> oxidation products other than H<sub>2</sub>SO<sub>4</sub> as a trigger of new particle formation. Part 2: Comparison of ambient and laboratory measurements, and atmospheric implications, *Atmos Chem Phys* 8 (2008) 7255-7264
460. AP Leskinen, M Kulmala and KEJ Lehtinen, Growth of nucleation mode particles: Source rates of condensable vapour in a smog chamber, *Atmos Environ* 42 (2008) 7405-7411
461. M Boy, J Kazil, E R Lovejoy, A Gnther and M Kulmala, Relevance of ion-induced nucleation of sulfuric acid and water in the lower troposphere over the boreal forest at northern latitudes, *Atmos Res* 90 (2008) 151-158
462. M Kulmala and V-M Kerminen, On the formation and growth of atmospheric nanoparticles, *Atmos Res* 90 (2008) 132-150
463. PM Winkler, A Hienola, G Steiner, G Hill, A Vrtala, GP Reischl, M Kulmala and PE Wagner, Effects of seed particle size and composition on heterogenous nucleation of n-nonane, *Atmos Res* 90 (2008) 187-194
464. M Vana, M Ehn, T Petäjä, H Vuollekoski, P Aalto, G de Leeuw, D Ceburnis, CD O'Dowd and M Kulmala, Characteristic features of air ions at Mace head on the west coast of Ireland, *Atmos Res* 90 (2008) 278-286
465. Laaksonen, A., Kulmala, M., O'Dowd, CD., Joutsensaari, J., Vaattovaara, P., Mikkonen, S., Lehtinen, KEJ., Sogacheva, L., Dal Maso, M., Aalto, P., Petäjä, T., Sogachev, A., Yoon, YJ., Lihavainen, H., Nilsson, D., Facchini, MC., Cavalli, F., Fuzzi, S., Hoffmann, T., Arnold, F., Hanke, M., Sellegri, K., Umann, B., Junkermann, W., Coe, H., Allan, JD., Alfarra, MR., Worsnop, DR., Riekkola, ML., Hyötyläinen, T., Viisanen, Y (2008) The role of VOC oxidation products in continental new particle formation. *Atmos Chem Phys* 8 (10):2657-2665
466. Hyvärinen, AP., Lihavainen, H., Viisanen, Y., Kulmala, M (2008) Homogeneous nucleation rates of higher n-alcohols measured in a laminar flow diffusion chamber (vol 120, pg 11621, 2004) *J Chem Phys* 129 (24): Art No. 249902
467. Sipilä, M., Lehtipalo, K., Attoui, M., Neitola, K., Petäjä, T., Aalto, PP., O'Dowd, CD., Kulmala, M (2009) Laboratory Verification of PH-CPC's Ability to Monitor Atmospheric Sub-3 nm Clusters. *Aerosol Science And Technology* 43 (2):126-135
468. Berglind, N., Bellander, T., Forastiere, F., von Klot, S., Aalto, P., Elosua, R., Kulmala, M., Lanki, T., Lowel, H., Peters, A., Picciotto, S., Salomaa, V., Stafoggia, M., Sunyer, J., Nyberg, F., HEAPSS Study Grp (2009) Ambient Air Pollution and Daily Mortality Among Survivors of Myocardial Infarction. *Epidemiology* 20 (1):110-118
469. Halonen, JL., Lanki, T., Yli-Tuomi, T., Tiittanen, P., Kulmala, M., Pekkanen, J (2009) Particulate Air Pollution and Acute Cardiorespiratory Hospital Admissions and Mortality Among the Elderly. *Epidemiology* 20 (1):143-153
470. Salonen, M., Kurtn, T., Vehkamäki, H., Berndt, T., Kulmala, M (2009) Computational investigation of the possible role of some intermediate products of SO<sub>2</sub> oxidation in sulfuric acid-water nucleation. *Atmos Res* 91 (1):47-52
471. Lähde, T., Rönkkö, T., Virtanen, A., Schuck, TJ., Pirjola, L., Hämeri, K., Kulmala, M., Arnold, F., Rothe, D., Keskinen, J (2009) Heavy Duty Diesel Engine Exhaust Aerosol Particle and Ion Measurements. *EST* 43 (1):163-168

472. Asmi, E., Sipilä, M., Manninen, HE., Vanhanen, J., Lehtipalo, K., Gagne, S., Neitola, K., Mirme, A., Mirme, S., Tamm, E., Uin, J., Komsaare, K., Attoui, M., Kulmala, M (2009) Results of the first air ion spectrometer calibration and intercomparison workshop. *Atmos Chem Phys* 9 (1):141-154
473. Vuollekoski, H., Kerminen, VM., Anttila, T., Sihto, SL., Vana, M., Ehn, M., Korhonen, H., McFiggans, G., O'Dowd, CD., Kulmala, M (2009) Iodine dioxide nucleation simulations in coastal and remote marine environments. *J Geophys Res* 114 Art No. D02206
474. Luts, A., Parts, TE., Laakso, L., Hirsikko, A., Grönholm, T., Kulmala, M (2009) Some air electricity phenomena caused by waterfalls: Correlative study of the spectra. *Atmos Res* 91 (2-4):229-237
475. Hussein, T., Hruska, A., Dohanyosova, P., Dzumbova, L., Hemerka, J., Kulmala, M., Smolik, J (2009) Deposition rates on smooth surfaces and coagulation of aerosol particles inside a test chamber. *Atmos Environ* 43 (4):905-914
476. O'Dowd, CD., Yoon, YJ., Junkermann, W., Aalto, P., Kulmala, M., Lihavainen, H., Viisanen, Y. (2009) Airborne measurements of nucleation mode particles II: boreal forest nucleation events. *Atmos Chem Phys* 9 (3):937-944 2009
477. Tammet, H., Horrak, U., Kulmala, M (2009) Negatively charged nanoparticles produced by splashing of water. *Atmos Chem Phys* 9 (2):357-367
478. Mazon, SB., Riipinen, I., Schultz, DM., Valtanen, M., Dal Maso, M., Sogacheva, L., Junninen, H., Nieminen, T., Kerminen, VM., Kulmala, M Classifying previously undefined days from eleven years of aerosol-particle-size distribution data from the SMEAR II station, Hyytiälä, Finland. *Atmos Chem Phys* 9 (2):667-676
479. Niemi, JV., Saarikoski, S., Aurela, M., Tervahattu, H., Hillamo, R., Westphal, DL., Aarnio, P., Koskentalo, T., Makkonen, U., Vehkamäki, H., Kulmala, M (2009) Long-range transport episodes of fine particles in southern Finland during 1999-2007. *Atmos Environ* 43 (6):1255-1264
480. Grönholm, T., Launiainen, S., Ahlm, L., Mrtensson, EM., Kulmala, M., Vesala, T., Nilsson, ED (2009) Aerosol particle dry deposition to canopy and forest floor measured by two-layer eddy covariance system. *J Geophys Res* 114 Art No. D04202
481. Herrmann, E., Hyvärinen, AP., Brus, D., Lihavainen, H., Kulmala, M. (2009) Re-evaluation of the Pressure Effect for Nucleation in Laminar Flow Diffusion Chamber Experiments with Fluent and the Fine Particle Model. *J Phys Chem A* 113 (8):1434-1439
482. Makkonen, R., Asmi, A., Korhonen, H., Kokkola, H., Järvenoja, S., Räisänen, P., Lehtinen, KEJ., Laaksonen, A., Kerminen, VM., Järvinen, H., Lohmann, U., Bennartz, R., Feichter, J., Kulmala, M (2009) Sensitivity of aerosol concentrations and cloud properties to nucleation and secondary organic distribution in ECHAM5-HAM global circulation model. *Atmos Chem Phys* 9 (5):1747-1766
483. Hienola, AI., Vehkamäki, H., Riipinen, I., Kulmala, M (2009) Homogeneous vs. heterogeneous nucleation in water-dicarboxylic acid systems. *Atmos Chem Phys* 9 (6):1873-1881
484. Raivonen, M., Vesala, T., Pirjola, L., Altimir, N., Keronen, P., Kulmala, M., Hari, P (2009) Compensation point of NO<sub>x</sub> exchange: Net result of NO<sub>x</sub> consumption and production. *Agric. For. Meteorol.* 149 (6-7):1073-1081
485. Kulmala, M., Asmi, A., Lappalainen, HK., Carslaw, KS., Poschl, U., Baltensperger, U., Hov, O., Brenquier, JL., Pandis, SN., Facchini, MC., Hansson, HC., Wiedensohler, A., O'Dowd, CD (2009) Introduction: European Integrated Project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) - integrating aerosol research from nano to global scales. *Atmos Chem Phys* 9 (8):2825-2841
486. Merikanto, J., Napari, I., Vehkamäki, H., Anttila, T., Kulmala, M (2009) New parameterization of sulfuric acid-ammonia-water ternary nucleation rates at tropospheric conditions (vol 112, D15207, 2009). *J Geophys Res* 114 Art No. D09206
487. Sihto, SL., Vuollekoski, H., Leppä, J., Riipinen, I., Kerminen, VM., Korhonen, H., Lehtinen, KEJ., Boy, M., Kulmala, M (2009) Aerosol dynamics simulations on the connection of sulphuric acid and new particle formation. *Atmos Chem Phys* 9 (9):2933-2947



488. Riipinen, I., Manninen, HE., Yli-Juuti, T., Boy, M., Sipilä, M., Ehn, M., Junninen, H., Petäjä, T., Kulmala, M (2009) Applying the Condensation Particle Counter Battery (CPCB) to study the water-affinity of freshly-formed 2-9 nm particles in boreal forest. *Atmos Chem Phys* 9 (10):3317-3330
489. Kulmala, M., Asmi, A., Lappalainen, HK., Carslaw, KS., Pöschl, U., Baltensperger, U., Hov, .., Brenguier, JL., Pandis, SN., Facchini, MC., Hansson, HC., Wiedensohler, A., O'Dowd, CD (2009) Introduction: European Integrated Project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) - integrating aerosol research from nano to global scales (vol 9, pg 2825, 2009). *Atmos Chem Phys* 9 (10):3443-3444
490. Manninen, HE., Nieminen, T., Riipinen, I., Yli-Juuti, T., Gagne, S., Asmi, E., Aalto, PP., Petäjä, T., Kerminen, VM., Kulmala, M (2009) Charged and total particle formation and growth rates during EUCAARI 2007 campaign in Hyytiälä. *Atmos Chem Phys* 9 (12):4077-4089
491. Lehtipalo, K., Sipilä, M., Riipinen, I., Nieminen, T., Kulmala, M (2009) Analysis of atmospheric neutral and charged molecular clusters in boreal forest using pulse-height CPC. *Atmos Chem Phys* 9 (12):4177-4184
492. Rannik, U., Mammarella, I., Aalto, P., Keronen, P., Vesala, T., Kulmala, M (2009) Long-term aerosol particle flux observations part I: Uncertainties and time-average statistics. *Atmos Environ* 43 (21):3431-3439
493. Nieminen, T., Manninen, HE., Sihto, SL., Yli-Juuti, T., Mauldin, RL., Petäjä, T., Riipinen, I., Kerminen, VM., Kulmala, M (2009) Connection of Sulfuric Acid to Atmospheric Nucleation in Boreal Forest. *EST* 43 (13):4715-4721
494. Eerdekens, G., Sinha, V., Yassaa, N., Aalto, PP., Aufmhoff, H., Arnold, F., Kulmala, M., Williams, J (2009) Springtime boreal VOCs: The role of monoterpenes in selected intense nucleation events (source inventory). *Geochim Cosmochim Acta* 73 (13):A319-A319
495. Kulmala, M (2009) The role of organic vapours in atmospheric aerosol formation and growth. *Geochim Cosmochim Acta* 73 (13):A703-A703
496. Hussein, T., Junninen, H., Tunved, P., Kristensson, A., Dal Maso, M., Riipinen, I., Aalto, PP., Hansson, HC., Swietlicki, E., Kulmala, M (2009) Time span and spatial scale of regional new particle formation events over Finland and Southern Sweden. *Atmos Chem Phys* 9 (14):4699-4716
497. Lappalainen, HK., Sevanto, S., Bäck, J., Ruuskanen, TM., Kolari, P., Taipale, R., Rinne, J., Kulmala, M., Hari, P (2009) Day-time concentrations of biogenic volatile organic compounds in a boreal forest canopy and their relation to environmental and biological factors. *Atmos Chem Phys* 9 (15):5447-5459
498. Kivekäs, N., Sun, J., Zhan, M., Kerminen, VM., Hyvarinen, A., Komppula, M., Viisanen, Y., Hong, N., Zhang, Y., Kulmala, M., Zhang, XC., Deli-Geer., Lihavainen, H (2009) Long term particle size distribution measurements at Mount Waliguan, a high-altitude site in inland China. *Atmos Chem Phys* 9 (15):5461-5474
499. Boy, M., Karl, T., Turnipseed, A., Mauldin, RL., Kosciuch, E., Greenberg, J., Rathbone, J., Smith, J., Held, A., Barsanti, K., Wehner, B., Bauer, S., Wiedensohler, A., Bonn, B., Kulmala, M., Guenther, A (2009) New particle formation in the front range of the Colorado rocky mountains. *Atmos Chem Phys* 8 (6):1577-1590
500. Järvi L., Hannuniemi H., Hussein T., Junninen H., Aalto P.P., Hillamo R., Mäkelä T., Keronen P., Siivola E., Vesala T., Kulmala M. (2009) The urban measurement station SMEAR III: Continuous monitoring of air pollution and surface-atmosphere interactions in Helsinki, Finland . *BOREAL ENVIRONMENT RESEARCH*, 14, Suppl. A, 86-109
501. Kulmala, M., Bäck, J., Kerminen, V.-M. 2009: Preface to Physics, Chemistry and Biology of Atmospheric Composition and Climate Change *Boreal Env. Res.* 14: 439-441.
502. Hari, P., Andreae, M. O., Kabat, P., Kulmala, M. 2009: A comprehensive network of measuring stations to monitor climate change. *Boreal Env. Res.* 14: 442-446.

503. Junninen, H., Lauri, A., Keronen, P., Aalto, P., Hiltunen, V., Hari, P., Kulmala, M. 2009: Smart-SMEAR: on-line data exploration and visualization tool for SMEAR stations. *Boreal Env. Res.* 14: 447-457.
504. Birmili, W., Schwirn, K., Nowak, A., Petäjä, T., Joutsensaari, J., Rose, D., Wiedensohler, A., Hämeri, K., Aalto, P., Kulmala, M., Boy, M. 2009: Measurements of humidified particle number size distributions in a Finnish boreal forest: derivation of hygroscopic particle growth factors. *Boreal Env. Res.* 14: 458-480.
505. Jaatinen, A., Hamed, A., Joutsensaari, J., Mikkonen, S., Birmili, W., Wehner, B., Spindler, G., Wiedensohler, A., Decesari, S., Mircea, M., Facchini, M. C., Junninen, H., Kulmala, M., Lehtinen, K. E. J., Laaksonen, A. 2009: A comparison of new particle formation events in the boundary layer at three different sites in Europe. *Boreal Env. Res.* 14: 481-498.
506. Kyrö, E.-M., Grönholm, T., Vuollekoski, H., Virkkula, A., Kulmala, M., Laakso, L. 2009: Snow scavenging of ultrafine particles: field measurements and parameterization. *Boreal Env. Res.* 14: 527-538.
507. Laitinen, T., Hartonen, K., Kulmala, M., Riekkola, M.-L. 2009: Aerosol time-of-flight mass spectrometer for measuring ultrafine aerosol particles. *Boreal Env. Res.* 14: 539-549.
508. Leppä, J., Kerminen, V.-M., Laakso, L., Korhonen, H., Lehtinen, K. E. J., Gagn, S., Manninen, H. E., Nieminen, T., Kulmala, M. 2009: Ion-UHMA: a model for simulating the dynamics of neutral and charged aerosol particles. *Boreal Env. Res.* 14: 559-575.
509. Manninen, H. E., Petäjä, T., Asmi, E., Riipinen, I., Nieminen, T., Mikkilä, J., Hrrak, U., Mirme, A., Mirme, S., Laakso, L., Kerminen, V.-M., Kulmala, M. 2009: Long-term field measurements of charged and neutral clusters using Neutral cluster and Air Ion Spectrometer (NAIS). *Boreal Env. Res.* 14: 591-605.
510. Ortega, I. K., Suni, T., Grönholm, T., Boy, M., Hakola, H., Helln, H., Valmari, T., Arvela, H., Vehkamäki, H., Kulmala, M. 2009: Is eucalyptol the cause of nocturnal events observed in Australia? *Boreal Env. Res.* 14: 606-615.
511. Paasonen, P., Sihto, S.-L., Nieminen, T., Vuollekoski, H., Riipinen, I., Pla-Dlmer, C., Berresheim, H., Birmili, W., Kulmala, M. 2009: Connection between new particle formation and sulphuric acid at Hohenpeissenberg (Germany) including the influence of organic compounds. *Boreal Env. Res.* 14: 616-629.
512. Parshintsev, J., Räsänen, R., Hartonen, K., Kulmala, M., Riekkola, M.-L. 2009: Analysis of organic compounds in ambient aerosols collected with the particle-into-liquid sampler. *Boreal Env. Res.* 14: 630-640.
513. Yli-Juuti, T., Riipinen, I., Aalto, P. P., Nieminen, T., Maenhaut, W., Janssens, I. A., Claeys, M., Salma, I., Ocskay, R., Hoffer, A., Imre, K., Kulmala, M. 2009: Characteristics of new particle formation events and cluster ions at K-pusztá, Hungary. *Boreal Env. Res.* 14: 683-698.
514. Dal Maso, M., Hari, P., Kulmala, M. 2009: Spring recovery of photosynthesis and atmospheric particle formation. *Boreal Env. Res.* 14: 711-721.
515. Ortega, I. K., Kurten, T., Vehkamäki, H., Kulmala, M. (2009), The role of ammonia in sulfuric acid ion induced nucleation, *Atmospheric Chemistry and Physics*, 9: 7431-7434
516. Petäjä, T., Mauldin, R. L., III, Kosciuch, E., McGrath, J., Nieminen, T., Paasonen, P., Boy, M., Adamov, A., Kotiaho, T., Kulmala, M. (2009) Sulfuric acid and OH concentrations in a boreal forest site *Atmospheric Chemistry and Physics*, 9: 7435-7448.
517. Modini, R. L., Ristovski, Z. D., Johnson, G. R., He, C., Surawski, N., Morawska, L., Suni, T., Kulmala, M. (2009) New particle formation and growth at a remote, sub-tropical coastal location *Atmospheric Chemistry and Physics*, 9: 7607-7621.
518. Kulmala, Markku, Hari, Pertti, Riipinen, Ilona, Kerminen, Veli-Matti (2009) Environment: On the possible links between tree growth and galactic cosmic rays *New Phytologist* , 184: 511-513.
519. Arneth, Almut, Unger, Nadine, Kulmala, Markku, Andreae, Meinrat O. (2009) Clean the Air, Heat the Planet? *Science*, 326, 672-673

520. Hao, L. Q., Yli-Pirilä, P., Tiitta, P., Romakkaniemi, S., Vaattovaara, P., Kajos, M. K., Rinne, J., Heijari, J., Kortelainen, A., Miettinen, P., Kroll, J. H., Holopainen, J. K., Smith, J. N., Joutsensaari, J., Kulmala, M., Worsnop, D. R., Laaksonen, A. (2009) New particle formation from the oxidation of direct emissions of pine seedlings *Atmospheric Chemistry and Physics*, 9: 8121-8137.
521. Bonn, B., Boy, Kulmala, M., Groth, A., Trawny, K., Borchert, S., Jacobi, S. (2009) A new parametrization for ambient particle formation over coniferous forests and its potential implications for the future *Atmospheric Chemistry and Physics*, 9: 8079-8090.
522. Järvi, L., Rannik, U., Mammarella, I., Sogachev, A., Aalto, P. P., Keronen, P., Siivola, Kulmala, M., Vesala, T. (2009). Annual particle flux observations over a heterogeneous urban area *Atmospheric Chemistry and Physics*, 9:7847-7856.
523. Monks, P. S., Granier, C., Fuzzi, S., Stohl, A., Williams, M. L., Akimoto, H., Amann, M., Baklanov, A., Baltensperger, U., Bey, I., Blake, N., Blake, R. S., Carslaw, K., Cooper, O. R., Dentener, F., Fowler, D., Fragkou, E., Frost, G. J., Generoso, S., Ginoux, P., Grewe, V., Guenther, A., Hansson, H. C., Henne, S., Hjorth, J., Hofzumahaus, A., Huntrieser, H., Isaksen, I. S. A., Jenkin, M. E., Kaiser, J., Kanakidou, M., Klimont, Z., Kulmala, M., Laj, P., Lawrence, M. G., Lee, J. D., Liousse, C., Maione, M., McFiggans, G., Metzger, A., Mieville, A., Moussiopoulos, N., Orlando, J. J., O'Dowd, C. D., Palmer, P. I., Parrish, D. D., Petzold, A., Platt, U., Poeschl, U., Prevot, A. S. H., Reeves, C. E., Reimann, S., Rudich, Y., Sellegri, K., Steinbrecher, R., Simpson, D., ten Brink, H., Theloke, J., van der Werf, G. R., Vautard, R., Vestreng, V., Vlachokostas, Ch., von Glasow, R. (2009) Atmospheric composition change - global and regional air quality *Atmospheric Environment* 43: 5268-5350
524. Eerdekens, G., Yassaa, N., Sinha, V., Aalto, P. P., Aufmhoff, H., Arnold, F., Fiedler, V., Kulmala, M., Williams, J. (2009). VOC measurements within a boreal forest during spring 2005: on the occurrence of elevated monoterpene concentrations during night time intense particle concentration events *Atmospheric Chemistry and Physics*, 9:8331-8350
525. Suni, T., Sogacheva, L., Lauros, J., Hakola, H., Bäck, J., Kurten, T., Cleugh, H., van Gorsel, E., Briggs, P., Sevanto, S., Kulmala, M. (2009) Cold oceans enhance terrestrial new-particle formation in near-coastal forests *Atmospheric Chemistry and Physics*, 9: 8639-8650
526. Jimenez, J.L., Canagaratna, M.R., Donahue, N. M., Prevot, N. M., Zhang, Q., Kroll, J. H., DeCarlo, P. F., Allan, J. D., Coe, H., Ng, N. L., Aiken, A. C., Docherty, K. S., Ulbrich, I. M., Grieshop, A. P., Robinson, A.L., Duplissy, J., Smith, J. D., Wilson, K. R., Lanz, V. A., Hueglin, C., Sun, Y. L., Tian, J., Laaksonen, A., Raatikainen, T., Rautiainen, J., Vaattovaara, P., Ehn, M., Kulmala, M., Tomlinson, J. M., Collins, D. R., Cubison, M. J., Dunlea, E. J., Huffman, J. A., Onasch, T. B., Alfarra, M. R., Williams, P. I., Bower, K., Kondo, Y., Schneider, J., Drewnick, F., Borrmann, S., Weimer, S., Demerjian, K., Salcedo, D., Cottrell, L., Griffin, R., Takami, A., Miyoshi, T., Hatakeyama, S., Shimono, A., Sun, J.Y., Zhang, Y.M., Dzepina, K., Kimmel, J.R., Sueper, D., Jayne, J.T., Herndon, S.C., Trimborn, A.M., Williams, L.R., Wood, E.C., Middlebrook, A.M., Kolb, C.E., Baltensperger, U. and Worsnop, D.R.: Evolution of Organic Aerosols in the Atmosphere, *Science*, 326, 1525-1529, 2009
527. Rinaldi, M., Facchini, M. C., Decesari, S., Carbone, C., Finessi, E., Mircea, M., Fuzzi, S., Ceburnis, D., Ehn, M., Kulmala, M., de Leeuw, G., O'Dowd, C. D. (2009) On the representativeness of coastal aerosol studies to open ocean studies: Mace Head - a case study *Atmospheric Chemistry and Physics*, 9: 9635-9646.
528. Asmi E., A. Frey, A. Virkkula, M., Ehn, H. E. Manninen, H. Timonen, O. Tolonen-Kivimäki, M. Aurela, R. Hillamo, and M. Kulmala: Hygroscopicity and chemical composition of Antarctic sub-micrometre aerosol particles and observations of new particle formation. *Atmos. Chem. Phys.* 10: 4253-4271, 2010.
529. Berndt, T. F. Stratmann, M. Sipilä, J. Vanhanen, T. Petäjä, J. Mikkilä, A. Grüner, G. Spindler, R. L. Mauldin III, J. Curtius, M. Kulmala, and J. Heintzenberg, Laboratory study on new particle formation from the reaction OH + SO<sub>2</sub>: influence of experimental conditions, H<sub>2</sub>O vapour, NH<sub>3</sub> and the amine tert-butylamine on the overall process, *Atmos. Chem. Phys.*, 10, 7101-7116, 2010.
530. Duplissy, J., Enghoff, M. B., Aplin, K. L., Arnold, F., Aufmhoff, H., Avngaard, M., Baltensperger, U., Bando, T., Bingham, R., Carslaw, K., Curtius, J., David, A., Fastrup, B., Gagn, S., Hahn, F., Harrison, R. G., Kellett, B., Kirkby, J., Kulmala, M., Laakso, L., Laaksonen, A., Lillestol, E.,

- Lockwood, M., Mäkelä, J., Makhmutov, V., Marsh, N. D., Nieminen, T., Onnela, A., Pedersen, E., Pedersen, J. O. P., Polny, J., Reichl, U., Seinfeld, J. H., Sipilä, M., Stozhkov, Y., Stratmann, F., Svensmark, H., Svensmark, J., Veenhof, R., Verheggen, B., Viisanen, Y., Wagner, P. E., Wehrle, G., Weingartner, E., Wex, H., Wilhelmsson, M., and Winkler, P. M. : Results from the CERN pilot CLOUD experiment. *Atmos. Chem. Phys.* 10 1635-1647, 2010
531. Gagn, S., Nieminen, T., Kurttn, T., Manninen, H.E., Petäjä, T., Laakso, L., Kerminen, V.-M., Boy, M. and Kulmala, M.: Factors influencing the contribution of ion-induced nucleation in a boreal forest, Finland. *Atmos. Chem. Phys.*, 10, 3743-3757, 2010.
532. Herrmann, E., Brus, D., Hyvrinen, A.-P., Stratmann, F., Wilck, M., Lihavainen, H., Kulmala, M.: A Computational Fluid Dynamics Approach to Nucleation in the Water-Sulfuric Acid-System, *J. Phys. Chem. A*, 2010
533. Ilvesniemi H, Pumpanen J, Duursma RA, Hari P, Keronen P, Kolari P, Kulmala M, Mammarella I, Nikinmaa E, Rannik Ü, Siivola E, Pohja T, Vesala T: Water balance of a boreal Scots pine forest, *Boreal Environment Research*, 15, 375-396, 2010.
534. Junninen, H., Ehn, M., Petäjä, T., Luosujärvi, L., Kotiaho, T., Kostiainen, R., Rohner, U., Gonin, M., Fuhrer, K., Kulmala, M., and Worsnop, D. R.: A high-resolution mass spectrometer to measure atmospheric ion composition, *Atmos. Meas. Tech.*, 3, 1039-1053, 2010
535. Kurttn, Theo , Chongai Kuang, Pedro Gmez, Peter H. McMurry, Hanna Vehkamäki, Ismael Ortega, Madis Noppel, and Markku Kulmala: The role of cluster energy nonaccommodation in atmospheric sulfuric acid nucleation. *Journal of Chemical Physics* 132, 024304, doi:10.1063/1.3291213, 2010
536. Laitinen, T., S. Herrero Martn, J. Parshintsev, T. Hyötyläinen, K. Hartonen, M.-L. Riekkola, M. Kulmala, J. L. Prez Pavn: Determination of organic compounds from wood combustion aerosol nanoparticles by different gas chromatographic systems and by aerosol mass spectrometry, *J. Chromatogr. A* 1217, 151-159, 2010
537. Loukonen, V., Kurttn, T., Ortega, I. K., Vehkamäki, H., Pdua, A. A. H., Sellegri, K., and Kulmala, M.: Enhancing effect of dimethylamine in sulfuric acid nucleation in the presence of water - a computational study, *Atmos. Chem. Phys.*, 10, 4961-4974, doi:10.5194/acp-10-4961-2010, 2010.
538. Ehn M., H. Junninen, T. Petäjä, T. Kurttn, V.-M. Kerminen, S. Schobesberger, H. E. Manninen, I. K. Ortega, H. Vehkamäki, M. Kulmala, and D. R. Worsnop: Composition and temporal behavior of ambient ions in the boreal forest. *Atmos. Chem. Phys.*, 10, 8513-8530, 2010.
539. Manninen, H. E., Nieminen, T., Asmi, E., Gagn, S., Häkkinen, S., Lehtipalo, K., Aalto, P., Vana, M., Mirme, A., Mirme, S., Hrrak, U., Plass-Dlmer, C., Stange, G., Kiss, G., Hoffer, A., Töö, N., Moerman, M., Henzing, B., de Leeuw, G., Brinkenberg, M., Kouvarakis, G. N., Bougiatioti, A., Mihalopoulos, N., O'Dowd, C., Ceburnis, D., Arneth, A., Svenningsson, B., Swietlicki, E., Tarozzi, L., Decesari, S., Facchini, M. C., Birmili, W., Sonntag, A., Wiedensohler, A., Boulon, J., Sellegri, K., Laj, P., Gysel, M., Bukowiecki, N., Weingartner, E., Wehrle, G., Laaksonen, A., Hamed, A., Joutsensaari, J., Petäjä, T., Kerminen, V.-M., and Kulmala, M.: EUCAARI ion spectrometer measurements at 12 European sites - analysis of new-particle formation events, *Atmos. Chem. Phys.* , 10, 7907-7927, 2010.
540. Metzger, A., Verheggen, B., Dommen, J., Duplissy, J., Prevot, A. S., Weingartner, E., Riipinen, I., Kulmala, M., Spracklen, D. V., Carslaw, K. S., and Baltensperger, U.: Evidence for the role of organics in aerosol particle formation under atmospheric conditions, *P. Natl. Acad. Sci.*, 107, 6646-6651, doi/10.1073/pnas.0911330107, 2010.
541. Parshintsev, J., M. Kivilompolo, J. Ruiz-Jimnez, K. Hartonen, M. Kulmala, M.-L. Riekkola: J. Chromatogr. A, Particle-into-liquid sampler on-line coupled with solid - phase extraction - liquid chromatography - mass spectrometry for the determination of organic acids in atmospheric aerosols, *JOURNAL OF CHROMATOGRAPHY A* , 1217, 5427-5433, 2010
542. Parshintsev, J., T. Hyötyläinen, K. Hartonen, M. Kulmala and M.-L. Riekkola: Solid Phase Extraction of Organic Compounds in Atmospheric Aerosol Particles Collected with the Particle-into-Liquid Sampler and Analysis by Liquid Chromatography- Mass Spectrometry, *Talanta* 80, 1170-1176, 2010

543. Raatikainen, T., Vaattovaara, P., Tiitta, P., Miettinen, P., Rautiainen, J., Ehn, M., Kulmala, M., Laaksonen, A., and Worsnop, D.R.: Physicochemical properties and origin of organic groups detected in boreal forest using an aerosol mass spectrometer, *Atmos. Chem. Phys.*, 10, 2063-2077, doi:10.5194/acp-10-2063-2010, 2010.
544. Ristovski, Z.D., Suni, T., Kulmala, M., Boy, M., Meyer, N.K., Duplissy, J., Turnipseed, A., Morawska, L. and Baltensperger, U.: The role of sulphates and organic vapours in new particle formation in a eucalypt forest, *Atmos. Chem. Phys.*, 10, 2919-2926, 2010.
545. Saarnio, K., Aurela, M., Timonen, H., Saarikoski, S., Teinilä, K., Mäkelä, T., Sofiev, M., Koskinen, J., Aalto, P.P., Kulmala, M., Kukkonen, J., Hillamo, R. 2010: Chemical composition of fine particles in fresh smoke plumes from boreal wild-land fires in Europe, *Sci. Total Environ.*, 408, 2527-2542
546. Sipilä, M., T. Berndt, T. Petäjä, D. Brus, J. Vanhanen, F. Stratmann, J. Patokoski, R. L. Mauldin III, A.-P. Hyvärinen, H. Lihavainen, and M. Kulmala, The role of sulphuric acid in atmospheric nucleation, *Science*, 327, 1243-1246, 2010.
547. Smith, J. N., Barsanti, K. C., Friedli, H. R., Ehn, M., Kulmala, M., Collins, D. R., Scheckman, J. H., Williams, B. J., and McMurry, P. H.: Observations of ammonium salts in atmospheric nanoparticles and possible climatic implications. *Proceedings of the National Academy of Sciences (USA)* 107 no. 15, 6634-6639. doi:10.1073/pnas.0912127107, 2010.
548. Spracklen, D. V., Carslaw, K. S., Merikanto, J., Mann, G. W., Reddington, C. L., Pickering, S., Ogren, J. A., Andrews, E., Baltensperger, U., Weingartner, E., Boy, M., Kulmala, M., Laakso, L., Lihavainen, H., Kiveks, N., Komppula, M., Mihalopoulos, N., Kouvarakis, G., Jennings, S. G., O'Dowd, C., Birmili, W., Wiedensohler, A., Weller, R., Gras, J., Laj, P., Sellegri, K., Bonn, B., Krejci, R., Laaksonen, A., Hamed, A., Minikin, A., Harrison, R. M., Talbot, R., and Sun, J.: Explaining global surface aerosol number concentrations in terms of primary emissions and particle formation. *Atmos. Chem. Phys.* 10 4775-4793. doi:10.5194/acp-10-4775-2010, 2010.
549. Tiitta, P., Miettinen, P., Vaattovaara, P., Joutsensaari, J., Petäjä, T., Virtanen, A., Raatikainen, T., Aalto, P., Portin, H., Romakkaniemi, S., Kokkola, H., Lehtinen, K.E.J., Kulmala, M., Laaksonen, A.: Roadside aerosol study using hygroscopic, organic and volatility TDMA: Characterization and mixing state. *Atmospheric Environment* 44 976-986. doi:10.1016/j.atmosenv.2009.06.021, 2010
550. Timonen, H., Aurela, M., Carbone, S., Saarnio, K., Saarikoski, S., Mäkelä, T., Kulmala, M., Kerminen, V. -M., Worsnop, D. R., and Hillamo, R.: Chemical characterization of the water-soluble fraction of ambient aerosols measured with two high-resolution devices PILS-TOC-IC and AMS, *Atmos. Meas. Tech.* , 3, 1063-1074, 2010
551. Ehn M, Vuollekoski H, Petäjä T, Kerminen VM , Vana M, Aalto P, de Leeuw G, Ceburnis D, Dupuy R, O'Dowd CD, Kulmala M: Growth rates during coastal and marine new particle formation in western Ireland, *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES* Volume: 115 Article Number: D18218, 2010
552. Dall'Osto M, Ceburnis D, Martucci G, Bialek J, Dupuy R, Jennings SG, Berresheim H, Wenger J, Healy R, Facchini MC, Rinaldi M, Giulianelli L, Finessi E, Worsnop D, Ehn M, Mikkilä J, Kulmala M, O'Dowd CD: Aerosol properties associated with air masses arriving into the North East Atlantic during the 2008 Mace Head EUCAARI intensive observing period: an overview, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, 10, 8413-8435, 2010
553. Kuang C, Riipinen I, Sihto SL, Kulmala M, McCormick AV, McMurry PH: An improved criterion for new particle formation in diverse atmospheric environments, *ATMOSPHERIC CHEMISTRY AND PHYSICS* , 10, 8469-8480, 2010
554. Arneth A, Harrison SP, Zaehle S, Tsigaridis K, Menon S, Bartlein PJ, Feichter J, Korhola A, Kulmala M, O'Donnell D, Schurgers G, Sorvari S, Vesala T: Terrestrial biogeochemical feedbacks in the climate system , *NATURE GEOSCIENCE*, 3, 525-532, 2010.
555. Sinha V, Williams J, Lelieveld J, Ruuskanen TM, Kajos MK, Patokoski J, Hellen H, Hakola H, Mogensen D, Boy M, Rinne J, Kulmala M: OH Reactivity Measurements within a Boreal Forest: Evidence for Unknown Reactive Emissions, *ENVIRONMENTAL SCIENCE and TECHNOLOGY*, 44, 6614-6620, 2010

556. Lehtipalo K, Kulmala M, Sipila M, Petäjä T, Vana M, Ceburnis D, Dupuy R, O'Dowd C: Nanoparticles in boreal forest and coastal environment: a comparison of observations and implications of the nucleation mechanism, *ATMOSPHERIC CHEMISTRY AND PHYSICS* . 10, 7009-7016, 2010
557. Zardini AA, Riipinen I, Koponen IK, Kulmala M, Bilde M: Evaporation of ternary inorganic/organic aqueous droplets: Sodium chloride, succinic acid and water , *JOURNAL OF AEROSOL SCIENCE*, 41, 760-770, 2010
558. Crumeyrolle S, Manninen HE, Sellegri K, Roberts G, Gomes L, Kulmala M, Weigel R, Laj P, Schwarzenboeck A: New particle formation events measured on board the ATR-42 aircraft during the EUCAARI campaign, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, 10, 6721-6735, 2010
559. Pikridas M, Bougiatioti A, Hildebrandt L, Engelhart GJ, Kostenidou E, Mohr C, Prevot ASH, Kouvarakis G, Zampas P, Burkhardt JF, Lee BH, Psichoudaki M, Mihalopoulos N, Pilinis C, Stohl A, Baltensperger U, Kulmala M, Pandis SN: The Finokalia Aerosol Measurement Experiment-2008 (FAME-08): an overview , *ATMOSPHERIC CHEMISTRY AND PHYSICS*, 10, 6793-6806,2010
560. Stratmann F, Herrmann E, Petäjä T, Kulmala M: Modelling Ag-particle activation and growth in a TSI WCPC model 3785, *ATMOSPHERIC MEASUREMENT TECHNIQUES*, 3, 273-281, 2010
561. Wehner B, Siebert H, Ansmann A, Ditas F, Seifert P, Stratmann F, Wiedensohler A, Apituley A, Shaw RA, Manninen HE, Kulmala M: Observations of turbulence-induced new particle formation in the residual layer, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, 10, 4319-4330, 2010
562. Brus D, Hyvärinen AP, Viisanen Y, Kulmala M, Lihavainen H: Homogeneous nucleation of sulfuric acid and water mixture: experimental setup and first results, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, 10, 2631-2641, 2010
563. Carslaw KS, Boucher O, Spracklen DV, Mann GW, Rae JGL , Woodward S, Kulmala M: A review of natural aerosol interactions and feedbacks within the Earth system, *ATMOSPHERIC CHEMISTRY AND PHYSICS* , 10, 1701-1737, 2010
564. Kulmala M, Riipinen I, Nieminen T, Hulkkonen M, Sogacheva L, Manninen HE, Paasonen P, Petäjä T, Dal Maso M, Aalto PP, Viljanen A, Usoskin I, Vainio R, Mirme S, Mirme A, Minikin A, Petzold A, Hrrak U, Plass-Dulmer C, Birmili W, Kerminen VM: Atmospheric data over a solar cycle: no connection between galactic cosmic rays and new particle formation, *ATMOSPHERIC CHEMISTRY AND PHYSICS* , 10, 1885-1898, 2010
565. Kuuluvainen H, Kannosto J, Virtanen A, Mäkelä JM, Kulmala M, Aalto P, Keskinen J: Technical Note: Measuring condensation sink and ion sink of atmospheric aerosols with the electrical low pressure impactor (ELPI), *ATMOSPHERIC CHEMISTRY AND PHYSICS*, 10, 1361-1368, 2010
566. Mirme, S., Mirme, A., Minikin, A., Petzold, A., Hrrak, U., Kerminen, V.-M., and Kulmala, M.: Atmospheric sub-3 nm particles at high altitudes, *Atmos. Chem. Phys.*, 10, 437-451, doi:10.5194/acp-10-437-2010, 2010.
567. Virtanen A., Joutsensaari J., Koop T.,Kannosto J., Yli-Pirilä P., Leskinen J., Mäkelä J.M., Holopainen J.K., Pöschl U., Kulmala M.,Worsnop D.R.,Laaksonen A.: An amorphous solid state of biogenic secondary organic aerosol particles, *Nature*, 467, 824-827, 2010
568. Kerminen, V.-M., Petäjä, T. , Manninen, H.E., Paasonen, P., Nieminen, T.J., Sipilä, M., Junninen, H., Ehn, M., Gagne, S., Laakso, L., Riipinen, I., Vehkamäki, H., Kurten, T., Ortega, I.K., Dal Maso, M., Brus, D., Hyvärinen, A. , Lihavainen, H. , Leppä, J., Lehtinen, KEJ, Mirme, A., Mirme, S., Hörrak, U., Berndt, T., Stratmann, F., Birmili, W., Wiedensohler, A., Metzger, A., Dommen, J., Baltensperger, U., Kiendler-Scharr, A., Mentel, T.F., Wildt, J., Winkler, P.M., Wagner, P.E., Petzold, A., Minikin, A., Plass-Duelmer, C., Poeschl, U., Laaksonen, A., Kulmala, M. 'Atmospheric nucleation: highlights of the EUCAARI project and future directions', *Atmospheric Chemistry and Physics*, vol 10, no. 22, pp. 10829-10848, 2010.
569. Kolb, CE, Cox, RA, Abbatt, JPD, Ammann, M, Davis, EJ, Donaldson, DJ, Garrett, BC, George, C, Griffiths, PT, Hanson, DR, Kulmala, M, McFiggans, G, Poeschl, U, Riipinen, I, Rossi, MJ, Rudich, Y, Wagner, PE, Winkler, PM, Worsnop, DR, O' Dowd, CD, 'Overview of current issues in the uptake of atmospheric trace gases by aerosols and clouds', *Atmospheric Chemistry and Physics*, vol 10, pp. 10561-10605, 2010.

570. Kulmala, M., 'Dynamical atmospheric cluster model', *Atmospheric Research*, vol 98, pp. 201-206, 2010.
571. Massoli, P, Lambe, AT, Ahern, AT, Williams, LR, Ehn, M, Mikkila, J, Canagaratna, MR, Brune, WH, Onasch, TB, Jayne, JT, Petaja, T, Kulmala, M, Laaksonen, A, Kolb, CE, Davidovits, P, Worsnop, DR, 'Relationship between aerosol oxidation level and hygroscopic properties of laboratory generated secondary organic aerosol (SOA) particles', *Geophysical Research Letters*, vol 37, pp. L24801, 2010.
572. Monahan, C, Vuollekoski, H, Kulmala, M, O'Dowd, CD, 'Simulating Marine New Particle Formation and Growth Using the M7 Modal Aerosol Dynamics Modal', *Advances in Meteorology*, vol 2010, pp. 689763, 2010.
573. Nieminen, T, Lehtinen, KEJ, Kulmala, M, 'Sub-10 nm particle growth by vapor condensation - effects of vapor molecule size and particle thermal speed', *Atmospheric Chemistry and Physics*, vol 10, no. 20, pp. 9773-9779, 2010.
574. Paasonen, P, Nieminen, TJ, Asmi, E, Manninen, HE, Petäjä, T, Plass-Duelmer, C, Flentje, H, Birmili, W, Wiedensohler, A, Hörrak, U, Metzger, A, Hamed, A, Laaksonen, A, Facchini, MC, Kerminen, V, Kulmala, M, 'On the roles of sulphuric acid and low-volatility organic vapours in the initial steps of atmospheric new particle formation', *Atmospheric Chemistry and Physics*, vol 10, no. 22, pp. 11223-11242, 2010.
575. Parshintsev, J, Kivilompolo, M, Ruiz Jimenez, J, Hartonen, K, Kulmala, M, Riekkola, M, 'Particle-into-liquid sampler on-line coupled with solid-phase extraction-liquid chromatography-mass spectrometry for the determination of organic acids in atmospheric aerosols', *Journal of Chromatography A*, vol 1217, no. 33, pp. 5427-5433, 2010.
576. Schobesberger, S, Winkler, PM, Pinterich, T, Vrtala, A, Kulmala, M, Wagner, PE, 'Experiments on the Temperature Dependence of Heterogeneous Nucleation on Nanometer-Sized NaCl and Ag Particles', *ChemPhysChem*, vol 11, no. 18, pp. 3874-3882, 2010.
577. Vuollekoski, H, Boy, M, Kerminen, V, Lehtinen, KEJ, Kulmala, M, 'MECCO: A Method to Estimate Concentrations of Condensing Organics – Description and Evaluation of a Markov chain Monte Carlo Application', *Journal of Aerosol Science*, vol 41, no. 12, pp. 1080-1089, 2010.
578. Vuollekoski, H, Nieminen, T, Paasonen, P, Sihto, S, Boy, M, Manninen, H, Lehtinen, K, Kerminen, V, Kulmala, M, 'Atmospheric nucleation and initial steps of particle growth: numerical comparison of different theories and hypotheses', *Atmospheric Research*, vol 98, no. 2-4, pp. 229-236, 2010.
579. Asmi, A., Wiedensohler, A., Laj, P., Fjaeraa, A. -M., Sellegri, K., Birmili, W., Weingartner, E., Baltensperger, U., Zdimal, V., Zikova, N., Putaud, J. -P., Marinoni, A., Tunved, P., Hansson, H. -C., Fiebig, M., Kivekas, N., Lihavainen, H., Asmi, E., Ulevicius, V., Aalto, P. P., Swietlicki, E., Kristensson, A., Mihalopoulos, N., Kalivitis, N., Kalapov, I., Kiss, G., de Leeuw, G., Henzing, B., Harrison, R. M., Beddows, D., O'Dowd, C., Jennings, S. G., Flentje, H., Weinhold, K., Meinhardt, F., Ries, L., Kulmala, M.: Number size distributions and seasonality of submicron particles in Europe 2008-2009, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 11 Pages: 5505-5538 DOI: 10.5194/acp-11-5505-2011, 2011
580. Aurela, M., Saarikoski, S., Timonen, H., Aalto, P., Keronen, P., Saarnio, K., Teinila, K., Kulmala, M., Hillamo, R.: Carbonaceous aerosol at a forested and an urban background sites in Southern Finland, *ATMOSPHERIC ENVIRONMENT*, Volume: 45 Issue: 7 Pages: 1394-1401 DOI: 10.1016/j.atmosenv.2010.12.039, 2011
581. Bister, M, Kulmala, M: Anthropogenic aerosols may have increased upper tropospheric humidity in the 20th century, *Atmospheric Chemistry and Physics*, vol 11, no 9, pp. 4577-4586, 2011.
582. Brus, D., Neitola, K., Hyvarinen, A. -P., Petaja, T., Vanhanen, J., Sipila, M., Paasonen, P., Kulmala, M., Lihavainen, H.: Homogenous nucleation of sulfuric acid and water at close to atmospherically relevant conditions, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 11 Pages: 5277-5287 DOI: 10.5194/acp-11-5277-2011, 2011
583. Ehn, M, Junninen, H, Schobesberger, S, Manninen, HE, Franchin, A, Sipilä, M, Petäjä, T, Kerminen, V, Tammet, H, Mirme, A, Mirme, S, Horrak, U, Kulmala, M, Worsnop, D: An Instrumental Comparison of Mobility and Mass Measurements of Atmospheric Small Ions, *Aerosol Science and Technology*, vol 45, no 4, pp. 522-532, 2011

584. Gagne, S., Lehtipalo, K., Manninen, H. E., Nieminen, T., Schobesberger, S., Franchin, A., Yli-Juuti, T., Boulon, J., Sonntag, A., Mirme, S., Mirme, A., Horrak, U., Petaja, T., Asmi, E., Kulmala, M.: Intercomparison of air ion spectrometers: an evaluation of results in varying conditions, *ATMOSPHERIC MEASUREMENT TECHNIQUES*, Volume: 4 Issue: 5 Pages: 805-822 DOI: 10.5194/amt-4-805-2011, 2011
585. Guenther, Alex, Kulmala, Markku, Turnipseed, Andrew, Rinne, Janne, Suni, Tanja, Reissell, Anni: Integrated land ecosystem-atmosphere processes study (iLEAPS) assessment of global observational networks, *BOREAL ENVIRONMENT RESEARCH*, Volume: 16 Issue: 4 Pages: 321-336, 2011
586. Hao, L. Q., Romakkaniemi, S., Yli-Pirila, P., Joutsensaari, J., Kortelainen, A., Kroll, J. H., Miettinen, P., Vaattovaara, P., Tiitta, P., Jaatinen, A., Kajos, M. K., Holopainen, J. K., Heijari, J., Rinne, J., Kulmala, M., Worsnop, D. R., Smith, J. N., Laaksonen, A.: Mass yields of secondary organic aerosols from the oxidation of alpha-pinene and real plant emissions, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 4 Pages: 1367-1378 DOI: 10.5194/acp-11-1367-2011, 2011
587. Hirsikko, A., Nieminen, T., Gagne, S., Lehtipalo, K., Manninen, H. E., Ehn, M., Horrak, U., Kerminen, V.-M., Laakso, L., McMurry, P. H., Mirme, A., Mirme, S., Petaja, T., Tammet, H., Vakkari, V., Vana, M., Kulmala, M.: Atmospheric ions and nucleation: a review of observations, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 2 Pages: 767-798 DOI: 10.5194/acp-11-767-2011, 2011
588. Hirsikko, A., Nieminen, T., Gagne, S., Lehtipalo, K., Manninen, H. E., Ehn, M., Horrak, U., Kerminen, V., Laakso, L., McMurry, P. H., Mirme, A., Mirme, S., Petaja, T., Tammet, H., Vakkari, V., Vana, M., Kulmala, M.: Atmospheric ions and nucleation: a review of observations, *Atmospheric Chemistry and Physics*, vol 11, s. 767-798, 2011
589. Hussein, Tareq, Abu Al-Ruz, Rasha, Petaja, Tuukka, Junninen, Heikki, Arafah, Dia-Eddin, Hameri, Kaarle, Kulmala, Markku: Local Air Pollution versus Short-range Transported Dust Episodes: A Comparative Study for Submicron Particle Number Concentration, *AEROSOL AND AIR QUALITY RESEARCH*, Volume: 11 Issue: 2 Pages: 109-119 DOI: 10.4209/aaqr.2010.08.0066, 2011
590. Hyvärinen, A. -P., Kolmonen, P., Kerminen, V. -M., Virkkula, A., Leskinen, A., Komppula, M., Hatakka, J., Burkhardt, J., Stohl, A., Aalto, P., Kulmala, M., Lehtinen, K. E. J., Viisanen, Y., Lihavainen, H.: Aerosol black carbon at five background measurement sites over Finland, a gateway to the Arctic, *ATMOSPHERIC ENVIRONMENT*, Volume: 45 Issue: 24 Pages: 4042-4050 DOI: 10.1016/j.atmosenv.2011.04.026, 2011
591. Janssen, R. H. H., Ganzeveld, L. N., Kabat, P., Kulmala, M., Nieminen, T., Roebeling, R. A.: Estimating seasonal variations in cloud droplet number concentration over the boreal forest from satellite observations, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 15 Pages: 7701-7713 DOI: 10.5194/acp-11-7701-2011, 2011
592. Kaasik, M., Sofiev, M., Prank, M., Ruuskanen, T., Kukkonen, J., Horrak, U., Kulmala, M.: Geographical origin of aerosol particles observed during the LAPBIAT measurement campaign in spring 2003 in Finnish Lapland, *Boreal Environment Research*, vol 16, no 1, pp. 15-35, 2011
593. Kirkby, Jasper, Curtius, Joachim, Almeida, Joao, Dunne, Eimear, Duplissy, Jonathan, Ehrhart, Sebastian, Franchin, Alessandro, Gagne, Stephanie, Ickes, Luisa, Kuerten, Andreas, Kupc, Agnieszka, Metzger, Axel, Riccobono, Francesco, Rondo, Linda, Schobesberger, Siegfried, Tsagkogeorgas, Georgios, Wimmer, Daniela, Amorim, Antonio, Bianchi, Federico, Breitenlechner, Martin, David, Andre, Dommen, Josef, Downard, Andrew, Ehn, Mikael, Flagan, Richard C., Haider, Stefan, Hansel, Armin, Hauser, Daniel, Jud, Werner, Junninen, Heikki, Kreissl, Fabian, Kvashin, Alexander, Laaksonen, Ari, Lehtipalo, Katrianne, Lima, Jorge, Lovejoy, Edward R., Makhmutov, Vladimir, Mathot, Serge, Mikkila, Jyri, Minginette, Pierre, Mogo, Sandra, Nieminen, Tuomo, Onnela, Antti, Pereira, Paulo, Petaja, Tuukka, Schnitzhofer, Ralf, Seinfeld, John H., Sipila, Mikko, Stozhkov, Yuri, Stratmann, Frank, Tome, Antonio, Vanhanen, Joonas, Viisanen, Yrjo, Vrtala, Aron, Wagner, Paul E., Walther, Hansueli, Weingartner, Ernest, Wex, Heike, Winkler, Paul M., Carslaw, Kenneth S., Worsnop, Douglas R., Baltensperger, Urs, Kulmala, Markku: Role of sulphuric acid, ammonia and galactic cosmic rays in atmospheric aerosol nucleation, *NATURE*, Volume: 476 Issue: 7361 Pages: 429-U77 DOI: 10.1038/nature10343, 2011



594. Koskinen, JT, Poutiainen, J, Schultz, DM, Joffre, S, Koistinen, J, Saltikoff, E, Gregow, E, Turtiainen, H, Dabberdt, WF, Damski, J, Eresmaa, N, Gke, S, Hyvärinen, O, Järvi, L, Karppinen, A, Kotro, J, Kuitunen, T, Kukkonen, J, Kulmala, M, Moisseev, D, Nurmi, P, Pohjola, H, Pylkk, P, Vesala, T, Viisanen, Y: The Helsinki Testbed: A Mesoscale Measurement, Research, and Service Platform, *Bulletin of the American Meteorological Society*, vol 92, issue 3, pp. 325-342, 2011
595. Koskinen, Jarkko T., Poutiainen, Jani, Schultz, David M., Joffre, Sylvain, Koistinen, Jarmo, Saltikoff, Elena, Gregow, Erik, Turtiainen, Heikki, Dabberdt, Walter F., Damski, Juhani, Eresmaa, Noora, Goke, Sabine, Hyvarinen, Otto, Jarvi, Leena, Karppinen, Ari, Kotro, Janne, Kuitunen, Timo, Kukkonen, Jaakko, Kulmala, Markku, Moisseev, Dmitri, Nurmi, Pertti, Pohjola, Heikki, Pylkko, Pirkko, Vesala, Timo, Viisanen, Yrjo: THE HELSINKI TESTBED A Mesoscale Measurement, Research, and Service Platform Source, *BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETY*, Volume: 92 Issue: 3 Pages: 325-342 DOI: 10.1175/2010BAMS2878.1, 2011
596. Kulmala, Markku, Alekseychik, Pavel, Paramonov, Mikhail, Laurila, Tuomas, Asmi, Eija, Arneth, Almut, Zilitinkevich, Sergej, Kerminen, Veli-Matti: On measurements of aerosol particles and greenhouse gases in Siberia and future research needs *BOREAL ENVIRONMENT RESEARCH*, Volume: 16 Issue: 4 Pages: 337-362, 2011
597. Kurten, TC, Zhou, L, Makkonen, RJ, Merikanto, J, Petri, R, Boy, M, Richards, N, Rap, A, Smolander, S, Smolander, S, Sogachev, A, Guenther, A, Mann, GW, Carslaw, K, Kulmala, M: Large methane releases lead to strong aerosol forcing and reduced cloudiness, *Atmospheric Chemistry and Physics*, vol 11, pp. 6961-6969, 2011
598. Kurten, T., Petaja, T., Smith, J., Ortega, I. K., Sipila, M., Junninen, H., Ehn, M., Vehkamäki, H., Mauldin, L., Worsnop, D. R., Kulmala, M.: The effect of H<sub>2</sub>SO<sub>4</sub> - amine clustering on chemical ionization mass spectrometry (CIMS) measurements of gas-phase sulfuric acid, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 6 Pages: 3007-3019 DOI: 10.5194/acp-11-3007-2011, 2011
599. Laitinen, Totti, Ehn, Mikael, Junninen, Heikki, Ruiz-Jimenez, Jose, Parshintsev, Jevgeni, Hartonen, Kari, Riekkola, Marja-Liisa, Worsnop, Douglas R., Kulmala, Markku: Characterization of organic compounds in 10-to 50-nm aerosol particles in boreal forest with laser desorption-ionization aerosol mass spectrometer and comparison with other techniques, *ATMOSPHERIC ENVIRONMENT*, Volume: 45 Issue: 22 Pages: 3711-3719 DOI: 10.1016/j.atmosenv.2011.04.023, 2011
600. Lehtipalo, K, Sipilä, M, Junninen, H, Ehn, M, Berndt, T, Kajos, MK, Worsnop, DR, Petäjä, T, Kulmala, M: Observations of Nano-CN in the Nocturnal Boreal Forest, *Aerosol Science and Technology*, vol 45, no 4, pp. 499-509, 2011
601. Leppa, J., Anttila, T., Kerminen, V. -M., Kulmala, M., Lehtinen, K. E. J.: Atmospheric new particle formation: real and apparent growth of neutral and charged particles, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 10 Pages: 4939-4955 DOI: 10.5194/acp-11-4939-2011, 2011
602. Liao, Li, Dal Maso, Miikka, Taipale, Risto, Rinne, Janne, Ehn, Mikael, Junninen, Heikki, Aijala, Mikko, Nieminen, Tuomo, Alekseychik, Pavel, Hultkonen, Mira, Worsnop, Douglas R., Kerminen, Veli-Matti, Kulmala, Markku: Monoterpene pollution episodes in a forest environment: indication of anthropogenic origin and association with aerosol particle, *BOREAL ENVIRONMENT RESEARCH*, Volume: 16 Issue: 4 Pages: 288-303, 2011
603. Maenhaut, Willy, Nava, Silvia, Lucarelli, Franco, Wang, Wan, Chi, Xuguang, Kulmala, Markku: Chemical composition, impact from biomass burning, and mass closure for PM<sub>2.5</sub> and PM<sub>10</sub> aerosols at Hyytiälä, Finland, in summer 2007, *X-RAY SPECTROMETRY*, Volume: 40 Issue: 3 Special Issue: SI Pages: 168-171 DOI: 10.1002/xrs.1302, 2011
604. Mammarella, I., Rannik, U., Aalto, P., Keronen, P., Vesala, T., Kulmala, M.: Long-term aerosol particle flux observations. Part II: Particle size statistics and deposition velocities, *ATMOSPHERIC ENVIRONMENT*, Volume: 45 Issue: 23 Pages: 3794-3805 DOI: 10.1016/j.atmosenv.2011.04.022, 2011
605. Massoli, P., Lambe, A. T., Ahern, A. T., Williams, L. R., Ehn, M., Mikkilä, J., Canagaratna, M. R., Brune, W. H., Onasch, T. B., Jayne, J. T., Petäjä, T., Kulmala, M., Laaksonen, A., Kolb, C.

- E., Davidovits, P., Worsnop, D. R.: Relationship between aerosol oxidation level and hygroscopic properties of laboratory generated secondary organic aerosol (SOA) particles, *GEOPHYSICAL RESEARCH LETTERS*, Volume: 38 Article Number: L03805 DOI: 10.1029/2011GL046687, 2011
606. Nieminen, T., Paasonen, P., Manninen, H. E., Sellegri, K., Kerminen, V. -M., Kulmala, M.: Parameterization of ion-induced nucleation rates based on ambient observations, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 7 Pages: 3393-3402 DOI: 10.5194/acp-11-3393-2011, 2011
607. Parshintsev, Jevgeni, Ruiz-Jimenez, Jose, Petä jä, Tuukka, Hartonen, Kari, Kulmala, Markku, Riekkola, Marja-Liisa: Comparison of quartz and Teflon filters for simultaneous collection of size-separated ultrafine aerosol particles and gas-phase zero samples, *ANALYTICAL AND BIOANALYTICAL CHEMISTRY*, Volume: 400 Issue: 10 Pages: 3527-3535 DOI: 10.1007/s00216-011-5041-0, 2011
608. Petä jä, Tuukka, Sipilä, Mikko, Paasonen, Pauli, Nieminen, Tuomo, Kurten, Theo, Ortega, Ismael K., Stratmann, Frank, Vehkamä ki, Hanna, Berndt, Torsten, Kulmala, Markku: Experimental Observation of Strongly Bound Dimers of Sulfuric Acid: Application to Nucleation in the Atmosphere, *PHYSICAL REVIEW LETTERS*, Volume: 106 Issue: 22 Article Number: 228302 DOI: 10.1103/PhysRevLett.106.228302 , 2011
609. Riipinen, I., Pierce, J. R., Yli-Juuti, T., Nieminen, T., Hakkinen, S., Ehn, M., Junninen, H., Lehtipalo, K., Petaja, T., Slowik, J., Chang, R., Shantz, N. C., Abbatt, J., Leaitch, W. R., Kerminen, V. -M., Worsnop, D. R., Pandis, S. N., Donahue, N. M., Kulmala, M.: Organic condensation: a vital link connecting aerosol formation to cloud condensation nuclei (CCN) concentrations, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 8 Pages: 3865-3878 DOI: 10.5194/acp-11-3865-2011, 2011
610. Roldin, P., Swietlicki, E., Schurgers, G., Arneth, A., Lehtinen, K. E. J., Boy, M., Kulmala, M.: Development and evaluation of the aerosol dynamics and gas phase chemistry model ADCHEM, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 12 Pages: 5867-5896 DOI: 10.5194/acp-11-5867-2011, 2011
611. Ruusuvuori, KI, Kurten, TC, Ortega Colomer, IK, Loukonen, V, Toivola, M, Kulmala, M, Vehkamä ki, H: Density-functional study of the sign preference of the binding of 1-propanol to tungsten oxide seed particles, *Computational and Theoretical Chemistry*, vol 966, 1-3, pp. 322-327, 2011
612. Ruusuvuori, Kai, Kurten, Theo, Ortega, Ismael K., Loukonen, Ville, Toivola, Martta, Kulmala, Markku, Vehkamä ki, Hanna: Density-functional study of the sign preference of the binding of 1-propanol to tungsten oxide seed particles, *COMPUTATIONAL AND THEORETICAL CHEMISTRY*, Volume: 966 Issue: 1-3 Pages: 322-327 DOI: 10.1016/j.comptc.2011.03.030, 2011
613. Salma, Imre, Borsos, Tibor, Aalto, Pasi P., Kulmala, Markku: Time-resolved number concentrations and size distribution of aerosol particles in an urban road tunnel, *BOREAL ENVIRONMENT RESEARCH*, Volume: 16 Issue: 4 Pages: 262-272, 2011
614. Salma, I., Borsos, T., Weidinger, T., Aalto, P., Hussein, T., Dal Maso, M., Kulmala, M.: Production, growth and properties of ultrafine atmospheric aerosol particles in an urban environment, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 3 Pages: 1339-1353 DOI: 10.5194/acp-11-1339-2011, 2011
615. Vakkari, V., Laakso, H., Kulmala, M., Laaksonen, A., Mabaso, D., Molefe, M., Kgabi, N., Laakso, L.: New particle formation events in semi-clean South African savannah, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 7 Pages: 3333-3346 DOI: 10.5194/acp-11-3333-2011, 2011
616. Vanhanen, J, Mikkilä j, J, Lehtipalo, K, Sipilä, M, Manninen, HE, Siivola, E, Petä jä, T, Kulmala, M: Particle Size Magnifier for Nano-CN Detection, *Aerosol Science and Technology*, vol 45, 4, pp. 533-542, 2011
617. Virkkula, A., Backman, J., Aalto, P. P., Hulkkonen, M., Riuttanen, L., Nieminen, T., dal Maso, M., Sogacheva, L., de Leeuw, G., Kulmala, M.: Seasonal cycle, size dependencies, and source analyses of aerosol optical properties at the SMEAR II measurement station in Hyytiälä, Finland, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11 Issue: 9 Pages: 4445-4468 DOI: 10.5194/acp-11-4445-2011 , 2011

618. Winkler, Paul M., Steiner, Gerhard, Vrtala, Aron, Reischl, Georg P., Kulmala, Markku, Wagner, Paul E.: Unary and Binary Heterogeneous Nucleation of Organic Vapors on Monodisperse WO(x) Seed Particles with Diameters Down to 1.4 nm, *AEROSOL SCIENCE AND TECHNOLOGY*, Volume: 45 Issue: 4 Pages: 493-498 DOI: 10.1080/02786826.2010.547536 , 2011
619. Kulmala M. and Petäjä T., Soil Nitrites Influence Atmospheric Chemistry, *Science*, Volume 3333, Pages 1586-1587, 2011
620. Pierce JR, Riipinen I, Kulmala M, Ehn M, Petaja T, Junninen H, Worsnop DR, Donahue NM: Quantification of the volatility of secondary organic compounds in ultrafine particles during nucleation events, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 1, Issue: 17, Pages: 9019-9036, DOI: 10.5194/acp-11-9019-2011, 2011
621. Mogensen D, Smolander S, Sogachev, A, Zhou L, Sinha V, Guenther A, Williams J, Nieminen T, Kajos MK, Rinne J, Kulmala M, Boy M : Modelling atmospheric OH-reactivity in a boreal forest ecosystem Author(s): *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 18, Pages: 9709-9719, DOI: 10.5194/acp-11-9709-2011, 2011
622. Williams J, Crowley J, Fischer H, Harder H, Martinez M, Petaja T, Rinne J, Back J, Boy M, Dal Maso M, Hakala J, Kajos M, Keronen P, Rantala P, Aalto J, Aaltonen H, Paatero J, Vesala T, Hakola H, Levula J, Pohja T, Herrmann F, Auld J, Mesarchaki E, Song W, Yassaa N, Noelscher A, Johnson AM, Custer T, Sinha V, Thieser J, Pouvesle N, Taraborrelli D, Tang MJ, Bozem H, Hosaynali-Beygi Z, Axinte R, Oswald R, Novelli A, Kubistin D, Hens K, Javed U, Trawny K, Breitenberger C, Hidalgo PJ, Ebben CJ, Geiger FM, Corrigan AL, Russell LM, Ouwersloot HG, de Arellano J, Vila-Guerau, Ganzeveld L, Vogel A, Beck M, Bayerle A, Kampf CJ, Bertelmann M, Koellner F, Hoffmann T, Valverde J, Gonzalez D, Riekkola M-L, Kulmala M, Lelieveld J: The summertime Boreal forest field measurement intensive (HUMPPA-COPEC-2010): an overview of meteorological and chemical influences *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 20, Pages: 10599-10618, DOI: 10.5194/acp-11-10599-2011, 2011
623. Ebben CJ, Martinez IS, Shrestha M, Buchbinder AM, Corrigan AL, Guenther A, Karl T, Petaja T, Song WW, Zorn SR, Artaxo P, Kulmala M, Martin ST, Russell LM, Williams J, Geiger FM: Contrasting organic aerosol particles from boreal and tropical forests during HUMPPA-COPEC-2010 and AMAZE-08 using coherent vibrational spectroscopy, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 20, Pages: 10317-10329, DOI: 10.5194/acp-11-10317-2011, 2011
624. Mikkonen S, Romakkaniemi S, Smith JN, Korhonen H, Petaja T, Plass-Duelmer C, Boy M, McMurry PH, Lehtinen KEJ, Joutsensaari J, Hamed A, Mauldin RL III, Birmili W, Spindler G, Arnold F, Kulmala M, Laaksonen A: A statistical proxy for sulphuric acid concentration, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 21, Pages: 11319-11334, DOI: 10.5194/acp-11-11319-2011, 2011
625. Kulmala M, Arola A, Nieminen T, Riuttanen L, Sogacheva L, de Leeuw G, Kerminen V-M, Lehtinen KEJ: The first estimates of global nucleation mode aerosol concentrations based on satellite measurements, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 21, Pages: 10791-10801, DOI: 10.5194/acp-11-10791-2011, 2011
626. Sihto SL, Mikkila J, Vanhanen J, Ehn M, Liao L, Lehtipalo K, Aalto PP, Duplissy J, Petaja T, Kerminen VM, Boy M, Kulmala M: Seasonal variation of CCN concentrations and aerosol activation properties in boreal forest, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 24, Pages: 13269-13285, DOI: 10.5194/acp-11-13269-2011, 2011
627. Kulmala M, Asmi A, Lappalainen HK, Baltensperger U, Brenguier JL, Facchini MC, Hansson HC, Hov O, O'Dowd CD, Poeschl U, Wiedensohler A, Boers R, Boucher O, de Leeuw G, van der Gon HACD, Feichter J, Krejci R, Laj P, Lihavainen H, Lohmann U, McFiggans G, Mentel T, Pilinis C, Riipinen I, Schulz M, Stohl A, Swietlicki E, Vignati E, Alves C, Amann M, Ammann M, Arabas S, Artaxo P, Baars H, Beddows DCS, Bergstrom R, Beukes JP, Bilde, M, Burkhardt JF, Canonaco F, Clegg ZL, Coe H, Crumeyrolle S, D'Anna B, Decesari S, Gilardoni S, Fischer M, Fjaeraa AM, Fountoukis C, George C, Gomes L, Halloran P, Hamburger T, Harrison RM, Herrmann H, Hoffmann T, Hoose C, Hu M, Hyvarinen A, Horrak U, Iinuma Y, Iversen T, Josipovic M, Kanakidou M, Kiendler-Scharr A, Kirkevag A, Kiss G, Klimont Z, Kolmonen P, Komppula M, Kristjansson JE, Laakso L, Laaksonen A, Labonnote L, Lanz VA, Lehtinen KEJ, Rizzo LV, Makkonen R, Manninen HE, McMeeking G, Merikanto J, Minikin A, Mirme S, Morgan WT, Nemitz E, O'Donnell D, Panwar TS, Pawlowska H, Petzold A, Pienaar JJ, Pio C, Plass-Duelmer C, Prevot ASH, Pryor

- S, Reddington CL, Roberts G, Rosenfeld D, Schwarz J, Seland O, Sellegri K, Shen XJ, Shiraiwa M, Siebert H, Sierau B, Simpson D, Sun JY, Topping D, Tunved P, Vaattovaara P, Vakkari V, Veeffkind JP, Visschedijk A, Vuollekoski H, Vuolo R, Wehner B, Wildt J, Woodward S, Worsnop DR, van Zadelhoff G-J, Zardini AA, Zhang K, van Zyl PG, Kerminen V-M, Carslaw KS, Pandis SN: General overview: European Integrated project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) - integrating aerosol research from nano to global scales, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 24, Pages: 13061-13143, DOI: 10.5194/acp-11-13061-2011, 2011
628. Yli-Juuti T, Nieminen T, Hirsikko A, Aalto PP, Asmi E, Horrak U, Manninen HE, Patokoski J, Dal Maso M, Petaja T, Rinne J, Kulmala M, Riipinen I: Growth rates of nucleation mode particles in Hyytiälä during 2003-2009: variation with particle size, season, data analysis method and ambient conditions, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 24, Pages: 12865-12886, DOI: 10.5194/acp-11-12865-2011, 2011
629. Cerully KM, Raatikainen T, Lance S, Tkacik D, Tiitta P, Petaja T, Ehn M, Kulmala M, Worsnop D, Laaksonen A, Smith JN, Nenes A: Aerosol hygroscopicity and CCN activation kinetics in a boreal forest environment during the 2007 EUCAARI campaign, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 23, Pages: 12369-12386, DOI: 10.5194/acp-11-12369-2011, 2011
630. Reddington CL, Carslaw KS, Spracklen DV, Frontoso MG, Collins L, Merikanto J, Minikin A, Hamburger T, Coe H, Kulmala M, Aalto P, Flentje H, Plass-Duelmer C, Birmili W, Wiedensohler A, Wehner B, Tuch T, Sonntag A, O'Dowd CD, Jennings SG, Dupuy R, Baltensperger U, Weingartner E, Hansson H-C, Tunved P, Laj P, Sellegri K, Boulon J, Putaud J-P, Gruening C, Swietlicki E, Roldin P, Henzing JS, Moerman M, Mihalopoulos N, Kouvarakis G, Zdimal V, Zikova N, Marinoni A, Bonasoni P, Duchi R: Primary versus secondary contributions to particle number concentrations in the European boundary layer, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 11, Issue: 23, Pages: 12007-12036, DOI: 10.5194/acp-11-12007-2011, 2011
631. Manninen HE, Franchin A, Schobesberger S, Hirsikko A, Hakala J, Skromulis A, Kangasluoma J, Ehn M, Junninen H, Mirme A, Mirme S, Sipila M, Petaja T, Worsnop DR, Kulmala M: Characterisation of corona-generated ions used in a Neutral cluster and Air Ion Spectrometer (NAIS), *ATMOSPHERIC MEASUREMENT TECHNIQUES*, Volume: 4, Issue: 12, Pages: 2767-2776, DOI: 10.5194/amt-4-2767-2011, 2011
632. Hamed A, Korhonen H, Sihto SL, Joutsensaari J, Jarvinen H, Petaja T, Arnold F, Nieminen T, Kulmala M, Smith JN, Lehtinen KEJ, Laaksonen A : The role of relative humidity in continental new particle formation, *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*, Volume: 116, D03202, DOI: 10.1029/2010JD014186, 2011
633. Luts A, Parts TE, Horrak U, Junninen H, Kulmala M: Composition of negative air ions as a function of ion age and selected trace gases: Mass- and mobility distribution, *JOURNAL OF AEROSOL SCIENCE*, Volume: 42, Issue: 11, Pages: 820-838, DOI: 10.1016/j.jaerosci.2011.07.007, 2011
634. Ruiz-Jimenez J, Parshintsev J, Laitinen T, Hartonen K, Riekkola M-L, Petaja T, Virkkula A, Kulmala M : A complete methodology for the reliable collection, sample preparation, separation and determination of organic compounds in ultrafine 30 nm, 40 nm and 50 nm atmospheric aerosol particles, *ANALYTICAL METHODS*, Volume: 3, Issue: 11, Pages: 2501-2509, DOI: 10.1039/c1ay05362k, 2011
635. Ruiz-Jimenez J, Parshintsev J, Laitinen T, Hartonen K, Riekkola M-L, Petaja T, Kulmala M: Comprehensive two-dimensional gas chromatography, a valuable technique for screening and semiquantitation of different chemical compounds in ultrafine 30 nm and 50 nm aerosol particles, *JOURNAL OF ENVIRONMENTAL MONITORING*, Volume: 13, Issue: 11, Pages: 2994-3003, DOI: 10.1039/c1em10486a, 2011
636. Hussein T, Smolik J, Kerminen V-M, Kulmala M: Modeling Dry Deposition of Aerosol Particles onto Rough Surfaces, *AEROSOL SCIENCE AND TECHNOLOGY*, Volume: 46, Issue: 1, Pages: 44-59, DOI: 10.1080/02786826.2011.605814, 2012
637. Makkonen R, Asmi A, Kerminen V-M, Boy M, Arneth A, Hari P, Kulmala M: Air pollution control and decreasing new particle formation lead to strong climate warming, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 3, Pages: 1515-1524, DOI: 10.5194/acp-12-1515-2012, 2012

638. Finessi E, Decesari S, Paglione M, Giulianelli L, Carbone C, Gilardoni S, Fuzzi S, Saarikoski S, Raatikainen T, Hillamo R, Allan J, Mentel TF, Tiitta P, Laaksonen A, Petaja T, Kulmala M, Worsnop DR, Facchini MC: Determination of the biogenic secondary organic aerosol fraction in the boreal forest by NMR spectroscopy, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 2, Pages: 941-959, DOI: 10.5194/acp-12-941-2012, 2012
639. Petaja T, Laakso L, Gronholm T, Launiainen S, Evele-Peltoniemi I, Virkkula A, Leskinen A, Backman J, Manninen HE, Sipila M, Haapanala S, Hameri K, Vanhala E, Tuomi T, Paatero J, Aurela M, Hakola H, Makkonen U, Hellen H, Hillamo R, Vira J, Prank M, Sofiev M, Siitari-Kauppi M, Laaksonen A, Lehtinen KEJ, Kulmala M, Viisanen Y, Kerminen V-M: In-situ observations of Eyjafjallajokull ash particles by hot-air balloon, *ATMOSPHERIC ENVIRONMENT*, Volume: 48, Special Issue: SI, Pages: 104-112, DOI: 10.1016/j.atmosenv.2011.08.046, 2012
640. Laakso L, Vakkari V, Virkkula A, Laakso H, Backman J, Kulmala M, Beukes JP, van Zyl PG, Tiitta P, Josipovic M, Pienaar JJ, Chiloane K, Gilardoni S, Vignati E, Wiedensohler A, Tuch T, Birmili W, Piketh S, Collett K, Fourie GD, Komppula M, Lihavainen H, de Leeuw G, Kerminen V-M: South African EUCAARI measurements: seasonal variation of trace gases and aerosol optical properties, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 4, Pages: 1847-1864, DOI: 10.5194/acp-12-1847-2012, 2012
641. McGrath MJ, Olenius T, Ortega IK, Loukonen V, Paasonen P, Kurten T, Kulmala M, Vehkamäki H : Atmospheric Cluster Dynamics Code: a flexible method for solution of the birth-death equations, *CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 5, Pages: 2345-2355, DOI: 10.5194/acp-12-2345-2012, 2012
642. Vuollekoski H, Sihto S-L, Kerminen V-M, Kulmala M, Lehtinen KEJ: A numerical comparison of different methods for determining the particle formation rate, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 5, Pages: 2289-2295, DOI: 10.5194/acp-12-2289-2012, 2012
643. Winkler PM, Vrtala A, Steiner G, Wimmer D, Vehkamäki H, Lehtinen KEJ, Reischl GP, Kulmala M, Paul E: Quantitative Characterization of Critical Nanoclusters Nucleated on Large Single Molecules, *PHYSICAL REVIEW LETTERS*, Volume: 108, Issue: 8, Article Number: 085701, DOI: 10.1103/PhysRevLett.108.085701, 2012
644. Prisle NL, Asmi A, Topping D, Partanen A-I, Romakkaniemi S, Dal Maso M, Kulmala M, Laaksonen A, Lehtinen KEJ, McFiggans G, Kokkola H: Surfactant effects in global simulations of cloud droplet activation, *GEOPHYSICAL RESEARCH LETTERS*, Volume: 39, Article Number: L05802, DOI: 10.1029/2011GL050467, 2012
645. Vehkamäki H, McGrath M, Kurten T, Jan J, Lehtinen KEJ, Kulmala M: Rethinking the application of the first nucleation theorem to particle formation, *JOURNAL OF CHEMICAL PHYSICS*, Volume: 136, Issue: 9, Article Number: 094107, DOI: 10.1063/1.3689227, 2012
646. Sporre MK, Glantz P, Tunved P, Swietlicki E, Kulmala M, Lihavainen H: A study of the indirect aerosol effect on subarctic marine liquid low-level clouds using MODIS cloud data and ground-based aerosol measurements, *ATMOSPHERIC RESEARCH*, Volume: 116, Pages: 56-66, DOI: 10.1016/j.atmosres.2011.09.014, 2012
647. Kulmala M, Petäjä T, Nieminen T, Sipila M, Manninen HE, Lehtipalo K, Dal Maso M, Aalto PP, Junninen H, Paasonen P, Riipinen I, Lehtinen KEJ, Laaksonen A, Kerminen VM: Measurement of the nucleation of atmospheric aerosol particles, *NATURE PROTOCOLS*, Volume: 7, Issue: 9, Pages: 1651-1667, DOI: 10.1038/nprot.2012.091, 2012
648. Ebben CJ, Shrestha M, Martinez IS, Corrigan AL, Frossard AA, Song WW, Worton DR, Petäjä T, Williams J, Russell LM, Kulmala M, Goldstein AH, Artaxo P, Martin ST, Thomson RJ, Geiger FM: Organic Constituents on the Surfaces of Aerosol Particles from Southern Finland, Amazonia, and California Studied by Vibrational Sum Frequency Generation, *JOURNAL OF PHYSICAL CHEMISTRY A*, Volume: 116, Issue: 32, Pages: 8271-8290, DOI: 10.1021/jp302631z, 2012
649. Ruiz-Jimenez J, Hautala S, Parshintsev J, Laitinen T, Hartonen K, Petäjä T, Kulmala M, Riekkola ML: Aliphatic and aromatic amines in atmospheric aerosol particles: Comparison of three ionization techniques in liquid chromatography-mass spectrometry and method development, *TALANTA*, Volume: 97, Pages: 55-62, DOI: 10.1016/j.talanta.2012.03.062, 2012

650. Mauldin RL, Berndt T, Sipila M, Paasonen P, Petäjä T, Kim S, Kurten T, Stratmann F, Kerminen VM, Kulmala M: A new atmospherically relevant oxidant of sulphur dioxide, *NATURE*, Volume: 488, Issue: 7410, Pages: 193+, DOI: 10.1038/nature11278, 2012
651. Riipinen I, Yli-Juuti T, Pierce JR, Petäjä T, Worsnop DR, Kulmala M, Donahue NM: The contribution of organics to atmospheric nanoparticle growth, *NATURE GEOSCIENCE*, Volume: 5, Issue: 7, Pages: 453-458, DOI: 10.1038/ngeo1499, 2012
652. Bates TS, Quinn PK, Frossard AA, Russell LM, Hakala J, Petäjä T, Kulmala M, Covert DS, Cappa CD, Li SM, Hayden KL, Nuaaman I, McLaren R, Massoli P, Canagaratna MR, Onasch TB, Sueper D, Worsnop DR, Keene WC: Measurements of ocean derived aerosol off the coast of California, *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*, Volume: 117, Article Number: D00V15, DOI: 10.1029/2012JD017588, 2012
653. Dall'Osto M, Ceburnis D, Monahan C, Worsnop DR, Bialek J, Kulmala M, Kurten T, Ehn M, Wenger J, Sodeau J, Healy R, O'Dowd C: Nitrogenated and aliphatic organic vapors as possible drivers for marine secondary organic aerosol growth, *JOURNAL OF GEOPHYSICAL RESEARCH ATMOSPHERES*, Volume: 117, Article Number: D12311, DOI: 10.1029/2012JD017522, 2012
654. Pikridas M, Riipinen I, Hildebrandt L, Kostenidou E, Manninen H, Mihalopoulos N, Kalivitis N, Burkhart JF, Stohl A, Kulmala M, Pandis SN: New particle formation at a remote site in the eastern Mediterranean, *JOURNAL OF GEOPHYSICAL RESEARCH-ATMOSPHERES*, Volume: 117, Article Number: D12205, DOI: 10.1029/2012JD017570, 2012
655. Hussein T, Paasonen P, Kulmala M: Activity pattern of a selected group of school occupants and their family members in Helsinki - Finland, *SCIENCE OF THE TOTAL ENVIRONMENT*, Volume: 425, Pages: 289-292, DOI: 10.1016/j.scitotenv.2012.03.002, 2012
656. Ruiz-Jimenez J, Parshintsev J, Laitinen T, Hartonen K, Petäjä T, Kulmala M, Riekkola ML: Influence of the sampling site, the season of the year, the particle size and the number of nucleation events on the chemical composition of atmospheric ultrafine and total suspended particles, *ATMOSPHERIC ENVIRONMENT*, Volume: 49, Pages: 60-68, DOI: 10.1016/j.atmosenv.2011.12.032, 2012
657. Riccobono F, Rondo L, Sipila M, Barmet P, Curtius J, Dommen J, Ehn M, Ehrhart S, Kulmala M, Kurten A, Mikkila J, Paasonen P, Petäjä T, Weingartner E, Baltensperger U: Contribution of sulfuric acid and oxidized organic compounds to particle formation and growth, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 20, Pages: 9427-9439, DOI: 10.5194/acp-12-9427-2012, 2012
658. Paasonen P, Olenius T, Kupiainen O, Kurten T, Petäjä T, Birmili W, Hamed A, Hu M, Huey LG, Plass-Duelmer C, Smith JN, Wiedensohler A, Loukonen V, McGrath MJ, Ortega IK, Laaksonen A, Vehkamäki H, Kerminen VM, Kulmala M: On the formation of sulphuric acid - amine clusters in varying atmospheric conditions and its influence on atmospheric new particle formation, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 19, Pages: 9113-9133, DOI: 10.5194/acp-12-9113-2012, 2012
659. Nolscher AC, Williams J, Sinha V, Custer T, Song W, Johnson AM, Axinte R, Bozem H, Fischer H, Povesle N, Phillips G, Crowley JN, Rantala P, Rinne J, Kulmala M, Gonzales D, Valverde-Canossa J, Vogel A, Hoffmann T, Ouwersloot HG, de Arellano JVG, Lelieveld J: Summertime total OH reactivity measurements from boreal forest during HUMPPA-COPEC 2010, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 17, Pages: 8257-8270, DOI: 10.5194/acp-12-8257-2012, 2012
660. Makkonen R, Romakkaniemi S, Kokkola H, Stier P, Raisanen P, Rast S, Feichter J, Kulmala M, Laaksonen A: Brightening of the global cloud field by nitric acid and the associated radiative forcing, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 16, Pages: 7625-7633, DOI: 10.5194/acp-12-7625-2012, 2012
661. Lehtinen KJ, Makkonen R, Arola A, Mielonen T, Romakkaniemi S, Kulmala M, Kokkola H: Evaluation of the sectional aerosol microphysics module SALSA implementation in ECHAM5-HAM aerosol-climate model, *GEOSCIENTIFIC MODEL DEVELOPMENT*, Volume: 5, Issue: 3, Pages: 845-868, DOI: 10.5194/gmd-5-845-2012, 2012

662. Gagne S, Leppa J, Petäjä T, McGrath MJ, Vana M, Kerminen VM, Laakso L, Kulmala M: Aerosol charging state at an urban site: new analytical approach and implications for ion-induced nucleation, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 10, Pages: 4647-4666, DOI: 10.5194/acp-12-4647-2012, 2012
663. Ehn M, Kleist E, Junninen H, Petäjä T, Lonn G, Schobesberger S, Dal Maso M, Trimborn A, Kulmala M, Worsnop DR, Wahner A, Wildt J, Mentel TF: Gas phase formation of extremely oxidized pinene reaction products in chamber and ambient air, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 11, Pages: 5113-5127, DOI: 10.5194/acp-12-5113-2012, 2012
664. Hirsikko A, Vakkari V, Tiitta P, Manninen HE, Gagne S, Laakso H, Kulmala M, Mirme A, Mirme S, Mabaso D, Beukes JP, Laakso L: Characterisation of sub-micron particle number concentrations and formation events in the western Bushveld Igneous Complex, South Africa, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 9, Pages: 3951-3967, DOI: 10.5194/acp-12-3951-2012, 2012
665. Jokinen T, Sipila M, Junninen H, Ehn M, Lonn G, Hakala J, Petäjä T, Mauldin RL, Kulmala M, Worsnop DR: Atmospheric sulphuric acid and neutral cluster measurements using CI-API-TOF, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 9, Pages: 4117-4125, DOI: 10.5194/acp-12-4117-2012, 2012
666. Ortega IK, Suni T, Boy M, Gronholm T, Manninen HE, Nieminen T, Ehn M, Junninen H, Hakola H, Hellen H, Valmari T, Arvela H, Zegelin S, Hughes D, Kitchen M, Cleugh H, Worsnop DR, Kulmala M, Kerminen VM: New insights into nocturnal nucleation, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 9, Pages: 4297-4312, DOI: 10.5194/acp-12-4297-2012, 2012
667. Kalivitis N, Stavroulas I, Bougiatioti A, Kouvarakis G, Gagne S, Manninen HE, Kulmala M, Michalopoulos N: Night-time enhanced atmospheric ion concentrations in the marine boundary layer, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 12, Issue: 8, Pages: 3627-3638, DOI: 10.5194/acp-12-3627-2012, 2012
668. Kulmala M, Kontkanen J, Junninen H, Lehtipalo K, Manninen HE, Nieminen T, Petaja T, Sipila M, Sipila Mikko, Schobesberger S, Rantala P, Franchin A, Jokinen T, Jarvinen E, Aijala M, Kangasluoma J, Hakala J, Aalto PP, Paasonen P, Mikkila J, Vanhanen J, Aalto J, Hakola H, Makkonen U, Ruuskanen T, Mauldin RL, Duplissy J, Vehkamäki H, Back J, Kortelainen A, Riipinen I, Kurten T, Johnston MV, Smith JN, Ehn M, Mentel TF, Lehtinen KEJ, Laaksonen A, Kerminen VM, Worsnop DR, Direct Observations of Atmospheric Aerosol Nucleation, *SCIENCE*, Volume: 339, Issue: 6122, Pages: 943-946, DOI: 10.1126/science.1227385, 2013
669. Timonen H, Carbone S, Aurela M, Saarnio K, Saarikoski S, Ng NL, Canagaratna MR, Kulmala M, Kerminen VM, Worsnop DR, Hillamo R: Characteristics, sources and water-solubility of ambient submicron organic aerosol in springtime in Helsinki, Finland, *JOURNAL OF AEROSOL SCIENCE*, Volume: 56, Special Issue: SI, Pages: 61-77, DOI: 10.1016/j.jaerosci.2012.06.005, 2013
670. Laakso L, Merikanto J, Vakkari V, Laakso H, Kulmala M, Molefe M, Kgabi N, Mabaso D, Carslaw KS, Spracklen DV, Lee LA, Reddington CL, Kerminen VM: Boundary layer nucleation as a source of new CCN in savannah environment, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 4, Pages: 1957-1972, DOI: 10.5194/acp-13-1957-2013, 2013
671. Riuttanen L, Hulkkonen M, Dal Maso M, Junninen H, Kulmala M: Trajectory analysis of atmospheric transport of fine particles, SO<sub>2</sub>, NO<sub>x</sub> and O<sub>3</sub> to the SMEAR II station in Finland in 1996-2008, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 4, Pages: 2153-2164, DOI: 10.5194/acp-13-2153-2013, 2013
672. Asmi A, Coen MC, Ogren JA, Andrews E, Sheridan P, Jefferson A, Weingartner E, Baltensperger U, Bukowiecki N, Lihavainen H, Kivekas N, Asmi E, Aalto PP, Kulmala M, Wiedensohler A, Birmili W, Hamed A, O'Dowd C, Jennings SG, Weller R, Flentje H, Fjaeraa AM, Fiebig M, Myhre CL, Hallar AG, Swietlicki E, Kristensson A, Laj P: Aerosol decadal trends - Part 2: In-situ aerosol particle number concentrations at GAW and ACTRIS stations, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 2, Pages: 895-916, DOI: 10.5194/acp-13-895-2013, 2013-04-19, 2013
673. Kourtev, I, Fuller S, Aalto J, Ruuskanen T, McLeod M, Maenhaut W, Jones R, Kulmala M & Kalberer M: Molecular composition of boreal forest aerosol from Hyytiälä, Finland, using ultra-high resolution mass spectrometry, *ENVIRONMENTAL SCIENCE & TECHNOLOGY*. 47, 9, p. 4069-4079 11 p, 2013

674. Petaja T, Vakkari V, Pohja T, Nieminen T, Laakso H, Aalto PP, Keronen P, Siivola E, Kerminen VM, Kulmala M & Laakso L: Transportable Aerosol Characterization Trailer with Trace Gas Chemistry: Design, Instruments and Verification, *AEROSOL AND AIR QUALITY RESEARCH*, Volume: 13, Issue: 2, Pages: 421-435, DOI: 10.4209/aaqr.2012.08.0207, 2013
675. Kyr EM, Kerminen VM, Virkkula A, Dal Maso M, Parshintsev J, Ruiz-Jimenez J, Forsström L, Manninen HE, Riekkola ML, Heinonen P & Kulmala M: Antarctic new particle formation from continental biogenic precursors, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 7, Pages: 3527-3546, DOI: 10.5194/acp-13-3527-2013, 2013
676. Vogel AL, Aijala M, Brüeggemann M, Ehn M, Junninen H, Petaja T, Worsnop DR, Kulmala M, Williams J & Hoffmann T: Online atmospheric pressure chemical ionization ion trap mass spectrometry (APCI-IT-MSn) for measuring organic acids concentrated bulk aerosol - a laboratory and field study, *ATMOSPHERIC MEASUREMENT TECHNIQUES*, Volume: 6, Issue: 2, Pages: 431-443, DOI: 10.5194/amt-6-431-2013, 2013
677. Keskinen H, Virtanen A, Joutsensaari J, Tsagkogeorgas G, Duplissy J, Schobesberger S, Gysel M, Riccobono F, Slowik JG, Bianchi F, Yli-Juuti T, Lehtipalo K, Rondo L, Breitenlechner M, Kupc A, Almeida J, Amorim A, Dunne EM, Downard AJ, Ehrhart S, Franchin A, Kajos MK, Kirkby J, Kuerten A, Nieminen T, Makhmutov V, Mathot S, Miettinen P, Onnela A, Petaja T, Praplan A, Santos FD, Schallhart S, Sipila M, Stozhkov Y, Tome A, Vaattovaara P, Wimmer D, Prevot A, Dommen J, Donahue NM, Flagan RC, Weingartner E, Viisanen Y, Riipinen I, Hansel A, Curtius J, Kulmala M, Worsnop DR, Baltensperger U, Wex H, Stratmann F & Laaksonen A.: Evolution of particle composition in CLOUD nucleation experiments, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 11, Pages: 5587-5600, DOI: 10.5194/acp-13-5587-2013, 2013
678. Ruiz-Jimenez J, Hautala S, Parshintsev J, Laitinen TT, Hartonen K, Petaja T, Kulmala M & Riekkola M-L: Liquid chromatography-dopant assisted atmospheric pressure photoionization-mass spectrometry: application to the analysis of aldehydes in atmospheric aerosol particles, *JOURNAL OF SEPARATION SCIENCE*, Volume: 36, Issue: 1, Special Issue: SI, Pages: 164-172, DOI: 10.1002/jssc.201200866, 2013
679. Rizzo LV, Artaxo P, Mueller T, Wiedensohler A, Paixao M, Cirino GG, Arana A, Swietlicki E, Roldin P, Fors EO, Wiedemann KT, Leal LSM & Kulmala M: Long term measurements of aerosol optical properties at a primary forest site in Amazonia, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 5, Pages: 2391-2413, DOI: 10.5194/acp-13-2391-2013, 2013
680. Vakkari V, Beukes JP, Laakso H, Mabaso D, Pienaar JJ, Kulmala M & Laakso L: Long-term observations of aerosol size distributions in semi-clean and polluted savannah in South Africa, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 4, Pages: 1751-1770, DOI: 10.5194/acp-13-1751-2013, 2013
681. Hirsikko A, Vakkari V, Tiitta P, Hatakka J, Kerminen VM, Sundström AM, Beukes JP, Manninen HE, Kulmala M & Laakso L: Multiple daytime nucleation events in semi-clean savannah and industrial environments in South Africa: analysis based on observations, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 11, Pages: 5523-5532, DOI: 10.5194/acp-13-5523-2013, 2013
682. Ding AJ, Fu CB, Yang XQ, Sun JN, Zheng LF, Xie YN, Herrmann E, Nie W, Petaja T, Kerminen V-M & Kulmala M: Ozone and fine particle in the western Yangtze River Delta: an overview of 1 yr data at the SORPES station, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 11, Pages: 5813-5830, DOI: 10.5194/acp-13-5813-2013, 2013
683. Leppä J, Gagne S, Laakso L, Manninen HE, Lehtinen KEJ, Kulmala M & Kerminen V-M: Using measurements of the aerosol charging state in determination of the particle growth rate and the proportion of ion-induced nucleation, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 1, Pages: 463-486, DOI: 10.5194/acp-13-463-2013, 2013
684. Hussein T, Londahl J, Paasonen P, Koivisto AJ, Petaja T, Hameri K & Kulmala M: Modeling regional deposited dose of submicron aerosol particles, *SCIENCE OF THE TOTAL ENVIRONMENT*, Volume: 458, Pages: 140-149, DOI: 10.1016/j.scitotenv.2013.04.022, 2013
685. Lintunen A, Holttä T & Kulmala M: Anatomical regulation of ice nucleation and cavitation helps trees to survive freezing and drought stress, *Scientific Reports*. 3, 7 p.2031, DOI: 10.1038/srep02031, 2013



686. Paasonen P, Asmi A, Petaja T, Kajos, MK, Aijala M, Junninen H, Holst T, Abbatt JPD, Arneth A, Birmili W, van der Gon HD, Hamed A, Hoffer A, Laakso L, Laaksonen A, Leaitch WR, Plass-Duelmer C, Pryor SC, Raisanen P, Swietlicki E, Wiedensohler A, Worsnop DR, Kerminen V-M. & Kulmala M: Warming-induced increase in aerosol number concentration likely to moderate climate change, *NATURE GEOSCIENCE*, Volume: 6, Issue: 6, Pages: 438-442, DOI: 10.1038/NCEO1800, 2013
687. Kangasluoma J, Junninen H, Lehtipalo K, Mikkila J, Vanhanen J, Attoui M, Sipila M, Worsnop D, Kulmala M & Petaja T: Remarks on Ion Generation for CPC Detection Efficiency Studies in Sub-3-nm Size Range, *AEROSOL SCIENCE AND TECHNOLOGY*, Volume: 47, Issue: 5, Pages: 556-563, DOI: 10.1080/02786826.2013.773393, 2013
688. Boy M, Mogensen D, Smolander S, Zhou L, Nieminen T, Paasonen P, Plass-Dlmer C, Sipil MJ, Petaja T, Mauldin III R, Berresheim H & Kulmala M: Oxidation of SO<sub>2</sub> by stabilized Criegee intermediate (sCI) radicals as a crucial source for atmospheric sulfuric acid concentrations, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 7, Pages: 3865-3879, DOI: 10.5194/acp-13-3865-2013, 2013
689. Schobesberger S, Vnmen R, Leino K, Virkkula AO, Backman JCG, Pohja T, Siivola E, Franchin A, Mikkil J, Paramonov M, Aalto PP, Krejci R, Petj T & Kulmala M: Airborne measurements over the boreal forest of southern Finland during new particle formation events in 2009 and 2010, *BOREAL ENVIRONMENT RESEARCH*, Volume: 18, Issue: 2, Pages: 145-163, 2013
690. Aaltonen H, Aalto J, Kolari P, Pihlatie M, Pumpanen J, Kulmala M, Nikinmaa E, Vesala T, Back J: Continuous VOC flux measurements on boreal forest floor, *PLANT AND SOIL*, Volume: 369, Issue: 1-2, Pages: 241-256, DOI: 10.1007/s11104-012-1553-4, 2013
691. Jarvinen E, Virkkula A, Nieminen T, Aalto PP, Asmi E, Lanconelli C, Busetto M, Lupi A, Schioppo R, Vitale V, Mazzola M, Petaja T, Kerminen VM, Kulmala M: Seasonal cycle and modal structure of particle number size distribution at Dome C, Antarctica, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 15, Pages: 7473-7487, DOI: 10.5194/acp-13-7473-2013, 2013
692. Westervelt DM, Pierce JR, Riipinen I, Trivitayanurak W, Hamed A, Kulmala M, Laaksonen A, Decesari S, Adams PJ: Formation and growth of nucleated particles into cloud condensation nuclei: model-measurement comparison, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 15, Pages: 7645-7663, DOI: 10.5194/acp-13-7645-2013, 2013
693. Hakkinen SAK, Manninen HE, Yli-Juuti T, Merikanto J, Kajos MK, Nieminen T, D'Andrea SD, Asmi A, Pierce JR, Kulmala M, Riipinen I: Semi-empirical parameterization of size-dependent atmospheric nanoparticle growth in continental environments, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 15, Pages: 7665-7682, DOI: 10.5194/acp-13-7665-2013, 2013
694. Wimmer D, Lehtipalo K, Franchin A, Kangasluoma J, Kreissl F, Kurten A, Kupc A, Metzger A, Mikkila J, Petaja T, Riccobono F, Vanhanen J, Kulmala M, Curtius J: Performance of diethylene glycol-based particle counters in the sub-3 nm size range, *ATMOSPHERIC MEASUREMENT TECHNIQUES*, Volume: 6, Issue: 7, Pages: 1793-1804, DOI: 10.5194/amt-6-1793-2013, 2013
695. Nordin EZ, Eriksson AC, Roldin P, Nilsson PT, Carlsson JE, Kajos MK, Hellen H, Wittbom C, Rissler J, Londahl J, Swietlicki E, Svenningsson B, Bohgard M, Kulmala M, Hallquist M, Pagels JH: Secondary organic aerosol formation from idling gasoline passenger vehicle emissions investigated in a smog chamber, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 12, Pages: 6101-6116, DOI: 10.5194/acp-13-6101-2013, 2013
696. Hienola AI, Pietikainen JP, Jacob D, Pozdun R, Petaja T, Hyvarinen AP, Sogacheva L, Kerminen VM, Kulmala M, Laaksonen A: Black carbon concentration and deposition estimations in Finland by the regional aerosol-climate model REMO-HAM, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 8, Pages: 4033-4055, DOI: 10.5194/acp-13-4033-2013, 2013
697. Bogdan A, Molina MJ, Kulmala M, Tenhu H, Loerting T: Solution coating around ice particles of incipient cirrus clouds, *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*, Volume: 110, Issue: 27, Pages: E2439-E2439, DOI: 10.1073/pnas.1304471110, 2013-09-13

698. Ding AJ, Fu CB, Yang XQ, Sun JN, Petaja T, Kerminen VM, Wang T, Xie Y, Herrmann E, Zheng LF, Nie W, Liu Q, Wei XL, Kulmala M: Intense atmospheric pollution modifies weather: a case of mixed biomass burning with fossil fuel combustion pollution in eastern China, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 20, Pages: 10545-10554, DOI: 10.5194/acp-13-10545-2013, 2013
699. Paramonov M, Aalto PP, Asmi A, Prisle N, Kerminen VM, Kulmala M, Petaja T: The analysis of size-segregated cloud condensation nuclei counter (CCNC) data and its implications for cloud droplet activation, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 20, Pages: 10285-10301, DOI: 10.5194/acp-13-10285-2013, 2013
700. Pennington MR, Bzdek BR, DePalma JW, Smith JN, Kortelainen AM, Ruiz LH, Petaja T, Kulmala M, Worsnop DR, Johnston MV: Identification and quantification of particle growth channels during new particle formation, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 20, Pages: 10215-10225, DOI: 10.5194/acp-13-10215-2013, 2013
701. Vogel AL, Aijala M, Corrigan AL, Junninen H, Ehn M, Petaja T, Worsnop DR, Kulmala M, Russell LM, Williams J, Hoffmann T: In situ submicron organic aerosol characterization at a boreal forest research station during HUMPPA-COPEC 2010 using soft and hard ionization mass spectrometry, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 21, Pages: 10933-10950, 2013
702. Kontkanen J, Lehtinen KEJ, Nieminen T, Manninen HE, Lehtipalo K, Kerminen VM, Kulmala M: Estimating the contribution of ion-ion recombination to sub-2 nm cluster concentrations from atmospheric measurements, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 22, Pages: 11391-11401, 2013
703. Schumacher CJ, Pohlker C, Aalto P, Hiltunen V, Petaja T, Kulmala M, Poschl U, Huffman JA: Seasonal cycles of fluorescent biological aerosol particles in boreal and semi-arid forests of Finland and Colorado, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 23, Pages: 11987-12001, 2013
704. Vaananen R, Kyro EM, Nieminen T, Kivekas N, Junninen H, Virlikula A, Dal Maso M, Lihavainen H, Viisanen Y, Svenningsson B, Holst T, Arneth A, Aalto PP, Kulmala M, Kerminen VM: Analysis of particle size distribution changes between three measurement sites in northern Scandinavia, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 13, Issue: 23, Pages: 11887-11903, 2013
705. Noppel M, Vehkamäki H, Winkler PM, Kulmala M, Wagner PE: Heterogeneous nucleation in multi-component vapor on a partially wettable charged conducting particle. I. Formulation of general equations: Electrical surface and line excess quantities, *JOURNAL OF CHEMICAL PHYSICS*, Volume: 139, Issue: 13, Article Number: UNSP 134107, DOI: 10.1063/1.4822047, 2013
706. Noppel M, Vehkamäki H, Winkler PM, Kulmala M, Wagner PE: Heterogeneous nucleation in multi-component vapor on a partially wettable charged conducting particle. II. The generalized Laplace, Gibbs-Kelvin, and Young equations and application to nucleation, *JOURNAL OF CHEMICAL PHYSICS*, Volume: 139, Issue: 13, Article Number: UNSP 134108, DOI: 10.1063/1.4822047, 2013
707. Almeida J, Schobesberger S, Kurten A, Ortega IK, Kupiainen-Maatta O, Praplan AP, Adamov A, Amorim A, Bianchi F, Breitenlechner M, David A, Dommen J, Donahue NM, Downard A, Dunne E, Duplissy J, Ehrhart S, Flagan RC, Franchin A, Guida R, Hakala J, Hansel A, Heinritzi M, Henschel H, Jokinen T, Junninen H, Kajos M, Kangasluoma J, Keskinen H, Kupc A, Kurten T, Kvashin AN, Laaksonen A, Lehtipalo K, Leiminger M, Leppä J, Loukonen V, Makhmutov V, Mathot S, McGrath MJ, Nieminen T, Olenius T, Onnela A, Petaja T, Riccobono F, Riipinen I, Rissanen M, Rondo L, Ruuskanen T, Santos FD, Sarnela N, Schallhart S, Schnitzhofer R, Seinfeld JH, Simon M, Sipila M, Stozhkov Y, Stratmann F, Tome A, Trostl J, Tsagkogeorgas G, Vaattovaara P, Viisanen Y, Virtanen A, Vrtala A, Wagner PE, Weingartner E, Wex H, Williamson C, Wimmer D, Ye PL, Yli-Juuti T, Carslaw KS, Kulmala M, Curtius J, Baltensperger U, Worsnop DR, Vehkamäki H, Kirkby J: Molecular understanding of sulphuric acid-amine particle nucleation in the atmosphere, *NATURE*, Volume: 502, Issue: 7471, Pages: 359+, DOI: 10.1038/nature12663, 2013
708. Schobesberger S, Junninen H, Bianchi F, Lonn G, Ehn M, Lehtipalo K, Dommen J, Ehrhart S, Ortega IK, Franchin A, Nieminen T, Riccobono F, Hutterli M, Duplissy J, Almeida J, Amorim A, Breitenlechner M, Downard AJ, Dunne EM, Flagan RC, Kajos M, Keskinen H, Kirkby J, Kupc A, Kurten A, Kurten T, Laaksonen A, Mathot S, Onnela A, Praplan AP, Rondo L, Santos FD, Schallhart S, Schnitzhofer R, Sipila M, Tome A, Tsagkogeorgas G, Vehkamäki H, Wimmer D, Baltensperger U, Carslaw KS, Curtius J, Hansel A, Petaja T, Kulmala M, Donahue NM, Worsnop

- DR: 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*, Volume: 110, Issue: 43, Pages: 17223-17228, DOI: 10.1073/pnas.1306973110, 2013
709. Kieloaho AJ, Hellen H, Hakola H, Manninen HE, Nieminen T, Kulmala M, Pihlatie M: Gas-phase alkylamines in a boreal Scots pine forest air, *ATMOSPHERIC ENVIRONMENT*, Volume: 80, Pages: 369-377, DOI: 10.1016/j.atmosenv.2013.08.019, 2013
710. Scott CE, Rap A, Spracklen DV, Forster PM, Carslaw KS, Mann GW, Pringle KJ, Kivekas N, Kulmala M, Lihavainen H, Tunved P: The direct and indirect radiative effects of biogenic secondary organic aerosol, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 1, Pages: 447-470, DOI: 10.5194/acp-14-447-2014, 2014
711. Berndt T, Sipila M, Stratmann F, Petaja T, Vanhanen J, Mikkila J, Patokoski J, Taipale R, Mauldin RL, Kulmala M: Enhancement of atmospheric H<sub>2</sub>SO<sub>4</sub>/H<sub>2</sub>O nucleation: organic oxidation products versus amines, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 2, Pages: 751-764, DOI: 10.5194/acp-14-751-2014, 2014
712. Laitinen T, Petaja, T, Backman J, Hartonen K, Junninen H, Ruiz-Jimenez J, Worsnop D, Kulmala M, Riekkola ML: Carbon clusters in 50 nm urban air aerosol particles quantified by laser desorption-ionization aerosol mass spectrometer, *INTERNATIONAL JOURNAL OF MASS SPECTROMETRY*, Volume: 358, Pages: 17-24, DOI: 10.1016/j.ijms.2013.11.001, Published: JAN 15 2014, 2014
713. Ehn M, Thornton JA, Kleist E, Sipila M, Junninen H, Pullinen I, Springer M, Rubach F, Tillmann R, Lee B, Lopez-Hilfiker F, Andres S, Acir IH, Rissanen M, Jokinen T, Schobesberger S, Kangasluoma J, Kontkanen J, Nieminen T, Kurten T, Nielsen LB, Jorgensen S, Kjaergaard HG, Canagaratna M, Dal Maso M, Berndt T, Petaja T, Wahner A, Kerminen VM, Kulmala M, Worsnop DR, Wildt J, Mentel TF: A large source of low-volatility secondary organic aerosol, *NATURE*, Volume: 506, Issue: 7489, Pages: 476-+, 2014
714. Carbone S, Aurela M, Saarnio K, Saarikoski S, Timonen H, Frey A, Suerper D, Ulbrich IM, Jimenez JL, Kulmala M, Worsnop DR, Hillamo RE: Wintertime Aerosol Chemistry in Sub-Arctic Urban Air, *AEROSOL SCIENCE AND TECHNOLOGY*, Volume: 48, Issue: 3, Pages: 313-323, DOI: 10.1080/02786826.2013.875115, 2014
715. Steiner G, Jokinen T, Junninen H, Sipila M, Petaja T, Worsnop D, Reischl GP, Kulmala M: High-Resolution Mobility and Mass Spectrometry of Negative Ions Produced in a Am-241 Aerosol Charger, *AEROSOL SCIENCE AND TECHNOLOGY*, Volume: 48, Issue: 3, Pages: 261-270, DOI: 10.1080/02786826.2013.870327, 2014
716. Kulmala L, Aaltonen H, Berninger F, Kieloaho AJ, Levula J, Bck, J, Hari P, Kolari P, Korhonen JF, Kulmala M, Nikinmaa E, Pihlatie M, Vesala T, Pumpanen J: Changes in biogeochemistry and carbon fluxes in a boreal forest after the clear-cutting and partial burning of slash, *AGRICULTURAL AND FOREST METEOROLOGY*, Volume: 188, Pages: 33-44, DOI: 10.1016/j.agrformet.2013.12.003, 2014
717. Sporre MK, Swietlicki E, Glantz P, Kulmala M: A long-term satellite study of aerosol effects on convective clouds in Nordic background air, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 4, Pages: 2203-2217, DOI: 10.5194/acp-14-2203-2014, 2014
718. Herrmann E, Ding AJ, Kerminen VM, Petaja T, Yang, Sun JN, Qi XM, Manninen H, Hakala J, Nieminen T, Aalto PP, Kulmala M, Fu CB: Aerosols and nucleation in eastern China: first insights from the new SORPES-NJU station, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 4, Pages: 2169-2183, DOI: 10.5194/acp-14-2169-2014, 2014
719. Kourtchev I, Fuller SJ, Giorio C, Healy RM, Wilson E, O'Connor I, Wenger JC, McLeod M, Aalto J, Ruuskanen TM, Maenhaut W, Jones R, Venables DS, Sodeau JR, Kulmala M, Kalberer M: Molecular composition of biogenic secondary organic aerosols using ultrahigh-resolution mass spectrometry: comparing laboratory and field studies, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 4, Pages: 2155-2167, DOI: 10.5194/acp-14-2155-2014, 2014

720. Tiitta P, Vakkari V, Croteau P, Beukes JP, van Zyl PG, Josipovic M, Venter AD, Jaars K, Pienaar JJ, Ng NL, Canagaratna MR, Jayne JT, Kerminen VM, Kokkola H, Kulmala M, Laaksonen A, Worsnop DR, Laakso L: Chemical composition, main sources and temporal variability of PM1 aerosols in southern African grassland, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 4, Pages: 1909-1927, DOI: 10.5194/acp-14-1909-2014, 2014
721. Laitinen T, Junninen H, Parshintsev J, Ruiz-Jimenez J, Petaja T, Hautala S, Hartonen K, Worsnop D, Kulmala M, Riekkola ML: Changes in concentration of nitrogen-containing compounds in 10 nm particles of boreal forest atmosphere at snowmelt, *JOURNAL OF AEROSOL SCIENCE*, Volume: 70, Pages: 1-10, DOI: 10.1016/j.jaerosci.2013.12.009, 2014
722. Kulmala M, Petaja T, Ehn M, Thornton J, Sipila M, Worsnop DR, Kerminen V-M: 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*, Volume:65, Pages:21-37, DOI:10.1146/annurev-physchem-040412-110014, 2014
723. Alghamdi MA, Khoder M, Harrison RM, Hyvarinen AP, Hussein T, Al-Jeelani H, Abdelmaksoud AS, Goknil MH, Shabbaj II, Almeahadi FM, Lihavainen H, Kulmala M, Hameri K: Temporal variations of O-3 and NOx in the urban background atmosphere of the coastal city Jeddah Saudi Arabia, *ATMOSPHERIC ENVIRONMENT*, Volume: 94, Pages: 205-214, DOI: 10.1016/j.atmosenv.2014.03.029, 2014
724. Salma I, Borsos T, Nemeth Z, Weidinger T, Aalto P, Kulmala M: Comparative study of ultrafine atmospheric aerosol within a city, *ATMOSPHERIC ENVIRONMENT* Volume: 92, Pages: 154-161, DOI: 10.1016/j.atmosenv.2014.04.020, 2014
725. Parshintsev J, Lai CK, Hartonen K, Kulmala M, Riekkola ML: A new approach to determine vapor pressures of compounds in multicomponent systems by comprehensive two-dimensional gas chromatography coupled to time-of-flight mass spectrometry, *TALANTA*, Volume: 124, Pages: 21-26, DOI: 10.1016/j.talanta.2014.02.051, 2014
726. Berndt T, Jokinen T, Sipila M, Mauldin RL, Herrmann H, Stratmann F, Junninen H, Kulmala M: H2SO4 formation from the gas-phase reaction of stabilized Criegee Intermediates with SO2: Influence of water vapour content and temperature, *ATMOSPHERIC ENVIRONMENT*, Volume: 89, Pages: 603-612, DOI: 10.1016/j.atmosenv.2014.02.062, 2014
727. Riccobono F, Schobesberger S, Scott CE, Dommen J, Ortega IK, Rondo L, Almeida J, Amorim A, Bianchi F, Breitenlechner M, David A, Downard A, Dunne EM, Duplissy J, Ehrhart S, Flagan RC, Franchin A, Hansel A, Junninen H, Kajos M, Keskinen H, Kupc A, Kurten A, Kvashin AN, Laaksonen A, Lehtipalo K, Makhmutov V, Mathot S, Nieminen T, Onnela A, Petaja T, Praplan AP, Santos FD, Schallhart S, Seinfeld JH, Sipila M, Spracklen DV, Stozhkov Y, Stratmann F, Tome A, Tsagkogeorgas G, Vaattovaara P, Viisanen Y, Vrtala A, Wagner PE, Weingartner E, Wex H, Wimmer D, Carslaw KS, Curtius J, Donahue NM, Kirkby J, Kulmala M, Worsnop DR, Baltensperger U: Oxidation Products of Biogenic Emissions Contribute to Nucleation of Atmospheric Particles, *SCIENCE*, Volume: 344, Issue: 6185, Pages: 717-721, DOI: 10.1126/science.1243527, 2014
728. Kumar P, Morawska L, Birmili W, Paasonen P, Hu M, Kulmala M, Harrison RM, Norford L, Britter R: Ultrafine particles in cities, *ENVIRONMENT INTERNATIONAL*, Volume: 66, Pages: 1-10, DOI: 10.1016/j.envint.2014.01.013, 2014
729. Patokoski J, Ruuskanen TM, Hellen H, Taipale R, Gronholm T, Kajos MK, Petaja T, Hakola H, Kulmala M, Rinne J: Winter to spring transition and diurnal variation of VOCs in Finland at an urban background site and a rural site, *BOREAL ENVIRONMENT RESEARCH*, Volume: 19, Issue: 2, Pages: 79-103, 2014
730. Tammet H, Kulmala M: Empiric equations of coagulation sink of fine nanoparticles on background aerosol optimized for boreal zone, *BOREAL ENVIRONMENT RESEARCH*, Volume: 19, Issue: 2, Pages: 115-126, 2014
731. Vakkari V, Kerminen VM, Beukes JP, Tiitta P, van Zyl PG, Josipovic M, Venter AD, Jaars K, Worsnop DR, Kulmala M, Laakso L: Rapid changes in biomass burning aerosols by atmospheric oxidation, *GEOPHYSICAL RESEARCH LETTERS*, Volume: 41, Issue: 7, Pages: 2644-2651, DOI: 10.1002/2014GL059396, 2014

732. van Zyl PG, Beukes JP, du Toit G, Mabaso D, Hendriks J, Vakkari V, Tiitta P, Pienaar JJ, Kulmala M, Laakso L: Assessment of atmospheric trace metals in the western Bushveld Igneous Complex South Africa, *SOUTH AFRICAN JOURNAL OF SCIENCE*, Volume: 110, Issue: 3-4, Pages: 77-87, DOI: 10.1590/sajs.2014/20130280, 2014
733. Tack AJM, Hakala J, Petaja T, Kulmala M, Laine AL: Genotype and spatial structure shape pathogen dispersal and disease dynamics at small spatial scales, *ECOLOGY* Volume: 95, Issue: 3, Pages: 703-714, DOI: 10.1890/13-0518.1, 2014
734. Jaars K, Beukes JP, van Zyl PG, Venter AD, Josipovic M, Pienaar JJ, Vakkari V, Aaltonen H, Laakso H, Kulmala M, Tiitta P, Guenther A, Hellen H, Laakso L, Hakola H: Ambient aromatic hydrocarbon measurements at Welgegund South Africa, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14 Issue: 13 Pages: 7075-7089, DOI: 10.5194/acp-14-7075-2014, 2014
735. Crippa M, Canonaco F, Lanz VA, Aijala M, Allan JD, Carbone S, Capes G, Ceburnis D, Dall'Osto M, Day DA, DeCarlo PF, Ehn M, Eriksson A, Freney, Ruiz LH, Hillamo R, Jimenez JL, Junninen H, Kiendler-Scharr A, Kortelainen AM, Kulmala M, Laaksonen A, Mensah A, Mohr C, Nemitz E, O'Dowd C, Ovadnevaite J, Pandis SN, Petaja T, Poulain L, Saarikoski S, Sellegri K, Swietlicki E, Tiitta P, Worsnop DR, Baltensperger U, Prevot ASH: Organic aerosol components derived from 25 AMS data sets across Europe using a consistent ME-2 based source apportionment approach, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 12, Pages: 6159-6176, DOI: 10.5194/acp-14-6159-2014, 2014
736. Hirsikko A, O'Connor EJ, Komppula M, Korhonen K, Pfuller A, Giannakaki E, Wood CR, Bauer-Pfundstein M, Poikonen A, Karppinen T, Lonka H, Kurri M, Heinonen J, Moisseev D, Asmi E, Aaltonen V, Nordbo A, Rodriguez E, Lihavainen H, Laaksonen A, Lehtinen KEJ, Laurila T, Petaja T, Kulmala M, Viisanen Y: Observing wind aerosol particles cloud and precipitation: Finland's new ground-based remote-sensing network, *ATMOSPHERIC MEASUREMENT TECHNIQUES*, Volume: 7, Issue: 5, Pages: 1351-1375, DOI: 10.5194/amt-7-1351-2014, 2014
737. Kyro EM, Vaananen R, Kerminen VM, Virkkula A, Petaja T, Asmi A, Dal Maso M, Nieminen T, Juhola S, Shcherbinin A, Riipinen I, Lehtipalo K, Keronen P, Aalto PP, Hari P, Kulmala M: Trends in new particle formation in eastern Lapland Finland: effect of decreasing sulfur emissions from Kola Peninsula, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 9, Pages: 4383-4396, DOI: 10.5194/acp-14-4383-2014, 2014
738. Virkkula A, Levula J, Pohja T, Aalto PP, Keronen P, Schobesberger S, Clements CB, Pirjola L, Kieloaho AJ, Kulmala L, Aaltonen H, Patokoski J, Pumpanen J, Rinne J, Ruuskanen T, Pihlatie M, Manninen HE, Aaltonen V, Junninen H, Petaja T, Backman J, Dal Maso M, Nieminen T, Olsson T, Gronholm T, Aalto J, Virtanen TH, Kajos M, Kerminen VM, Schultz DM, Kukkonen J, Sofiev M, De Leeuw G, Back J, Hari P, Kulmala M: Prescribed burning of logging slash in the boreal forest of Finland: emissions and effects on meteorological quantities and soil properties, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 9, Pages: 4473-4502, DOI: 10.5194/acp-14-4473-2014, 2014
739. Mann GW, Carslaw KS, Reddington CL, Pringle KJ, Schulz M, Asmi A, Spracklen DV, Ridley DA, Woodhouse MT, Lee LA, Zhang K, Ghan SJ, Easter RC, Liu X, Stier P, Lee YH, Adams PJ, Tost H, Lelieveld J, Bauer SE, Tsigaridis K, van Noije TPC, Strunk A, Vignati E, Bellouin N, Dalvi M, Johnson CE, Bergman T, Kokkola H, von Salzen K, Yu F, Luo G, Petzold A, Heintzenberg J, Clarke A, Ogren A, Gras J, Baltensperger U, Kaminski U, Jennings SG, O'Dowd CD, Harrison RM, Beddows DCS, Kulmala M, Viisanen Y, Ulevicius V, Mihalopoulos N, Zdimal V, Fiebig M, Hansson HC, Swietlicki E, Henzing JS: Intercomparison and evaluation of global aerosol microphysical properties among AeroCom models of a range of complexity, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 9, Pages: 4679-4713, DOI: 10.5194/acp-14-4679-2014, 2014
740. Hong J, Hakkinen SAK, Paramonov, Aijala M, Hakala J, Nieminen T, Mikkila J, Prisle NL, Kulmala M, Riipinen I, Bilde M, Kerminen VM, Petaja T: Hygroscopicity CCN and volatility properties of submicron atmospheric aerosol in a boreal forest environment during the summer of 2010, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 9, Pages: 4733-4748, DOI: 10.5194/acp-14-4733-2014, 2014
741. Beddows DCS, Dall'Osto M, Harrison RM, Kulmala M, Asmi A, Wiedensohler A, Laj P, Fjaeraa AM, Sellegri K, Birmili W, Bukowiecki, Weingartner E, Baltensperger U, Zdimal V, Zikova N, Putaud JP, Marinoni A, Tunved P, Hansson HC, Fiebig M, Kivekas N, Swietlicki E, Lihavainen

- H, Asmi E, Ulevicius V, Aalto PP, Mihalopoulos N, Kalivitis N, Kalapov I, Kiss G, de Leeuw G, Henzing B, O'Dowd C, Jennings SG, Flentje H, Meinhardt F, Ries L, van der Gon HACD, Visschedijk AJH: Variations in tropospheric submicron particle size distributions across the European continent 2008-2009, *ATMOSPHERIC CHEMISTRY AND PHYSICS*, Volume: 14, Issue: 8, Pages: 4327-4348, DOI: 10.5194/acp-14-4327-2014, 2014
742. Kangasluoma J, Kuang C, Wimmer D, Rissanen MP, Lehtipalo K, Ehn M, Worsnop DR, Wang J, Kulmala M, Petaja T: Sub-3 nm particle size and composition dependent response of a nano-CPC battery, *ATMOSPHERIC MEASUREMENT TECHNIQUES*, Volume: 7, Issue: 3, Pages: 689-700, DOI: 10.5194/amt-7-689-2014, 2014
743. Aalto J, Kolari P, Hari P, Kerminen VM, Schiestl-Aalto P, Aaltonen H, Levula J, Siivola E, Kulmala M, Back J: New foliage growth is a significant unaccounted source for volatiles in boreal evergreen forests, *BIOSCIENCES*, Volume: 11, Issue: 5, Pages: 1331-1344, DOI: 10.