

Publications

2021

Kwiezinski, C., C. Weller, D. van Pinxteren, M. Brüggemann, **S. Mertes**, F. Stratmann and H. Herrmann (2021), Determination of highly polar compounds in atmospheric aerosol particles at ultra-trace levels using ion chromatography Orbitrap mass spectrometry, *J. Sep. Sci.*, 44(12), 2343-2357. doi:10.1002/jssc.202001048.

Lacher, L., H.-C. Clemen, X. Shen, **S. Mertes**, M. Gysel-Ber, A. Moallemi, M. Steinbacher, S. Henne, H. Saathoff, O. Möhler, K. Höhler, T. Schiebel, D. Weber, J. Schrod, J. Schneider and Z.A. Kanji (2021), Sources and nature of ice-nucleating particles in the free troposphere at Jungfraujoch in winter 2017, *Atmos. Chem. Phys.*, accepted, doi: doi:10.5194/acp-2021-415.

2020

Clemen, H.-C., J. Schneider, T. Klimach, F. Helleis, F. Köllner, A. Hünig, F. Rubach, **S. Mertes**, H. Wex, F. Stratmann, A. Welti, R. Kohl, F. Frank and S. Borrmann (2020), Optimizing the detection, ablation, and ion extraction efficiency of a single-particle laser ablation mass spectrometer for application in environments with low aerosol particle concentrations, *Atmos. Meas. Tech.*, 13(11), 5923-5953. doi:10.5194/amt-13-5923-2020.

2019

Ehrlich, A., M. Wendisch, C. Lüpkes, M. Buschmann, H. Bozem, D. Chechin, H.-C. Clemen, R. Dupuy, O. Eppers, J. Hartmann, A. Herber, E. Jäkel, E. Järvinen, O. Jourdan, U. Kästner, L.-L. Kliesch, F. Köllner, M. Mech, **S. Mertes**, R. Neuber, E. Ruiz-Donoso, M. Schnaiter, J. Schneider, J. Stapf and M. Zanatta (2019), A comprehensive in situ and remote sensing data set from the Arctic Cloud Observations Using airborne measurements during polar Day (ACLOUD) campaign, *Earth Syst. Sci. Data*, 11(4), 1853–1881. doi:10.5194/essd-11-1853-2019.

Mertes, S., U. Kästner and A. Macke (2019), Airborne in-situ measurements of the aerosol absorption coefficient, aerosol particle number concentration and size distribution of cloud particle residuals and ambient aerosol particles during the ACLOUD campaign in May and June 2017. Arctic Amplification (AC3), Leibniz-Institut für Troposphärenforschung e.V., Leipzig, PANGAEA. doi:10.1594/PANGAEA.900403.

Wendisch, M., A. Macke, A. Ehrlich, C. Lüpkes, M. Mech, D. Chechin, K. Dethloff, C. Barrientos Velasco, H. Bozem, M. Brückner, H.-C. Clemen, S. Crewell, T. Donth, R. Dupuy, K. Ebelt, U. Egerer, R. Engelmann, C. Engler, O. Eppers, M. Gehrmann, X. Gong, M. Gottschalk, C. Gourbeyre, H. Griesche, J. Hartmann, M. Hartmann, B. Heinold, A. Herber, H. Herrmann, G. Heygster, P. Hoor, S. Jafariserajehlou, E. Jäkel, E. Järvinen, O. Jourdan, U. Kästner, S. Kecorius, E.M. Knudsen, F. Köllner, J. Kretzschmar, L. Lelli, D. Leroy, M. Maturilli, L. Mei, **S. Mertes**, G. Mioche, R. Neuber, M. Nicolaus, T. Nomokonova, J. Notholt, M. Palm, M. van Pinxteren, J. Quaas, P. Richter, E. Ruiz-Donoso, M. Schäfer, K. Schmieder, M. Schnaiter, J. Schneider, A. Schwarzenböck, P. Seifert, M.D. Shupe, H. Siebert, G. Spreen, J. Stapf, F. Stratmann, T. Vogl, A. Welti, H. Wex, A. Wiedensohler, M. Zanatta and S. Zeppenfeld (2019), The Arctic cloud puzzle: Using ACLOUD/PASCAL multiplatform observations to unravel the role of clouds and aerosol particles in Arctic amplification, *Bull. Amer. Meteor. Soc.*, 100, 841-871. doi:10.1175/bams-d-18-0072.1, 10.1175/BAMS-D-18-0072.2 (Suppl.).

2018

Andreae, M. O., A. Afchine, R. Albrecht, B. A. Holanda, P. Artaxo, H. M. J. Barbosa, S. Bormann, M. A. Cecchini, A. Costa, M. Dollner, D. Fütterer, E. Järvinen, T. Jurkat, T. Klimach, T. Konemann, C. Knote, M. Krämer, T. Krisna, L. A. T. Machado, **S. Mertes**, A. Minikin, C. Pöhlker, M. L. Pöhlker, U. Pöschl, D. Rosenfeld, D. Sauer, H. Schlager, M. Schnaiter, J. Schneider, C. Schulz, A. Spanu, V. B.

Sperling, C. Voigt, A. Walser, J. Wang, B. Weinzierl, M. Wendisch, and H. Ziereis (2018), Aerosol characteristics and particle production in the upper troposphere over the Amazon Basin, *Atmos. Chem. Phys.*, 18(2), 921-961, doi:10.5194/acp-18-921-2018.

Hammer, S. E., **S. Mertes**, J. Schneider, M. Ebert, K. Kandler, and S. Weinbruch (2018), Composition of ice particle residuals in mixed-phase clouds at Jungfraujoch (Switzerland): Enrichment and depletion of particle groups relative to total aerosol *Atmos. Chem. Phys.*, 18(19), 13987-14003, doi:10.5194/acp-18-13987-2018.

Schulz, C., J. Schneider, B. A. Holanda, O. Appel, A. Costa, S. S. de Sá, V. Dreiling, D. Fütterer, T. Jurkat-Witschas, T. Klimach, C. Knote, M. Krämer, S. T. Martin, **S. Mertes**, M. L. Pöhlker, D. Sauer, C. Voigt, A. Walser, B. Weinzierl, H. Ziereis, M. Zöger, M. O. Andreae, P. Artaxo, L. A. T. Machado, U. Pöschl, M. Wendisch, and S. Borrmann (2018), Aircraft-based observations of isoprene-epoxydiol-derived secondary organic aerosol (IEPOX-SOA) in the tropical upper troposphere over the Amazon region, *Atmos. Chem. Phys.*, 18(20), 14979-15001, doi:10.5194/acp-18-14979-2018.

2017

Cziczo, D. J., L. Ladino, Y. Boose, Z. A. Kanji, P. Kupiszewski, S. Lance, **S. Mertes**, and H. Wex (2017), Chapter 8: Measurements of ice nucleating particles and ice residuals, in *Ice formation and evolution in clouds and precipitation : Measurement and modeling challenges*, edited, pp. 8.1-8.13, AMS, doi:10.1175/AMSMONOGRAPHS-D-16-0008.1.

Schmidt, S., J. Schneider, T. Klimach, **S. Mertes**, L. P. Schenk, P. Kupiszewski, J. Curtius, and S. Borrmann (2017), Online single particle analysis of ice particle residuals from mountain-top mixed-phase clouds using laboratory derived particle type assignment, *Atmos. Chem. Phys.*, 17(1), 575-594, doi:10.5194/acp-17-575-2017.

Schneider, J., **S. Mertes**, D. van Pinxteren, H. Herrmann, and S. Borrmann (2017), Uptake of nitric acid, ammonia, and organics in orographic clouds: Mass spectrometric analyses of droplet residual and interstitial aerosol particles, *Atmos. Chem. Phys.*, 17, 1571-1593, doi:10.5194/acp-17-1571-2017.

Voigt, C., U. Schumann, A. Minikin, A. Abdelmonem, A. Afchine, S. Borrmann, M. Boettcher, B. Buchholz, L. Bugliaro, A. Costa, J. Curtius, M. Dollner, A. Dörnbrack, V. Dreiling, V. Ebert, A. Ehrlich, A. Fix, L. Forster, F. Frank, D. Fütterer, A. Giez, K. Graf, J.-U. Groß, S. Groß, K. Heimerl, B. Heinold, T. Hüneke, E. Järvinen, T. Jurkat, S. Kaufmann, M. Kenntner, M. Klingebiel, T. Klimach, R. Kohl, M. Krämer, T. C. Krisna, A. Luebke, B. Mayer, **S. Mertes**, S. Molleker, A. Petzold, K. Pfeilsticker, M. Port, R. Schlage, M. Schnaiter, J. Schneider, N. Spelten, P. Spichtinger, P. Stock, A. Walser, R. Weigel, B. Weinzierl, M. Wendisch, F. Werner, H. Wernli, M. Wirth, A. Zahn, H. Ziereis, and M. Zöger (2017), ML-CIRRUS - The airborne experiment on natural cirrus and contrail cirrus with the high-altitude long-range research aircraft HALO, *Bull. Amer. Meteor. Soc.*, 98(2), 271-288, doi:10.1175/BAMS-D-15-00213.1.

2016

Kupiszewski, P., M. Zanatta, **S. Mertes**, P. Vochezer, G. Lloyd, J. Schneider, L. Schenk, M. Schnaiter, U. Baltensperger, E. Weingartner, and M. Gysel (2016), Ice residual properties in mixed-phase clouds at the high-alpine Jungfraujoch site, *J. Geophys. Res. - Atmos.*, 121(20), 12343-12362, doi:10.1002/2016JD024894.

Roth, A., J. Schneider, T. Klimach, **S. Mertes**, D. van Pinxteren, H. Herrmann, and S. Borrmann (2016), Aerosol properties, source identification, and cloud processing in orographic clouds measured by

single particle mass spectrometry on a Central European mountain site during HCCT-2010, *Atmos. Chem. Phys.*, 16(2), 505-524, doi:10.5194/acp-16-505-2016.

van Pinxteren, D., K. W. Fomba, **S. Mertes**, K. Müller, G. Spindler, J. Schneider, T. Lee, J. L. Collett, and H. Herrmann (2016), Cloud water composition during HCCT-2010: Scavenging efficiencies, solute concentrations, and droplet size dependence of inorganic ions and dissolved organic carbon, *Atmos. Chem. Phys.*, 16, 3185–3205, doi:10.5194/acp-16-3185-2016.

Wendisch, M., U. Pöschl, M. O. Andreae, L. A. T. Machado, R. Albrecht, H. Schlager, D. Rosenfeld, S. T. Martin, A. Abdelmonem, A. Afchine, A. Araújo, P. Artaxo, H. Aufmhoff, H. M. J. Barbosa, S. Borrmann, R. Braga, B. Buchholz, M. A. Cecchini, A. Costa, J. Curtius, M. Dollner, M. Dorf, V. Dreiling, V. Ebert, A. Ehrlich, F. Ewald, G. Fisch, A. Fix, F. Frank, D. Fütterer, C. Heckl, F. Heidelberg, T. Hüneke, E. Jäkel, E. Järvinen, T. Jurkat, S. Kanter, U. Kästner, M. Kenntner, J. Kesselmeier, T. Klimach, M. Knecht, R. Kohl, T. Kölling, M. Krämer, M. Krüger, T. C. Krisna, J. V. Lavric, K. Longo, C. Mahnke, A. O. Manzi, B. Mayer, **S. Mertes**, A. Minikin, S. Molleker, S. Münch, B. Nilius, K. Pfeilsticker, C. Pöhlker, A. Roiger, D. Rose, D. Rosenow, D. Sauer, M. Schnaiter, J. Schneider, C. Schulz, R. A. F. de Souza, A. Spanu, P. Stock, D. Vila, C. Voigt, A. Walser, D. Walter, R. Weigel, B. Weinzierl, F. Werner, M. A. Yamasoe, H. Ziereis, T. Zinner, and M. Zöger (2016), Introduction of the ACRIDICON–CHUVA campaign studying tropical deep convective clouds and precipitation over Amazonia using the new German research aircraft HALO, *Bull. Amer. Meteor. Soc.*, 97(10), 1885-1908, doi:10.1175/BAMS-D-14-00255.1.

2015

Kupiszewski, P., E. Weingartner, P. Vochezer, M. Schnaiter, A. Bigi, M. Gysel, B. Rosati, E. Toprak, **S. Mertes**, and U. Baltensperger (2015), The Ice Selective Inlet: a novel technique for exclusive extraction of pristine ice crystals in mixed-phase clouds, *Atmos. Meas. Tech.*, 8, 3087-3106, doi:10.5194/amt-8-3087-2015.

Whalley, L. K., D. Stone, I. J. George, **S. Mertes**, D. van Pinxteren, A. Tilgner, H. Herrmann, M. J. Evans, and D. E. Heard (2015), The influence of clouds on radical concentrations: Observations and modelling studies of HO_x during the Hill Cap Cloud Thuringia (HCCT) campaign in 2010, *Atmos. Chem. Phys.*, 15, 3289-3301, doi:10.5194/acp-15-3289-2015.

Worringen, A., K. Kandler, N. Benker, T. Dirsch, **S. Mertes**, L. Schenk, U. Kästner, F. Frank, B. Nillius, U. Bundke, D. Rose, J. Curtius, P. Kupiszewski, E. Weingartner, P. Vochezer, J. Schneider, S. Schmidt, S. Weinbruch, and M. Ebert (2015), Single-particle characterization of ice-nucleating particles and ice particle residuals sampled by three different techniques, *Atmos. Chem. Phys.*, 15, 4161-4178, doi:10.5194/acp-15-4161-2015.

2014

Harris, E., B. Sinha, D. van Pinxteren, J. Schneider, L. Poulain, J. Collett, B. D'Anna, B. Fahlbusch, S. Foley, K. W. Fomba, C. George, T. Gnauk, S. Henning, T. Lee, **S. Mertes**, A. Roth, F. Stratmann, S. Borrmann, P. Hoppe, and H. Herrmann (2014), In-cloud sulfate addition to single particles resolved with sulfur isotope analysis during HCCT-2010, *Atmos. Chem. Phys.*, 14, 4219-4235, doi:10.5194/acp-14-4219-2014.

Henning, S., K. Dieckmann, K. Ignatius, M. Schäfer, P. Zedler, E. Harris, B. Sinha, D. van Pinxteren, **S. Mertes**, W. Birmili, M. Merkel, Z. Wu, A. Wiedensohler, H. Wex, H. Herrmann, and F. Stratmann (2014), Influence of cloud processing on CCN activation behavior in the Thuringian Forest, Germany during HCCT-2010, *Atmos. Chem. Phys.*, 14, 7859-7868, doi:10.5194/acp-14-7859-2014.

Krüger, M. L., S. Mertes, T. Klimach, Y. F. Cheng, H. Su, J. Schneider, M. O. Andreae, U. Pöschl, and D. Rose (2014), Assessment of cloud supersaturation by size-resolved aerosol particle and cloud condensation nuclei (CCN) measurements, *Atmos. Meas. Tech.*, 7, 2615-2629, doi:10.5194/amt-7-2615-2014.

Spiegel, J. K., N. Buchmann, O. L. Mayol-Bracero, L. A. Cuadra Rodríguez, C. J. Valle Díaz, K. A. Prather, **S. Mertes**, and W. Eugster (2014), Do cloud properties in a Puerto Rican tropical montane cloud forest depend on occurrence of long-range transported African dust?, *Pure Appl. Geophys.*, online first, doi:10.1007/s00024-014-0830-y.

Tilgner, A., L. Schöne, P. Bräuer, D. van Pinxteren, E. Hoffmann, G. Spindler, S. A. Styler, **S. Mertes**, W. Birmili, R. Otto, M. Merkel, K. Weinhold, A. Wiedensohler, H. Deneke, R. Schrödner, R. Wolke, J. Schneider, W. Haunold, A. Engel, A. Wéber, and H. Herrmann (2014), Comprehensive assessment of meteorological conditions and airflow connectivity during HCCT-2010, *Atmos. Chem. Phys.*, 14(Special Issue: HCCT-2010: A complex ground-based experiment on aerosol-cloud interaction), 9105-9128, doi:10.5194/acp-14-9105-2014.

2013

Harris, E., B. Sinha, D. van Pinxteren, A. Tilgner, W. Fomba, J. Schneider, A. Roth, T. Gnauk, B. Fahibusch, **S. Mertes**, T. Lee, J. Collett, S. Foley, S. Borrmann, P. Hoppe, and H. Herrmann (2013), Enhanced role of transition metal ion catalysis during in-cloud oxidation of SO₂, *Science*, 340(6133), 727-730, doi:10.1126/science.1230911.

2012

Baumgardner, D., L. Avallone, A. Bansemer, S. Borrmann, P. Brown, U. Bundke, P. Y. Chuang, D. Cziczo, P. Field, M. Gallagher, J.-F. Gayet, A. Heymsfield, A. Korolev, M. Krämer, G. McFarquhar, **S. Mertes**, O. Möhler, S. Lance, P. Lawson, M. Petters, K. Pratt, G. Roberts, D. Rogers, O. Stetzer, J. Stith, W. Strapp, C. Twohy, and M. Wendisch (2012), In situ, airborne instrumentation: Addressing and solving measurement problems in ice clouds, *Bull. Amer. Meteor. Soc.*, 93(2), ES29-ES34, doi:10.1175/BAMS-D-11-00123.1.

Spiegel, J. K., F. Aemisegger, M. Scholl, F. G. Wienhold, J. L. Collett Jr., T. Lee, D. van Pinxteren, **S. Mertes**, A. Tilgner, H. Herrmann, R. A. Werner, N. Buchmann, and W. Eugster (2012a), Stable water isotopologue ratios in fog and cloud droplets of liquid clouds are not size-dependent, *Atmos. Chem. Phys.*, 12(23), 9855-9863, doi:10.5194/acp-12-9855-2012.

Spiegel, J. K., F. Aemisegger, M. Scholl, F. G. Wienhold, J. L. Collett Jr., T. Lee, D. van Pinxteren, **S. Mertes**, A. Tilgner, H. Herrmann, R. A. Werner, N. Buchmann, and W. Eugster (2012b), Temporal evolution of stable water isotopologues in cloud droplets in a hill cap cloud in central Europe (HCCT-2010), *Atmos. Chem. Phys.*, 12(23), 11679-11694, doi:10.5194/acp-12-11679-2012.

2011

Ebert, M., A. Worringen, N. Benker, **S. Mertes**, E. Weingartner, and S. Weinbruch (2011), Chemical composition and mixing-state of ice residuals sampled within mixed phase clouds, *Atmos. Chem. Phys.*, 11, 1-12, doi:10.5194/acp-11-1-2011.

2010

Kamphus, M., M. Ettner-Mahl, T. Klimach, F. Drewnick, L. Keller, D. J. Cziczo, **S. Mertes**, S. Borrmann, and J. Curtius (2010), Chemical composition of ambient aerosol, ice residues and cloud droplet residues in mixed-phase clouds: Single particle analysis during the Cloud and Aerosol Characterization Experiment (CLACE 6), *Atmos. Chem. Phys.*, 10(16), 8077-8095, doi:10.5194/acp-10-8077-2010.

2009

Cziczo, D. J., O. Stetzer, A. Worringen, M. Ebert, M. Kamphus, J. Curtius, **S. Mertes**, O. Möhler, and U. Lohmann (2009), Inadvertent climate modification due to anthropogenic lead, *Nat. Geosci.*, 2(5), 333-336, doi:10.1038/ngeo499.

Gioda, A., O. L. Mayol-Bracero, F. Morales-García, J. Collett, S. Decesari, M. Emblico, M. C. Facchini, R. J. Morales-De Jesús, **S. Mertes**, S. Borrmann, S. Walter, and J. Schneider (2009), Chemical composition of cloud water in the Puerto Rican tropical trade wind cumuli, *Water Air Soil Poll.*, 200(1-4), 3-14, doi:10.1007/s11270-008-9888-4.

Nordmann, S., W. Birmili, K. Weinhold, A. Wiedensohler, **S. Mertes**, K. Müller, T. Gnauk, H. Herrmann, M. Pitz, J. Cyrys, H. Flentje, L. Ries, and K. Wirtz (2009), Atmospheric aerosol measurements in the German Ultrafine Aerosol Network (GUAN) - Part 2: Comparison of measurements techniques for graphitic, light-absorbing, and elemental carbon, and the non-volatile particle volume under field conditions, *Gefahrst. Reinhalt. L.*, 69(11/12), 469-474.

2008

Allan, J. D., D. Baumgardner, G. B. Raga, O. L. Mayol-Bracero, F. Morales-García, F. García-García, G. Montero-Martínez, S. Borrmann, J. Schneider, **S. Mertes**, S. Walter, M. Gysel, U. Dusek, G. P. Frank, and M. Krämer (2008), Clouds and aerosols in Puerto Rico - A new evaluation, *Atmos. Chem. Phys.*, 8(5), 1293-1309.

Cozic, J., **S. Mertes**, B. Verheggen, D. J. Cziczo, S. J. Gallavardin, S. Walter, U. Baltensperger, and E. Weingartner (2008), Black carbon enrichment in atmospheric ice particle residuals observed in lower tropospheric mixed phase clouds, *J. Geophys. Res. - Atmos.*, 113(D15), D15209, doi:10.1029/2007JD009266.

2007

Cozic, J., B. Verheggen, **S. Mertes**, P. Connolly, K. Bower, A. Petzold, U. Baltensperger, and E. Weingartner (2007), Scavenging and ice nuclei activity of black carbon in mixed phase clouds at the high alpine site Jungfraujoch, *Atmos. Chem. Phys.*, 7, 1797-1807.

Mertes, S., B. Verheggen, S. Walter, P. Connolly, M. Ebert, J. Schneider, K.N. Bower, J. Cozic, S. Weinbruch, U. Baltensperger and E. Weingartner (2007), Counterflow virtual impactor based collection of small ice particles in mixed-phase clouds for the physico-chemical characterization of tropospheric ice nuclei: sampler description and first case study, *Aerosol Sci. Tech.*, 41, 848-864, 2007.

Verheggen, B., J. Cozic, E. Weingartner, K.N. Bower, **S. Mertes**, P. Connolly, M. Gallagher, M. Flynn, T.W. Choularton and U. Baltensperger: Aerosol partitioning between the interstitial and the condensed phase

in mixed-phase clouds, *J. Geophys. Res. - Atmos.*, 112(D23), D23202. doi:10.1029/2007JD008714, 2007.

2005

Brüggemann, E., T. Gnauk, **S. Mertes**, K. Acker, R. Auel, W. Wiegrecht, D. Möller, J. L. Collett Jr., H. Chang, D. Galgon, R. Chemnitzer, C. Rüd, R. Junek, A. Wiedensohler, and H. Herrmann (2005), Schmücke hill cap cloud and valley stations aerosol characterisation during FEBUKO (I): Particle size distribution, mass, and main components, *Atmos. Environ.*, 39(23-24), 4291-4303.

Herrmann, H., R. Wolke, K. Müller, E. Brüggemann, T. Gnauk, P. Barzaghi, **S. Mertes**, K. Lehmann, A. Massling, W. Birmili, A. Wiedensohler, W. Wiegrecht, K. Acker, W. Jaeschke, H. Kramberger, B. Svcina, K. Bächmann, J. L. Collett Jr., D. Galgon, K. Schwirn, A. Nowak, D. van Pinxteren, A. Plewka, R. Chemnitzer, C. Rüd, D. Hofmann, A. Tilgner, K. Diehl, B. Heinold, D. Hinneburg, O. Knoth, A. M. Sehili, M. Simmel, S. Wurzler, Z.-T. Majdik, G. Mauersberger, and F. Müller (2005), FEBUKO and MODMEP: Field measurements and modelling of aerosol and cloud multiphase processes, *Atmos. Environ.*, 39(23-24), 4169-4183.

Lehmann, K., A. Massling, A. Tilgner, **S. Mertes**, D. Galgon, and A. Wiedensohler (2005), Size-resolved soluble volume fractions of submicrometer particles in air masses of different character, *Atmos. Environ.*, 39(23-24), 4257-4266.

Mertes, S., D. Galgon, K. Schwirn, A. Nowak, K. Lehmann, A. Massling, A. Wiedensohler, and W. Wiegrecht (2005a), Evolution of particle concentration and size distribution observed upwind, inside and downwind hill cap clouds at connected flow conditions during FEBUKO, *Atmos. Environ.*, 39(23-24), 4233-4245.

Mertes, S., K. Lehmann, A. Nowak, A. Massling, and A. Wiedensohler (2005b), Link between aerosol hygroscopic growth and droplet activation observed for hill-capped clouds at connected flow conditions during FEBUKO, *Atmos. Environ.*, 39(23-24), 4247-4256.

van Pinxteren, D., A. Plewka, D. Hofmann, K. Müller, H. Kramberger, B. Svcina, K. Bächmann, W. Jaeschke, **S. Mertes**, J. L. Collett Jr., and H. Herrmann (2005), Schmücke hill cap cloud and valley stations aerosol characterisation during FEBUKO (II): Organic compounds, *Atmos. Environ.*, 39(23-24), 4305-4320.

Wiegrecht, W., K. Acker, **S. Mertes**, J. L. Collett Jr., W. Jaeschke, E. Brüggemann, D. Möller, and H. Herrmann (2005), Cloud physics and cloud water sampler comparison during FEBUKO, *Atmos. Environ.*, 39(23-24), 4267-4277.

2004

Mertes, S., B. Dippel, and A. Schwarzenböck (2004), Quantification of graphitic carbon in atmospheric aerosol particles by Raman spectroscopy and first application for the determination of mass absorption efficiencies, *J. Aerosol Sci.*, 35, 347-361.

2002

Acker, K., **S. Mertes**, D. Möller, W. Wiegrecht, R. Auel, and D. Kalaß (2002), Case study of cloud physical and chemical processes in low clouds at Mt. Brocken, *Atmos. Res.*, 64(1-4), 41-51.

2001

Laj, P., A. I. Flossmann, W. Wobrock, S. Fuzzi, G. Orsi, L. Ricci, **S. Mertes**, A. Schwarzenböck, J. Heintzenberg, and H. ten Brink (2001), Behaviour of H₂O₂, NH₃ and black carbon in a mixed phase clouds during CIME, *Atmos. Res.*, 58(4), 315-336.

Mertes, S., A. Schwarzenböck, P. Laj, W. Wobrock, J. M. Pichon, G. Orsi, and J. Heintzenberg (2001), Changes of cloud microphysical properties during the transition from supercooled to mixed-phase conditions during CIME, *Atmos. Res.*, 58(4), 267-294.

Schwarzenböck, A., **S. Mertes**, J. Heintzenberg, W. Wobrock, and P. Laj (2001), Impact of the Bergeron-Findeisen process on the release of aerosol particles during the evolution of cloud ice, *Atmos. Res.*, 58(4), 295-313.

Wobrock, W., A. I. Flossmann, M. Monier, J. M. Pichon, L. Cortez, J. F. Fournol, A. Schwarzenböck, **S. Mertes**, J. Heintzenberg, P. Laj, G. Orsi, L. Ricci, S. Fuzzi, H. ten Brink, P. Jongejan, and R. Otjes (2001), The Cloud Ice Mountain Experiment CIME 1998: Experiment overview and modelling of the microphysical processes during the seeding by isentropic gas expansion, *Atmos. Res.*, 58(4), 231-265.

2000

Géremy, G., W. Wobrock, A. I. Flossmann, A. Schwarzenböck, and **S. Mertes** (2000), A modelling study on the activation of small Aitken-mode particles during CIME 97, *Tellus*, 52B(3), 959-979.

Schwarzenböck, A., J. Heintzenberg, and **S. Mertes** (2000), Incorporation of aerosol particles between 25 and 850 nanometers into cloud elements: Measurement with a new complementary sampling system, *Atmos. Res.*, 52(4), 241-260.

1998

Fuzzi, S., P. Laj, L. Ricci, G. Orsi, J. Heintzenberg, M. Wendisch, B. Yuskiewicz, **S. Mertes**, D. Orsini, M. Schwanz, A. Wiedensohler, F. Stratmann, O. H. Berg, E. Swietlicki, G. Frank, B. G. Martinsson, A. Günther, J. Dierssen, D. Schell, W. Jaeschke, A. Berner, U. Dusek, Z. Galambos, C. Kruisz, S. N. Mesfin, W. Wobrock, B. Arends, and H. ten Brink (1998), Overview of the Po Valley fog experiment 1994 (CHEMDROP), *Contr. Atmos. Phys.*, 71(1), 3-19.

Wendisch, M., **S. Mertes**, J. Heintzenberg, A. Wiedensohler, D. Schell, W. Wobrock, G. Frank, B. Martinsson, S. Fuzzi, G. Orsi, G. Kos, and A. Berner (1998), Drop size distribution and LWC in Po Valley fog, *Contr. Atmos. Phys.*, 71(1), 87-100.

Wobrock, W., W. Jaeschke, D. Schell, M. Wendisch, **S. Mertes**, U. Teichmann, J. Laubach, S. Fuzzi, and G. Orsi (1998), Observations of the turbulence structure of wind, temperature and liquid water content in a foggy surface layer, *Contr. Atmos. Phys.*, 71(1), 171-187.

1997

Mertes, S., and M. Wendisch (1997), Microphysical and optical features of polluted cooling tower clouds, *Atmos. Res.*, 44, 271-292.

1996

Wendisch, M., **S. Mertes**, S. Ruggaber, and T. Nakajima (1996), Vertical profiles of aerosol and radiation under cloudless conditions: measurements and radiative transfer calculations, *J. Appl. Meteorol.*, 35(10), 1703-1715.

1995

Mertes, S., F. Schröder, and A. Wiedensohler (1995), The particle detection efficiency curve of the TSI-3010 CPC as a function of the temperature difference between saturator and condenser, *Aerosol Sci. Technol.*, 23, 257-261.

Mertes, S., and A. Wahner (1995), Uptake of nitrogen dioxide and nitrous acid on aqueous surfaces, *J. Phys. Chem.*, 99, 14000-14006.