

## Publications finally released 2021

Köllner, F., Schneider, J., Willis, M. D., Schulz, H., Kunkel, D., Bozem, H., Hoor, P., Klimach, T., Helleis, F., Burkart, J., Leaitch, W. R., Aliabadi, A. A., Abbatt, J. P. D., Herber, A. B., and Borrmann, S.: *Chemical composition and source attribution of submicron aerosol particles in the summertime Arctic lower troposphere*, Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2020-742>, accepted, 2021.

Schneider, J., Weigel, R., Klimach, T., Dragoneas, A., Appel, O., Hünig, A., Molleker, S., Köllner, F., Clemen, H.-C., Eppers, O., Hoppe, P., Hoor, P., Mahnke, C., Krämer, M., Rolf, C., Grooß, J.-U., Zahn, A., Obersteiner, F., Ravegnani, F., Ulanovsky, A., Schlager, H., Scheibe, M., Diskin, G. S., DiGangi, J. P., Nowak, J. B., Zöger, M., and Borrmann, S.: *Aircraft-based observation of meteoric material in lower stratospheric aerosol particles between 15 and 68° N*, Atmos. Chem. Phys., 21, 989–1013, <https://doi.org/10.5194/acp-21-989-2021>, 2021

Szakáll, M., Debertshäuser, M., Lackner, C. P., Mayer, A., Eppers, O., Diehl, K., Theis, A., Mitra, S. K., and Borrmann, S.: *Comparative study on immersion freezing utilizing single-droplet levitation methods*, Atmos. Chem. Phys., 21, 3289–3316, <https://doi.org/10.5194/acp-21-3289-2021>, 2021

## Publications finally released 2020

Clemen, H.-C., Schneider, J., Klimach, T., Helleis, F., Köllner, F., Hünig, A., Rubach, F., Mertes, S., Wex, H., Stratmann, F., Welti, A., Kohl, R., Frank, F., and Borrmann, S.: *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, 5923–5953, <https://doi.org/10.5194/amt-13-5923-2020>, 2020.

Molleker, S., Helleis, F., Klimach, T., Appel, O., Clemen, H.-C., Dragoneas, A., Gurk, C., Hünig, A., Köllner, F., Rubach, F., Schulz, C., Schneider, J., and Borrmann, S.: *Application of an O-ring pinch device as a constant-pressure inlet (CPI) for airborne sampling*, Atmos. Meas. Tech., 13, 3651–3660, <https://doi.org/10.5194/amt-13-3651-2020>, 2020.

Mei, F., Wang, J., Comstock, J. M., Weigel, R., Krämer, M., Mahnke, C., Shilling, J. E., Schneider, J., Schulz, C., Long, C. N., Wendisch, M., Machado, L. A. T., Schmid, B., Krishna, T., Pekour, M., Hubbe, J., Giez, A., Weinzierl, B., Zoeger, M., Pohlker, M. L., Schlager, H., Cecchini, M. A., Andreae, M. O., Martin, S. T., de Sa, S. S., Fan, J. W., Tomlinson, J., Springston, S., Poschl, U., Artaxo, P., Pohlker, C., Klimach, T., Minikin, A., Afchine, A., and Borrmann, S.: *Comparison of aircraft measurements during GoAmazon2014/5 and ACRIDICON-CHUVA*, Atmos Meas Tech, 13, 661–684, [10.5194/amt-13-661-2020](https://doi.org/10.5194/amt-13-661-2020), 2020.

Polonik, P., Knote, C., Zinner, T., Ewald, F., Kolling, T., Mayer, B., Andreae, M. O., Jurkat-Witschas, T., Klimach, T., Mahnke, C., Molleker, S., Pohlker, C., Pohlker, M. L., Poschl, U., Rosenfeld, D., Voigt, C., Weigel, R., and Wendisch, M.: *The challenge of simulating the sensitivity of the Amazonian cloud microstructure to cloud condensation nuclei number concentrations*, Atmos Chem Phys, 20, 1591–1605, [10.5194/acp-20-1591-2020](https://doi.org/10.5194/acp-20-1591-2020), 2020.

Baumgartner, M., Weigel, R., Harvey, A. H., Plöger, F., Achatz, U., and Spichtinger, P.: *Reappraising the appropriate calculation of a common meteorological quantity: potential temperature*, Atmos. Chem. Phys., 20, 15585–15616, <https://doi.org/10.5194/acp-20-15585-2020>, 2020.

Theis, A., S. Borrmann, S. K. Mitra, A. Heymsfield, and M. Szakáll, „A wind tunnel investigation into the aerodynamics of lobed hailstones”  
*Atmosphere*, 11, 494, doi:10.3390/atmos11050494 (2020)

## Publications finally released 2019

Hiranuma, N., Adachi, K., Bell, D. M., Belosi, F., Beydoun, H., Bhaduri, B., Bingemer, H., Budke, C., Clemen, H.-C., Conen, F., Cory, K. M., Curtius, J., DeMott, P. J., Eppers, O., Grawe, S., Hartmann, S., Hoffmann, N., Höhler, K., Jantsch, E., Kiselev, A., Koop, T., Kulkarni, G., Mayer, A., Murakami, M., Murray, B. J., Nicosia, A., Petters, M. D., Piazza, M., Polen, M., Reicher, N., Rudich, Y., Saito, A., Santachiara, G., Schiebel, T., Schill, G. P., Schneider, J., Segev, L., Stopelli, E., Sullivan, R. C., Suski, K., Szakáll, M., Tajiri, T., Taylor, H., Tobo, Y., Ullrich, R., Weber, D., Wex, H., Whale, T. F., Whiteside, C. L., Yamashita, K., Zelenyuk, A., and Möhler, O.: A comprehensive characterization of ice nucleation by three different types of cellulose particles immersed in water, *Atmos. Chem. Phys.*, 19, 4823-4849, <https://doi.org/10.5194/acp-19-4823-2019>, 2019.

Höpfner, Michael, Jörn Ungermann, Stephan Borrmann, Robert Wagner, Reinhold Spang, Martin Riese, Gabriele Stiller, Oliver Appel, Anneke M. Batenburg, Silvia Bucci, Francesco Cairo, Antonis Dragoneas, Felix Friedl-Vallon, Andreas Hünig, Sören Johansson, Lukas Krasauskas, Bernard Legras, Thomas Leisner, Christoph Mahnke, Ottmar Möhler, Sergej Molleker, Rolf Müller, Tom Neubert, Johannes Orphal, Peter Preusse, Markus Rex, Harald Saathoff, Fred Stroh, Ralf Weigel, Ingo Wohltmann: Ammonium nitrate particles formed in upper troposphere from ground ammonia sources during Asian monsoons, *Nature Geoscience* VOL 12, 608–612, <https://doi.org/10.1038/s41561-019-0385-8>, 2019

Jost, A., M. Szakáll, K. Diehl, S. K. Mitra, A. Hundertmark, B. S. Klug, S. Borrmann, „The effect of turbulence on the accretional growth of graupel”  
*J. Atmos. Sci.*, 76, 3047-3061 (2019)

## Publications finally released 2018

Andreae, M. O., Afchine, A., Albrecht, R., Holanda, B. A., Artaxo, P., Barbosa, H. M. J., Borrmann, S., Cecchini, M. A., Costa, A., Dollner, M., Fütterer, D., Järvinen, E., Jurkat, T., Klimach, T., Konemann, T., Knote, C., Krämer, M., Krishna, T., Machado, L. A. T., Mertes, S., Minikin, A., Pöhlker, C., Pöhlker, M. L., Pöschl, U., Rosenfeld, D., Sauer, D., Schlager, H., Schnaiter, M., Schneider, J., Schulz, C., Spanu, A., Sperling, V. B., Voigt, C., Walser, A., Wang, J., Weinzierl, B., Wendisch, M., and Ziereis, H.: Aerosol characteristics and particle production in the upper troposphere over the Amazon Basin, *Atmos. Chem. Phys.*, 18, 921-961, <https://doi.org/10.5194/acp-18-921-2018>, 2018.

DeMott, P. J., O. Möhler, D. J. Cziczó, N. Hiranuma, M. D. Petters, S. S. Petters, O. Eppers, M. Szakáll, et al.: „The Fifth International Workshop on Ice Nucleation phase 2 (FIN-02). Laboratory intercomparison of ice nucleation measurements. *Atmos. Meas. Tech.* 11 (11), 6231–6257. doi: 10.5194/amt-11-6231-2018, 2018

Diehl, K., and V. Grützun: Model simulations with COSMO-SPECS: Impact of heterogeneous freezing modes and ice nucleating particle types on ice formation and precipitation in a deep convective cloud. *Atmos. Chem. Phys.*, 18, 1-21, 2018

Fachinger, F., Drewnick, F., Gieré, R., Borrmann, S.: Communal biofuel burning for district heating: Emissions and immissions from medium-sized (0.4 and 1.5 MW) facilities. *Atmospheric Environment* 181 (2018) 177-185

Heymsfield, A., M. Szakáll, A. Jost, I. Giammanco, and R. Wright, A comprehensive observational study of graupel and hail terminal velocity, mass flux, and kinetic energy. *J. Atmos. Sci.*, 75 (11), 3861-3885, 2018

Herenz, P., Wex, H., Henning, S., Kristensen, T. B., Rubach, F., Roth, A., Borrmann, S., Bozem, H., Schulz, H., and Stratmann, F.: Measurements of aerosol and CCN properties in the Mackenzie River delta (Canadian Arctic) during spring–summer transition in May 2014, *Atmos. Chem. Phys.*, **18**, 4477-4496, <https://doi.org/10.5194/acp-18-4477-2018>, 2018.

Krisna, T. C.; M. Wendisch, A. Ehrlich, E. Jäkel, F. Werner, R. Weigel, S. Borrmann, C. Mahnke, U. Pöschl, M. O. Andreae, C. Voigt, and L. A. T. Machado; Comparing airborne and satellite retrievals of cloud optical thickness and particle effective radius using a spectral radiance ratio technique: two case studies for cirrus and deep convective clouds; *Atmos. Chem. Phys.*, **18**, 4439-4462, 2018.

Machado, L. A. T., Calheiros, A. J. P., Biscaro, T., Giangrande, S., Silva Dias, M. A. F., Cecchini, M. A., Albrecht, R., Andreae, M. O., Araujo, W. F., Artaxo, P., Borrmann, S., Braga, R., Burleyson, C., Eichholz, C. W., Fan, J., Feng, Z., Fisch, G. F., Jensen, M. P., Martin, S. T., Pöschl, U., Pöhlker, C., Pöhlker, M. L., Ribaud, J.-F., Rosenfeld, D., Saraiva, J. M. B., Schumacher, C., Thalman, R., Walter, D., and Wendisch, M.: Overview: Precipitation characteristics and sensitivities to environmental conditions during GoAmazon2014/5 and ACRIDICON-CHUVA, *Atmos. Chem. Phys.*, **18**, 6461-6482, <https://doi.org/10.5194/acp-18-6461-2018>, 2018.

Schulz, C., Schneider, J., Amorim Holanda, B., Appel, O., Costa, A., de Sá, S. S., Dreiling, V., Fütterer, D., Jurkat-Witschas, T., Klimach, T., Knote, C., Krämer, M., Martin, S. T., Mertes, S., Pöhlker, M. L., Sauer, D., Voigt, C., Walser, A., Weinzierl, B., Ziereis, H., Zöger, M., Andreae, M. O., Artaxo, P., Machado, L. A. T., Pöschl, U., Wendisch, M., and Borrmann, S.: 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**, 14979-15001, <https://doi.org/10.5194/acp-18-14979-2018>, 2018.

Szakáll, M. and I. Urbich, Wind tunnel study on the size distribution of droplets after collision induced breakup of levitating water drops; *Atmos. Res.*, **213**, 51-56, 2018

Weger, M., Heinold, B., Engler, C., Schumann, U., Seifert, A., Föbzig, R., Voigt, C., Baars, H., Blahak, U., Borrmann, S., Hoose, C., Kaufmann, S., Krämer, M., Seifert, P., Senf, F., Schneider, J., and Tegen, I.: The impact of mineral dust on cloud formation during the Saharan dust event in April 2014 over Europe, *Atmos. Chem. Phys.*, **18**, 17545-17572, <https://doi.org/10.5194/acp-18-17545-2018>, 2018.

## Publications finally released 2017

Beck, A., Henneberger, J., Schöpfer, S., Fugal, J., and Lohmann, U.: HoloGondel: in situ cloud observations on a cable car in the Swiss Alps using a holographic imager, *Atmos. Meas. Tech.*, **10**, 459-476, <https://doi.org/10.5194/amt-10-459-2017>, 2017.

Braga, R. C.; Rosenfeld, D.; Weigel, R.; Jurkat, T.; Andreae, M. O.; Wendisch, M.; Pöhlker, M. L.; Klimach, T.; Pöschl, U.; Pöhlker, C. et al.: Comparing parameterized versus measured microphysical properties of tropical convective cloud bases during the ACRIDICON-CHUVA campaign. *Atmospheric Chemistry and Physics* **17** (12), S. 7365 - 7386 (2017)

Braga, R. C., Rosenfeld, D., Weigel, R., Jurkat, T., Andreae, M. O., Wendisch, M., Pöschl, U., Voigt, C., Mahnke, C., Borrmann, S., Albrecht, R. I., Molleker, S., Vila, D. A., Machado, L. A. T., and Grulich, L.: Further evidence for CCN aerosol concentrations determining the height of warm rain and ice initiation in convective clouds over the Amazon basin, *Atmos. Chem. Phys.*, **17**, 14433-14456, <https://doi.org/10.5194/acp-17-14433-2017>, 2017.

Braga, R. C., Rosenfeld, D., Weigel, R., Jurkat, T., Andreae, M. O., Wendisch, M., Pöhlker, M. L., Klimach, T., Pöschl, U., Pöhlker, C., Voigt, C., Mahnke, C., Borrmann, S., Albrecht, R. I., Molleker, S., Vila, D. A., Machado, L. A. T., and Artaxo, P.: Comparing parameterized versus

measured microphysical properties of tropical convective cloud bases during the ACRIDICON-CHUVA campaign, *Atmos. Chem. Phys.*, **17**, 7365-7386, <https://doi.org/10.5194/acp-17-7365-2017>, 2017.

*Cecchini, M. A.; Machado, L. A. T.; Andreae, M. O.; Martin, S. T.; Albrecht, R. I.; Artaxo, P.; Barbosa, H. M. J.; Borrmann, S.; Fuetterer, D.; Jurkat, T. et al.*: Sensitivities of Amazonian clouds to aerosols and updraft speed. *Atmospheric Chemistry and Physics* **17** (16), S. 10037 - 10050 (2017)

*Cecchini, M. A., Machado, L. A. T., Wendisch, M., Costa, A., Krämer, M., Andreae, M. O., Afchine, A., Albrecht, R. I., Artaxo, P., Borrmann, S., Fütterer, D., Klimach, T., Mahnke, C., Martin, S. T., Minikin, A., Molleker, S., Pardo, L. H., Pöhlker, C., Pöhlker, M. L., Pöschl, U., Rosenfeld, D., and Weinzierl, B.*: Illustration of microphysical processes in Amazonian deep convective clouds in the gamma phase space: introduction and potential applications, *Atmos. Chem. Phys.*, **17**, 14727-14746, <https://doi.org/10.5194/acp-17-14727-2017>, 2017.

*Faber, P., F. Drewnick, R. Bierl, S. Borrmann*: Complementary online aerosol mass spectrometry and offline FT-IR spectroscopy measurements: Prospects and challenges for the analysis of anthropogenic aerosol particle emissions. *Atm. Env.* **166**, 92-98, 2017; doi: 10.1016/j.atmosenv.2017.07.014

*Fachinger, J.; Gallavardin, S. J.; Helleis, F.; Fachinger, F.; Drewnick, F.; Borrmann, S.*: The ion trap aerosol mass spectrometer: field intercomparison with the ToF-AMS and the capability of differentiating organic compound classes via MS-MS. *Atmospheric Measurement Techniques* **10** (4), S. 1623 - 1637 (2017)

*Fachinger, F., F. Drewnick, R. Gieré, and S. Borrmann*: How the user can influence particulate emissions from residential wood and pellet stoves: Emission factors for different fuels and burning conditions. *Atm. Env.*, **158**, page 216-226, 2017

*Glienke, S.; Kostinski, A.; Fugal, J. P.; Shaw, R. A.; Borrmann, S.; Stith, J.*: Cloud droplets to drizzle: Contribution of transition drops to microphysical and optical properties of marine stratocumulus clouds. *Geophysical Research Letters* **44** (15), S. 8002 - 8010 (2017)

*Jost, A.; Szakáll, M.; Diehl, K.; Mitra, S. K.; Borrmann, S.*: Chemistry of riming: the retention of organic and inorganic atmospheric trace constituents. *Atmospheric Chemistry and Physics* **17** (16), S. 9717 - 9732 (2017)

*Klingebiel, M., A. Ehrlich, F. Finger, T. Röschenthaler, S. Jakirlić, M. Voigt, S. Müller, R. Maser, M. Wendisch, P. Hoor, P. Spichtinger, S. Borrmann*: A tandem approach for collocated in-situ measurements of microphysical and radiative cirrus properties, *Atmos. Meas. Tech.*, **10** (9),

*Köllner, F., Schneider, J., Willis, M. D., Klimach, T., Helleis, F., Bozem, H., Kunkel, D., Hoor, P., Burkart, J., Leaitch, W. R., Aliabadi, A. A., Abbatt, J. P. D., Herber, A. B., and Borrmann, S.*: Particulate trimethylamine in the summertime Canadian high Arctic lower troposphere, *Atmos. Chem. Phys.*, **17**, 13747-13766, <https://doi.org/10.5194/acp-2017-505>, 2017.

*Korolev, A., G. McFarquhar, P. R. Field, C. Franklin, P. Lawson, Z. Wang, E. Williams, S. J. Abel, D. Axisa, S. Borrmann, J. Crosier, J. Fugal, M. Krämer, U. Lohmann, O. Schlenczek, M. Schnaiter, and M. Wendisch*: Mixed-Phase Clouds: Progress and Challenges, *Meteorological Monographs*, (58), 5.1-50, doi: 10.1175/AMSMONOGRAPHS-D-17-0001.1, (2017)

*Schneider, J., S. Mertes, D. van Pinxteren, H. Herrmann, S. Borrmann*: Uptake of nitric acid, ammonia, and organics in orographic clouds: Mass spectrometric analyses of cloud residual

particles and interstitial aerosol, *Atmos. Chem. Phys.*, **17**, 1571–1593, doi:10.5194/acp-17-1571-2017, 2017.

*Schlenczek, O.; Fugal, J. P.; Lloyd, G.; Bower, K. N.; Choulaton, T. W.; Flynn, M.; Crosier, J.; Borrmann, S.*: Microphysical Properties of Ice Crystal Precipitation and Surface-Generated Ice Crystals in a High Alpine Environment in Switzerland. *Journal of Applied Meteorology and Climatology* **56** (2), S. 433 - 453 (2017)

*Schütze, Katharina; James Charles Wilson, Stephan Weinbruch, Nathalie Benker, Martin Ebert, Ralf Weigel, and Stephan Borrmann*: Sub 500 nm refractory carbonaceous particles in the polar stratosphere, *Atmos. Chem. Phys.*, **17**, 12475-12493, <https://doi.org/10.5194/acp-17-12475-2017>, 2017

*Schumann, U., C. Kiemle, H. Schlager, R. Weigel, S. Borrmann, F. D'Amato, M. Krämer, R. Matthey, C. Voigt, M. Volk*: Detection of contrails and convective cirrus above the tropical tropopause; *Atmos. Chem. Phys.*, **17**, 2311-2346, 2017

*Voigt, C.; Schumann, U.; Minikin, A.; Abdelmonem, A.; Afchine, A.; Borrmann, S.; Boettcher, M.; Bucuchholz, B.; Bugliaro, L.; Costa, A. et al.*: ML-CIRRUS: The Airborne Experiment on Natural Cirrus and Contrail Cirrus with the High-Altitude Long-Range Research Aircraft HALO. *Bulletin of the American Meteorological Society* **98** (2), S. 271 - 288 (2017)

## Publications finally released 2016

*Ebert, M., R. Weigel, K. Kandler, G. Günther, D. Molleker, J. U. Grooß, B. Vogel, S. Weinbruch, and S. Borrmann*: Chemical analysis of refractory stratospheric aerosol particles collected within the arctic vortex and inside polar stratospheric clouds, *Atmos. Chem. Phys.*, **16**, 8405-8421, doi:10.5194/acp-16-8405-2016, 2016

*Finger F., F. Werner, M. Klingebiel, A. Ehrlich, E. Jäkel, M. Voigt, S. Borrmann, P. Spichtinger, and M. Wendisch*: Spectral optical layer properties of cirrus from collocated airborne measurements and simulations, *Atmos. Chem. Phys. Discuss.*, **16**, 7681-7693, doi:10.5194/acp-16-7681-2016, 2016

*Krämer, M., C. Rolf, A. Luebke, A. Afchine, N. Spelten, A. Costa, M. Zöger, J. Smith, R. Herman, B. Buchholz, V. Ebert, D. Baumgardner, S. Borrmann, M. Klingebiel, and L. Avallone*: A Microphysics Guide to Cirrus Clouds, Part I: Cirrus Types, *Atmos. Chem. Phys.* **16**, 3463-3483, doi:10.5194/acp-16-3463, 2016

*Kremser, S., Thomason, L. W., von Hobe, M., Hermann, M., Deshler, T., Timmreck, C. Toohy, M., Stenke, A., Schwarz, J. P., Weigel, R., Fueglistaler, S., Prata, F. J., Vernier, J.-P., Schlager, H., Barnes, J. E., Antuña-Marrero, J.-C., Fairlie, D., Palm, M., Mahieu, E., Notholt, J., Rex, M., Bingen, C., Vanhellemont, F., Bourassa, A., Plane, J. M. C., Klocke, D., Carn, S. A., Clarisse, L., Trickl, T., Neely, R., James, A. D., Rieger, L., Wilson, J. C., Meland, B.*, Stratospheric aerosol - Observations, processes, and impact on climate; *Review of Geophysics*, 10.1002/2015RG000511, 2016.

*Lohmann, U.; Henneberger, J.; Henneberg, O.; Fugal, J. P.; Buehl, J.; Kanji, Z. A.*: Persistence of orographic mixed-phase clouds. *Geophysical Research Letters* **43** (19), S. 10512 - 10519 (2016)

*O'Shea, S. J.; Choulaton, T. W.; Lloyd, G.; Crosier, J.; Bower, K. N.; Gallagher, M.; Abel, S. J.; Cotton, R. J.; Brown, P. R. A.; Fugal, J. P. et al.*: Airborne observations of the microphysical

structure of two contrasting cirrus clouds. *Journal of Geophysical Research-Atmospheres* 121 (22), S. 13510 - 13536 (2016)

*Phillips, G. J.; Thieser, J.; Tang, M. J.; Sobanski, N.; Schuster, G.; Fachinger, J.; Drewnick, F.; Borrmann, S.; Bingemer, H.; Lelieveld, J. et al.*: Estimating N<sub>2</sub>O<sub>5</sub> uptake coefficients using ambient measurements of NO<sub>3</sub>, N<sub>2</sub>O<sub>5</sub>, ClONO<sub>2</sub> and particle-phase nitrate. *Atmospheric Chemistry and Physics* 16 (20), S. 13231 - 13249 (2016)

*Roth, A., Schneider, J., Klimach, T., Mertes, S., van Pinxteren, D., Herrmann, H., and Borrmann, S.*: 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, 505-524, doi:10.5194/acp-16-505-2016, 2016.

*Shcherbakov, V., Jourdan, O., Voigt, C., Gayet, J. F., Chauvigne, A., Schwarzenboeck, A., Minikin, A., Klingebiel, M., Weigel, R., Borrmann, S., Jurkat, T., Kaufmann, S., Schlage, R., Gourbeyre, C., Febvre, G., Lapyonok, T., Frey, W., Molleker, S., and Weinzierl, B.*: Porous aerosol in degassing plumes of Mt. Etna and Mt. Stromboli, *Atmos. Chem. Phys.*, 16, 11883-11897, 2016.

*Struckmeier, C., F. Drewnick, F. Fachinger, G.P. Gobbi, and S. Borrmann*: Atmospheric aerosols in Rome, Italy: Sources, dynamics and spatial variations during two seasons. *Atm. Chem. Phys.* 16, 15277-15299, doi:10.5194/acp-16-15277-2016, 2016

*Voigt, Christiane; Ulrich Schumann, Andreas Minikin, Ahmed Abdelmonem, Armin Afchine, Stephan Borrmann, Maxi Böttcher, Bernhard Buchholz, Luca Bugliaro, Anja Costa, Joachim Curtius, Maximilian Dollner, Andreas Dörnbrack, Volker Dreiling, Volker Ebert, Andre Ehrlich, Andreas Fix, Linda Forster, Fabian Frank, Daniel Fütterer, Kaspar Graf, Jens-Uwe Groöß, Silke Groß, Bernd Heinold, Tilman Hüeneke, Emma Järvinen, Tina Jurkat, Stefan Kaufmann, Mareike Kenntner, Marcus Klingebiel, Thomas Klimach, Rebecca Kohl, Martina Krämer, Bernhard Mayer, Stephan Mertes, Andreas Minikin, Sergej Molleker, Andreas Petzold, Klaus Pfeilsticker, Markus Rapp, Marc Rautenhaus, Philipp Reuter, Christian Rolf, Diana Rose, Daniel Sauer, Andreas Schäfler, Romy Schlage, Hans Schlager, Martin Schnaiter, Johannes Schneider, Peter Spichtinger, Paul Stock, Ralf Weigel, Bernadett Weinzierl, Manfred Wendisch, Frank Werner, Heini Wernli, Martin Wirth, Andreas Zahn, Helmut Ziereis, Martin Zöger*: ML-CIRRUS - The airborne experiment on natural cirrus and contrail cirrus with the new High Altitude Long range research aircraft HALO, DOI: <http://dx.doi.org/10.1175/BAMS-D-15-00213.1>, *Bulletin of the American Meteorological Society*, 2016.

*Vogel, L. A., Schneider, J., Müller-Tautges, C., Klimach, T., and Hoffmann, T.*: Aerosol Chemistry Resolved by Mass Spectrometry - Insights into Ambient New Particle Formation and Growth, *Environ.Sci.Technol.*, doi: 10.1021/acs.est.6b01673, 2016.

*Weigel, R.; P.Spichtinger, C. Mahnke, M. Klingebiel, A. Afchine, A. Petzold, M. Krämer, A.C. Costa, S. Molleker, T. Jurkat, A. Minikin, and S. Borrmann*: Thermodynamic correction of particle concentrations measured by underwing probes on fast flying aircraft; *Atmos. Meas. Tech.*, 9, 5135-5162, 2016, doi:10.5194/amt-9-5135-2016, 2016

*Wendisch, Manfred; Ulrich Pöschl; Meinrat O. Andreae; Luiz A. L. Machado; Rachel Albrecht; Hans Schlager; Daniel Rosenfeld; Scot T. Martin; Ahmed Abdelmonem; Armin Afchine; Alessandro Araujo; Paulo Artaxo; Heinfried Aufmhoff; Henrique M. J. Barbosa; Stephan Borrmann; Ramon Braga; Bernhard Buchholz; Micael Amore Cecchini; Anja Costa; Joachim Curtius; Maximilian Dollner; Marcel Dorf; Volker Dreiling; Volker Ebert; Andre Ehrlich; Florian Ewald; Gilberto Fisch; Andreas Fix; Fabian Frank; Daniel Fuetterer; Christopher Heckl; Fabian Heidelberg; Tilman Hueneke; Evelin Jaekel; Emma Jaervinen; Tina Jurkat; Sandra Kanter; Udo*

*Kaestner; Mareike Kenntner; Juergen Kesselmeier; Thomas Klimach; Matthias Knecht; Rebecca Kohl; Tobias Koelling; Martina Kraemer; Mira Krueger; Trismono Candra Krisna; Jost V. Lavric; Karla Longo; Christoph Mahnke; Antonio O. Manzi; Bernhard Mayer; Stephan Mertes; Andreas Minikin; Sergej Molleker; Steffen Muench; Bjoern Nillius; Klaus Pfeilsticker; Christopher Poehlker; Anke Roiger; Diana Rose; Dagmar Rosenow; Daniel Sauer; Martin Schnaiter; Johannes Schneider; Christiane Schulz; Rodrigo A. F. de Souza; Antonio Spanu; Paul Stock; Daniel Vila; Christiane Voigt; Adrian Walser; David Walter; Ralf Weigel; Bernadett Weinzierl; Werner, F.; Marcia A. Yamasoe; Helmut Ziereis; Tobias Zinner; Martin Zoeger: Introduction of the ACRIDICON-CHUVA campaign studying deep convective clouds and precipitation over Amazonia using the new German HALO research aircraft, DOI: <http://dx.doi.org/10.1175/BAMS-D-14-00255.1>, Bulletin of the American Meteorological Society, 2016.*

*Woiwode W., M. Höpfner, L. Bi, M. Pitts, L. Poole, H. Oelhaf, S. Molleker, S. Borrmann, M. Klingebiel, G. Belyaev, A. Ebersoldt, J.-U. Groöß, T. Gulde, M. Krämer, G. Maucher, C. Piesch, C. Rolf, S. Sartorius, and J. Orphal: Spectroscopic evidence for large aspheric  $\beta$ -NAT particles involved in denitrification in the December 2011 Arctic stratosphere at Atmos. Chem. Phys. **16**, 9505-9532, doi:10.5194/acp-16-9505-2016, 2016*

## **Publications finally released 2015 (21)**

Beals, M. J., Fugal, J. P., Shaw, R. A., Lu, J., Spuler, S. M., & Stith, J. L. (2015). Holographic measurements of inhomogeneous cloud mixing at the centimeter scale. *Science*, 350(6256), 87-90. doi:10.1126/science.aab0751, 2015

*Beekmann, M., Prévôt, A. S. H., Drewnick, F., Sciare, J., Pandis, S. N., Denier van der Gon, H. A. C., Crippa, M., Freutel, F., Poulain, L., Gherzi, V., Rodriguez, E., Beirle, S., Zotter, P., von der Weiden-Reinmüller, S.-L., Bressi, M., Fountoukis, C., Petetin, H., Szidat, S., Schneider, J., Rosso, A., El Haddad, I., Megaritis, A., Zhang, Q. J., Michoud, V., Slowik, J. G., Moukhtar, S., Kolmonen, P., Stohl, A., Eckhardt, S., Borbon, A., Gros, V., Marchand, N., Jaffrezo, J. L., Schwarzenboeck, A., Colomb, A., Wiedensohler, A., Borrmann, S., Lawrence, M., Baklanov, A., and Baltensperger, U.: In situ, satellite measurement and model evidence on the dominant regional contribution to fine particulate matter levels in the Paris megacity, Atmos. Chem. Phys., **15**, 9577-9591, doi:10.5194/acp-15-9577-2015, 2015.*

*Diehl, K., and S. K. Mitra: New particle-dependent parameterizations of heterogeneous freezing processes: sensitivity studies of convective clouds with an air parcel model, Atmos. Chem. Phys. Discuss., **15**, 16401-16460, doi:10.5194/acpd-15-16401-2015 (2015).*

*Drewnick, F. J.-M. Diesch, P. Faber and S. Borrmann: Aerosol Mass Spectrometry: Particle – Vaporizer Interactions and their Consequences for the Measurements. Atmospheric Measurement Techniques, Atmos. Meas. Tech., **8**, 3811-3830, doi:10.5194/amt-8-3811-2015, 2015*

*Faber, P., F. Drewnick, S. Borrmann: Aerosol particle and trace gas emissions from earthworks, road construction, and asphalt paving in Germany: Emission factors and influence on local air quality, Atmospheric Environment, **122**, 662-671. doi:10.1016/j.atmosenv.2015.10.036, 2015*

*Hiranuma, N.; Augustin-Bauditz, S.; Bingemer, H.; Budke, C.; Curtius, J.; Danielczok, A.; Diehl, K.; Dreischmeier, K.; Ebert, M.; Frank, F. et al.: A comprehensive laboratory study on the immersion freezing behavior of illite NX particles: a comparison of 17 ice nucleation measurement techniques. Atmospheric Chemistry and Physics **15** (5), S. 2489 - 2518 (2015)*

*Klingebiel, M., de Lozar, A., Molleker, S., Weigel, R., Roth, A., Schmidt, L., Meyer, J., Ehrlich, A., Neuber, R., Wendisch, M. and Borrmann, S.: Arctic low-level boundary layer clouds: in situ*

measurements and simulations of mono- and bimodal supercooled droplet size distributions at the top layer of liquid phase clouds, *Atmos. Chem. Phys.*, **15**, 617-631, doi:10.5194/acp-15-617-2015, (2015).

Lloyd, G., Choularton, T. W., Bower, K. N., Gallagher, M. W., Connolly, P. J., Flynn, M., Farrington, R., Crosier, J., Schlenczek, O., Fugal, J., Henneberger, J. The origins of ice crystals measured in mixed-phase clouds at the high-alpine site Jungfrauojoch. *Atmospheric Chemistry and Physics*, 15(22), 12953-12969. doi:10.5194/acp-15-12953-2015 (2015)

Mueller, S., P. Hoor, F. Berkes, H. Bozem, M. Klingebiel, H.G. J. Smit, M. Wendisch, P. Spichtinger, S. Borrmann: Troposphere-to-stratosphere transport of cirrus cloud particles in the mid-latitudes, *Geophys. Res. Lett.*, **42**, 7, 2015

Wex, H., T. Koop, C. Budke, E. Jantsch, B. Nilius, D. Rose, J. Curtius, N. Hiranuma, O. Möhler, A. Kiselev, A. Dreyer, I. Steinke, K. Diehl, Y. Boose, Z. Kanji: Inter-comparing different ice nucleation measurement devices using Snomax® as the test substance. *Atmos. Chem. Phys.*, **15**, 1463-1485, doi:10.5194/acp-15-1463-2015 (2015)

## Publications finally released 2014

Diehl, K., M. Debertshäuser, O. Eppers, H. Schmithüsen, S.K. Mitra, and S. Borrmann: Particle-surface area dependence of mineral dust in immersion freezing mode: investigations with freely suspended drops in an acoustic levitator and a vertical wind tunnel, *Atmos. Chem. Phys.*, **14**, 12343-12355, doi:10.5194/acpd-14-12343-2014 (2014).

Frey, W., S. Borrmann, F. Fierli, R. Weigel, V. Mitev, R. Matthey, F. Ravegnani, N.M. Sitnikov, A. Ulanovsky, F. Cairo: Tropical deep convective life cycle: Cb-anvil microphysics from high altitude aircraft observations, *Atmos. Chem. Phys.*, **14**, 13223-13240, (2014).

Grooß, J.-U., Engel, I., Borrmann, S., Frey, W., Günther, G., Hoyle, C. R., Kivi, R., Luo, B. P., Molleker, S., Peter, T., Pitts, M. C., Schlager, H., Stiller, G., Vömel, H., Walker, K. A., and Müller, R.: Nitric acid trihydrate nucleation and denitrification in the Arctic stratosphere, *Atmos. Chem. Phys.*, **14**, 1055-1073, doi:10.5194/acp-14-1055-2014, 2014.

Molleker, S., Borrmann, S., Schlager, H., Luo, B., Frey, W., Klingebiel, M., Weigel, R., Ebert, M., Mitev, V., Matthey, R., Woiwode, W., Oelhaf, H., Dörnbrack, A., Stratmann, G., Grooß, J.-U., Günther, G., Vogel, B., Müller, R., Krämer, M., Meyer, J., and Cairo, F.: Microphysical properties of synoptic-scale polar stratospheric clouds: in situ measurements of unexpectedly large HNO<sub>3</sub>-containing particles in the Arctic vortex, *Atmos. Chem. Phys.*, **14**, 10785–10801, doi:10.5194/acp-14-10785-2014, 2014.

Roth, A., Stratmann, F., Borrmann, S., Hoppe, P., and Herrmann, H.: 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, 2014.

Szakáll, M., S. Kessler, K. Diehl, S.K. Mitra, and S. Borrmann: A wind tunnel study of the effects of collision processes on the shape and oscillation for moderate-size raindrops. *Atmos. Res.*, **142**, 67-78 (2014).

von der Weiden-Reinmüller S.-L., F. Drewnick, M. Crippa, A. S. H. Prévôt, F. Meleux, U. Baltensperger, M. Beekmann and S. Borrmann: Application of mobile aerosol and trace gas measurements for the investigation of megacity air pollution emissions: the Paris, metropolitan area, *Atmos. Meas. Tech.*, **7**, 279–299, (2014)



von der Weiden-Reinmüller S.-L., F. Drewnick, Q. J. Zhang, F. Freutel, M. Beekmann, and S. Borrmann: Megacity emission plume characteristics in summer and winter investigated by mobile aerosol and trace gas measurements: the Paris metropolitan area, *Atmos. Chem. Phys.*, **14**, 12931–12950, 2014, doi:10.5194/acp-14-12931-2014 (2014)

Weigel, R., C. M. Volk, K. Kandler, E. Hösen, G. Günther, B. Vogel, J.-U. Grooß, S. Khaykin, G. V. Belyaev, S. Borrmann: Enhancements of the refractory submicron aerosol fraction in the Arctic polar vortex: feature or exception? *Atmos. Chem. Phys.*, **14**, doi:10.5194/acpd-14-1-2014, (2014)

Woiwode, W., J.-U. Grooß, H. Oelhaf, S. Molleker, S. Borrmann, A. Ebersoldt, W. Frey, T. Gulde, S. Khaykin, C. Piesch, J. Orphal: Denitrification by large NAT particles: The impact of reduced settling velocities and hints on particle characteristics, *Atmos. Chem. Phys.*, (2014)

## Publications finally released 2013

Crippa, M., P. F. DeCarlo, J.G. Slowik, C. Mohr, M.F. Heringa, R. Chirico, L. Poulain, F. Freutel, J. Sciare, J. Cozic, C.F. Di Marco, M. Elsasser, N. José, N. Marchand, E. Abidi, A. Wiedensohler, F. Drewnick, J. Schneider, S. Borrmann, E. Nemitz, R. Zimmermann, J.-L. Jaffrezo, A.S.H. Prévôt, and U. Baltensperger: Wintertime aerosol chemical composition and source apportionment of the organic fraction in the metropolitan area of Paris, *Atmos. Chem. Phys.*, **12**, 22535-22586, doi:10.5194/acpd-12-22535-2012, (2013)

Crumeyrolle, S., A. Schwarzenboeck, J. C. Roger, K. Sellegri, J. F. Burkhardt, A. Stohl, L. Gomes, B. Quennehen, G. Roberts, R. Weigel, P. Villani, J. M. Pichon, T. Bourriane, and P. Laj: Overview of aerosol properties associated with air masses sampled by the ATR-42 during the EUCAARI campaign (2008); *Atmos. Chem. Phys.*, **13**, 4877-4893, (2013)

Diesch, J.-M., F. Drewnick, T. Klimach, and S. Borrmann: Investigation of gaseous and particulate emissions from various marine vessel types measured on the banks of the Elbe in Northern Germany. *Atmos. Chem. and Phys.* **13**, 3603-3618, (2013)

Faber, P., F. Drewnick, P. R. Veres, J. Williams and S. Borrmann: Anthropogenic sources of aerosol particles in a football stadium: Real-time characterization of emissions from cigarette smoking, cooking, hand flares, and color smoke bombs by high-resolution aerosol mass spectrometry, *Atmos. Env.* **77**, 1043e1051 (2013)

Freutel, F., J. Schneider, F. Drewnick, S.-L. von der Weiden-Reinmüller, M. Crippa, A.S.H. Prévôt, U. Baltensperger, L. Poulain, A. Wiedensohler, J. Sciare, R. Sarda-Estève, J. F. Burkhardt, S. Eckhardt, A. Stohl, V. Gros, A. Colomb, V. Michoud, J.F. Doussin, Borbon A., M. Haeffelin, Y. Morille, M. Beekmann and S. Borrmann: Aerosol particle measurements at three stationary sites in the megacity of Paris during summer 2009: meteorology and air mass origin dominate aerosol particle composition and size distribution, *Atmos. Chem. Phys.*, **12**, 22199-22268, doi:10.5194/acpd-12-22199-2012, (2013)

Freutel, F., F. Drewnick, J. Schneider, T. Klimach and S. Borrmann: Quantitative single-particle analysis with the Aerodyne aerosol mass spectrometer: development of a new classification algorithm and its application to field data, *Atmos. Meas. Tech.*, **6**, 3131–3145, (2013)

Henneberger, J., Fugal, J. P., Stetzer, O., & Lohmann, U.: HOLIMO II: a digital holographic instrument for ground-based in situ observations of microphysical properties of mixed-phase clouds. *Atmospheric Measurement Techniques*, **6**(11), 2975-2987. doi:10.5194/amt-6-2975-2013

Müller, S, M. Szakall, S K. Mitra, K. Diehl, K; S. Borrmann: Shapes and oscillations of raindrops with reduced surface tensions: Measurements at the Mainz vertical wind tunnel, Atmospheric Research, **19**, 38-45, DOI: 10.1016/j.atmosres.2011.05.008, (2013)

von Blohn, N., K. Diehl, A. Nölscher, A. Jost, S.K. Mitra, and S. Borrmann: The retention of ammonia and sulfur dioxide during riming of ice particles and dendritic snowflakes: laboratory experiments in the Mainz vertical wind tunnel, J. Atmos. Chem., **70**, 131-150 (2013).

von Hobe, M., S. Bekki, S. Borrmann, F. Cairo, F. D'Amato, G. Di Donfrancesco, A. Dörnbrack, A. Ebersoldt, M. Ebert, C. Emde, I. Engel, M. Ern, W. Frey, S. Genco, S. Griessbach, J.-U. Groöß, T. Gulde, G. Günther, E. Hösen, L. Hoffmann, V. Homonnai, C. R. Hoyle, I. S. A. Isaksen, D. R. Jackson, I. M. János, R. L. Jones, K. Kandler, C. Kalicinsky, A. Keil, S. M. Khaykin, F. Khosrawi, R. Kivi, J. Kuttippurath, J. C. Laube, F. Lefèvre, R. Lehmann, S. Ludmann, B. P. Luo, M. Marchand, J. Meyer, V. Mitev, S. Molleker, R. Müller, H. Oelhaf, F. Olschewski, Y. Orsolini, T. Peter, K. Pfeilsticker, C. Piesch, M. C. Pitts, L. R. Poole, F. D. Pope, F. Ravegnani, M. Rex, M. Riese, T. Röckmann, B. Rognerud, A. Roiger, C. Rolf, M. L. Santee, M. Scheibe, C. Schiller, H. Schlager, M. Siciliani de Cumis, N. Sitnikov, O. A. Søvde, R. Spang, N. Spelten, F. Stordal, O. Sumińska-Ebersoldt, A. Ulanovski, J. Ungermann, S. Viciani, C. M. Volk, M. vom Scheidt, P. von der Gathen, K. Walker, T. Wegner, R. Weigel, S. Weinbruch, G. Wetzel, F. G. Wienhold, I. Wohltmann, W. Woiwode, I. A. K. Young, V. Yushkov, B. Zobrist and F. Stroh: Reconciliation of essential process parameters for an enhanced predictability of Arctic stratospheric ozone loss and its climate interactions (RECONCILE): activities and results; Atmos. Chem. Phys., **13**, 9233-9268, (2013)

## Publications finally released 2012

Baumgardner, D, L. Avallone, A. Bansemer, S. Borrmann, P. Brown, U. Bundke, U, P. Y. Chuang, D. Cziczo, P. Field, M. Gallagher, J.-F. Gayet, A. Heymsfield, A. Korolev,; M. Kramer, G. McFarquhar, S. Mertes, O. Mohler, S. Lance, P. Lawson, M.D. Petters, K. Pratt, G. Roberts, D. Rogers, O. Stetzer, J. Stith, W. Strapp, C. Twohy, M. Wendisch: In Situ, Airborne Instrumentation Addressing and Solving Measurement Problems in Ice Clouds, Bulletin of the American Meteorological Society, **93**, E529-E534, DOI: 10.1175/BAMS-D-11-00123.1 (2012)

Diesch J.-M., F. Drewnick, T. Klimach, S. Borrmann: Investigation of gaseous and particulate emissions from various marine vessel types measured on the banks of the Elbe in Northern Germany, Atmos. Chem. Phys., **12**, 22269-22307, (2012)

Diesch J.-M., F. Drewnick, S. R. Zorn, S.-L. von der Weiden-Reinmueller, M. Martinez and S. Borrmann: Variability of aerosol, gaseous pollutants and meteorological characteristics associated with changes in air mass origin at the SW Atlantic coast of Iberia, Atmos. Chem. Phys., **12**, 3761–3782, doi:10.5194/acp-12-3761-2012, (2012)

Drewnick F., T. Böttger, S.-L. von der Weiden-Reinmüller, S. R. Zorn, T. Klimach, J. Schneider and S. Borrmann: Design of a mobile aerosol research laboratory and data processing tools for effective stationary and mobile field measurements, Atmos. Meas. Tech., **5**, 1443–1457, 2012, www.atmos-meas-tech.net/5/1443/2012/, doi:10.5194/amt-5-1443-2012, (2012)

Faber, P; F. Drewnick, J. Piske, T. Kurz, S. Borrmann: Effects of atmospheric aerosol on the performance of environmentally sustainable passive air-breathing PEM fuel cells, International Journal of Hydrogen Energy, **37**, 17203-17208, DOI: 10.1016/j.ijhydene.2012.08.132, (2012)

Flores, J. M., R. Z. Bar-Or, N. Bluvshstein, A. Abo-Riziq, A. Kostinski, S. Borrmann, I. Koren, Y. Rudich: Absorbing aerosols at high relative humidity: linking hygroscopic growth to optical properties, *Atmos. Chem. and Phys.* **12**, 5511-5521, DOI: 10.5194/acp-12-5511-2012, (2012)

Ghaffarpasand O., F. Drewnick, F. Hosseiniebalam, S. Gallavardin, J. Fachinger, S. Hassanzadeh, S. Borrmann: Penetration efficiency of nanometer-sized aerosol particles in tubes under turbulent flow conditions, *J. of Aerosol Sci.*, **50**, 11-25, (2012)

Harris, E., B. Sinha, S. Foley, J. Crowley, S. Borrmann, and P. Hoppe: Sulfur isotope fractionation during heterogeneous oxidation of SO<sub>2</sub> by mineral dust. *Atmos. Chem. Phys.* **12**, 4867-4884, (2012)

Kunkel, D, M.G. Lawrence, H. Tost, A. Kerckweg, P. Jockel, S. Borrmann: Urban emission hot spots as sources for remote aerosol deposition, *Geophys. Res. Lett.*, **39**, DOI: 10.1029/2011GL049634, (2012)

Sumińska-Ebersoldt, O., R. Lehmann, T. Wegner, J.-U. Grooß, E. Hösen, R. Weigel, C. M. Volk, S. Borrmann, M. Rex, F. Stroh and M. von Hobe: ClOOCl photolysis at high solar zenith angles: analysis of the RECONCILE self-match flight. *Atmos. Chem. and Phys.* **11**, 18901-18926, doi: 10.5194/acpd-11-18901-2011 (2012).

## Publications finally released 2011

Adler, G., J. M. Flores, H. E. Levy, A. Abo Rizq, S. Borrmann and Y. Rudich: Chemical, physical, and optical evolution of biomass burning aerosols over the Eastern Mediterranean. *Atmos. Chem. and Phys.* **11**, 1491-1503 (2011)

Brands, M., M. Kamphus, T. Böttger, J. Schneider, F. Drewnick, A. Roth, J. Curtius, C. Voigt, A. Borbon, M. Beekmann, A. Bourdon, T. Perrin and S. Borrmann: Characterization of a Newly Developed Aircraft-Based Laser Ablation Aerosol Mass Spectrometer (ALABAMA) and First Field Deployment in Urban Pollution Plumes over Paris During MEGAPOLI 2009. *Aerosol Science and Technology* **45**, 46-64, doi: 10.1080/02786826.2010.517813 (2011)

Cairo, F., G. Di Donfrancesco, M. Snels, F. Fierli, M. Viterbini, W. Frey and S. Borrmann: A comparison of light backscattering and particle size distribution measurements in tropical cirrus clouds. *Atmospheric Measurement Techniques* **4**, 557-570 (2011)

Crowley, J. N., J. Thieser, M. J. Tang, G. Schuster, H. Bozem, Z. H. Beygi, H. Fischer, J.-M. Diesch, F. Drewnick, S. Borrmann, W. Song, N. Yassaa, J. Williams, D. Pöhler, U. Platt and J. Enzmann, F., M.M. Miedaner, M. Kersten, N. v. Blohn, K. Diehl, S. Borrmann, M. Stampanoni, M. Ammann, and T. Huthwelker: 3D imaging and quantification of graupel porosity by synchrotron-based micro-tomography. *Atmos. Meas. Tech.*, **4**, 2225-2234, doi:10.5194/amt-4-1-2011 (2011).

Diehl, K., S.K. Mitra, M. Szakáll, N. v. Blohn, S. Borrmann, and H.R. Pruppacher: The Mainz vertical wind tunnel facility: A review of 25 years of laboratory experiments on cloud physics and chemistry. In: J.D. Pereira (Ed.), *Wind tunnels: Aerodynamics, models, and experiments*. Nova Science Publishers, Inc., Chapter 2, (2011)

Frey, W., S. Borrmann, D. Kunkel, R. Weigel, M. de Reus, H. Schlager, A. Roiger, C. Voigt, P. Hoor, J. Curtius, M. Krämer, C. Schiller, C. M. Volk, C. D. Homan, F. Fierli, G. Di Donfrancesco, A. Ulanovsky, F. Ravegnani, N. M. Sitnikov, S. Viciani, F. D'Amato, G. N. Shur, G. V. Belyaev, K. S. Law and F. Cairo: In situ measurements of tropical cloud properties in the West African Monsoon: upper tropospheric ice clouds, Mesoscale Convective System outflow,

and subvisual cirrus. *Atmos. Chem. and Phys.* **11**, 5569-5590, doi: 10.5194/acp-11-5569-2011 (2011).

Müller, S., M. Szakall, S. K. Mitra, K. Diehl and S. Borrmann: Shapes and oscillations of raindrops with reduced surface tensions: Measurements at the Mainz vertical wind tunnel. *Atmospheric Research*, doi: 10.1016/j.atmosres.2011.05.008 (2011)

Schneider, J., F. Freutel, S. R. Zorn, Q. Chen, D. K. Farmer, J. L. Jimenez, S. T. Martin, P. Artaxo, A. Wiedensohler and S. Borrmann: Mass-spectrometric identification of primary biological particle markers: indication for low abundance of primary biological material in the pristine submicron aerosol of Amazonia. *Atmos. Chem. and Phys.* **11**, 10097-10123, doi:10.5194/acp-11-10097-2011 (2011)

Spuler, S. M. and J. P. Fugal: Design of an in-line, digital holographic imaging system for airborne measurement of clouds. *Applied Optics* **50**, 1-9 (2011)

Weigel, R., S. Borrmann, J. Kazil, A. Minikin, A. Stohl, D. Kunkel, D., M. de Reus, W. Frey, E. R. Lovejoy, C. M. Volk, S. Viciani, F. D'Amato, F. Cairo, K. S. Law and J. Curtius: New particle formation in the tropical upper troposphere: In-situ observations of new particle formation in the tropical upper troposphere: the role of clouds and the nucleation mechanism. *Atmos. Chem. and Phys.* **11**, 9983-10010 (2011)

von Blohn, N., K. Diehl, S. K. Mitra and S. Borrmann: Wind tunnel experiments on the retention of trace gases during riming: Nitric acid, hydrochloric acid and hydrogen peroxide. *Atmos. Chem. and Phys.*, **11**, 11569-11579, (2011)

von Hobe, M., J.-U. Groß, G. Günther, P. Konopka, I. Gensch, M. Krämer, N. Spelten, A. Afchine, C. Schiller, A. Ulanovsky, N. Sitnikov, G. Shur, V. Yushkov, F. Ravegnani, F. Cairo, A. Roiger, C. Voigt, H. Schlager, R. Weigel, W. Frey, S. Borrmann, R. Müller and F. Stroh: Evidence for heterogeneous chlorine activation in the tropical UTLS. *Atmos. Chem. and Phys.* **11**, 241-256, doi: 10.5194/acp-11-241-2011, (2011)

## Publications finally released 2010

Enzmann, F., M. M. Miedaner, M. Kersten, N. von Blohn, S. K. Mitra, S. Borrmann, M. Stampanoni, M. Ammann and T. Huthwelker: **Pore structure 3-D imaging by synchrotron micro-tomography of graupel grains.** *Atmospheric Measurement Techniques ...ions* **3**, 4761-4789 (2010)

Martin, S.T., M. O. Andreae, D. Althausen, P. Artaxo, H. Baars, S. Borrmann, Q. Chen, D. K. Farmer, A. Guenther, S. S. Gunthe, J. L. Jimenez, T. Karl, K. Longo, A. Manzi, T. Müller, T. Pauliquevis, M. D. Petters, A. J. Prenni, U. Pöschl, L. V. Rizzo, J. Schneider, J. N. Smith, E. Swietlicki, J. Tota, J. Wang, A. Wiedensohler, and S. R. Zorn, **An overview of the Amazonian Aerosol Characterization Experiment** *Atmos. Chem. Phys.*, **10**, 11415-11438, 2010.

Diehl, K., and S. Wurzler, 2010: **Air parcel model simulations of a convective cloud: Bacteria acting as immersion ice nuclei.** *Atmos. Environ.*, **44**, 4622-4628.

Szakáll, M., S.K. Mitra, K. Diehl, and S. Borrmann, 2010: **Shapes and oscillations of falling raindrops - A review.** *Atm. Res.*, **97**, 416-425.

Pöschl, U., S.T. Martin, B. Sinha, Q. Chen, S.S. Gunthe, J.A. Huffman, S. Borrmann, D.K. Farmer, R.M. Garland, G. Helas, J.L. Jimenez, S.M. King, A. Manzi, E. Mikhailov, T. Pauliquevis, M.D. Petters, A.J. Prenni, P. Roldin, D. Rose, J. Schneider, H. Su, S.R. Zorn,

P. Artaxo, M. O. Andreae, **Rainforest aerosols as biogenic nuclei of clouds and precipitation in the Amazon**, *Science*, 2010, 329, 1513-1516.

Voigt, C., U. Schumann, T. Jurkat, D. Schäuble, H. Schlager, A. Petzold, J.-F. Gayet, M. Krämer, J. Schneider, S. Borrmann, J. Schmale, P. Jessberger, T. Hamburger, M. Lichtenstern, M. Scheibe, C. Gourbeyre, J. Meyer, M. Kübbeler, W. Frey, H. Kalesse, T. Butler, M. G. Lawrence, F. Holzäpfel, F. Arnold, M. Wendisch, A. Döpelheuer, K. Gottschaldt, R. Baumann, M. Zöger, I. Sölch, M. Rautenhaus, and A. Dörnbrack, **In-situ observations of young contrails – overview and selected results from the CONCERT campaign**, *Atmos. Chem. Phys.*, 10, 9039-9056, 2010, doi:10.5194/acp-10-9039-2010

J. Schmale, J. Schneider, T. Jurkat, C. Voigt, H. Kalesse, M. Rautenhaus, M. Lichtenstern, H. Schlager, G. Ancellet, F. Arnold, M. Gerding, I. Mattis, M. Wendisch, and S. Borrmann, **Aerosol layers from the 2008 eruptions of Mount Okmok and Mount Kasatochi: In situ upper troposphere and lower stratosphere measurements of sulfate and organics over Europe**, *Journal of Geophysical Research*, Vol. 115, D00L07, doi:10.1029/2009JD013628, 2010

Kamphus, M., Ettner-Mahl, M., Drewnick, F., Keller, L., Cziczo, D. J., Mertes, S., Borrmann, S., Curtius, J., **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.*, accepted August 2010.

Dusek, U, G. P. Frank, J. Curtius, F. Drewnick, J. Schneider, A. Kürten, D. Rose, M. O. Andreae, S. Borrmann, and U. Pöschl: **Enhanced organic mass fraction and decreased hygroscopicity of cloud condensation nuclei (CCN) during new particle formation events**, *Geophys. Res. Lett.*, 37, doi:10.1029/2009GL040930, 2010

F. Cairo et al.: **An introduction to the SCOUT-AMMA stratospheric aircraft, balloons and sondes campaign in West Africa, August 2006: rationale and roadmap** *Atmos. Chem. Phys.*, 10, 2237-2256, 2010

## Publications finally released 2009

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

D. Schäuble, C. Voigt, B. Kärcher, P. Stock, H. Schlager, M. Krämer, C. Schiller, R. Bauer, N. Spelten, M. de Reus, M. Szakáll, S. Borrmann, U. Weers and Th. Peter: **Airborne measurements of the nitric acid partitioning in persistent contrails**, *Atmos. Chem. Phys.* 9, 8189-8197, 2009

S.-L. von der Weiden, F. Drewnick and S. Borrmann: **Particle Loss Calculator - a new software tool for the assessment of the performance of aerosol inlet systems** *Atmos. Meas. Tech.*, 2, 479-494, 2009

Chen, Q., D.K. Farmer, J. Schneider, S.R. Zorn, C.L. Heald, T.G. Karl, A. Guenther, J.D. Allan, N. Robinson, H. Coe, J.R. Kimmel, T. Pauliquevis, S. Borrmann, U. Pöschl, M.O. Andreae, P. Artaxo, J.L. Jimenez and S.T. Martin: **Mass Spectral Characterization of Submicron Biogenic Organic Particles in the Amazon Basin**, *Geophys. Res. Lett.* 36, L20806, doi: 10.1029/2009GL039880, 2009

Flores, J. M., M. Trainic, S. Borrmann and Y. Rudich: **Effective broadband refractive index retrieval by a white light optical particle counter**, *Phys. Chem. Chem. Phys.*, **11**, 7943-7950, 2009

Raupach, S. M. F.: **Note: Observation of interference patterns in reconstructed digital holograms of atmospheric ice crystals**, *J. Appl. Opt. Technol.*, *accepted for publication*, 2009

von Blohn, N., K. Diehl, S. K. Mitra and S. Borrmann: **Riming of graupel: wind tunnel investigations of collection kernels and growths regimes**, *J. Atmos. Sci.*, **66**, 2359-2366, 2009

Diehl, K., M. Ettner-Mahl, A. Hannemann and S. K. Mitra: **Homogeneous freezing of single sulfuric and nitric acid solution drops levitated in an acoustic trap**, *Atmospheric Research*, **94**, 356-361, 2009

Thurai, M., M. Szakáll, V. N. Bringi, K. V. Beard, S. K. Mitra and S. Borrmann: **Drop shapes and axis ratio distributions: Comparison between 2-D video disdrometer and wind-tunnel measurements**, *J. Tech. A*, **26**(7), 1447-1452, 2009

F. Drewnick, S. S. Hings, M. R. Alfarra, A. S. H. Prevot and S. Borrmann: **Aerosol quantification with the Aerodyne Aerosol Mass Spectrometer: detection limits and ionizer background effects**, *Atmos. Meas. Tech*, **2**, 33-46, 2009

Szakáll, M., K. Diehl, S. K. Mitra and S. Borrmann: **A wind tunnel study on the shape, oscillation and internal circulation of large raindrops with sizes between 2.5 and 7.5 mm**, *J. Atmos. Sci.* **66** (3), 755-765, 2009

Raupach, S. M. F.: **Stereoscopic 3D visualization of particle fields reconstructed from digital inline holograms**, *Optik* in press, 2009

Raupach, S. M. F.: **Cascaded adaptive-mask algorithm for twin-image removal and its application to digital holograms of ice crystals**, *Appl. Optics* **48** (2), 287-301, 2009

Frey, W., H. Eichler, M. de Reus, R. Maser, M. Wendisch and S. Borrmann: **A new airborne tandem platform for collocated measurements of microphysical cloud and radiation properties**, *Atmos. Meas. Tech.*, **2**, 147-158, 2009

## **Publications finally released 2008**

Diehl, K., G. Huber, S. K. Mitra and M. Wendisch: **Laboratory studies of scattering properties of polluted cloud droplets: Implications for FSSP measurements** *J. Atmos. Ocean. Technol.*, **25**, 1894-1898, 2008

Kamphus, M., M. Ettner-Mahl, M. Brands, J. Curtius, F. Drewnick and S. Borrmann: **Comparison of two aerodynamic lenses as an inlet for a single particle laser ablation mass spectrometer**, *Aerosol Sci. Technol.*, **42**, 970-980, 2008

C. Voigt, H. Schlager, A. Roiger, A. Stenke, M. de Reaus, S. Borrmann, E. Jensen, C. Schiller, P. Konopka and N. Sitnikov: **Detection of reactive nitrogen containing particles in the tropopause region - evidence for a tropical nitric acid trihydrate (NAT) belt** *Atmos. Chem. Phys.*, **8**, 7421-7430, 2008

A. M. L. Ekman, R. Krejci, A. Engström, J. Ström, M. de Reus, J. Williams and M. O. Andreae: **Do organics contribute to small particle formation in the amazonian upper troposphere?** *Geophys. Res. Letters*, **35**(46), L17810, doi: 10.1029/2008GL034970, 2008

Zorn, S. R., F. Drewnick, M. Schott, T. Hoffmann, S. Borrmann: **Characterization of the South Atlantic marine boundary layer aerosol using an Aerodyne Aerosol Mass Spectrometer**, *Atmos. Chem. Phys.* **8**, 4711-4728, 2008

Sipilä, M., K. Lehtipalo, M. Kulmala, T. Ptaja, H. Junninen, P. P. Aalto, H. E. Manninen, E.-M. Kyrö, E. Asmi, I. Riipinen, J. Curtius, A. Kürten, S. Borrmann and C. D. O'Dowd: **Applicability of condensation particle counters to measure atmospheric clusters** *Atmos. Chem. Phys.*, **8**, 4049-4060, 2008

Corti, T., B. P. Luo, M. de Reus, D. Brunner, F. Cairo, M. J. Mahoney, G. Martucci, R. Matthey, V. Mitev, F. H. dos Santos, C. Schiller, G. Schur, N. M. Sitnikov, N. Spelten, H. J. Vössing, S. Borrmann and T. Peter: **Unprecedented evidence for deep convection hydrating the tropical stratosphere**, *Geophys. Res. Letters*, **35**, L10810, doi: 10.1029/2008GL033641, 2008

Schneider, J., U. Kirchner, S. Borrmann, R. Vogt, V. Scheer: **In situ measurements of particle number concentration, chemically resolved size distributions and black carbon content of traffic-related emissions on German motorways, rural roads and in city traffic**, *Atm. Env.*, **42**, 4257-4268, 2008

Hock, N., J. Schneider, S. Borrmann, A. Römpp, G. Moortgat, T. Franze, C. Schauer, U. Pöschl, C. Plass-Dülmer and H. Berresheim: **Rural continental aerosol properties and processes observed during the Hohenpeissenberg Aerosol Characterization Experiment (HAZE2002)**, *Atmos. Chem. Phys.*, **8**, 603–623, 2008

J. D. Allan, D. Baumgardner, G. B. Raga, O. L. Mayol-Bracero, F. Morales-Garcia, F. Garcia-Garcia, G. Montero-Martinez, S. Borrmann, J. Schneider, S. Mertes, S. Walter, M. Gysel, U. Dusek, G. P. Frank, M. Kraemer: **Clouds and Aerosols in Puerto Rico – a new evaluation**, *Atmos. Chem. Phys.*, **8** (5), 1293-1309, 2008

Borrmann, S.: **Die Klimaforschung als experimentelle Wissenschaft: „Ein Werkstattbericht“ in Wegner (Hrsgb)**, *Naturwissenschaftlich fundierte Ökologie: Wissen, Verantwortung, Aufgaben*, GÖRRES Gesellschaft „Grenzfragen“, Verlag Karl Alber, 41-78, 2008

## Publications finally released 2007

Zhang, Q., J. L. Jimenez, M. R. Canagaratna, J. D. Allan, H. Coe, I. Ulbrich, M. R. Alfarra, A. Takami, A. M. Middlebrook, Y. L. Sun, K. Dzepina, E. Dunlea, K. Docherty, P. F. DeCarlo, D. Salcedo, T. Onasch, J. T. Jayne, T. Miyoshi, A. Shimono, S. Hatakeyama, N. Takegawa, Y. Kondo, J. Schneider, F. Drewnick, S. Borrmann, S. Weimer, K. Demerjian, P. Williams, K. Bower, R. Bahreini, L. Cottrell, R. J. Griffin, J. Rautiainen, J. Y. Sun, Y. M. Zhang, and D. R. Worksnop: **Ubiquity and dominance of oxygenated species in organic aerosols in anthropogenically-influenced Northern Hemisphere midlatitudes**, *Geophysical Research Letters*, **34**, No. 13, L13801, doi: 10.1029/2007GL029979, 2007

Targino, A. C., K. J. Noone, F. Drewnick, J. Schneider, R. Krejci, G. Olivares, S. Hings and S. Borrmann: **Microphysical and chemical characteristics of cloud droplet residuals and interstitial particles in continental stratocumulus clouds**, *Atmospheric Research*, **86**, 225-240, 2007

Hings, S. S., S. Walter, J. Schneider, S. Borrmann, and F. Drewnick: **Comparison of a Quadrupole and a Time-of-Flight Aerosol Mass Spectrometer during the Feldberg Aerosol Characterization Experiment 2004**, *Aerosol Science and Technology*, **41**, 679-691, 2007

Drewnick, F., J. Schneider, S. S. Hings, N. Hock, K. Noone, A. Targino, S. Weimer and S. Borrmann: **Measurement of ambient, interstitial, and residual aerosol particles on a mountain-top site in Central Sweden using an aerosol mass spectrometer and a CVI**, *J. Atmos. Chem.*, **56**, 1-20, 2007

Chaboureau, J.-P., J.-P. Cammas, J. Duron, P.J. Macart, N.M. Sitnikov and H.J. Vössing: **A numerical study of tropical cross-tropopause transport by convective overshoots** *Atmos. Chem. Phys.*, **7**, 1731-1740, 2007

Voigt, C. B. Kärcher, H. Schlager, C. Schiller, M. Krämer, M. de Reus, H. Vössing, S. Borrmann and V. Mitev: **In-situ observations and modelling of small nitric acid-containing crystals**, *Atmos. Chem. Phys.*, **7**, 3373-3383, 2007

Otto, S., M. de Reus, T. Trautmann, A. Thomas, M. Wendisch and S. Borrmann: **Atmospheric radiative effects of an in-situ measured Saharan dust plume and the role of large particles**, *Atmos. Chem. Phys.*, **7**, 4887-4903, 2007

N. Riemer, A.S. Wexler, K. Diehl: **Droplet Growth by Gravitational Coagulation Enhanced by Turbulence - Comparison of Theory and Measurements**, *J. Geophys. Res.*, **112**, D07204, doi:10.1029/2006JD007702, 2007

O. Vohl, S.K. Mitra, S. Wurzler, K. Diehl, H.R. Pruppacher: **Collision efficiencies empirically determined from laboratory investigations of collisional growth of small raindrops in a laminar flow field**, *Atmospheric Research*, **85**, 120–125, 2007

Ines Hoog, Subir K. Mitra, Karoline Diehl, Stephan Borrmann: **Laboratory studies about the interaction of ammonia with ice crystals at temperatures between 0 and -20°C**, *J. Atmos. Chem.*, **57**, 73–84, 2007

K. Diehl, M. Simmel, S. Wurzler: **Effects of drop freezing on microphysics of an ascending cloud parcel under biomass burning conditions**, *Atmospheric Environment*, **41**, 303–314, 2007

Elke Fries, Elena Starokozheva, Werner Haunold, Wolfgang Jaeschke, Subir K. Mitra, Stephan Borrmann, Martin U. Schmidt: **Laboratory studies on the uptake of aromatic hydrocarbons by ice crystals during vapor depositional crystal growth**, *Atmospheric Environment*, **41**, 6156–6166, 2007

Kürten, A., J. Curtius, F. Helleis, E. R. Lovejoy, and S. Borrmann: **Development and Characterization of an Ion Trap Mass Spectrometer for the On-line Analysis of Atmospheric Aerosol Particles**, *International Journal of Mass Spectrometry*, **265**, 30-39, 2007

## Publications finally released 2006

Curtius, J.: **Nucleation of atmospheric aerosol particles**, *C. R. Physique*, **7**, 1027-1045, 2006

F. Drewnick, S. Hings, J. Curtius, G. Eerdekens, J. Williams: **Measurement of fine particulate and gas-phase species during the New Year's fireworks 2005 in Mainz, Germany**, *Atmospheric Environment*, **40**, 4316–4327, 2006

Schneider, J., S. Hings, N. Hock, S. Weimer, S. Borrmann, M. Fiebig, A. Petzold, R. Busen, and B. Kärcher: **Aircraft-based operation of an aerosol mass spectrometer: Measurements of tropospheric aerosol composition**, *Journal of Aerosol Science*, **37**, 839-857, 2006



Schneider, J., S. Weimer, F. Drewnick, S. Borrmann, G. Helas, P. Gwaze, O. Schmid, M. O. Andreae and U. Kirchner: **Mass spectrometric analysis and aerodynamic properties of various types of combustion-related aerosol particles**, *International Journal of Mass Spectrometry*, **258**, 37-49, 2006

Raupach, S.M.F, H.J. Vössing, J. Curtius and S. Borrmann: **Digital crossed-beam holography for in situ imaging of atmospheric ice particles**, *J. Opt. A.:Pure Appl. Opt.*, **8**, 796-806, 2006

Elke Fries, Werner Haunold, Wolfgang Jaeschke, Ines Hoog, Subir K. Mitra, Stephan Borrmann: **Uptake of gaseous aromatic hydrocarbons by non-growing ice crystals**, *Atmospheric Environment*, **40**, 5476–5485, 2006

U. Lohmann, K. Diehl: **Sensitivity Studies of the Importance of Dust Ice Nuclei for the Indirect Aerosol Effect on Stratiform Mixed-Phase Clouds**, *J. Atmos. Sci.*, **63**, 968-982, 2006

K. Diehl, M. Simmel, S. Wurzler: **Numerical simulations on the impact of aerosol properties and freezing modes on the glaciation, microphysics, and dynamics of convective clouds**, *J. Geophys. Res.*, **111**, D07202, doi:10.1029/2005JD005884, 2006

Dusek, U., G. P. Frank, L. Hildebrandt, J. Curtius, J. Schneider, S. Walter, D. Chand, F. Drewnick, S. Hings, D. Jung, S. Borrmann and M. O. Andreae: **Size matters more than chemistry for cloud nucleating ability of aerosol particles**, *Science*, **312**, 1375-1378, 2006

## Publications finally released 2005

Drewnick, F., S. S. Hings, P. DeCarlo, J. T. Jayne, M. Gonin, K. Fuhrer, S. Weimer, J. L. Jimenez, K. L. Demerjian, S. Borrmann, and D. R. Worsnop: **A New Time-of-Flight Aerosol Mass Spectrometer (TOF-AMS) – Instrument description and first field deployment**, *Aerosol Science and Technology*, **39**, 637-658, 2005

Posselt, R., S. Wurzler, and K. Diehl: **Numerical sensitivity studies of axis ratio changes of colliding ice crystals**. *Atm. Res.*, **73**, 225-242, 2005

Simmel, M., K. Diehl, and S. Wurzler: **Numerical simulation of the microphysics of an orographic cloud: Comparison with measurements and sensitivity studies**. *Atmos. Environ.*, **39**, 4365-4373, 2005

Schneider, J., B. N. Hock, S. Weimer, S. Borrmann, U. Kirchner, R. Vogt, and V. Scheer: **Nucleation particles in diesel exhaust: Composition inferred from in-situ mass spectrometric analysis**, *Environ. Sci. Technol.*, **39**, 6153-6161, 2005

Scheer, V., U. Kirchner, R. Casati, R. Vogt, S. Philippin, A. Wiedensohler, N. Hock, J. Schneider, S. Weimer, and S. Borrmann: **Composition of semi-volatile particles from diesel exhaust**, *SAE Paper*, SAE World Congress, Detroit, Michigan, 2005-01-0197, 2005

Nadine von Blohn, Subir K. Mitra, Karoline Diehl, Stephan Borrmann: **The ice nucleating ability of pollen. Part III: New laboratory studies in immersion and contact freezing modes including more pollen types**, *atmospheric Research*, **78**, 182–189, 2005

Curtius, J., R. Weigel, H.J. Vössing, H. Wernli, A. Werner, C.-M. Volk, P. Konopka, M. Krebsbach, C. Schiller, A. Roiger, H. Schlager, V. Dreiling, and S. Borrmann: **Observations of meteoric material and implications for aerosol nucleation in the winter Arctic lower**

**stratosphere derived from in situ particle measurements**, *Atmos. Chem. Phys.*, **5**, 3053-3069, 2005

de Reus, M., H. Fischer, R. Sander, V. Gros, R. Kormann, G. Salisbury, R. van Dingenen, J. Williams, M. Zöllner and J. Lelieveld: **Observations and model calculations of trace gas scavenging in a dense Saharan dust plume during MINATROC**, *Atmos. Chem. Phys.*, **5**, 1787-1803, 2005

Voigt, C., H. Schlager, B.P. Luo, A.D. Dornbrack, A. Roiger, P. Stock, J. Curtius, H.J. Vössing, S. Borrmann, S. Davies, P. Konopka, C. Schiller, G. Shur and T. Peter: **Nitric Acid Trihydrate (NAT) formation at low NAT supersaturation in Polar Stratospheric Clouds (PSCs)**, *Atm. Chem. Phys.*, **5**, 1371-1380, 2005

Borrmann, S.: **High altitude atmospheric observation**, In: *McGraw-Hill 2005 Yearbook of Science & Technology*. McGraw-Hill, New York, pp. 137-139, 2005

Kürten, A., J. Curtius, B. Nillius, S. Borrmann: **Characterization of an Automated, Water-based Expansion Condensation Nucleus Counter for Ultrafine Particles** *Aerosol Science and Technology*, **39**, 1174-1183, doi: 10.1080/02786820500431355, 2005

## Publications finally released 2004

Henning, S., S. Bojinski, K. Diehl, S. Ghan, S. Nyeki, E. Weingartner, S. Wurzler, and U. Baltensberger: **Aerosol partitioning in natural mixed clouds**. *Geophys. Res. Lett.*, **31**, L06101, doi:10.1029/2003GL019025, 2004

Stratmann, F., A. Kiselev, S. Wurzler, M. Wendisch, J. Heintzenberg, K. Diehl, H. Wex, and S. Schmidt: **Laboratory studies and numerical simulations of cloud droplet formation under realistic super-saturation conditions**. *J. Atmos. Ocean. Technol.*, **21**, 876-887, 2004

Schneider, J., S. Borrmann, A. G. Wollny, M. Bläsner, N. Mihalopoulos, K. Oikonomou, J. Sciare, A. Teller, Z. Levin, D. R. Worsnop: **Online mass spectrometric aerosol measurements during the MINOS campaign (Crete, August 2001)** *Atmos. Chem. Phys.*, **4**, 65-80, 2004

M. Ettner, S. K. Mitra, and S. Borrmann: **Heterogeneous freezing of single sulfuric acid solution droplets: laboratory experiments utilizing an acoustic levitator**, *Atmos. Chem. Phys.*, **4**, 1925–1932, 2004

K. Diehl, S. Wurzler: **Heterogeneous Drop Freezing in the Immersion Mode: Model Calculations Considering Soluble and Insoluble Particles in the Drops** *J. Atmos. Sci.*, **61**, 2063-2072, 2004

Stefanutti, L., A. R. MacKenzie, V. Santacesaria, A. Adriani, Stefano Balestri, S. Borrmann, V. Khattatov, P. Mazzinghi, V. Mitev, V. Rudakov, C. Schiller, G. Toci, C. M. Volk, V. Yushkov, H. Flentje, C. Kiemle, G. Redaelli, K. S. Carslaw, K. Noone, Th. Peter: **The APE-THESEO tropical campaign: an overview**, *J. Atmos. Chem.*, **48**, 1-33, 2004

## Publications finally released 2003

A. Heusel-Waltrop, K. Diehl, S. K. Mitra, H. R. Pruppacher: **A Laboratory and Theoretical Study on the Uptake of SO<sub>2</sub> Gas by Large and Small Water Drops Containing Heavy Metal Ions**, *Journal of Atmospheric Chemistry*, **44**, 211–223, 2003

Luo, B., Peter, T., Fueglistaler, S., Wernli, H., Wirth, M., Kiemle, C., Flentje, H., Yushkov, V. A., Khattatov, V., Rudakov, V., Thomas, A., Borrmann, S., Toci, G., Mazzinghi, P., Beuermann, J., Schiller, C., Cairo, F., Di Donfrancesco, G., Adriani, A., Volk, C. M., Strom, J., Noone, K., Mitev, V., MacKenzie, R. A., Carslaw, K. S., Trautmann, T., Santacesaria, V., Stefanutti, L.: **Dehydration potential of ultrathin clouds at the tropical tropopause** *Geophys. Res. Lett.*, **30** (11): Art. No. 1557, 2003

Peter, T., Luo, B., Wirth, M., Kiemle, C., Flentje, H., Yushkov, V. A., Khattatov, V., Rudakov, V., Thomas, A., Borrmann, S., Toci, G., Mazzinghi, P., Beuermann, J., Schiller, C., Cairo, F., Di Donfrancesco, G., Adriani, A., Volk, C. M., Strom, J., Noone, K., Mitev, V., MacKenzie, R. A., Carslaw, K. S., Trautmann, T., Santacesaria V., Stefanutti, L.: **Ultrathin Tropical Tropopause Clouds (UTTCs): I. Cloud morphology and occurrence**, *Atmos. Chem. Phys.*, **3**, 1083-1091, 2003

Luo, B., Peter, T., Wernli, H., Fueglistaler, S., Wirth, M., Kiemle, C., Flentje, H., Yushkov, V. A., Khattatov, V., Rudakov, V., Thomas, A., Borrmann, S., Toci, G., Mazzinghi, P., Beuermann, J., Schiller, C., Cairo, F., Di Donfrancesco, G., Adriani, A., Volk, C. M., Strom, J., Noone, K., Mitev, V., MacKenzie, R. A., Carslaw, K. S., Trautmann, T., Santacesaria, V., Stefanutti, L.: **Ultrathin Tropical Tropopause Clouds (UTTCs): II. Stabilization mechanisms** *Atmos. Chem. Phys.*, **3**, 1093-1100, 2003

## Publications finally released 2002

K. Diehl, S. Matthias-Maser, R. Jaenicke, S.K. Mitra: **The ice nucleating ability of pollen. Part II. Laboratory studies in immersion and contact freezing modes**, *Atmospheric Research*, **61**, 125–133, 2002

Lelieveld, J., H. Berresheim, S. Borrmann, P.J. Crutzen, F.J. Dentener, H. Fischer, J. Feichter, P.J. Flatau, J. Heland, R. Holzinger, R. Kormann, M.B. Lawrence, Z. Levin, K. Markowicz, N. Mihalopoulos, A. Minikin, V. Ramanathan, M. de Reus, G.J. Roelofs, H.A. Scheeren, J. Sciare, H. Schlager, M. Schulz, P. Siegmund, B. Steil, E.G. Stephanou, P. Stier, M. Traub, C. Warneke, J. Williams and H. Ziereis: **Global air pollution crossroads over the Mediterranean** *Science*, **298**, 794-799, 2002

Thomas, A., S. Borrmann, Ch. Kiemle, F. Cairo, M. Volk, J. Beuermann, B. Lepuchov, V. Santacesaria, R. Matthey, V. Rudakov, V. Yushkov, A. R. MacKenzie, L. Stefanutti: **In-situ measurements of background aerosol and subvisible cirrus in the tropical tropopause region**, *J. Geophys. Res.*, **107**, 2001JD001385, 2002

## Publications finally released 2001

O. Vohl, , S. K. Mitra, K. Diehl, G. Huber, S. C. Wurzler, K.-L. Kratz, H. R. Pruppacher: **A Wind Tunnel Study of Turbulence Effects on the Scavenging of Aerosol Particles by Water Drops**, *J. Atmos. Sci.*, **58**, 3064-3072, 2001

K. Diehl, C. Quick, S. Matthias-Maser, S.K. Mitra, R. Jaenicke: **The ice nucleating ability of pollen. Part I: Laboratory studies in deposition and condensation freezing modes**, *Atmospheric Research*, **58**, 75–87, 2001

## Publications finally released 2000

de Reus, M., F. Dentener, J. Ström, A. Thomas, S. Borrmann, and J. Lelieveld: **Observations of Saharan dust aerosol over the Atlantic Ocean; Implications for ozone destruction by heterogeneous reactions on dust aerosol**, *J. Geophys. Res.*, **105**, 15263 - 15275, 2000

K. Diehl, O. Vohl, S.K. Mitra, H.R. Pruppacher: **A laboratory and theoretical study on the uptake of sulfur dioxide gas by small water drops containing hydrogen peroxide under laminar and turbulent conditions**, *Atmospheric Environment*, **34**, 2865-2871, 2000

Borrmann, S., B. Luo, M. Mishchenko: **The application of the T-matrix method to the measurement of aspherical particles with forward scattering optical particle counters** *J. Aerosol Sci.*, **31**, 789 - 799, 2000

Borrmann, S., A. Thomas, V. Rudakov, V. Yushkov, B. Lepuchov, T. Deshler, N. Vinnichenko, V. Khattatov, L. Stefanutti: **Stratospheric aerosol measurements in the Arctic winter of 1996/97 with the M-55 Geophysika high-altitude research aircraft**, *Tellus*, **52B**, 1088 - 1103, 2000

Schröder, F., B. Kärcher, C. Duroure, J. Ström, A. Petzold, J. F. Gayet, B. Strauss, P. Wendling, S. Borrmann: **On the transition of contrails into cirrus clouds**, *J. Atmos. Sci.*, **57**, 464 - 480, 2000

Stefanutti, L., S. Borrmann: **Airborne instrumentation for aerosol measurements** *Encyclopedia of Analytical Chemistry*, 1882-1914, R. A. Meyers (Ed.), John Wiley and Sons, Chichester, 2000

## **Publications finally released 1998**

K. Diehl, S. K. Mitra: **A Laboratory Study of the Effects of a Kerosene-Burner Exhaust On Ice Nucleation And The Evaporation Rate of Ice Crystals**, *Atmospheric Environment*, **32** (18), 3145-3151, 1998

K. Diehl, S.K. Mitra, H.R. Pruppacher: **A laboratory study on the uptake of HCl, HNO<sub>3</sub> and SO<sub>2</sub> gas by ice crystals and the effect of these 2 gases on the evaporation rate of the crystals**, *Atmospheric Research*, **47–48**, 235–244, 1998

Uhlig, E., S. Borrmann, R. Jaenicke: **Holographic in-situ measurements of the spatial droplet distribution in stratiform clouds**, *Tellus*, **50B**, 377-387, 1998

Vössing, H., S. Borrmann, E. M. Uhlig, R. Jaenicke: **In-line holography of cloud volumes applied to the measurement of raindrops and snowflakes**, *Atmospheric Research*, **49**, 199-212, 1998

## **Publications finally released 1997**

Borrmann, S., S. Solomon, L. Avallone, J. E. Dye: **On the occurrence of ClO in cirrus clouds and volcanic aerosol in the tropopause region**, *Geophys. Res. Lett.*, **24**, 2011-2014, 1997

Borrmann, S., S. Solomon, J. E. Dye, D. Baumgardner, K. K. Kelly, K. R. Chan: **Heterogeneous reactions on stratospheric background aerosols, volcanic sulfuric acid droplets, and type I PSCs: The effects of temperature fluctuations and differences in particle phase** *J. Geophys. Res.*, **102**, 3639-3648, 1997

Petzold, A., R. Busen, F. P. Schröder, R. Baumann, M. J. Kuhn, D. Hagen, P. Whitefield, D. Baumgardner, F. Arnold, S. Borrmann, R. Schumann: **Near field measurements on contrail properties from fuels with different sulfur content**, *J. Geophys. Res.*, **102**, 29,867-29,880, 1997

Solomon, S., S. Borrmann, R. R. Garcia, R. Portmann, L. Thomason, L. R. Poole, D. Winkler, M. P. McCormick: **Heterogeneous chlorine chemistry in the tropopause region** *J. Geophys. Res.*, **102**, 21,411-21,429, 1997

## **Publications finally released 1996**

A. U. Hannemann, S. K. Mitra, H. R. Pruppacher: **On the Scavenging of Gaseous Nitrogen Compounds by Large and Small Rain Drops: II. Wind Tunnel and Theoretical Studies of the Simultaneous Uptake of NH<sub>3</sub>, SO<sub>2</sub> and CO<sub>2</sub> by Water Drops**, *Journal of Atmospheric Chemistry*, **24**, 271-284, 1996

Borrmann, S., S. Solomon, J. E. Dye, B. Luo: **The potential of cirrus clouds for heterogeneous chlorine activation**, *Geophys. Res. Lett.*, **23**, 2133-2136, 1996

## **Publications finally released 1995**

U. Hannemann, S. K. Mitra, H. R. Pruppacher: **On the Scavenging of Gaseous Nitrogen Compounds by Large and Small Rain Drops I. A Wind Tunnel and Theoretical Study of the Uptake and Desorption of NH<sub>3</sub> in the Presence of CO<sub>2</sub>**, *Journal of Atmospheric Chemistry*, **21**, 293-307, 1995

K. Diehl, S. K. Mitra, H. R. Pruppacher: **A Laboratory Study of the Uptake of HNO<sub>3</sub> and HCl Vapor by Snow Crystals and Ice Spheres at Temperatures between 0 And -40°C** *Atmospheric Environment*, **29** (9), 975--981, 1995

Borrmann, S., J. E. Dye, D. Baumgardner, M. Proffitt, J. Margitan, J. C. Wilson, H. H. Jonsson, C. A. Brock, M. Loewenstein, J. R. Podolske and G. V. Ferry: **Aerosols as dynamical tracers in the lower stratosphere: The aerosol vs. ozone correlations after the Mount Pinatubo Eruption**, *J. Geophys. Res.*, **100**, 11,147-11,156, 1995

Jonsson, H. H., J. C. Wilson, C. A. Brock, R. K. Knollenberg, R. Newton, J. E. Dye, D. Baumgardner, S. Borrmann, G. W. Ferry, R. Pueschel, D. C. Woods and M. C. Pitts: **Performance of the Focused Cavity Aerosol Spectrometer for measurements in the stratosphere of particle size in the 0.06-2 micrometer diameter range** *J. Atmos. and Oceanic Technol.*, **12**, 115-129, 1995

## **Publications finally released 1994**

Uhlig, E.M., R. Jaenicke, S. Borrmann: **Application of Single and Double Pulsed Fraunhofer In-Line Holography in Cloud Physics**, *J. Aerosol Sci.*, **25**, S521-S522, 1994

Borrmann, S., R. Jaenicke, R. Maser, B.G. Arends: **Instrument Intercomparison Study on Cloud Droplet Size Distribution. Measurements: Holography vs. Laser Optical Particle Counter**, *J. Atmos. Chem.*, **19**, 253-258 1994

Wobrock, W., D. Schell, R. Maser, W. Jaeschke, H.-W. Georgii, W. Wiprecht, B. G. Arends, J. J. Möls, G. Kos, P. A., F. Fuzzi, M. C. Faccini, G. Orsi, A. Berner, I. Solly, C. Krusiz, I. B.

Svenningsson, A. Wiedensohler, H. C. Hannsson, J. A. Ogren, K. J. Noone, A. Hallberg, S. Pahl, T. Schneider, P. Winkler, W. Winiwarter, R. N. Colvile, T. W. Chouarltou, A. I. Flossmann, S. Borrmann: **The Kleiner Feldberg Cloud Experiment 1990 - An overview**, *J. Atmos. Chem.*, **19**, 3-35, 1994

## Publications finally released 1993

S. K. Mitra, A. U. Hannemann: **On the Scavenging of SO<sub>2</sub> by Large and Small Rain Drops: V. A Wind Tunnel and Theoretical Study of the Desorption of SO<sub>2</sub> from Water Drops Containing S(IV)**, *J. Atm. Chem.*, **16**, 201-218, 1993

Borrmann, S., R. Jaenicke, R. Maser, B.G. Arends: **Droplet Size Distributions and Liquid Water Contents in Stratus Clouds: Instrument Intercomparison between Holography, FSSP-100 Optical Particle Counter and Particulate Volume Monitor PVM-100** *J. Aerosol Sci.*, **24**, 577-578, 1993

Borrmann, S. J.E. Dye, D. Baumgardner, D.W. Fahey, E.L. Woodbridge, J.C. Wilson, H.H. Jonsson, C. A. Brock, S. R. Kawa, D.W. Toohey, L. Avallone, M.H. Proffitt: **In-situ aerosol Measurements and evaluation on heterogeneous chemistry in the lower stratosphere**, *J. Aerosol Sci.*, **24**, 577-578, 1993

Borrmann, S., J. E. Dye, D. Baumgardner, J. C. Wilson, H. H. Jonsson, C. A. Brock, M. Loewenstein, J. R. Podolske, G. V. Ferry: **In-situ measurements of changes in stratospheric aerosol and the N<sub>2</sub>O-aerosol relationship inside and outside of the polar vortex** *Geophys. Res. Lett.*, **20**, 2559-2562, 1993

Borrmann, S., R. Jaenicke, P. Neumann: **On spatial distributions and inter-droplet distances measured in stratus clouds with in-line holography**, *Atmospheric Research*, **29**, 229-245, 1993

Borrmann, S., R. Jaenicke: **Application of Microholography for Ground Based in Situ Measurements in Stratus Cloud Layers: A Case Study**, *J. Atmos. Oceanic Technology*, **10**, 277-293, 1993

Brock, C. A., H. H. Jonsson, J. C. Wilson, J. E. Dye, D. Baumgardner, S. Borrmann: **Relationships between optical extinction, backscatter and aerosol surface and volume in the stratosphere following the eruption of Mt. Pinatubo**, *Geophys. Res. Lett.*, **20**, 2555-2558, 1993

Fahey, D. W., S. R. Kawa, E. L. Woodbridge, P. Tin, J. C. Wilson, H. H. Jonsson, J. E. Dye, D. Baumgardner, S. Borrmann, D. W. Toohey, L. M. Avallone, M. H. Proffitt, J. Margitan, M. Loewenstein, R. J. Salawitch, S. C. Wofsy, M. K. W. Ko, D. E. Anderson, M. R. Schoeberl, K. R. Chan: **In-situ measurements constraining the role of sulphate aerosols in mid-latitude ozone depletion**, *Nature*, **363**, 509-514, 1993

## Publications finally released 1990

Mitra, S. K., O. Vohl, M. Ahr, H. R. Pruppacher: **A wind tunnel and theoretical study of the melting behavior of atmospheric ice particles. IV: Experiment and theory for snow flakes** *J. Atmos. Sci.*, **47** (5), 584-591, 1990

## **Publications finally released 1987**

Borrmann, S., Davidson, K. L., M. E. Miller: **Aerosol size distributions in the Marginal Ice Zone during the 1983 Marginal Ice Zone experiment**, *J. Geophys. Res.*, **92**, 6971-6974, 1987

Borrmann, S., R. Jaenicke: **Wind tunnel experiments on the resuspension of sub-micrometer sandparticles from a sand surface**, *Atmospheric Environment*, **21**, 1891-1898, 1987