

2009

Buchkapitel

- Heintzenberg, J. and Charlson, R. J. 2009. *Introduction*. J. Heintzenberg and R. J. Charlson (Ed.), In: *Clouds in the perturbed climate system : Their relationship to energy balance, atmospheric dynamics, and precipitation*. MIT Press, Cambridge, MA, USA, p. 1-15 (Chapter 1).
- Siebesma, A. P., Brenguier, J.-L., Bretherton, C. S., Grabowski, W. W., Heintzenberg, J., Kärcher, B., Lehmann, K., Petch, J. C., Spichtinger, P., Stevens, B. and Stratmann, F. 2009. *Cloud-controlling factors*. J. Heintzenberg and R. J. Charlson (Ed.), In: *Clouds in the perturbed climate system : Their relationship to energy balance, atmospheric dynamics, and precipitation*. MIT Press, Cambridge, MA, USA, p. 269-290 (Chapter 12).

Begutachtete Publikationen

- Achtert, P., Birmili, W., Nowak, A., Wehner, B., Wiedensohler, A., Takegawa, N., Kondo, Y., Miyazaki, Y., Hu, M. and Zhu, T. 2009. Hygroscopic growth of tropospheric particle number size distributions over the North China Plain. *J. Geophys. Res.-Atmosph.*, **114**, D00G07, doi:10.1029/2008JD010921.
- Ansmann, A., Baars, H., Tesche, M., Müller, D., Althausen, D., Engelmann, R., Pauliquevis, T. and Artaxo, P. 2009. Dust and smoke transport from Africa to South America: Lidar profiling over Cape Verde and the Amazon rainforest. *Geophys. Res. Lett.*, **36**, L11802.
- Ansmann, A., Tesche, M., Knippertz, P., Bierwirth, E., Althausen, D., Müller, D. and Schulz, O. 2009. Vertical profiling of convective dust plumes in Southern Morocco during SAMUM. *Tellus B*, **61**, 340-353.
- Bierwirth, E., Wendisch, M., Ehrlich, A., Heese, B., Tesche, M., Althausen, D., Schladitz, A., Müller, D., Otto, S., Trautmann, T., Dinter, T., von Hoyningen-Huene, W. and Kahn, R. 2009. Spectral surface albedo over Morocco and its impact on radiative forcing of Saharan dust. *Tellus B*, **61**, 252-269.
- Birmili, W., Alaviippola, B., Hinneburg, D., Knoth, O., Tuch, T., Borken-Kleefeld, J. and Schacht, A. 2009. Dispersion of traffic-related exhaust particles near the Berlin urban motorway: Estimation of fleet emission factors. *Atmos. Chem. Phys.*, **9**, 2355-2374.
- Birmili, W., Weinhold, K., Nordmann, S., Wiedensohler, A., Spindler, G., Müller, K., Herrmann, H., Gnauk, T., Pitz, M., Cyrus, J., Flentje, H., Nickel, C., Kuhlbusch, T. A. J., Löschau, G., Haase, D., Meinhardt, F., Schwerin, A., Ries, L. and Wirtz, K. 2009. Atmospheric aerosol measurements in the German Ultrafine Aerosol Network (GUAN): Part 1 - Soot and particle number size distributions. *Gefahrst. Reinhalt. L.*, **69**, 137-145.
- Cheng, Y. F., Berghof, M., Garland, R. M., Wiedensohler, A., Müller, T., Wehner, B., Su, H., Achtert, P., Nowak, A., Pöschl, U., Zhang, Y. H., Zhu, T., Hu, M. and Zeng, L. M. 2009. Influence of soot mixing state on aerosol light absorption and single scattering albedo during air mass aging at a polluted regional site in North-Eastern China. *J. Geophys. Res.-Atmosph.*, **114**, doi:10.1029/2008JD010883.
- Costabile, F., Birmili, W., Klose, S., Tuch, T., Wehner, B., Wiedensohler, A., Franck, U., König, K. and Sonntag, A. 2009. Spatio-temporal variability and principal components of the particle number size distribution in an urban atmosphere. *Atmos. Chem. Phys.*, **9**, 3163-3195.
- Cziczo, D. J., Stetzer, O., Worringer, A., Ebert, M., Kamphus, M., Curtius, J., Mertes, S., Möhler, O. and Lohmann, U. 2009. Inadvertent climate modification due to anthropogenic lead. *Nat. Geosci.*, **2**, 333-336, doi:10.1038/ngeo499.
- Dinter, T., von Hoyningen-Huene, W., Burrows, J. P., Kokhanovsky, A., Bierwirth, E., Wendisch, M., Müller, D., Kahn, R. and Diouri, M. 2009. Retrieval of aerosol optical thickness for desert conditions using MERIS observations during the SAMUM campaign. *Tellus B*, **61**, 229-238.
- Esselborn, M., Wirth, M., Fix, A., Weinzierl, B., Rasp, K., Tesche, M. and Petzold, A. 2009. Spatial distribution and optical properties of Saharan dust observed by airborne high spectral resolution lidar during SAMUM 2006. *Tellus B*, **61**, 131-143.
- Freudenthaler, V., Esselborn, M., Wiegner, M., Heese, B., Tesche, M., Ansmann, A., Müller, D., Althausen, D., Wirth, M., Fix, A., Ehret, G., Knippertz, P., Toledano, C., Gasteiger, J., Garhammer, M. and Seefeldner, M. 2009. Depolarization ratio profiling at several wavelengths in pure Saharan dust during SAMUM 2006. *Tellus B*, **61**, 165-179.

- Garland, R. M., Schmid, O., Nowak, A., Achtert, P., Wiedensohler, A., Gunthe, S. S., Takegawa, N., Kita, K., Kondo, Y., Hu, M., Shao, M., Zeng, L. M., Zhu, T., Andreae, M. O. and Pöschl, U. 2009. Aerosol optical properties observed during Campaign of Air Quality Research in Beijing 2006 (CAREBeijing-2006): Characteristic differences between the inflow and outflow of Beijing city air. *J. Geophys. Res.-Atmosph.*, **114**, D00G04, doi:10.1029/2008JD010780.
- Gioda, A., Mayol-Bracero, O. L., Morales-Garcia, F., Collett, J., Decesari, S., Emblico, L., Facchini, M. C., Morales-De Jesus, R. J., Mertes, S., Borrmann, S., Walter, S. and Schneider, J. 2009. Chemical composition of cloud water in the Puerto Rican tropical trade wind cumuli. *Water Air Soil Poll.*, **200**, 3-14.
- Haustein, K., Perez, C., Baldasano, J. M., Müller, D., Tesche, M., Schladitz, A., Esselborn, M., Weinzierl, B., Kandler, K. and von Hoyningen-Huene, W. 2009. Regional dust model performance during SAMUM 2006. *Geophys. Res. Lett.*, **36**, L03812.
- Heese, B., Althausen, D., Dinter, T., Esselborn, M., Müller, T., Tesche, M. and Wiegner, M. 2009. Vertically resolved dust optical properties during SAMUM: Tinfou compared to Ouarzazate. *Tellus B*, **61**, 195-205.
- Heintzenberg, J. 2009. The SAMUM-1 experiment over Southern Morocco: Overview and introduction. *Tellus B*, **61**, 2-11.
- Kaaden, N., Massling, A., Schladitz, A., Müller, T., Kandler, K., Schütz, L., Weinzierl, B., Petzold, A., Tesche, M., Leinert, S. and Wiedensohler, A. 2009. State of mixing, shape factor, number size distribution, and hygroscopic growth of the Saharan anthropogenic and mineral dust aerosol at Tinfou, Morocco. *Tellus B*, **61**, 51-63.
- Kahn, R., Petzold, A., Wendisch, M., Bierwirth, E., Dinter, T., Esselborn, M., Fiebig, M., Heese, B., Knippertz, P., Müller, D., Schladitz, A. and von Hoyningen-Huene, W. 2009. Desert dust aerosol air mass mapping in the Western Sahara, using particle properties derived from space-based multi-range imaging. *Tellus B*, **61**, 239-251.
- Kandler, K., Schütz, L., Deutscher, C., Ebert, M., Hofmann, H., Jäckel, S., Jaenicke, R., Knippertz, P., Lieke, K., Massling, A., Petzold, A., Schladitz, A., Weinzierl, B., Wiedensohler, A., Zorn, S. and Weinbruch, S. 2009. Size distribution, mass concentration, chemical and mineralogical composition, and derived optical parameters of the boundary layer aerosol at Tinfou, Morocco, during SAMUM 2006. *Tellus B*, **61**, 32-50.
- Knippertz, P., Ansmann, A., Althausen, D., Müller, D., Tesche, M., Bierwirth, E., Dinter, T., Müller, T., Hoyningen-Huene, W. v., Schepanski, K., Wendisch, M., Heinold, B., Kandler, K., Petzold, A., Schütz, L. and Tegen, I. 2009. Dust mobilization and transport in the Northern Sahara during SAMUM 2006 - A meteorological overview. *Tellus B*, **61**, 12-31.
- Kulmala, M., Asmi, A., Lappalainen, H. K., Carslaw, K. S., Pöschl, U., Baltensperger, U., Hov, O., Brenguier, J. L., Pandis, S. N., Facchini, M. C., Hansson, H. C., Wiedensohler, A. and O'Dowd, C. D. 2009. Introduction: European Integrated Project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) - integrating aerosol research from nano to global scales (vol 9, pg 2825, 2009). *Atmos. Chem. Phys.*, **9**, 3443-3444.
- Kulmala, M., Asmi, A., Lappalainen, H. K., Carslaw, K. S., Pöschl, U., Baltensperger, U., Hov, O., Brenguier, J. L., Pandis, S. N., Facchini, M. C., Hansson, H. C., Wiedensohler, A. and O'Dowd, C. D. 2009. Introduction: European Integrated Project on Aerosol Cloud Climate and Air Quality interactions (EUCAARI) - integrating aerosol research from nano to global scales. *Atmos. Chem. Phys.*, **9**, 2825-2841.
- Massling, A., Stock, M., Tuch, T., Wehner, B., Wu, Z. and Hu, M. 2009. Size-segregated determination of differently hygroscopic particle fractions and soluble volume size distributions of the urban submicrometer Beijing aerosol. *Atmos. Environ.*, **43**, 1589-1590.
- Massling, A., Stock, M., Wehner, B., Wu, Z., Hu, M., Brüggemann, E., Gnauk, T., Herrmann, H. and Wiedensohler, A. 2009. Size segregated water uptake and total soluble volume of the urban submicrometer aerosol in Beijing. *Atmos. Environ.*, **43**, 1578-1589.
- Mattis, I., Tesche, M., Grein, M., Freudenthaler, V. and Müller, D. 2009. Systematic error of lidar profiles caused by a polarization-dependent receiver transmission: Quantification and error correction scheme. *Appl. Optics*, **48**, 2742-2751.
- Müller, D., Heinold, B., Tesche, M., Tegen, I., Althausen, D., Alados Arboledas, L., Amiridis, V., Amodeo, A., Ansmann, A., Balis, D., Comeron, A., D'Amico, G., Gerasopoulos, E., Guerrero-Rascado, J. L., Freudenthaler, V., Giannakaki, E., Heese, B., Iarlori, M., Knippertz, P., Mamouri, R. E., Mona, L., Papayannis, A., Pappalardo, G., Perrone, R.-M., Pisani, G., Rizi, V., Sicard, M., Spinelli, N., Tafuro, A. and Wiegner, M. 2009. EARLINET observations of the 14-22-May long-range dust transport event during SAMUM 2006: Validation of results from dust transport modelling. *Tellus B*, **61**, 325-339.

- Müller, T., Nowak, A., Wiedensohler, A., Sheridan, P., Laborde, M., Covert, D. S., Marinoni, A., Imre, K., Henzing, B., Roger, J. C., dos Santos, S. M., Wilhelm, R., Wang, Y. Q. and de Leeuw, G. 2009. Angular illumination and truncation of three different integrating nephelometers: Implications for empirical, size-based corrections. *Aerosol Sci. Technol.*, **43**, 581-586.
- Müller, T., Schladitz, A., Massling, A., Kaaden, N., Wiedensohler, A. and Kandler, K. 2009. Spectral absorption coefficients and imaginary parts of refractive indices of Saharan dust during SAMUM-1. *Tellus B*, **61**, 79-95.
- Naoe, H., Hasegawa, S., Heintzenberg, J., Okada, K., Uchiyama, A., Zaizen, Y., Kobayashi, E. and Yamazaki, A. 2009. State of mixture of atmospheric submicrometer black carbon particles and its effect on particulate light absorption. *Atmos. Environ.*, **43**, 1296-1301.
- Otto, S., Bierwirth, E., Weinzierl, B., Kandler, K., Esselborn, M., Tesche, M., Schladitz, A., Wendisch, M. and Trautmann, T. 2009. Solar radiative effects of a Saharan dust plume observed during SAMUM assuming spheroidal model particles. *Tellus B*, **61**, 270-296.
- Petters, M. D., Wex, H., Carrico, C. M., Hallbauer, E., Massling, A., McMeeking, G. R., Poulain, L., Wu, Z., Kreidenweis, S. M. and Stratmann, F. 2009. Towards closing the gap between hygroscopic growth and activation for secondary organic aerosol: Part 2: Theoretical approaches. *Atmos. Chem. Phys.*, **9**, 3999-4009.
- Schladitz, A., Müller, T., Massling, A., Kaaden, N., Kandler, K. and Wiedensohler, A. 2009. In situ measurements of optical properties at Tinfou (Morocco) during the Saharan Mineral Dust Experiment SAMUM 2006. *Tellus B*, **61**, 64-78.
- Slemr, F., Ebinghaus, R., Brenninkmeijer, C. A. M., Hermann, M., Kock, H. H., Martinsson, B. G., Schuck, T., Sprung, D., van Velthoven, P., Zahn, A. and Ziereis, H. 2009. Gaseous mercury distribution in the upper troposphere and lower stratosphere observed onboard the CARIBIC passenger aircraft. *Atmos. Chem. Phys.*, **9**, 1957-1969.
- Tesche, M., Ansmann, A., Müller, D., Althausen, D., Mattis, I., Heese, B., Freudenthaler, V., Wiegner, M., Esselborn, M., Pisani, G. and Knippertz, P. 2009. Vertical profiling of Saharan dust with Raman lidar and airborne HSRL in Southern Morocco during SAMUM. *Tellus B*, **61**, 144-164.
- Toledano, C., Wiegner, M., Garhammer, M., Seefeldner, M., Gasteiger, J., Müller, D. and Koepke, P. 2009. Spectral aerosol optical depth characterization of desert dust during SAMUM 2006. *Tellus B*, **61**, 216-228.
- von Hoyningen-Huene, W., Dinter, T., Kokhanovsky, A. A., Burrows, J. P., Wendisch, M., Bierwirth, E., Müller, D. and Diouri, M. 2009. Measurements of desert dust optical characteristics at Porte au Sahara during SAMUM. *Tellus B*, **61**, 206-215.
- Wagner, F., Bortoli, D., Pereira, S., Costa, M. J., Silva, A. M., Weinzierl, B., Esselborn, M., Petzold, A., Rasp, K., Heinold, B. and Tegen, I. 2009. Properties of dust aerosol particles transported to Portugal from the Sahara desert. *Tellus B*, **61**, 297-306.
- Wehner, B., Uhrner, U., von Löwis, S., Zallinger, M. and Wiedensohler, A. 2009. Aerosol number size distributions within the exhaust plume of a diesel and a gasoline passenger car under on-road conditions and determination of emission factors. *Atmos. Environ.*, **43**, 1235-1245.
- Weigelt, A., Hermann, M., van Velthoven, P. F. J., Brenninkmeijer, C. A. M., Schlaf, G., Zahn, A. and Wiedensohler, A. 2009. Influence of clouds on aerosol particle number concentrations in the upper troposphere. *J. Geophys. Res.-Atmosp.*, **114**, D01204, doi:10.1029/2008JD009805.
- Wessels, A., Birmili, B., Hellack, B., Jermann, E., Wick, G., Albrecht, C., Harrison, R. and Schins, R. P. F. 2009. Electron paramagnetic resonance spectrometry as a tool to estimate the biological activity of size-fractionated atmospheric particles. *N.-S. Arch. Pharmacol.*, **379**, 427.
- Wex, H., Petters, M. D., Carrico, C. M., Hallbauer, E., Massling, A., McMeeking, G. R., Poulain, L., Wu, Z., Kreidenweis, S. M. and Stratmann, F. 2009. Towards closing the gap between hygroscopic growth and activation for secondary organic aerosol: Part 1: Evidence from measurements. *Atmos. Chem. Phys.*, **9**, 3987-3997.
- Wiedensohler, A., Cheng, Y. F., Nowak, A., Wehner, B., Achtert, P., Berghof, M., Birmili, W., Wu, Z. J., Hu, M., Zhu, T., Takegawa, N., Kita, K., Kondo, Y., Lou, S. R., Hofzumahaus, A., Holland, F., Wahner, A., Gunthe, S. S., Rose, D. and Pöschl, U. 2009. Rapid aerosol particle growth and increase of Cloud Condensation Nucleus (CCN) activity by secondary aerosol formation and condensation: A case study for regional air pollution in North-Eastern China. *J. Geophys. Res.-Atmosp.*, **114**, D00G08, doi:10.1029/2008JD010884.

- Wiegner, M., Gasteiger, J., Kandler, K., Weinzierl, B., Rasp, K., Esselborn, M., Freudenthaler, V., Heese, B., Toledano, C., Tesche, M. and Althausen, D. 2009. Numerical simulations of optical properties of Saharan dust aerosols with emphasis on lidar applications. *Tellus B*, **61**, 180-194.
- Zhu, T., Liu, S., Hu, M., Shao, M., Kondo, Y., Wahner, A., Wiedensohler, A., Pöschl, U., Li, X. and Tang, X. Y. 2009. Overview of 2006-CAREBEIJING: Campaigns of air quality research in Beijing and surrounding region. *J. Geophys. Res.-Atmosph.*, **114**,

2008

Begutachtete Publikationen

- Allan, J. D., Baumgardner, D., Raga, G. B., Mayol-Bracero, O. L., Morales-García, F., García-García, F., Montero-Martínez, G., Borrmann, S., Schneider, J., Mertes, S., Walter, S., Gysel, M., Dusek, U., Frank, G. P. and Krämer, M. 2008. Clouds and aerosols in Puerto Rico - A new evaluation. *Atmos. Chem. Phys.*, **8**, 1293-1309.
- Ansmann, A., Tesche, M., Althausen, D., Müller, D., Seifert, P., Freudenthaler, V., Heese, B., Wiegner, M., Pisani, G., Knippertz, P. and Dubovik, O. 2008. Influence of Saharan dust on cloud glaciation in Southern Morocco during the Saharan Mineral Dust Experiment. *J. Geophys. Res.-Atmosph.*, **113**, D04210, doi:10.1029/2007JD008785.
- Baars, H., Ansmann, A., Engelmann, R. and Althausen, D. 2008. Continuous monitoring of the boundary-layer top with lidar. *Atmos. Chem. Phys.*, **8**, 7281-7296.
- Birmili, W., Alaviippola, B., Hinneburg, D., Knoth, O., Tuch, T., Kleefeld-Borken, J. and Schacht, A. 2008. Dispersion of traffic-related exhaust particles near the Berlin urban motorway: Estimation of fleet emission factors. *Atmos. Chem. Phys. Discuss.*, **8**, 15537-15594.
- Birmili, W., Schepanski, K., Ansmann, A., Spindler, G., Tegen, I., Wehner, B., Nowak, A., Reimer, E., Mattis, I., Müller, K., Brüggemann, E., Gnauk, T., Herrmann, H., Wiedensohler, A., Althausen, D., Schladitz, A., Tuch, T. and Löschau, G. 2008. A case of extreme particulate matter concentrations over Central Europe caused by dust emitted over the southern Ukraine. *Atmos. Chem. Phys.*, **8**, 997-1016.
- Boy, M., Karl, T., Turnipseed, A., Mauldin, R. L., Kosciuch, E., Greenberg, J., Rathbone, J., Smith, J., Held, A., Barsanti, K., Wehner, B., Bauer, S., Wiedensohler, A., Bonn, B., Kulmala, M. and Guenther, A. 2008. New particle formation in the front range of the Colorado Rocky Mountains. *Atmos. Chem. Phys.*, **8**, 1577-1590.
- Bruckmann, P., Birmili, W., Straub, W., Pitz, M., Gladtko, D., Pfeffer, U., Hebbinghaus, H., Wurzler, S. and Olschewski, A. 2008. An outbreak of Saharan dust causing high PM10 levels north of the Alps (Hohe PM10-Konzentrationen nördlich der Alpen, hervorgerufen durch Ferntransport von Saharastaub). *Gefahrst. Reinhalt. L.*, **68**, 490-498.
- Charron, A., Birmili, W. and Harrison, R. M. 2008. Fingerprinting particle origins according to their size distribution at a UK rural site. *J. Geophys. Res.-Atmosph.*, **113**, D07202, doi:10.1029/2007JD008562.
- Cheng, Y. F., Heintzenberg, J., Wehner, B., Wu, Z. J., Su, H., Hu, M. and Mao, J. T. 2008. Traffic restrictions in Beijing during the Sino-African Summit 2006: Aerosol size distribution and visibility compared to long-term in situ observations. *Atmos. Chem. Phys.*, **8**, 7583-7594.
- Cheng, Y. F., Wiedensohler, A., Eichler, H., Heintzenberg, J., Tesche, M., Ansmann, A., Wendisch, M., Su, H., Althausen, D., Herrmann, H., Gnauk, T., Brüggemann, E., Hu, M. and Zhang, Y. H. 2008. Relative humidity dependence of aerosol optical properties and direct radiative forcing in the surface boundary layer at Xinken in Pearl River Delta of China: An observation based numerical study. *Atmos. Environ.*, **42**, 6373-6397 (doi:10.1016/j.atmosenv.2008.04.009).
- Cheng, Y. F., Wiedensohler, A., Slanina, J., Heintzenberg, J., Eichler, H., Su, H., Gnauk, T., Brüggemann, E., Herrmann, H., Zeng, L. M., Tuch, T., Hu, M. and Zhang, Y. H. 2008. Aerosol optical properties and related chemical apportionment at Xinken in Pearl River Delta of China. *Atmos. Environ.*, **42**, 6351-6372 (doi:10.1016/j.atmosenv.2008.02.034).
- Costabile, F., Birmili, W., Klose, S., Tuch, T., Wehner, B., Wiedensohler, A., Franck, U., König, K. and Sonntag, A. 2008. Spatio-temporal variability and principal components of the particle number size distribution in an urban atmosphere. *Atmos. Chem. Phys. Discuss.*, **8**, 18155-18217.

- Cozic, J., Mertes, S., Verheggen, B., Cziczo, D. J., Gallavardin, S. J., Walter, S., Baltensperger, U. and Weingartner, E. 2008. Black carbon enrichment in atmospheric ice particle residuals observed in lower tropospheric mixed phase clouds. *J. Geophys. Res.-Atmosph.*, **113**, D15209, doi:10.1029/2007JD009266.
- Cozic, J., Verheggen, B., Weingartner, E., Crosier, J., Bower, K. N., Flynn, M., Coe, H., Henning, S., Steinbacher, M., Henne, S., Coen, M. C., Petzold, A. and Baltensperger, U. 2008. Chemical composition of free tropospheric aerosol for PM1 and coarse mode at the high alpine site Jungfrauojoch. *Atmos. Chem. Phys.*, **8**, 407-423.
- Ehrlich, A., Bierwirth, E., Wendisch, M., Gayet, J.-F., Mioche, G., Lampert, A. and Heintzenberg, J. 2008. Cloud phase identification of Arctic boundary-layer clouds from airborne spectral reflection measurements: Test of three approaches. *Atmos. Chem. Phys.*, **8**, 7593-7505.
- Ehrlich, A., Wendisch, M., Bierwirth, E., Herber, A. and Schwarzenböck, A. 2008. Ice crystal shape effects on solar radiative properties of Arctic mixed-phase clouds - Dependence on microphysical properties. *Atmos. Res.*, **88**, 266-276.
- Eichler, H., Cheng, Y. F., Birmili, W., Nowak, A., Wiedensohler, A., Brüggemann, E., Gnauk, T., Herrmann, H., Althausen, D., Ansmann, A., Engelmann, R., Tesche, M., Wendisch, M., Zhang, Y. H., Hu, M., Liu, S. and Zeng, L. M. 2008. Hygroscopic properties and extinction of aerosol particles at ambient relative humidity in South-Eastern China. *Atmos. Environ.*, **42**, 6321-6334.
- Engelmann, R., Wandinger, U., Ansmann, A., Müller, D., Zeromskis, E., Althausen, D. and Wehner, B. 2008. Lidar observations of the vertical aerosol flux in the planetary boundary layer. *J. Atmos. Ocean. Tech.*, **25**, 1296-1306.
- Fan, S. J., Wang, B., Tesche, M., Engelmann, R., Althausen, D., Liu, J., Zhu, W., Fan, Q., Li, M., Ta, N., Song, L. and Leong, K. 2008. Meteorological conditions and structures of atmospheric boundary layer in October 2004 over Pearl River Delta area. *Atmos. Environ.*, **42**, 6174-6186.
- Frey, A., Rose, D., Wehner, B., Müller, T., Cheng, Y. F., Wiedensohler, A. and Virkkula, A. 2008. Application of the Volatility-TDMA technique to determine the number size distribution and mass concentration of less volatile particles. *Aerosol Sci. Technol.*, **42**, 817-828.
- Garland, R. M., Yang, H., Schmid, O., Rose, D., Nowak, A., Achtert, P., Wiedensohler, A., Takegawa, N., Kita, K., Miyazaki, Y., Kondo, Y., Hu, M., Shao, M., Zeng, L., Zhang, Y., Andreae, M. O. and Pöschl, U. 2008. Aerosol optical properties in a rural environment near the mega-city Guangzhou, China: Implications for regional air pollution and radiative forcing. *Atmos. Chem. Phys.*, **8**, 5161-5186.
- Gioda, A., Mayol-Bracero, O. L., Morales-Garcia, F., Collett, J., Decesari, S., Emblico, M., Facchini, M. C., Morales-De Jesús, R. J., Mertes, S., Borrmann, S., Walter, S. and Schneider, J. 2008. Chemical composition of cloud water in the Puerto Rican tropical trade wind cumuli. *Water Air Soil Poll.*, doi:10.1007/s11270-008-9888-4.
- Grzeschik, M., Bauer, H.-S., Wulfmeyer, V., Engelbart, D., Wandinger, U., Mattis, I., Althausen, D., Engelmann, R., Tesche, M. and Riede, A. 2008. Four-dimensional variational data analysis of water vapor Raman lidar data and their impact on mesoscale forecasts. *J. Atmos. Ocean. Tech.*, **25**, 1437-1453.
- Haywood, J. M., Pelon, J., Formenti, P., Bharmal, N. A., Brooks, M., Capes, G., Chazette, P., Chou, C., Christopher, S., Coe, H., Cuesta, J., Derimian, Y., Desboeufs, K., Greed, G., Harrison, M., Heese, B., Highwood, E. J., Johnson, B. T., Mallet, M., Marticorena, B., Marsham, J., Milton, S., Myhre, G., Osborne, S. R., Parker, D. J., Rajot, J.-L., Schulz, M., Slingo, A., Tanre, D. and Tulet, P. 2008. Overview of the dust and biomass-burning experiment and African monsoon multidisciplinary analysis special observing period-0. *J. Geophys. Res.-Atmosph.*, **113**, D00C17, doi:10.1029/2008JD010077.
- Heese, B. and Wiegner, M. 2008. Vertical aerosol profiles from Raman polarization lidar observations during the dry season AMMA field campaign. *J. Geophys. Res.-Atmosph.*, **113**, doi:10.1029/2007JD009487.
- Heintzenberg, J., Birmili, W., Theiss, D. and Kisilyakhov, Y. 2008. The atmospheric aerosol over Siberia, as seen from the 300 meter ZOTTO tower. *Tellus B*, **60**, 276-285.
- Helsper, C., Horn, H. G., Schneider, F., Wehner, B. and Wiedensohler, A. 2008. Intercomparison of five mobility size spectrometers for measuring atmospheric submicrometer aerosol particles. *Gefahrst. Reinhalt. L.*, **68**, 475-481.

- Hermann, M., Brenninkmeijer, C. A. M., Slemr, F., Heintzenberg, J., Martinsson, B. G., Schlager, H., van Velthoven, P. J., Wiedensohler, A., Zahn, A. and Ziereis, H. 2008. Submicrometer aerosol particle distributions in the upper troposphere over the mid-latitude North Atlantic - Results from the third route of "CARIBIC". *Tellus B*, **60**, 106-117.
- Hyvarinen, A. P., Komppula, M., Engler, C., Kivekas, N., Kerminen, V. M., Dal Maso, M., Viisanen, Y. and Lihavainen, H. 2008. Atmospheric new particle formation at Uto, Baltic Sea 2003-2005. *Tellus B*, **60**, 345-352.
- Johnson, B. T., Heese, B., McFarlane, S. A., Chazette, P., Jones, A. and Bellouin, N. 2008. Vertical distribution and radiative effects of mineral dust and biomass burning aerosol over West Africa during DABEX. *J. Geophys. Res.-Atmosph.*, **113**, D00C12.
- Kalivitis, N., Birmili, W., Stock, M., Wehner, B., Massling, A., Wiedensohler, A., Gerasopoulos, E. and Mihalopoulos, N. 2008. Particle size distributions in the Eastern Mediterranean troposphere. *Atmos. Chem. Phys.*, **8**, 6729-6738.
- Kolgotin, A. and Müller, D. 2008. Theory of inversion with two-dimensional regularization: Profiles of microphysical particle properties derived from multiwavelength lidar measurements. *Appl. Optics*, **47**, 4472-4490.
- Leinert, S. and Wiedensohler, A. 2008. A DMA and APS based technique for measuring aerodynamic hygroscopic growth factors of micrometer-size aerosol particles. *J. Aerosol Sci.*, **39**, 393-402.
- Liu, S., Hu, M., Wu, Z., Wehner, B., Wiedensohler, A. and Cheng, Y. F. 2008. Aerosol number size distribution and new particle formation at a rural/coastal site in Pearl River Delta (PRD) of China. *Atmos. Environ.*, **42**, 6275-6283.
- Mattis, I., Müller, D., Ansmann, A., Wandinger, U., Preißler, J., Seifert, P. and Tesche, M. 2008. Ten years of multiwavelength Raman lidar observations of free-tropospheric aerosol layers over Central Europe: Geometrical properties and annual cycle. *J. Geophys. Res.-Atmosph.*, **113**, D20202, doi:10.1029/2007JD009636.
- Nguyen, H. N., Martinsson, B. G., Wagner, J. B., Carlemalm, E., Ebert, M., Weinbruch, S., Brenninkmeijer, C. A. M., Heintzenberg, J., Hermann, M., Schuck, T., van Velthoven, P. F. J. and Zahn, A. 2008. Chemical composition and morphology of individual aerosol particles from a CARIBIC flight at 10 km altitude between 50°N and 30°S. *J. Geophys. Res.-Atmosph.*, **113**, D23209, doi:10.1029/2008JD009956.
- Niedermeier, D., Wex, H., Voigtländer, J., Stratmann, F., Brüggemann, E., Kiselev, A., Henk, H. and Heintzenberg, J. 2008. LACIS-measurements and parameterization of sea-salt particle hygroscopic growth and activation. *Atmos. Chem. Phys.*, **8**, 579-590.
- Noh, Y. M., Kim, Y. J. and Müller, D. 2008. Seasonal characteristics of lidar ratios measured with a Raman lidar at Gwangju, Korea in spring and autumn. *Atmos. Environ.*, **42**, 2208-2224.
- Papayannis, A., Amiridis, V., Mona, L., Tsaknakis, G., Balis, D., Bösenberg, J., Chaikovski, A., De Tomasi, F., Grigorov, I., Mattis, I., Mitev, V., Müller, D., Nickovic, S., Perez, C., Pietruczuk, A., Pisani, G., Ravetta, F., Rizi, V., Sicard, M., Trickl, T., Wiegner, M., Gerding, M., Mamouri, R. E., D'Amico, G. and Pappalardo, G. 2008. Systematic lidar observations of Saharan dust over Europe in the frame of EARLINET (2000-2002). *J. Geophys. Res.-Atmosph.*, **113**, D10204, doi:10.1029/2007JD009028.
- Petters, M. D., Wex, H., Carrico, C. M., Hallbauer, E., Massling, A., McMeeking, G. R., Poulain, L., Wu, Z., Kreidenweis, S. M. and Stratmann, F. 2008. Towards closing the gap between hygroscopic growth and activation for secondary organic aerosol? Part 2: Theoretical approaches. *Atmos. Chem. Phys. Discuss.*, **8**, 20839-20867.
- Pitz, M., Birmili, W., Schmid, O., Peters, A., Wichmann, H.-E. and Cyrys, J. 2008. Quality control and quality assurance for particle size distribution measurements at an urban monitoring station in Augsburg, Germany. *J. Environ. Monitor.*, **10**, doi:10.1039/b807264g.
- Pitz, M., Schmid, O., Heinrich, J., Birmili, W., Maguhn, J., Zimmermann, R., Wichmann, H.-E., Peters, A. and Cyrys, J. 2008. Seasonal and diurnal variation of PM_{2.5} apparent particle density in urban air in Augsburg, Germany. *Environ. Sci. Technol.*, **42**, 5087-5093.
- Schütze, M. and Stratmann, F. 2008. Numerical simulation of cloud droplet formation in a tank. *Comput. Geosci.*, **34**, 1034-1043.
- Spracklen, D., Carslaw, K. S., Kulmala, M., Kerminen, V.-M., Sihto, S.-L., Riipinen, I., Merikanto, J., Mann, G. W., Chipperfield, M. P., Wiedensohler, A., Birmili, W. and Lihavainen, H. 2008. Contribution of particle formation to global cloud condensation nuclei concentrations. *Geophys. Res. Lett.*, **35**, L06808, doi:10.1029/2007GL033038.

- Su, H., Cheng, Y. F., Cheng, P., Zhang, Y. H., Dong, S., Zeng, L. M., Slanina, J., Shao, M. and Wiedensohler, A. 2008. Observation of night time nitrous acid (HONO) formation at a non-urban site during PRIDE-PRD2004 in China. *Atmos. Environ.*, **42**, 6219-6232.
- Su, H., Cheng, Y. F., Shao, M., Gao, D. F., Yu, Z. Y., Zeng, L. M., Slanina, J., Zhang, Y. H. and Wiedensohler, A. 2008. Nitrous acid (HONO) and its daytime sources at a rural site during the 2004 PRIDE-PRD experiment in China. *J. Geophys. Res.-Atmosph.*, **113**, D14312, doi:10.1029/2007JD009060.
- Svenningsson, B., Arneth, A., Hayward, S., Holst, T., Massling, A., Swietlicki, E., Hirsikko, A., Junninen, H., Riipinen, I., Vana, M., Dal Maso, M., Hussein, T. and Kulmala, M. 2008. Aerosol particle formation events and analysis of high growth rates observed above a subarctic wetland-forest mosaic. *Tellus B*, **60**, 353-365.
- Swietlicki, E., Hansson, H. C., Hameri, K., Svenningsson, B., Massling, A., McFiggans, G., McMurry, P. H., Petaja, T., Tunved, P., Gysel, M., Topping, D., Weingartner, E., Baltensperger, U., Rissler, J., Wiedensohler, A. and Kulmala, M. 2008. Hygroscopic properties of submicrometer atmospheric aerosol particles measured with H-TDMA instruments in various environments - A review. *Tellus B*, **60**, 432-469.
- Tesche, M., Müller, D., Ansmann, A., Hu, M. and Zhang, Y. H. 2008. Retrieval of microphysical properties of aerosol particles from one-wavelength Raman lidar and multiwavelength Sun photometer observations. *Atmos. Environ.*, **42**, 6398-6404.
- Thiel, S., Ammannato, L., Bais, A., Bandy, B., Blumthaler, M., Bohn, B., Engelsen, O., Gobbi, G. P., Grobner, J., Jäkel, E., Junkermann, W., Kazadzis, S., Kift, R., Kjeldstad, B., Kouremeti, N., Kylling, A., Mayer, B., Monks, P. S., Reeves, C. E., Schallhart, B., Scheirer, R., Schmidt, S., Schmitt, R., Schreder, J., Silbernagl, R., Topaloglou, C., Thorseth, T. M., Webb, A. R., Wendisch, M. and Werle, P. 2008. Influence of clouds on the spectral actinic flux density in the lower troposphere (INSPECTRO): Overview of the field campaigns. *Atmos. Chem. Phys.*, **8**, 1789-1812.
- Wehner, B., Birmili, W., Ditas, F., Wu, Z., Hu, M., Liu, X., Mao, J., Sugimoto, N. and Wiedensohler, A. 2008. Relationships between submicrometer particulate air pollution and air mass history in Beijing, China. *Atmos. Chem. Phys.*, **8**, 6155-6168.
- Wendisch, M., Hellmuth, O., Ansmann, A., Heintzenberg, J., Engelmann, R., Althausen, D., Eichler, H., Müller, D., Hu, M., Zhang, Y. and Mao, J. 2008. Radiative and dynamic effects of absorbing aerosol particles over the Pearl River Delta, China. *Atmos. Environ.*, **42**, 6405-6416.
- Wessels, A., Birmili, W., Jermann, E., Wick, G., Albrecht, C., Harrison, R. M. and Schins, R. R. 2008. Oxidant generation and toxicity in human A549 lung epithelial cells by size-fractionated atmospheric particles. *Toxicol. Lett.*, **180**, S206-S206.
- Wex, H., Stratmann, F., Hennig, T., Hartmann, S., Niedermeier, D., Nilsson, E., Ocskay, R., Rose, D., Salma, I. and Ziese, M. 2008. Connecting hygroscopic growth at high humidities to cloud activation for different particle types. *Environ. Res. Lett.*, **3**, doi:10.1088/1748-9326/3/3/035004.
- Wex, H., Stratmann, F., Topping, D. and McFiggans, G. 2008. The Kelvin versus the Raoult term in the Köhler equation. *J. Atmos. Sci.*, **65**, 4004-4016, doi:4010.1175/2008JAS2720.4001.
- Wu, Z., Hu, M., Pen, L., Liu, S., Wehner, B. and Wiedensohler, A. 2008. Particle number size distribution in the urban atmosphere in Beijing, China. *Atmos. Environ.*, **42**, 7967-7980.
- Zhang, Y. H., Hu, M., Liu, S. C. and Wiedensohler, A. 2008. The special issue on PRIDE-PRD2004 Campaign (Editorial). *Atmos. Environ.*, **42**, 6155-6156.
- Zhang, Y. H., Hu, M., Zhong, L. J., Wiedensohler, A., Liu, S. C., Andreae, M. O., Wang, W. and Fan, S. J. 2008. Regional integrated experiments on air quality over Pearl River Delta 2004 (PRIDE-PRD2004): Overview. *Atmos. Environ.*, **42**, 6157-6173.
- Ziese, M., Wex, H., Nilsson, E. D., Salma, I., Ocskay, R., Hennig, T., Massling, A. and Stratmann, F. 2008. Hygroscopic growth and activation of HULIS particles: Experimental data and a new iterative parameterization scheme for complex aerosol particles. *Atmos. Chem. Phys.*, **8**, 1855-1866.

2007

Buchkapitel

- Müller, D., Mattis, I., Ansmann, A., Wandinger, U. and Althausen, D. 2007. *Raman lidar for monitoring of aerosol pollution in the free troposphere*. Y.-J. Kim and U. Platt (Ed.), In: *Advanced environmental monitoring*. Springer, p. 422. (Springer Book Series)

Begutachtete Publikationen

- Ansmann, A., Wandinger, U., Le Rille, O., Lajas, D. and Straume, A. G. 2007. Particle backscatter and extinction profiling with the spaceborne high-spectral-resolution Doppler lidar ALADIN: Methodology and simulations. *Appl. Optics*, **46**, 6606-6622.
- Birmili, W., Stopfkuchen, K., Hermann, M., Wiedensohler, A. and Heintzenberg, J. 2007. Particle penetration through a 300 m inlet pipe for sampling atmospheric aerosols from a tall meteorological tower. *Aerosol Sci. Technol.*, **41**, 811-817.
- Brenninkmeijer, C. A. M., Crutzen, P. J., Boumard, F., Dauer, T., Dix, B., Ebinghaus, R., Filippi, D., Fischer, H., Franke, H., Frieß, U., Heintzenberg, J., Helleis, F., Hermann, M., Kock, H. H., Koepfel, C., Lelieveld, J., Leuenberger, M., Martinsson, B. G., Miemczyk, S., Moret, H. P., Nguyen, H. N., Nyfeler, P., Oram, D., O'Sullivan, D., Penkett, S., Platt, U., Pucek, M., Ramonet, M., Randa, B., Reichelt, M., Rhee, T. S., Rohwer, J., Rosenfeld, K., Scharffe, D., Schlager, H., Schumann, U., Slemr, F., Sprung, D., Stock, M., Thaler, R., Valentino, F., van Velthoven, P. J., Waibel, A., Wandel, A., Waschitschek, K., Wiedensohler, A., Xueref-Remy, I., Zahn, A., Zech, U. and Ziereis, H. 2007. Civil aircraft for the regular investigation of the atmosphere based on an instrumented container: The new CARIBIC system. *Atmos. Chem. Phys.*, **7**, 4953-4976.
- Charron, A., Birmili, W. and Harrison, R. M. 2007. Factors influencing new particle formation at the rural site Harwell, United Kingdom. *J. Geophys. Res.-Atmosph.*, **112**, D14210, doi:10.1029/2007JD008425.
- Cozic, J., Verheggen, B., Mertes, S., Connolly, P., Bower, K. N., Petzold, A., Baltensperger, U. and Weingartner, E. 2007. Scavenging of black carbon in mixed phase clouds at the high alpine site Jungfrauoch. *Atmos. Chem. Phys.*, **7**, 1797-1807.
- Ebinghaus, R., Slemr, F., Brenninkmeijer, C. A. M., van Velthoven, P. J., Zahn, A., Hermann, M., O'Sullivan, D. A. and Oram, D. E. 2007. Emissions of gaseous mercury from biomass burning in South America in 2005 observed during CARIBIC flights. *Geophys. Res. Lett.*, **34**, L08813, doi:10.1029/2006GL028866.
- Ehn, M., Petäjä, T., Birmili, W., Junninen, H., Aalto, P. and Kulmala, M. 2007. Non-volatile residuals of newly formed atmospheric particles in the boreal forest. *Atmos. Chem. Phys.*, **7**, 677-684.
- Engler, C., Rose, D., Wehner, B., Wiedensohler, A., Brüggemann, E., Gnauk, T., Spindler, G., Tuch, T. and Birmili, W. 2007. Size distributions of non-volatile particle residuals ($D_p < 800$ nm) at a rural site in Germany and relation to air mass origin. *Atmos. Chem. Phys.*, **7**, 5785-5802.
- Heintzenberg, J., Wehner, B. and Birmili, W. 2007. "How to find bananas in the atmospheric aerosol": New approach for analyzing atmospheric nucleation and growth events. *Tellus B*, **59**, 273-282.
- Hermann, M., Wehner, B., Bischof, G., Han, H.-S., Krinke, T., Liu, W., Zerrath, A. and Wiedensohler, A. 2007. Particle counting efficiency of the new TSI condensation particle counters. *J. Aerosol Sci.*, **38**, 674-682.
- Jäkel, E., Wendisch, M., Blumthaler, M., Schmitt, R. and Webb, A. R. 2007. A CCD spectroradiometer for ultraviolet actinic radiation measurements. *J. Atmos. Ocean. Tech.*, **24**, 449-462, doi:10.1175/JTECH1979.1.
- Kulmala, M., Mordas, G., Petäjä, T., Grönholm, T., Aalto, P., Vehkamäki, H., Hienola, A. I., Herrmann, E., Sipilä, M., Riipinen, I., Manninen, H., Hämeri, K., Stratmann, F., Bilde, M., Winkler, P. M., Birmili, W. and Wagner, P. E. 2007. The Condensation Particle Counter Battery (CPCB): A new tool to investigate the activation properties of nanoparticles. *J. Aerosol Sci.*, **38**, 289-304.
- Laakso, L., Grönholm, T., Kulmala, L., Haapanala, S., Hirsikko, A., Lovejoy, E. R., Kazil, J., Kurten, T., Boy, M., Nilsson, E. D., Sogachev, A., Riipinen, I., Stratmann, F. and Kulmala, M. 2007. Hot-air balloon as a platform for boundary layer profile measurements during particle formation. *Boreal Environ. Res.*, **12**, 279-294.
- Lehmann, K., Siebert, H., Wendisch, M. and Shaw, R. 2007. Evidence for inertial droplet clustering in weakly turbulent clouds. *Tellus B*, **59**, 57-65.
- Massie, S. T., Heymsfield, A., Schmitt, C., Müller, D. and Seifert, P. 2007. Aerosol indirect effects as a function of cloud top pressure. *J. Geophys. Res.-Atmosph.*, **112**, D06202, doi:10.1029/2006JD007383.

- Mertes, S., Verheggen, B., Walter, S., Conolly, P., Ebert, M., Schneider, J., Bower, K. N., Cozic, J., Weinbruch, S., Baltensperger, U. and Weingartner, E. 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. Technol.*, **41**, 848-864, doi:10.1080/02786820701501881.
- Müller, D., Ansmann, A., Mattis, I., Tesche, M., Wandinger, U., Althausen, D. and Pisani, G. 2007. Aerosol-type-dependent lidar ratios observed with Raman lidar. *J. Geophys. Res.-Atmosph.*, **112**, D16202, doi:10.1029/2006JD008292.
- Otto, M., De Reus, M., Trautmann, T., Thomas, A. and Wendisch, M. 2007. Atmospheric radiative effects of an in-situ measured Saharan dust plume and the role of large particles. *Atmos. Chem. Phys.*, **7**, 4887-4903.
- Riipinen, I., Sihto, S.-L., Kulmala, M., Arnold, F., Dal Maso, M., Birmili, W., Saarnio, K., Teinilä, K., Kerminen, V.-M., Laaksonen, A. and Lehtinen, K. E. J. 2007. Connections between atmospheric sulphuric acid and new particle formation during QUEST III-IV campaigns in Heidelberg and Hyytiälä. *Atmos. Chem. Phys.*, **7**, 1899-1914.
- Schmidt, K. S., Venema, V., Di Giuseppe, F., Scheirer, R., Wendisch, M. and Pilewskie, P. 2007. Reproducing cloud microphysical and irradiance measurements using three 3D cloud generators. *Q. J. Roy. Meteor. Soc.*, **133**, 765-780, doi:10.1002/qj.53.
- Seifert, P., Ansmann, A., Müller, D., Wandinger, U., Althausen, D., Heymsfield, A. J., Massie, S. T. and Schmitt, C. 2007. Cirrus optical properties observed with lidar, radiosonde, and satellite over the tropical Indian Ocean during the aerosol-polluted northeast and clean maritime southwest monsoon. *J. Geophys. Res.-Atmosph.*, **112**, D17205, doi:10.1029/2006JD008352.
- Siebert, H., Lehmann, K. and Shaw, R. 2007. On the use of hot-wire anemometers for turbulence measurements in clouds. *J. Atmos. Ocean. Tech.*, **24**, 980-993.
- Siebert, H., Wehner, B., Hellmuth, O., Stratmann, F., Boy, M. and Kulmala, M. 2007. New-particle formation in connection with a nocturnal low-level jet: Observations and modeling results. *Geophys. Res. Lett.*, **34**, L16822, doi:10.1029/2007GL029891.
- Spracklen, D., Pringle, K., Carslaw, K., Mann, G., Manktelow, P. and Heintzenberg, J. 2007. Evaluation of a global aerosol microphysics model against size-resolved particle statistics in the marine atmosphere. *Atmos. Chem. Phys.*, **7**, 2073-2090.
- Tesche, M., Ansmann, A., Müller, D., Althausen, D., Engelmann, R., Hu, M. and Zhang, Y. 2007. Particle backscatter, extinction, and lidar ratio profiling with Raman lidar in South and North China. *Appl. Optics*, **46**, 6302-6308.
- Uhrner, U., von Löwis, S., Vehkamäki, H., Wehner, B., Bräsel, S., Hermann, M., Stratmann, F., Kulmala, M. and Wiedensohler, A. 2007. Dilution and aerosol dynamics within a diesel car exhaust plume - CFD simulations of on-road measurement conditions. *Atmos. Environ.*, **41**, 7440-7461.
- Verheggen, B., Cozic, J., Weingartner, E., Bower, K. N., Mertes, S., Connolly, P., Gallagher, M., Flynn, M., Choulaton, T. W. and Baltensperger, U. 2007. Aerosol partitioning between the interstitial and the condensed phase in mixed-phase clouds. *J. Geophys. Res.-Atmosph.*, **112**, D23202, doi:10.1029/2007JD008714.
- Voigtländer, J., Stratmann, F., Niedermeier, D., Wex, H. and Kiselev, A. 2007. Mass accommodation coefficient of water: A combined computational fluid dynamics and experimental data analysis. *J. Geophys. Res.-Atmosph.*, **112**, D20208, doi:10.1029/2007JD008604.
- Wehner, B., Siebert, H., Stratmann, F., Tuch, T., Wiedensohler, A., Petäjä, T., Dal Maso, M. and Kulmala, M. 2007. Horizontal homogeneity and vertical extent of new particle formation events. *Tellus B*, **59**, 362-371.
- Wendisch, M., Yang, P. and Pilewskie, P. 2007. Effects of ice crystal habit on thermal infrared radiative properties and forcing of cirrus. *J. Geophys. Res.-Atmosph.*, **112**, D08201, doi:10.1029/2006JD007899.
- Wex, H., Hennig, T., Salma, I., Ocskay, R., Kiselev, A., Henning, S., Massling, A., Wiedensohler, A. and Stratmann, F. 2007. Hygroscopic growth and measured and modeled critical super-saturations of an atmospheric HULIS sample. *Geophys. Res. Lett.*, **34**, L02818, doi:10.1029/2006GL027320.
- Wex, H., Ziese, M., Kiselev, A., Henning, S. and Stratmann, F. 2007. Deliquescence and hygroscopic growth of succinic acid particles measured with LACIS. *Geophys. Res. Lett.*, **34**, L17810, doi:10.1029/2007GL030185.

- Wu, Z., Hu, M., Liu, S., Wehner, B., Bauer, S., Wiedensohler, A., Petäjä, T., Dal Maso, M. and Kulmala, M. 2007. New particle formation in the mega-city: Beijing, China. *J. Geophys. Res.-Atmosph.*, **112**, D09209, doi:10.1029/2006JD007406.

2006

Buchkapitel

- Birmili, W. and Hoffmann, T. 2006. *Particulate and dust pollution, inorganic and organic compounds*. G. J. Laurent and S. D. Shapiro (Ed.), In: *Encyclopedia of respiratory medicine*. Elsevier Academic Press, Amsterdam, **Vol. 2**, p. 110-119.

Begutachtete Publikationen

- Ansmann, A. 2006. Ground-truth aerosol lidar observations: Can the Klett solutions obtained from ground and space be equal for the same aerosol case? *Appl. Optics*, **45**, 3367-3371.
- Birmili, W., Allen, A. G., Bary, F. and Harrison, R. M. 2006. Trace metal concentrations and water solubility in size-fractionated atmospheric particles and influence of road traffic. *Environ. Sci. Technol.*, **40**, 1144-1153, doi:10.1021/es0486925.
- Bond, T., Wehner, B., Plewka, A., Wiedensohler, A., Heintzenberg, J. and Charlson, R. J. 2006. Climate relevant properties of primary particulate emissions from oil and natural gas combustion. *Atmos. Environ.*, **40**, 3574-3587.
- Cheng, Y. F., Eichler, H., Wiedensohler, A., Heintzenberg, J., Zhang, Y. H., Hu, M., Herrmann, H., Zeng, L. M., Liu, S., Gnauk, T., Brüggemann, E. and He, L. Y. 2006. Mixing state of elemental carbon and non-light-absorbing aerosol components derived from in-situ particle optical properties at Xinken in Pearl River Delta of China. *J. Geophys. Res.-Atmosph.*, **111**, D20204, doi:10.1029/2005JD006929.
- Franck, U., Tuch, T., Manjarrez, M., Wiedensohler, A. and Herbarth, O. 2006. Indoor and outdoor submicrometer particles: Exposure and epidemiologic relevance ("The 3 Indoor Ls"). *Environmental Toxicology*, **21**, 606-613.
- Heintzenberg, J., Leck, C., Birmili, W., Wehner, B., Tjernström, M. and Wiedensohler, A. 2006. Aerosol number-size distributions during clear and fog periods in the summer high Arctic: 1991, 1996, and 2001. *Tellus B*, **58**, 41-50.
- Heintzenberg, J., Wiedensohler, A., Tuch, T. M., Covert, D. S., Sheridan, P., Ogren, J. A., Gras, J., Nessler, R., Kleefeld, C., Kalivitis, N., Aaltonen, V., Wilhelm, R.-T. and Havlicek, M. 2006. Intercomparisons and aerosol calibrations of 12 commercial integrating nephelometers of three manufacturers. *J. Atmos. Ocean. Tech.*, **23**, 902-914.
- Held, A., Nowak, A., Wiedensohler, A. and Klemm, O. 2006. Field measurements and size-resolved model simulations of turbulent particle transport to a forest canopy. *J. Aerosol Sci.*, **37**, 786-798.
- Jäkel, E., Wendisch, M. and Lefer, B. L. 2006. Parameterization of ozone photolysis frequency in the lower troposphere using data from photodiode array detector spectrometers. *J. Atmos. Chem.*, doi:10.1007/s10874-006-9014-1.
- Laakso, L., Koponen, I. K., Kulmala, M., Kerminen, V.-M., Wehner, B., Wiedensohler, A., Wu, Z. and Hu, M. 2006. Aerosol particles in the developing world; a comparison between New Delhi in India and Beijing in China. *Water Air Soil Poll.*, doi:10.1007/s11270-005-9018-5.
- Löndahl, J., Pagels, J., Swietlicki, E., Zhou, J., Ketzler, M., Massling, A. and Bohgard, M. 2006. Set-up for field studies of respiratory fine and ultrafine aerosol particle deposition in humans. *J. Aerosol Sci.*, **37**, 1152-1163.
- Müller, D., Tesche, M., Eichler, H., Engelmann, R., Althausen, D., Ansmann, A., Cheng, Y. F., Zhang, Y. H. and Hu, M. 2006. Strong particle light absorption over the Pearl River Delta (South China) and Beijing (North China) determined from combined Raman lidar and sun photometer observations. *Geophys. Res. Lett.*, **33**, L20811.
- Müller, T., Müller, D. and Dubois, R. 2006. Particle extinction measured at ambient conditions with differential optical absorption spectroscopy. 2. Closure study. *Appl. Optics*, **45**, 2295-2305.
- Pahlow, M., Müller, D., Tesche, M., Eichler, H., Feingold, G., Eberhard, W. L. and Cheng, Y.-F. 2006. Retrieval of aerosol properties from combined multiwavelength lidar and sun photometer measurements. *Appl. Optics*, **45**, 7429-7442.
- Plitzko, S., Wehner, B. and Johnen, A. 2006. Qualitative und quantitative Erfassung von Schweißrauchen als Grundlage für die Bewertung der inneren Manganbelastung (Biomonitoring). *Gefahrst. Reinhalt. L.*, **66**, 25-32.

- Redemann, J., Pilewskie, P., Russell, P., Livingston, J., Howard, S., Schmid, B., Pommier, J., Gore, W., Eilers, J. and Wendisch, M. 2006. Airborne measurements of spectral direct aerosol radiative forcing in the Intercontinental chemical Transport Experiment/Intercontinental Transport and Chemical Transformation of anthropogenic pollution, 2004. *J. Geophys. Res.-Atmosph.*, **111**, D14210, doi:10.1029/2005JD006812.
- Rose, D., Wehner, B., Ketzler, M., Engler, C., Voigtländer, J., Tuch, T. and Wiedensohler, A. 2006. Atmospheric number size distributions of soot particles and estimation of emission factors. *Atmos. Chem. Phys.*, **6**, 1021-1031.
- Siebert, H., Franke, H., Lehmann, K., Maser, R., Saw, E. W., Shaw, R. A., Schell, D. and Wendisch, M. 2006. Probing fine-scale dynamics and microphysics of clouds with helicopter-borne measurements. *Bull. Amer. Meteor. Soc.*, **87**, 1727-1739.
- Siebert, H., Lehmann, K. and Wendisch, M. 2006. Observations of small-scale turbulence and energy dissipation rates in the cloudy boundary layer. *J. Atmos. Sci.*, **63**, 1451-1466.
- Tuch, T., Herbarth, O., Franck, U., Peters, A., Wehner, B., Wiedensohler, A. and Heintzenberg, J. 2006. Weak correlation of ultrafine aerosol particle concentrations < 800 nm between two sites within one city. *Journal of Exposure Science & Environmental Epidemiology*, **16**, 486-490 (doi:10.1038/sj.jes.500469).
- Verma, S., Boucher, O., Venkataraman, C., Reddy, M. S., Müller, D., Chazette, P. and Crouzille, B. 2006. Aerosol lofting from sea breeze during the Indian Ocean Experiment. *J. Geophys. Res.-Atmosph.*, **111**, D07208, doi:10.1029/2005JD005953.
- Voigtländer, J., Tuch, T., Birmili, W. and Wiedensohler, A. 2006. Correlation between traffic density and particle size distribution in a street canyon and the dependence on wind direction. *Atmos. Chem. Phys.*, **6**, 4275-4286.
- Wendisch, M., Müller, D., Mattis, I. and Ansmann, A. 2006. Potential of lidar backscatter data to estimate solar aerosol radiative forcing. *Appl. Optics*, **45**, 770-783.
- Wex, H., Kiselev, A., Ziese, M. and Stratmann, F. 2006. Calibration of LACIS as a CCN detector and its use in measuring activation and hygroscopic growth of atmospheric aerosol particles. *Atmos. Chem. Phys.*, **6**, 4519-4527.

2005

Buchkapitel

- Ansmann, A. and Müller, D. 2005. *Lidar and atmospheric aerosol particles*. C. Weitkamp (Ed.), In: *Lidar*. Springer, New York, p. 105-141 (Chapter 4).
- Wandinger, U. 2005. *Introduction to lidar*. C. Weitkamp (Ed.), In: *Lidar*. Springer, New York, p. 1-18 (Chapter 1).
- Wandinger, U. 2005. *Raman lidar*. C. Weitkamp (Ed.), In: *Lidar*. Springer, New York, p. 241-271 (Chapter 9).

Begutachtete Publikationen

- Ansmann, A., Engelmann, R., Althausen, D., Wandinger, U., Hu, M., Zhang, Y. and He, Q. 2005. High aerosol load over the Pearl River Delta, China, observed with Raman lidar and Sun photometer. *Geophys. Res. Lett.*, **32**, L13815, doi:10.1029/2005GL023094.
- Ansmann, A., Mattis, I., Müller, D., Wandinger, U., Radlach, M., Althausen, D. and Damoah, R. 2005. Ice formation in Saharan dust over central Europe observed with temperature/humidity/aerosol Raman lidar. *J. Geophys. Res.-Atmosph.*, **110**, D18S12, doi:10.1029/2004JD005000.
- Arshinov, Y. F., Bobrovnikov, S. M., Serikov, I. B., Ansmann, A., Wandinger, U., Althausen, D., Mattis, I. and Müller, D. 2005. Daytime operation of a pure rotational Raman lidar by use of a Fabry-Perot interferometer. *Appl. Optics*, **44**, 3593-3603.
- Böckmann, C., Miranova, I., Böckmann, C., Müller, D., Scheidenbach, L. and Nessler, R. 2005. Microphysical aerosol parameters from multiwavelength lidar. *J. Opt. Soc. Amer. A*, **22**, 518-528.
- Chand, D., Schmid, O., Gwaze, P., Parmar, R. S., Helas, G., Zeromskiene, K., Wiedensohler, A., Massling, A. and Andreae, M. O. 2005. Laboratory measurements of smoke optical properties from the burning of Indonesian peat and other types of biomass. *Geophys. Res. Lett.*, **32**, L12819, doi:10.1029/2005GL022678.

- Fiedler, V., Dal Maso, M., Boy, M., Aufmhoff, H., Hoffmann, J., Schuck, T., Birmili, W., Hanke, M., Uecker, J., Arnold, F. and Kulmala, M. 2005. The contribution of sulphuric acid to atmospheric particle formation and growth: A comparison between boundary layers in Northern and Central Europe. *Atmos. Chem. Phys.*, **4**, 1773-1785.
- Guibert, S., Matthias, V., Schulz, M., Bösenberg, J., Eixmann, R., Mattis, I., Pappalardo, G., Perrone, M. R., Spinelli, N. and Vaughan, G. 2005. The vertical distribution of aerosol over Europe - synthesis of one year of EARLINET aerosol lidar measurements and aerosol transport modeling with LMDzT-INCA. *Atmos. Environ.*, **39**, 2933-2943.
- Hennig, T., Massling, A., Brechtel, F. J. and Wiedensohler, A. 2005. A Tandem DMA for highly temperature-stabilized hygroscopic particle growth measurements between 90% and 98% relative humidity. *J. Aerosol Sci.*, **36**, 1210-1223.
- Hermann, M., Adler, S., Caldow, R., Stratmann, F. and Wiedensohler, A. 2005. Pressure-dependent efficiency of a condensation particle counter operated with FC-43 as working fluid. *J. Aerosol Sci.*, **36**, 1322-1337.
- Jäkel, E., Wendisch, M., Kniffka, A. and Trautmann, T. 2005. Airborne system for fast measurements of upwelling and downwelling spectral actinic flux densities. *Appl. Optics*, **44**, 434-444.
- Kiselev, A., Wex, H., Stratmann, F., Nadeev, A. and Karpushenko, D. 2005. White-light optical particle spectrometer for in situ measurements of condensational growth of aerosol particles. *Appl. Optics*, **44**, 4693-4701.
- Kylling, A., Webb, A. R., Kift, R., Gobbi, G. P., Ammannato, L., Barnaba, F., Bais, A., Kazadzis, S., Wendisch, M., Jäkel, E., Schmidt, S., Kniffka, A., Thiel, S., Junkermann, W., Blumthaler, M., Silbernagl, R., Schallhart, B., Schmitt, R., Kjelstad, B., Thorset, T. M., Scheirer, R. and Mayer, B. 2005. Spectral actinic flux in the lower troposphere: Measurement and 1-D simulations for cloudless, broken cloud and overcast situations. *Atmos. Chem. Phys.*, **5**, 1975-1997.
- Lehmann, K., Massling, A., Tilgner, A., Mertes, S., Galgon, D. and Wiedensohler, A. 2005. Size-resolved soluble volume fractions of submicrometer particles in air masses of different character. *Atmos. Environ.*, **39**, 4257-4266.
- Leiterer, U., Dier, H., Nagel, D., Näbert, T., Althausen, D., Franke, K., Kats, A. and Wagner, F. 2005. A correction method for RS80-A Humicap humidity profiles and their validation by lidar backscattering profiles in tropical cirrus clouds. *J. Atmos. Ocean. Tech.*, **22**, 18-29.
- Martinsson, B. G., Nguyen, H. N., Brenninkmeijer, C. A. M., Zahn, A., Heintzenberg, J., Hermann, M. and van Velthoven, P. J. 2005. Characteristics and origin of lowermost stratospheric aerosol at northern midlatitudes under volcanically quiescent conditions based on CARIBIC observations. *J. Geophys. Res.-Atmosp.*, **110**, D12201, doi:10.1029/2004JD005644.
- Massling, A., Stock, M. and Wiedensohler, A. 2005. Diurnal, weekly, and seasonal variation of hygroscopic properties of submicrometer urban aerosol particles. *Atmos. Environ.*, **39**, 3911-3922.
- Mertes, S., Galgon, D., Schwirn, K., Nowak, A., Lehmann, K., Massling, A., Wiedensohler, A. and Wiprecht, W. 2005. Evolution of particle concentration and size distribution observed upwind, inside and downwind hill cap clouds at connected flow conditions during FEBUKO. *Atmos. Environ.*, **39**, 4233-4245.
- Mertes, S., Lehmann, K., Nowak, A., Massling, A. and Wiedensohler, A. 2005. Link between aerosol hygroscopic growth and droplet activation observed for hill-capped clouds at connected flow conditions during FEBUKO. *Atmos. Environ.*, **39**, 4247-4256.
- Müller, D., Mattis, I., Wandinger, U., Ansmann, A., Althausen, D. and Stohl, A. 2005. Raman lidar observations of aged Siberian and Canadian forest fire smoke in the free troposphere over Germany in 2003: Microphysical particle characterization. *J. Geophys. Res.-Atmosp.*, **110**, D17201, doi:10.1029/2004JD005756.
- Müller, T., Müller, D. and Dubois, R. 2005. Particle extinction measured at ambient conditions with differential optical-absorption spectroscopy. 1. System setup and characterization. *Appl. Optics*, **44**, 1657-1666.
- Rhee, T. S., Brenninkmeijer, C. A. M., Mühle, J., van Velthoven, P. J., Hermann, M., Zahn, A., Oram, D. E., Scharffe, D. H., Köppel, C., Fischer, H. and Lelieveld, J. 2005. A case study of rapid mixing across the extratropical tropopause based on Civil Aircraft for the Regular Investigation of the Atmosphere Based on an Instrumented Container (CARIBIC) observations. *J. Geophys. Res.-Atmosp.*, **110**, D22301, doi:10.1029/2005JD005890.

- Scheer, V., Kirchner, U., Casati, R., Vogt, R., Wehner, B., Philippin, S., Wiedensohler, A., Hock, N., Schneider, J., Weimer, S. and Borrmann, S. 2005. Composition of semi-volatile particles from diesel exhaust. SAE Paper, 2005-01-0197.
- Schnaiter, M., Linke, C., Möhler, O., Naumann, K.-H., Saathoff, H., Wagner, R., Schurath, U. and Wehner, B. 2005. Absorption amplification of black carbon internally mixed with secondary organic aerosol. *J. Geophys. Res.-Atmosph.*, **110**, D19204, doi:10.1029/2005JD006046.
- Veselovskii, I., Kolgotin, A., Müller, D. and Whiteman, D. 2005. Information content of multiwavelength lidar data with respect to microphysical particle properties derived from eigenvalue analysis. *Appl. Optics*, **44**, 5292-5303.
- Wehner, B., Petäjä, T., Boy, M., Engler, C., Birmili, W., Tuch, T., Wiedensohler, A. and Kulmala, M. 2005. The contribution of sulfuric acid and non-volatile compounds on the growth of freshly formed atmospheric aerosols. *Geophys. Res. Lett.*, **32**, doi:10.1029/2005GL023827.
- Wendisch, M., Pilewskie, P., Pommier, J., Howard, S., Yang, P., Heymsfield, A. J., Schmitt, C., Baumgardner, D. and Mayer, B. 2005. Impact of cirrus crystal shape on solar spectral irradiance: A case study for subtropical cirrus. *J. Geophys. Res.-Atmosph.*, **110**, D03202, doi:10.1029/2004JD005294.
- Wex, H., Kiselev, A., Stratmann, F., Zoboki, J. and Brechtel, F. J. 2005. Measured and modeled equilibrium sizes of NaCl and (NH₄)₂SO₄ particles at relative humidities up to 99.1%. *J. Geophys. Res.-Atmosph.*, **110**, doi:10.1029/2004JD005507.
- Wieprecht, W., Acker, K., Mertes, S., Collett Jr., J. L., Jaeschke, W., Brüggemann, E., Möller, D. and Herrmann, H. 2005. Cloud physics and cloud water sampler comparison during FEBUKO. *Atmos. Environ.*, **39**, 4267-4277.