



Appendix



Physics section

Book Section

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- Sierau, B., Hofmann, D., Pelzing, M., Stratmann, F., und Wilck, M. 2000. *Analysis of submicrometer organic aerosol particles - A new method and first laboratory results*. European Aerosol Conference, Dublin, 3.-8. September, 973-974.
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- Wiedensohler, A., und Heintzenberg, J. 2000. *Overview of the ground-based aerosol measurements during the intensive field phase of INDOEX. EGS 2000*, Nizza.
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Lectures

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- Franke, K. 1999. Die räumliche und zeitliche Korrelation der Solarstrahlung auf unterschiedlich orientierten Flächen in Sachsen. Umweltforschungszentrum Leipzig Arbeitsgruppe Stadtklima.
- Heintzenberg, J. 1999. Advanced measurement techniques. EMEP/WMO Workshop on Fine Particles - Emissions, Modelling and Measurements, Interlaken, Switzerland. *)
- Heintzenberg, J. 1999. Klimarelevante Wechselwirkung von Aerosolen, Wolken und Strahlung. GKSS-Forschungszentrum Geesthacht GmbH, Institut für Atmosphärenphysik. *)
- Heintzenberg, J. 1999. Klimawirksamkeit von Aerosolen. DECHEMA-Jahrestagung ,99, Sonderveranstaltung „Aerosole und Umwelt“. *)
- Siebert, H., und Hoff, A. 1999. Airship-borne cloud turbulence measurement system. University of Bremen, DGLR Workshop III - Flight Systems Lighter-than-Air.
- Wehner, B. 1999. Größenaufgelöste Partikelmessungen in der urbanen Atmosphäre von Leipzig. Gastvortrag, Sächsisches Landesamt für Umwelt und Geologie, Abteilung Luft, Lärm, Strahlen.
- Wendisch, M. 1999. PVM measurements during the wind tunnel tests at Nasa Lewis. Workshop on cloud microphysical measurement techniques. *)
- Wendisch, M., und Wex, H. 1999. Vertical profiles of microphysical and optical properties of aerosol particles over the Eastern Mediterranean area. Meteorological Research Flight (MRF), Farnborough. *)
- Wex, H. 1999. Aerosole in der Klimaforschung - Meßtechniken und Qualitätssicherung. FU Berlin. *)
- Wiedensohler, A. 1999. Messungen von ultrafeinen und feinen Aerosolen und ihre Anwendung und Bedeutung auf Schweißrauch. Bundesanstalt für Arbeitsschutz und Arbeitsmedizin. *)
- Wiedensohler, A. 1999. New results from the aerosol and cloud group of the Institute for Tropospheric Research. NILU Lilleström. *)
- Wiedensohler, A. 1999. Studies and observations of the clean marine and polluted atmospheric aerosol in the marine boundary layer during ACE-2. Brookhaven National Laboratory. *)
- Wiedensohler, A. 1999. Studies and observations of the clean marine and polluted atmospheric aerosol in the marine boundary layer during ACE-2. Oak Ridge National Laboratory. *)

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- Heintzenberg, J. 2000. 100 years of marine aerosol research: A review. University of Tokyo, Center for Climate System Research. *)
- Heintzenberg, J. 2000. Aerosol influence on the radiation budget: Where do we stand? Meteorological Research Institute, Tsukuba, Japan. *)
- Heintzenberg, J. 2000. Aerosol measurements in the tropopause region from a commercial aircraft: The CARIBIC project. Meteorological Research Institute, Tsukuba, Japan. *)
- Heintzenberg, J. 2000. Atmospheric aerosols, 10 years of IGAC research. IGAC Community Review Meeting, Aspen, Colorado.
- Heintzenberg, J. 2000. Present status and remaining challenges concerning aerosol effects on climate. University of Hiroshima, Dept. of Chemical Engineering. *)
- Heintzenberg, J. 2000. What is wrong with today's climate models? University of Alaska. *)
- Keil, A., Wendisch, M., Brüggemann, E., und Heintzenberg, J. 2000. Solar radiative forcing by particles containing black carbon-measurement-based case studies. Hadley Centre for Climate Prediction and Research, Bracknell, U.K.
- Klugmann, D. 2000. Cloud microphysics at IFT: Measurement and model. NOAA, Boulder, Colorado. *)
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- Mertes, S., Schwarzenböck, A., Brüggemann, E., Gnauk, T., Dippel, B., und Plewka, A. 2000. Reservoiraufteilung von Ruß, organischen Bestandteilen, Gesamtkohlenstoff, löslichen Substanzen und Aerosolpartikeln (Anzahl und Masse) in der Tropfen- und Zwischenraumphase von Wolken. Workshop Atmosphärische Aerosolforschung, Schierke.



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- Teichmann, U., und Siebert, H. 2000. Concept and first results of an airship-borne cloud turbulence system. ATDD/NOAA, Oak Ridge. *)
- Wendisch, M. 2000. Einfluss des Menschen auf das Klima. Evangelische Mittelschule Großrückerswalde. *)
- Wendisch, M., Müller, D., Schell, D., und Heintzenberg, J. 2000. The new spectral albedometer of IfT. METEO FRANCE (CNRM), Toulouse. *)
- Wiedensohler, A. 2000. Ergebnisse zu Aerosol-Feldexperimenten: In-situ Schließungsexperiment, Größenverteilungen des urbanen Aerosols und Partikelneubildung in der verschmutzten Grenzschicht. PSI Villingen. *)

Patent

1999

- Stratmann, F., Sierau, B., Heintzenberg, J., und Pelzing, M. 1999. Verfahren und Vorrichtung zur größen aufgelösten chemischen und physikalischen Bestimmung von Aerosolpartikeln (patent application).

*) invited lectures



Chemistry section

Publications, peer-reviewed

1999

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- Berndt, T., Picht, R., und Stratmann, F. 1999. An approximate method for numerically solving PDEs in chemical kinetics using Laplace transformation. *Z. Phys. Chem.* **209**, 259-270.
- Brüggemann, E., und Spindler, G. 1999. Wet and dry deposition of sulfur at the site Melpitz in East Germany. *Water Air Soil Pollut.* **109**, 81-99.
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- Müller, K. 1999. A 3-year study of the aerosol in northwest saxonía (Germany). *Atmos. Environ.* **33**, 1679-1685.
- Spindler, G., Müller, K., und Herrmann, H. 1999. Main particulate matter components in Saxony (Germany) - trends and sampling aspects. *Environ. Sci. Pollut. Res.* **6**, 89-94.
- Umschlag, T., und Herrmann, H. 1999. The carbonate radical (HCO₃⁻/CO₃⁻) as a reactive intermediate in Water chemistry: kinetics and modelling. *Acta hydrochim. hydrobiol.* **27**, 214-222.

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- Benkelberg, H.-J., Böge, O., Seuwen, R., und Warneck, P. 2000. Product distributions from the OH radical-induced oxidation of but-1-ene, methyl-substituted but-1-enes and isoprene in NO_x-free air. *Phys. Chem. Chem. Phys.* **2**, 4029-4039.
- Ervens, B., und Herrmann, H. 2000. Reply to „comment on „A chemical aqueous phase radical mechanism for tropospheric chemistry“ by R. Sander and P. Crutzen. *Chemosphere* **41**, 633-634.
- Herrmann, H., Ervens, B., Jacobi, H. W., Wolke, R., Nowacki, P., und Zellner, R. 2000. CAPRAM2.3: A chemical aqueous phase radical mechanism for tropospheric chemistry. *Journal of Atmospheric Chemistry* **36**, 231-284.
- Hofmann, D., und Herrmann, H. 2000. Method development to characterization of polar VOC-oxidations products in cloud water and aerosol. *J. High Resol. Chromatogr.* **23**, 285.
- Neusüß, C., Pelzing, M., Plewka, A., und Herrmann, H. 2000. A new analytical approach for size-resolved speciation of organic compounds in atmospheric aerosol particles: Methods and first results. *J. Geophys. Res.* **105**, 4513-4527.
- Neusüß, C., Weise, D., Birmili, W., Wex, H., Wiedensohler, A., und Covert, D. 2000. Size-segregated chemical, gravimetric and number distribution-derived mass closure of the aerosol in Sagres, Portugal during ACE-2. *Tellus* **52B**, 169-184.
- Quinn, P. K., Bates, T. S., Coffman, D. J., Miller, T. L., Johnson, J. E., Covert, D. S., Putaud, J.-P., Neusüß, C., und Novakov, T. 2000. A comparison of aerosol chemical and optical properties from the first and second Aerosol Characterization Experiments. *Tellus* **52B**, 239-257.



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- Berndt, T., Böge, O., und Herrmann, M. 1999. *Gas-phase reaction of NO₃ radicals with b-pinene.* EUROTRAC II Symposium „Transport and Chemical Transformation in the Troposphere“, Garmisch-Partenkirchen 23. - 27. März, 79-83.
- Berndt, T., Böge, O., und Herrmann, H. 1999. *Gas-phase products from the reaction of OH radicals with benzene.* EC/EUROTRAC-2 Joint Workshop „Chemical Mechanism Development (CMD)“, Aachen, 20. - 22. September, 36-39.
- Berndt, T., Böge, O., und Herrmann, H. 1999. *Produktstudien zur Gasphasenreaktion von OH Radikalen mit Benzol.* Bunsentagung 1999, Dortmund, 13.-15. Mai.
- Bolzacchini, E., Meinardi, S., Rindone, B., Hjorth, J., Umschlag, T., Weise, D., Walter, A., Herrmann, H., Palm, H., Zetzsch, C., Whitacker, B., und Pilling, M. J. 1999. *EC-Project UNARO „uptake and nitration of aromatics“.* EC/EUROTRAC-2 Joint Workshop „Chemical Mechanism Development (CMD)“, Aachen, 20.-22. September, 154-157.
- Brüggemann, E., Spindler, G., Grüner, A., Thomas, A., und Herrmann, H. 1999. *Artefacts in aerosol filterpack collection.* European Aerosol Conference, Prag, 6.-10. September, 591-592.
- Ervens, B., Böge, O., Wolke, R., und Herrmann, H. 1999. *Modellrechnungen zur troposphärischen Multiphasenchemie mittels CAPRAM2.4.* Bunsentagung 1999, Dortmund, 13.-15. Mai.
- Ervens, B., Herrmann, H., und Wolke, R. 1999. *Model calculations of tropospheric multiphase chemistry.* EGS annual meeting, Den Haag, 19.-23. April.
- Ervens, B., Wolke, R., und Herrmann, H. 1999. *Modelling calculations with CAPRAM2.4 and RACM describing tropospheric multiphase chemistry.* EC/EUROTRAC-2 Joint Workshop „Chemical Mechanism Development (CMD)“, Aachen, 20.-22. September, 324-327.
- Herrmann, H. 1999. *Current issues in tropospheric aqueous particle chemistry.* 2nd Gentener Symposium on Geoscience, Nazareth, Israel, 22.-24. Oktober.
- Herrmann, H. 1999. *Model development for atmospheric aqueous phase chemistry.* EC Cluster 2 Meeting, Brüssel, 25. November.
- Herrmann, H., Ervens, B., Hesper, J., und Wicktor, F. 1999. *Radical-induced tropospheric multiphase formation and degradation of atmospheric reactive substances (ARS).* First International Symposium on Atmospheric Reactive Substances (ARS), Bayreuth, 14.-16. April.
- Herrmann, H., Ervens, B., Hesper, J., und Wicktor, F. 1999. *Tropospheric aqueous phase chemistry laboratory and modelling studies.* Fine Particle Science and Environmental Chamber Workshop, Riverside, Oktober.
- Neusüß, C., Brüggemann, E., Gnauk, T., Wex, H., Herrmann, H., und Wiedensohler, A. 1999. *Chemical composition and mass closure of the size-segregated atmospheric aerosol in Falkenberg during LACE.* European Aerosol Conference 1999, Prag, 6.-10. September, 913-914.
- Plewka, A., Pelzing, M., Müller, K., und Herrmann, H. 1999. *Characterisation of organic substances in particulate Matter.* EGS annual meeting, Den Haag, 19.-23. April.
- Spindler, G., Brüggemann, E., Müller, K., und Herrmann, H. 1999. *Variations of nitric acid (HNO₃) concentration at a rural site in saxony.* First International Symposium on Atmospheric Reactive Substances (ARS), Bayreuth, 14. - 16. April.
- Spindler, G., Müller, K., und Herrmann, H. 1999. *PM 10 and PM 2.5 particle concentration measurements with filterpacks - a four year study in Saxony (Germany).* European Aerosol Conference, Prag, 6.-10. September, 895-896.
- Umschlag, T., Herrmann, H., und Zellner, R. 1999. *Kinetic study of the reaction of NO₃ radicals with different aromatic compounds in pH dependent measurements in aqueous solution.* EC/EUROTRAC-2 Joint Workshop „Chemical Mechanism Development (CMD)“, Aachen, 20. - 22. September, 175-178.
- Wicktor, F., und Herrmann, H. 1999. *Direct Laser-based kinetic and spectroscopic investigations of the Cl-atom in aqueous solution.* EC/EUROTRAC-2 Joint Workshop „Chemical Mechanism Development (CMD)“, Aachen, 20. - 22. September, 183-186.

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- Barzaghi, P., und Herrmann, H. 2000. *Oxidation process of phenol by Nitrate radical in aqueous phase: A product study.* EUROTRAC-2 Joint Workshop, Lausanne, 10.-13. September.
- Berndt, T., und Böge, O. 2000. *Gas-phase reaction of OH radicals with Benzene: products and mechanism.* EUROTRAC-2 Joint Workshop, Lausanne, 10.-13. September.



- Berndt, T., Böge, O., Conrath, T., Stratmann, F., und Heintzenberg, J. 2000. *Formation of new particles in the system $H_2SO_4(SO_3)/H_2O/(NH_3)$ - first results from a flow-tube study.* European Aerosol Conference, Dublin, 3.-8. September, 554-555.
- Brüggemann, E., Gnauk, T., Müller, K., Neusüß, C., Plewka, A., Spindler, G., und Herrmann, H. 2000. *Recent results from different aerosol chemical characterisation field experiments: budgets and processes.* Fourth German-Italien-Workshop on Atmospheric Chemistry, Kloster Marienthal, 2. Juni.
- Donati, A., und Herrmann, H. 2000. *Laser-based laboratory studies of Cl atom reactions in aqueous solution.* EUROTRAC-2 Joint Workshop, Lausanne, 10.-13. September.
- Engelhardt, T., Lammel, G., Neusüß, C., Röhrli, A., und Wieser, P. 2000. *Changes of the aerosol chemical composition during transport over a metropolitan area.* European Aerosol Conference, Dublin, 3.-8. September, 751-752.
- Ervens, B., Donati, A., Barzagli, P., Hesper, J., und Herrmann, H. 2000. *Laboratory and modelling studies of radical (OH, NO_3)-initiated tropospheric organic aqueous phase conversion processes.* AGU-Meeting, San Francisco, 14.-15. Dezember.
- Ervens, B., und Herrmann, H. 2000. *CAPRAM2.4 - Ein Multiphasenmechanismus zur Beschreibung troposphärischer Wolkenchemie.* Bunsentagung, Würzburg, 1.-3. Juni.
- Ervens, B., und Herrmann, H. 2000. *Experimental determination of OH-reaction rates with organics (3C_2) and their importance to tropospheric multiphase chemistry.* EUROTRAC-2 Joint Workshop, Lausanne, 10.-13. September.
- Ervens, B., Hesper, J., Neusüß, C., und Herrmann, H. 2000. *Field, laboratory and modelling studies of tropospheric aerosol and cloud chemistry.* 25th EGS General Assembly, Nice, 25. - 29. April.
- Ervens, B., Wolke, R., und Herrmann, H. 2000. *CAPRAM2.4: An updated and revised chemical aqueous phase radical mechanism describing tropospheric cloud chemistry.* EUROTRAC II Symposium „Transport and Chemical Transformation of Pollutants in the Troposphere“, Garmisch-Partenkirchen, 27.-31. März.
- Herrmann, H. 2000. *Connected laboratory studies and mechanism development in CMD: tropospheric aqueous phase chemistry as an exemple.* 4th Gloream Workshop, Cottbus, 20.-22. September.
- Herrmann, H. 2000. *Laboratory studies and mechanism development for tropospheric aqueous particle chemistry.* EUROTRAC II Symposium „Transport and Chemical Transformation of Pollutants in the Troposphere“, Garmisch-Partenkirchen, 27-31 März.
- Herrmann, H., Ervens, B., Weise, D., Wicktor, F., Donati, A., und Barzagli, P. 2000. *Abbau- und Konversionsreaktionen organischer Verbindungen in troposphärischen wässrigen Partikeln.* Jahrestagung der GDCh-Fachgruppe Umweltchemie und ...kotoxikologie, Bayreuth, 7.-10. Oktober.
- Hesper, J., und Herrmann, H. 2000. *A T-dependent study of the reaction of the superoxide radical anion (O_2^-) with ozone in aqueous solution.* EUROTRAC II Symposium „Transport and Chemical Transformation of Pollutants in the Troposphere“, Garmisch-Partenkirchen, 27.-31. März.
- Hofmann, D., und Herrmann, H. 2000. *Method development for the characterization of polar VOC-oxidations products in cloud water and aerosol.* EUROTRAC II Symposium „Transport and Chemical Transformation of Pollutants in the Troposphere“, Garmisch-Partenkirchen, 27. - 31. März.
- Müller, K., Brüggemann, E., Gnauk, T., Plewka, A., Herrmann, H., Franck, U., Wennrich, R., und Stärk, H.-J. 2000. *Chemical and structural characterization of size segregated winter time aerosol from two urban and a rural sampling site in NW Saxony (Germany).* European Aerosol Conference, Dublin, 3. - 8. September.
- Müller, K., Pelzing, M., Gnauk, T., Spindler, G., Teichmann, U., Siebert, H., Herrmann, H., Kuhn, U., Kesselmeier, J., und Wolf, A. 2000. *Biogenic emissions of rape (*Brassica napus*) during blooming period.* EUROTRAC II Symposium „Transport and Chemical Transformation of Pollutants in the Troposphere“, Garmisch-Partenkirchen, 27.-31. März.
- Neusüß, C., Brüggemann, E., und Herrmann, H. 2000. *Organic acids in atmospheric particles: Results from different field campaigns in Europe.* European Aerosol Conference, Dublin, 3.-8. September, 238-239.
- Plewka, A., Müller, K., und Herrmann, H. 2000. *Size-resolved sampling and analysis of organics in urban airborne particles by means of Curie-Point-Pyrolysis-GC/MS.* EUROTRAC II Symposium „Transport and Chemical Transformation of Pollutants in the Troposphere“, Garmisch-Partenkirchen, 27.-31. März.
- Spindler, G., Gnauk, T., und Herrmann, H. 2000. *PM 10, PM 2.5 and PM 1 particle Ion and soot concentration measurements with Filterpacks 1999 in saxony (Germany).* EUROTRAC II Symposium „Transport and Chemical Transformation of Pollutants in the Troposphere“, Garmisch-Partenkirchen, 27.-31. März.



- Spindler, G., Gnauk, T., Herrmann, H., Müller, K., und Teichmann, U. 2000. *Size dependent particle concentration and deposition measurements with filterpakcs - a five year study in Germany*. The Sixth International Conference on Air-Surface Exchange of Gases and Particles, Edinburgh, 3.-7. Juli.
- Weise, D., Ervens, B., Wolke, R., und Herrmann, H. 2000. *Modeling of multiphase chemistry in clouds under marine boundary layer conditions*. EUROTRAC-2 Joint Workshop, Lausanne, 10.-13. September.
- Wicktor, F., Herrmann, H., und Zellner, R. 2000. *Laser-based laboratory studies of Cl-reactions in aqueous solution*. 4th-Italien-German Workshop on Tropospheric Chemistry, St. Marienthal, 2. - 4. Juni.
- Wolke, R., Knoth, O., und Herrmann, H. 2000. *Numerical treatment of aqueous-phase chemistry in atmospheric chemistry transport modelling*. 24th Internat. Meeting on Air Pollution and its Applications, Boulder, USA.

Lectures

1999

- Herrmann, H. 1999. Vorstellung der Arbeiten der Abteilung Chemie des IfT. Sitzung der Sektion E der WGL Potsdam.
- Neusüß, C., Plewka, A., Pelzing, M., und Herrmann, H. 1999. Bestimmung des organischen Anteils von Partikeln verschiedener Größen in der Atmosphäre. Dresden, Juli.
- Neusüß, C., Plewka, A., Pelzing, M., und Herrmann, H. 1999. Die chemische Zusammensetzung von Partikeln verschiedener Größen in der Atmosphäre. Tag der offenen Tür der Universität Leipzig, Juli.

2000

- Herrmann, H. 2000. Laboruntersuchungen und Modellrechnungen zur troposphärischen Multiphasenchemie. Seminar über aktuelle Forschungsthemen der Meteorologie, Institut für Meteorologie und Klimaforschung Karlsruhe. *)
- Herrmann, H. 2000. Mechanismenentwicklung zur heterogenen Chemie. DWD Offenbach. *)
- Herrmann, H. 2000. Troposphärische Mehrphasenchemie in Feld- und Laborexperimenten sowie Modellierung. Institutskolloquium, FH Magdeburg. *)
- Herrmann, H. 2000. Troposphärische Multiphasenchemie in Feld, Labor und Modellierung. Institutskolloquium, TU München. *)
- Spindler, G., Brüggemann, E., Gnauk, T., Müller, K., Neusüß, C., Plewka, A., und Herrmann, H. 2000. Partikel in der Troposphäre. Kolloquium „Fassadenverschmutzungen“, Deutsches Amphibolin-Werk von Robert Murjahn GmbH & Co.KG. *)
- Spindler, G., Brüggemann, E., Gnauk, T., Müller, K., Neusüß, C., Plewka, A., und Herrmann, H. 2000. Depositionen aus der Troposphäre. Symposium „Denkmal 2000“, Leipzig, 26.-28. Oktober. *)

*) invited lectures



Modeling section

Book Section

2000

Hellmuth, O. 2000. *Erfassung des Geländeklimas*. H. Barsch, K. Billwitz, and H.-R. Bork (Ed.), In *Arbeitsmethoden in Physiogeographie und Geoökologie*. Klett-Perthes, Gotha und Stuttgart, p.230-253.

Publications, peer-reviewed

1999

Münzenberg-St. Denis, A., und Renner, E. 1999. Numerical investigation of the influence of biogenic emissions on ozone over Saxony (Germany). *Physics and Chemistry of the Earth (C)* **24**, 487-490.

2000

Göldner, R., Theiss, D., und Renner, E. 2000. Dynamisiertes Emissionskataster für den Freistaat Sachsen. *Umweltwiss. Schadstoff-Forsch.* **12**, 83-87.

Hellmuth, O., und Renner, E. 2000. Diagnostic determination of mixing layer height and entrainment layer thickness in the convective boundary-layer using a spectral entraining jet model. *Meteor. Zeitschr.* **9**, 283-298.

Krämer, M., Beltz, N., Schell, D., Elbert, W., Schütz, L., Sprengart-Eichel, und Wurzler, S. 2000. Cloud processing of continental aerosol particles: Experimental investigations for different drop sizes. *J. Geophys. Res.* **105**, 11739-11752.

Wolke, R., und Knoth, O. 2000. Implicit-explicit Runge-Kutta methods applied to atmospheric chemistry-transport modelling. *Environ. Model. Software* **15**, 711-719.

Wurzler, S., Reisin, T. G., und Levin, Z. 2000. Modification of mineral dust particles by cloud processing and subsequent effects on drop size distributions. *J. Geophys. Res.* **105**, 4501-4545.

Conference Proceedings

1999

Holke, H., und Knoth, O. 1999. *Atmospheric flows on locally refined grids. Numerical treatment of multi-scale problems*, 13. Internationales GAMM-Seminar, Kiel, 46-57.

Knoth, O., und Wolke, R. 1999. *Source splitting versus operator splitting in air chemistry models*. 5th SIAM-Conference on „Mathematical and Computational Issues in the Geoscience“, San Antonio, 24.-27. März.

Knoth, O., und Wolke, R. 1999. *Strang splitting versus implicit-explicit methods in solving chemistry-transport-models*. EUROTRAC Symposium ,98, Garmisch-Partenkirchen, 23.-27. März, 524-528.

Münzenberg-St. Denis, A., Renner, E., und Wolke, R. 1999. *The role of biogenic emissions on ozone production over Saxony investigated with the Model System METRAS-MUSCAT-Euro-RADM*. 2nd GLOREAM Workshop, Madrid, 16.-18. September, 26-35.

2000

Albrecht, T., Notholt, J., Wolke, R., und Malberg, H. 2000. *Variations of CH₂O: FTIR measurements and model studies*. AGU Fall Meeting, San Francisco.

Albrecht, T., Notholt, J., Wolke, R., Solberg, S., Dye, C., und Malberg, H. 2000. *Variations of CH₂O and C₂H₂ determined from groundbased FTIR measurements*. OSPAR (Committee on Space Research) - Assembly, Warsaw, Poland, 16.-23. Juli, CD-ROM.



- Hellmuth, O., und Renner, E. 2000. *Influence of turbulence parameterization on the mixing layer height prediction with a mesoscale model*. NATO/CCMS International Technical Meeting on Air Pollution Modeling and its Application, Boulder, USA, 15.-19. Mai, 387-396.
- Hinneburg, D., Knoth, O., Mölders, N., Münzenberg, A., und Wolke, R. 2000. *Subgrid-modelling of dry deposition*. Symposium EUROTRAC-2, Garmisch-Partenkirchen, 26.-31. März 2000.
- Münzenberg, A., Göldner, R., Heinrich, B., Knoth, O., Renner, E., Schröder, W., Theiss, D., und Wolke, R. 2000. *Numerical air quality studies for Saxony/Germany and the black triangle area*. Symposium EUROTRAC-2, Garmisch-Partenkirchen, 26.-31. März 2000.
- Münzenberg, A., Göldner, R., Renner, E., Theiss, D., und Wolke, R. 2000. *The influence of different emission source types on ozone formation over Saxony (Germany), investigated with the model system METRAS-MUSCAT-RACM*. GLOREAM-Workshop ,99, Ischia, 22.-24. September, 217.
- Vohl, O., Mitra, S., Wurzler, S., Pruppacher, H., Pinsky, M., und Khain, A. 2000. *Laboratory and theoretical studies of the collision efficiencies of cloud droplets and small rain drops*. 13th International Conference on Clouds and Precipitation (ICCP), Reno, USA, 102-104.
- Wolke, R., Knoth, O., und Herrmann, H. 2000. *Numerical treatment of aqueous-phase chemistry in atmospheric chemistry transport modelling*. 24th Internat. Meeting on Air Pollution and its Applications, Boulder, USA.
- Wolke, R., Knoth, O., Münzenberg, A., Renner, E., und Schröder, W. 2000. *Numerical modelling of urban and regional scale interactions*. SIMPAQ-2000 Symposium: Scale Interactions in Models and Policies for Air Quality Management, Antwerpen, Belgien, 13. und 14. April, 64-68.
- Wolke, R., Knoth, O., Münzenberg-St. Denis, A., und Schröder, W. 2000. *Online coupling of multiscale chemistry-transport models with non-hydrostatic meteorological models*. 23th Internat. Meeting on Air Pollution Modeling and its Application, Varna, 28. Sept. - 2. Oktober, 769-770.
- Wolke, R., Knoth, O., und Weickert, J. 2000. *Load-balancing in the parallelization of the multiscale atmospheric chemistry-transport model MUSCAT*. 16th IMACS World Congress 2000, Lausanne, Schweiz, 21.-25. Aug. 2000, 7.
- Wurzler, S. 2000. *The interactions between clouds, aerosol particles and gases*. 5th International WMO cloud modeling workshop, Glenwood Springs, Colorado.
- Wurzler, S., und Bott, A. 2000. *Numerical simulations of cloud microphysics and drop freezing as function of drop contamination*. 13th International Conference on Clouds and Precipitation, Reno, USA, 469-470.
- Wurzler, S., und Bott, A. 2000. *Numerical simulations of cloud microphysics and drop freezing as function of drop contamination*. European Aerosol Conference, Dublin, 3.-8. September, 152-153.
- Yin, Y., Wurzler, S., Reisin, T., und Levin, Z. 2000. *Modification of the size and composition of CCN by cloud processing of mineral dust particles and the effects on cloud microphysics*. 13th International Conference on clouds and precipitation, Reno, USA, 936-939.

Lectures

1999

- Knoth, O. 1999. *Parallele Iterationsverfahren zur Lösung der 3D Laplace-Gleichung*. 2. Halle-Leipzig-Seminar zur Parallelverarbeitung, Halle/Saale, 11. Januar.
- Münzenberg, A. 1999. *Modellstudien zur Luftreinhaltung im Gebiet des Schwarzen Dreiecks*. Kepler-Gymnasium Leipzig.
- Münzenberg, A., Göldner, R., Renner, E., Theiss, D., und Wolke, R. 1999. *The influence of different emission source types on ozone formation over Saxony (Germany), investigated with the model system METRAS-MUSCAT-RACM*,. GLOREAM-Workshop ,99.
- Renner, E. 1999. *Modellsimulation zur SO₂-Ausbreitung in der Erzgebirgsregion*. Institut für Energetik und Umwelt, Leipzig.
- Weickert, J., und Wolke, R. 1999. *Parallelisierung eines 3D Chemie-Transport-Modells*. 2. Halle-Leipzig-Seminar zur Parallelverarbeitung, Halle/Saale, 11. Januar.
- Weickert, J., und Wolke, R. 1999. *Load imbalances in the parallel implementation of the Multiscale Atmospheric Model MUSCAT*. Sozopol, Bulgaria, 2.-6. Juni.
- Wolke, R., und Knoth, O. 1999. *The efficiency of different time integration schemes in relation to the used horizontal resolution*. Sozopol, Bulgaria.

**2000**

- Hellmuth, O. 2000. Parametrization of turbulent mixing processes in the mesoscale. University of Warsaw, Poland, Interdisciplinary Center of Modelling. *)
- Hellmuth, O. 2000. Zum Einfluss turbulenter Austauschgrößen auf die mesoskalige Vorhersage meteorologischer Felder. Alfred-Wegener-Institut Potsdam.
- Hellmuth, O., Eger, R., und Helmert, J. 2000. Sensitivitätsstudien zur Parametrisierung des Vertikalaustausches zwischen planetarer Grenzschicht und freier Troposphäre mit einem mesoskaligen Modell. Freie Universität Berlin, Meteor. Institut.
- Hellmuth, O., und Helmert, J. 2000. On the influence of turbulence parametrization on the mixing layer height prediction using a mesoscale model. LINEX-Workshop, Meteor. Observatorium Lindenberg. *)
- Knoth, O. 2000. Integrationsverfahren für kinetische Gleichungen in Produktform. Institut für Numerische Mathematik, Martin-Luther-Universität, Halle. *)
- Knoth, O. 2000. Kopplung von meteorologischen und Ausbreitungsmodellen: Die Berechnung divergenzfreier Windfelder. Oberseminar Numerische Mathematik/Scientific Computing, FU Berlin und ZIB, Berlin. *)
- Knoth, O., und Wolke, R. 2000. Coupled integration of chemistry and transport in microscale air quality modelling. 9th Seminar NUMDIFF on Numerical Solution of Differential and Differential-Algebraic Equations, Halle. *)
- Münzenberg, A., Göldner, R., Heinrich, B., Renner, E., Schröder, W., Theiss, D., und Wolke, R. 2000. Szenarienrechnungen zur Immissionsbelastung mit SO₂, Ozon und Feinstaub: Analyse und Prognose. OMKAS-Tagung, Dresden.
- Weickert, J., und Wolke, R. 2000. Parallele Modelle zur Berechnung der Schadstoffausbreitung. 6. Südostdeutsches Kolloquium zur Numerischen Mathematik, Chemnitz.
- Wolke, R. 2000. Mesoskalige Chemie-Transport-Modellierung am IfT Leipzig. AWI Potsdam. *)
- Wolke, R. 2000. Time-Integration of multiphase chemistry in size-resolved cloud models. 9th Seminar NUMDIFF on Numerical Solution of Differential and Differential-Algebraic Equations, Halle. *)
- Wurzler, S. 2000. Laboratory investigations of possible turbulence effects in clouds. University of Warsaw, Poland, Interdisciplinary Center of Modelling. *)

*) invited lectures



University courses

**University Leipzig
Faculty for Physics
and Geosciences**

Winter Semester		1998/1999
<u>Ansmann, A.</u> <u>Heintzenberg, J.</u> <u>Klugmann, D.</u> <u>Teichmann, U.</u>	<i>Modern Meteorological Instruments I</i>	1 HPW*)
<u>Heintzenberg, J.</u>	<i>Radiation in the Atmosphere</i>	1 HPW
<u>Heintzenberg, J.</u> <u>Stratmann, F.</u> <u>Wiedensohler, A.</u>	<i>Atmospheric Aerosols I</i>	2 HPW
<u>Herrmann, H.</u>	<i>Atmospheric Chemistry I</i>	2 HPW
<u>Renner, E.</u>	<i>Modeling of transport and chemical transformation of air pollutants</i>	2 HPW
<u>Wendisch, M.</u>	<i>Airborne Physical Measurement Methods</i>	1 HPW

Summer Semester		1999
<u>Herrmann, H.</u>	<i>Atmospheric Chemistry II</i> <i>Atmospheric Chemistry Seminar</i>	2 HPW 2 HPW
<u>Renner, E.</u> <u>Hellmuth, O.</u> <u>Knoth, O.</u> <u>Wolke, R.</u>	<i>Introduction to Mesoscale Models</i>	2 HPW
<u>Stratmann, F.</u> <u>Wiedensohler, A.</u>	<i>Atmospheric Aerosols II</i>	2 HPW
<u>Wendisch, M.</u>	<i>Airborne Physical Measurement Methods</i>	1 HPW



Winter Semester		1999/2000
<u>Heintzenberg, J.</u>	<i>Radiation in the Atmosphere</i>	1 HPW
<u>Heintzenberg, J.</u> <u>Stratmann, F.</u> <u>Wiedensohler, A.</u>	<i>Atmospheric Aerosols I</i>	2 HPW
<u>Heintzenberg, J.</u>	<i>Modern Meteorological Instruments I</i>	1 HPW
<u>Herrmann, H.</u>	<i>Atmospheric Chemistry I</i> <i>Atmospheric Chemistry Seminar</i> <i>Atmospheric Chemistry Lab</i>	2 HPW 2 HPW block course
<u>Renner, E.</u>	<i>Modeling of transport and chemical transformation of air pollutants</i>	2 HPW
<u>Wandinger, U.</u>	<i>Atmospheric Optics</i>	2 HPW
<u>Wendisch, M.</u>	<i>Airborne Physical Measurement Methods</i>	1 HPW

**Friedrich-Schiller-University Jena
Faculty for Chemistry
and Geosciences**

<u>Renner, E.</u> <u>Hellmuth, O.</u>	<i>Environmental Meteorology</i> <i>Modeling of transport and chemical transformation of air pollutants</i>
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**University Leipzig
Faculty for Physics
and Geosciences**

Summer Semester		2000
<u>Heintzenberg, J.</u> <u>Stratmann, F.</u> <u>Wiedensohler, A.</u>	<i>Atmospheric Aerosols II</i>	2 HPW
<u>Heintzenberg, J.</u>	<i>Modern Meteorological Instruments</i>	1 HPW
<u>Herrmann, H.</u>	<i>Atmospheric Chemistry II</i> <i>Atmospheric Chemistry Exercises</i> <i>Atmospheric Chemistry Seminar</i>	2 HPW 1 HPW 2 HPW
<u>Renner, E.</u> <u>Hellmuth, O.</u> <u>Knoth, O.</u> <u>Wolke, R.</u>	<i>Mesoscale Meteorological Modeling</i>	2 HPW
<u>Wendisch, M.</u>	<i>Airborne Physical Measurement Methods</i>	1 HPW

*) hours per week



Doctoral theses 1999

**University Leipzig
Faculty for Physics and
Geosciences**

Holke, Henrik Numerische Untersuchungen zur Verwendung lokal verfeinerter Gitter in nichthydrostatischen mesoskaligen Atmosphärenmodellen

**University Leipzig
Faculty for Chemistry and
Mineralogy**

Kind, Ina Kinetische Untersuchungen atmosphärisch relevanter Gasphasenreaktionen des NO₃-Radikals

Doctoral theses 2000

**University Leipzig
Faculty for Physics
and Geosciences**

Hermann, Markus Development and application of an aerosol measurement system for use on commercial aircraft

Keil, Andreas Einfluß absorbierender Aerosolpartikel und verschmutzter Wolken auf den solaren Strahlungshaushalt der Atmosphäre

Philippin, Sabine Development and applications of an analyser for airborne non-volatile aerosol compounds

Wagner, Frank Kombinierte Mehrwellenlängen-Lidar-Photometermessungen von optischen und physikalischen Partikelparametern während ACE-2

Wehner, Birgit Particle formation in the urban atmosphere

**University Leipzig
Faculty for Chemistry
and Mineralogy**

Neusüß, Christian Größenaufgelöste Zusammensetzung atmosphärischer Aerosolpartikel: Chemische Massenbilanz und organische Säuren

**Master theses 1999****University Leipzig
Faculty for Physics
and Geosciences**

- Helmert, Jürgen Zur Parametrisierung der Mächtigkeit der Entrainmentschicht unter Verwendung von Large-Eddy-Simulations- und LIDAR-Daten
- Schmidt, Sebastian Das Fast FSSP: Charakterisierung und Messbeispiele
- Weise, Diana Aerosolgrößenverteilung in der planetaren Grenzschicht bei Sagres/ Portugal (ACE-2-Experiment)

**Fachhochschule Aachen
Fachbereich Maschinenbau**

- Cohrt, Carsten Quantitative Analyse des graphitischen Kohlenstoff-Anteils im atmosphärischen Aerosol mittels NIR-FT-Raman-Spektroskopie

**Westsächsische Hochschule Zwickau
Fachbereich Physikalische Technik/Informatik**

- Rockmann, Alexander Modifikation und Kalibrierung eines Rußphotometers für die Messung von Rußproben eines automatischen Aerosolprobensammlers auf einem kommerziellen Flugzeug

Master theses 2000**University Leipzig
Faculty for Physics
and Geosciences**

- Eger, Reinhard 3D-Simulationen mit einem mesoskaligen Modell zum Einfluß der Turbulenzparametrisierung auf die Entwicklung der Mischungsschicht-höhe
- Koziar, Christian Ursachen und Auswirkungen von Partikelnukleation - Eine Analyse im Rahmen des Lindenberger Aerosol-Charakterisierungs-Experimentes
- Nowak, Andreas Aerosolgrößenverteilungen in diversen Klimazonen
- Walter, Arno Modifikation und Anwendung eines troposphärenchemischen Mehrphasenmodells

**Fachhochschule Magdeburg
Fachbereich Chemie/Pharmatechnik**

- Witter, Markus Ozonolyse ausgewählter Terpene in der Gasphase



Guest scientists

1999

Dr. Evan Whitby	23./26. März 99	Cimera Tech Minneapolis, USA
Prof. Dr. Robert J. Charlson	19./30. April 99	University of Washington, Seattle, USA Dept. of Atmospheric Sciences
Scot T. Martin	2./6. Sept. 99	University of North Carolina at Chapel Hill, USA
Dr. S. Bobrovnikov Dr. Y. Arshinov I. Serikov	11.Okt./8. Dez.99	Russ. Academy of Sciences Inst.f. Atmosph. Optics Tomsk

2000

Dr. Maring	17./18. Febr. 00	University of Miami, Florida, USA
Dr. Maria K. Facchini	23./25. Febr. 00	Inst. of Atmospheric and Oceanic Sciences National Research Council, Bologna, Italy
Dr. Yinon Rudich	3./5. April 00	Weizmann Institute Rehovot, Israel Dept. of Environmental Sciences
Dr. Y. Arshinov I. Serikov	15.Juni/15.Juli 00	Russ. Academy of Sciences Inst.f. Atmosph. Optics Tomsk
Dr. Fred Brechtel	2./17. April 00	Brookhaven National Laboratory, Upton, USA
Prof. Michael R. Hoffmann	23./30. Mai 00	California Institute of Technology, Pasadena, USA
R. Kouznetsov	4./6. Juni 00	Russian Academy of Sciences Inst. of Atmospheric Physics
Prof. Dr. Robert J. Charlson	26.Okt./4.Nov.00	University of Washington, Seattle, USA Dept. of Atmospheric Sciences
Dr. Andreas Muschinski	19. –23. Juni 00	Cooperative Institute for Research in
	20. –24. Nov. 00	Environmental Sciences, University of Colorado/NOAA, Boulder, Colorado, USA
Assoc.Prof. Min Hu	1./31. Dez.00	Peking University, China Center for Environmental Sciences



Scientific events

1999

Event	Place and Date	Participants
Workshop on Urban Aerosols	Leipzig, 25-26 January 1999	University of Lund, Sweden University of Helsinki, Finland University of Manchester, Inst.f.Science and Technology, UK Eidgenössische Material- und Prüfungsanstalt Dübendorf, Schweiz TSI GmbH Aachen ECN - Netherlands Energy Research Foundation, Petten, Netherlands GSF- Forschungszentrum für Gesundheit und Umwelt GmbH München/Erfurt Umweltforschungszentrum Leipzig/Halle GmbH

2000

Event	Place and Date	Participants
Project Meeting CARIBIC (Civil Aircraft for Regular Investigation of the atmosphere Based on an Instrument Container)	Leipzig, 16 May 2000	Max-Planck-Institut für Chemie, Mainz Kernforschungszentrum Karlsruhe, Inst. für Meteorologie und Klimaforschung Max-Planck-Institut f. Aeronomie, Katlenburg-Lindau Royal Dutch Meteorological Institute de Bilt, Netherland Lund University, Sweden University of East Anglia, Norwich, UK



Memberships

Ansmann, A.

Committee on Laser Atmospheric Studies (CLAS)

Heintzenberg, Jost

Nationales Komitee für Forschung auf dem Gebiet globaler Umweltveränderungen der Deutschen Forschungsgemeinschaft
Ordentliches Mitglied der Sächsischen Akademie der Wissenschaften
Wissenschaftlicher Beirates des Deutschen Wetterdienstes
VDI-Ausschuß Messen von Ruß
Editor of Geophysical Research Letters
Editorial Board Tellus B, Atmospheric Research
Permanent Scientific Advisory Committee of the Centro de Geofisica de Evora, Portugal

Herrmann, Hartmut

IUPAC Committee "Aqueous Solution Kinetics Data for Atmospheric Chemistry"
Koordiniierungskomitee des EUROTRAC II-Projekts CMD
Kordinator des CMD-Teilprojekts CMD-APP (Aqueous Phase Processes)
CMD Data Evaluation Panel
GdCh, Arbeitskreis "Atmosphärenchemie"

Müller, Konrad

EUROTRAC Subprojekt AEROSOL Steering Committee

Renner, Eberhard

TFS-Gutachtergremium des Bundesministeriums für Bildung und Forschung

Stratmann, Frank

Stellv. Vorsitzender der Arbeitsgruppe "Aerosol Modelling" der European Aerosol Assembly (EAA)
Vorstand der Gesellschaft für Aerosolforschung
"Scientific Programm Committee" der Europäischen Aerosolkonferenz

Wandinger, Ulla

International Commission on Lasers in Atmospheric Sciences (ICLAS)

Wendisch, Manfred

Koordiniierungskomitee "Direct Aerosol Radiative Forcing" (IGAC)

Wiedensohler, Alfred

Vizepräsident und Mitglied des Vorstandes der Gesellschaft für Aerosolforschung
Koordiniierungskomitee "Aerosol Characterisation and Process Studies" (IGAC)
"Scientific Advisory Group" für Aerosole innerhalb des "Global Watch"-Programmes der World Meteorological Organization



National and international cooperation

1999/2000

Research Project	Cooperation Partners
<p>AEROSOL "The Aerosol Balance in Europe" EUROTRAC 2</p> <p>Characterization of aerosols in strong anthropogenically influenced industry and agrarregions</p> <p>Characterization of aerosols over the Indian Ocean Indian Ocean Experiment (INDOEX)</p> <p>New particle formation</p> <p>Multiwavelength lidar and aircraft observations during an aerosol closure experiment</p> <p>Characterization of the vertical aerosol distribution over an anthropogenically influenced region</p> <p>Optimization of methods for the reduction emissions in the black triangle</p>	<p>European Partners</p> <p>Max-Planck-Institut für Meteorologie, Hamburg Universität Hohenheim Umweltforschungszentrum Leipzig/Halle GmbH</p> <p>Center for Clouds, Chemistry and Climate, Scripps Institution of Oceanography, La Jolla, USA Florida State University, Tallahassee, USA Koninklijk Nederlands Meteorologisch Instituut, De Bilt, Netherlands Max Planck Institut für Chemie, Mainz Meterological Service of the Maldives National Center for Atmospheric Research (NCAR), Boulder, USA National Oceanographic and Atmospheric Administration (NOAA), Boulder, USA University of Washington, Seattle, USA NOAA-PMEL, Seattle, USA</p> <p>Deutscher Wetterdienst Met. Observatorium Hohenpeißenberg</p> <p>Max-Planck-Institut für Meteorologie, Hamburg Max-Planck-Institut für Chemie, Mainz GSF - Forschungszentrum für Umwelt und Gesundheit, München Met. Observatorium Lindenberg Deutsches Zentrum für Luft- und Raumfahrt, Oberpfaffenhofen / Neustrelitz Universitäten: Berlin, Darmstadt, Potsdam, Frankfurt, Bremen München, Mainz, Würzburg, Hohenheim, Wien</p> <p>Max-Planck-Institut für Meteorologie, Hamburg Leibniz-Institut für Atmosphärenphysik, Kühlungsborn Universität Potsdam Fraunhofer-Institut für Atmosphären- und Umweltforschung, Garmisch-Patenkirchen</p> <p>Hochschule Zittau/Görlitz Sächs. Landesamt für Umwelt und Geologie, Dresden</p>



Research Project	Cooperation Partners
Modelling of unimolecular reactions Model Development	Universität Halle, Institut für Physikalische Chemie
Reservoir distribution of atmospheric trace gases	Brandenburgische Technische Universität Cottbus Fraunhofer-Institut für Toxikol. und Aerosol- forschung Hannover
PROCLOUD "Laboratory studies of free radical aqueous phase cloud and aerosol processes"	European Partners
CMD-APP "Interactions of free radicals with organics within the tropospheric aqueous phase"	European Partners
CMD-MPM "Modelling calculations of tropospheric gasphase and aqueous phase chemistry"	European Partners
UNARO "Uptake and nitration of aromatics"	University of Milano, Italy University of Leeds, England Fraunhofer-Institut für Toxikologie und Aerosol- forschung, Hannover
MODAC "Model development for tropospheric cloud- and aerosol chemistry"	University of Utrecht, Netherlands University of Strasbourg, France
The influence of heterogeneous reactions In seasalt-aerosol on regional and global photooxidant chemistry	Max-Planck-Institut für Chemie, Mainz University of Utrecht, Netherlands
Atmospheric aerosol chemistry	Harvard University, Boston, USA
MITRAS, Development of a numerical scheme for high resolution models under consideration of transport and deposition of diesel soot	Universität Hamburg, Meteorologisches Institut Alfred-Wegener-Institut, Bremerhaven Fraunhofer Institut f. Atmosphären- und Umweltforschung, Garmisch-Partenkirchen
Modelling of mixing height and of entrainment processes	Universität Hamburg, Meteorologisches Institut Deutscher Wetterdienst, Offenbach Deutscher Wetterdienst, Met. Observatorium Lindenberg
Parallelization of meteorological and chemical transport models	Universität Leipzig, Inst. f. Meteorologie Universität Leipzig, Inst. f. Informatik Technische Universität Chemnitz, Fakultät für Mathematik
Modelling of micro-physical and chemical processes in cloud droplets	Brandenburgische Technische Universität Cottbus Universität Hamburg, Meteorologisches Institut



Research Project	Cooperation Partners
Implicit-explicit methods for integration of chemistry-transport-models	Universität Halle, Fachbereich Mathematik und Informatik Centrum for Wiskunde en Informatica, Amsterdam, Netherlands
GLOREAM, "Regional modelling of air pollution in Europe"	European Partners
SATURN, "Studying atmospheric pollution in urban areas"	European Partners
EARLINET (A European Aerosol Research Lidar Network to establish an aerosol climatology)	European Partners
Development of a dynamical high resolution emission inventory for Saxony	Technische Universität Dresden Hochschule Zittau/Görlitz
The role of cloud processing and of organic matter in the formation of soluble layers on mineral dust particles and the impact on cloud characteristics	Universität Bonn, Meteorologisches Institut Max-Planck-Institut für Chemie, Mainz, Tel Aviv University, Israel Dept. of Geophysics and Planetary Sciences Weizmann Institut Rehovot, Israel
Effects of aerosol particles on drop size distributions and drop freezing: A numerical investigation with detailed cloud microphysics and derivation of parameterizations	Universität Bonn, Institut für Meteorologie
Influence of anthropogenically polluted clouds on the radiation budget of the atmosphere and the formation of photochemical smog.	Universität Bonn, Meteorologisches Institut Universität Mainz, Institut für Physik der Atmosphäre Universität Leipzig, Institut für Meteorologie
Temperature lidar	Institute for Atmospheric Optics, Siberian Branch of the Russian Academy of Sciences, Tomsk, Russia



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