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Kurzlebenslauf



Dr. Markus Hermann

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Funktion

Gruppenleiter Experimentelle Aerosolphysik

Abteilung:

Experimentelle Aerosol- und Wolkenmikrophysik

Arbeitsgruppe:

Troposphärisches Aerosol

Forschungsgebiete & Arbeitsschwerpunkte:

- Atmosphärisches Aerosol
- Obere Troposphäre / Untere Stratosphäre
- Flugzeuggetragene Messungen
- CFD-Modellierung

Aktuelle Projekte:

- CARIBIC-AMS (DFG)
- IAGOS-D (BMBF)
- IGAS (EU)
- UAV (DFG)

Abgeschlossene Projekte:

- IAGOS-ERI (EU)
- HALO (DFG)
- EUFAR (EU)
- FAST (DFG)
- EUSAAR (EU)

Lehre:

- Vorlesung und Praktikum "Atmosphärisches Aerosol"
- Vorlesung und Praktikum "Fluggetragene Aerosolmesssysteme"

Gremien/Mitgliedschaften:

- Deutsche Physikalische Gesellschaft
- Gesellschaft für Aerosolforschung
- Lenkungsausschuss "Stratospheric Sulfur and its Role in Climate" (SPARC Initiative)
- Stellvertretender TROPOS Repräsentant Wissenschaftlicher Lenkungsausschuss HALO
- Stellvertretender TROPOS Repräsentant Europäische Forschungsinfrastruktur IAGOS

1987-1994 Diplomstudium der Physik; Fokus: Physikalische Chemie Johann Wolfgang Goethe Universität Frankfurt/Main
1994-2000 Doktorand; Fokus: Aerosol Messtechnik und Atmosphärisches Aerosol Leibniz Institut für Troposphärenforschung / Universität Leipzig
2000-2004 Postdoc; Fokus: Fluggetragene Aerosolmessungen Leibniz Institut für Troposphärenforschung
seit 2004 Wissenschaftlicher Mitarbeiter Leibniz Institut für Troposphärenforschung

Publikationen:

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Andersson, S. et al., Composition and evolution of volcanic aerosol from eruptions of Kasatochi, Sarychev and Eyjafjallajökull in 2008 – 2010 based on CARIBIC observations, *Atmos. Chem. Phys.*, 13, 1781–1796, doi:10.5194/acp-13-1781-2013, 2013.

Ekman, A. M. L. et al., Sub-micrometer aerosol particles in the upper troposphere/lowermost stratosphere as measured by CARIBIC and modeled using the MIT-CAM3 global climate model, *J. Geophys. Res.* 117, D11202, doi:10.1029/2011JD016777, 2012.

Baumgardner, D. et al., Airborne instruments to measure atmospheric aerosol particles, clouds and radiation: A cook's tour of mature and emerging technology, *Atmos. Res.* 102, 10-29, 2011.

Heintzenberg, J., et al., Near-global aerosol mapping in the upper troposphere and lowermost stratosphere with data from the CARIBIC project, *Tellus B*, 63, 875–890, DOI: 10.1111/j.1600-0889.2011.00578.x, 2011.

Wehner, B. et al., Characterisation of a new Fast CPC and its application for atmospheric particle measurements, *Atmos. Meas. Tech.*, 4, 823-833, 2011.

Köppe, M. et al., Origin of aerosol particles in the mid-latitude and subtropical upper troposphere and lowermost stratosphere, from cluster analysis of CARIBIC data, *Atmos. Chem. Phys.*, 9, 8413-8430, 2009.

Laj, P. et al., Measuring atmospheric composition change. *Atmos. Env.* 43, 5351–5414, 2009.

Martinsson, B. G. et al., Influence of the 2008 Kasatochi volcanic eruption on sulfurous and carbonaceous aerosol constituents in the lower stratosphere, *Geophys. Res. Lett.*, 36, L12813, doi:10.1029/2009GL038735, 2009.

Slemr, F. et al., Gaseous mercury distribution in the upper troposphere and lower stratosphere observed onboard the CARIBIC passenger aircraft, *Atm. Chem. Phys.*, 9, 1957-1969, 2009.

Weigel, R. et al., Experimental characterization of the COndensation PArticle counting System for high altitude aircraft-borne application, *Atmos. Meas. Tech.*, 2, 243-258, 2009.

Weigelt, A. et al., Influence of clouds on aerosol particle number concentrations in the upper troposphere, *J. Geophys. Res.*, 114, D01204, doi:10.1029/2008JD009805, 2009.

Hermann, M. et al., Submicrometer aerosol particle distributions in the upper troposphere over the mid-latitude North-Atlantic – Results from the third route of "CARIBIC", *Tellus 60B*, 106-117, 2008.

Nguyen, H. N. et al., 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.*, 113, D23209, doi:10.1029/2008JD009956, 2008.

Brenninkmeijer, C. A. M., et al., Civil Aircraft for the regular investigation of the atmosphere based on an instrumented container: The new CARIBIC system, *Atmos. Chem. Phys.* 7, 4953-4976, 2007.

Martinsson, B. G. et al., Characteristics and origin of lowermost stratospheric aerosol at northern midlatitudes under volcanically quiescent conditions based on CARIBIC observations, *J. Geophys. Res.*, 110, D12201, doi:10.1029/2004JD005644, 2005.

Hermann, M. et al., Pressure-dependend efficiency of a condensation particle counter operated with FC-43 as working fluid, *J. Aerosol Sci.*, 36, 1322-1337, 2005.

Hermann, M. et al., Meridional distributions of aerosol particle number concentrations in the upper troposphere and lower stratosphere obtained by Civil Aircraft for Regular Investigation of the Atmosphere Based on an Instrument Container (CARIBIC) flights. *J. Geophys. Res.*, 108, No.D3, 4114-4130, doi:10.1029/2001JD001077, 2003.

Papaspiropoulos, G. et al., Aerosol elemental concentrations in the tropopause region from intercontinental flights with the Civil Aircraft for Regular Investigation of the Atmosphere Based on an Instrument Container (CARIBIC) platform, *J. Geophys. Res.* 107, (D23), 4671, doi:10.1029/2002JD002344, 2002.

Hermann, M. and A. Wiedensohler, Counting efficiency of condensation particle counters at low-pressures with illustrative data from the upper troposphere, *J. Aerosol Sci.* 32, 975-991, 2001.

Hermann, M. et al., Sampling characteristics of an aircraft-borne aerosol inlet system, *J. Atmos. Oceanic Technol.* 18, 7-19, 2001.

Zahn, A. et al., Identification of extratropical 2-way troposphere-stratosphere mixing based on CARIBIC measurements of O₃, CO, and ultrafine particles, *J. Geophys. Res.* 105, 1527-1535, 2000.

Brenninkmeijer, C. A. M. et al., CARIBIC - civil aircraft for global measurement of trace gases and aerosols in the tropopause region, *J. Atmos. Oceanic Technol.* 16, 1373-1383, 1999.

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Auszeichnungen:

- ESF INTROP Posterpreis, EAC 2006

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