

# Curriculum Vitae

Holger Siebert



## Education & Employment:

Oct. 1991 – Sept. 1997	Study of Meteorology at the University of Hannover
Mar. 1994	Pre-Diploma
Jul. – Sept. 1996	Arctic Expedition with the German Polar Research Vessel “Polarstern”
Sept. 1996 – Jul. 1997	Diploma Thesis: “Measurements of higher statistical moments in the Arctic with the helicopter-borne HELIPOD”
Dec. 1997 – Jan. 2001	PhD. Student at the Inst. for Tropospheric Research (IfT), Leipzig
Jan. 2001	PhD. Thesis “Tethered-Balloon Borne Turbulence Measurements in the Cloudy Boundary Layer”
since Jan. 2001	Postdoctoral Scientist at IfT
Sept. - Oct. 2005	visiting scientist at the Michigan Technology University, USA

## Projects & Field Campaigns:

1996	Helicopter flights with HELIPOD during the Arctic Expedition (ARK-XII) with the German Polar Research Vessel “Polarstern”
2001 & 2003	Tethered Balloon-Borne Measurement with ACTOS during the Baltex Bridge Campaigns 1 & 2 (BBC1&2)
2002	SATURN Experiment with ACTOS about “New Particle Formation in the Lower Atmosphere”
2005 & 2006	Winningen’05/’06: First Helicopter-Borne Flights with ACTOS in Cumulus Clouds

## Research Interests

My research interests are focused on turbulent processes in the planetary boundary layer and lower free troposphere with special emphasize on turbulence in clouds. Furthermore, I am interested in airborne platforms for meteorological measurements and their in-situ instrumentation for high resolution measurements.

## References

- Haman, K., S. P. Malinowski, B. D. Struś, R. Busen, A. Stefko, and H. Siebert: 2000, 'A family of ultrafast aircraft thermometers for warm and supercooled clouds and various types of aircraft'. In: *Preprints 13<sup>th</sup> International Conference on Clouds and Precipitation*. Reno, NV, USA (14-18 August 2000).
- Kurowski, M., H. Siebert, K. Haman, and S. Malinowski: 2004, 'Structure of LWC and temperature fields in small cumulus clouds seen from stationary (tethered balloon) and moving (aircraft) platforms.'. In: *Proceedings 14<sup>th</sup> International Conference on Clouds and Precipitation*. Bologna, Italy, 19 - 23 July 2004.
- Lehmann, K., S. Schmidt, H. Siebert, and M. Wendisch: 2004, 'Tethered-balloon borne measurements in boundary layer clouds. Part II: Microphysical Properties'. In: *Proceedings 14<sup>th</sup> International Conference on Clouds and Precipitation*. Bologna, Italy, 19 - 23 July 2004.
- Lehmann, K., H. Siebert, M. Wendisch, and R. Shaw: 2006, 'Evidence for inertial droplet clustering in weakly turbulent clouds'. *Tellus* **accepted**.
- Shaw, R. A., K. Lehmann, E. W. Saw, and H. Siebert: 2006a, 'Simultaneous Measurements of droplet clustering and turbulence in cumulus clouds'. In: *12th Conference on Cloud Physics, 10 - 14 July, Madison, WI, USA*.
- Shaw, R. A., H. Siebert, and M. Wendisch: 2006b, 'Selected problems in atmospheric physics'. *Reports on Progress in Physics* **in preparation**.
- Siebert, H.: 2001, 'Tethered-balloon borne turbulence measurements in the cloudy boundary layer'. Ph.D. thesis, University of Leipzig, Germany, 122 p.
- Siebert, H., K. Esfeld, M. Hermann, and T. Conrath: 2001, 'Balloon-borne measurements of particle number concentrations in the coastal boundary layer'. *J. Aerosol Sci.* **32**, S187 – S188.
- Siebert, H., H. Franke, K. Lehmann, R. Maser, E. W. Saw, R. A. Shaw, D. Schell, and M. Wendisch: 2006a, 'Probing Fine-Scale Dynamics and Microphysics of Clouds with Helicopter-Borne Measurements'. *Bull. Am. Meteor. Soc.* **87**, 1727 – 1738.
- Siebert, H. and K. Lehmann: 2004, 'Measurements of local energy dissipation rates and its consequences for turbulence-particle interaction'. In: *BBC Workshop, De Bilt/NL, 17 - 19 Oct. 2004*.

- Siebert, H., K. Lehmann, and R. Shaw: 2006b, 'On the use of a hot-wire anemometer for turbulence measurements in clouds'. *J. Atmos. Oceanic Technol.* **in press**.
- Siebert, H., K. Lehmann, and M. Wendisch: 2006c, 'Observations of small scale turbulence and energy dissipation rates in the cloudy boundary layer.'. *J. Atmos. Sci.* **63**, 1451 – 1466.
- Siebert, H., K. Lehmann, M. Wendisch, and R. Shaw: 2006d, 'The helicopter-borne ACTOS for small-scale cloud turbulence observations'. In: *12th Conference on Cloud Physics, 10 - 14 July, Madison, WI, USA*.
- Siebert, H., K. Lehmann, M. Wendisch, and R. Shaw: 2006e, 'Small-scale Turbulence in Clouds'. In: *12th Conference on Cloud Physics, 10 - 14 July, Madison, WI, USA*.
- Siebert, H. and A. Muschinski: 2001, 'Relevance of a Tuning-Fork Effect for Temperature Measurements with the Gill Solent HS Ultrasonic Anemometer-Thermometer'. *J. Atmos. Oceanic Technol.* **18**, 1367–1376.
- Siebert, H., F. Stratmann, and B. Wehner: 2004, 'First observations of increased ultrafine particle number concentrations near the inversion of a continental planetary boundary layer and its relation to ground-based measurements.'. *Geophys. Res. Lett.* **31**, doi:10.1029/2003GL019086.
- Siebert, H. and U. Teichmann: 2000a, 'The behaviour of an ultrasonic under cloudy conditions'. *Boundary-Layer Meteorol.* **94**, 165–169.
- Siebert, H. and U. Teichmann: 2000b, 'Concept and design of a new airship-borne cloud turbulence measurement system'. In: *Preprints 13<sup>th</sup> International Conference on Clouds and Precipitation*. Reno, NV, USA (14-18 August 2000).
- Siebert, H., M. Wendisch, T. Conrath, U. Teichmann, and J. Heintzenberg: 2003, 'A new tethered balloon-borne payload for fine-scale observations in the cloudy boundary layer'. *Boundary-Layer Meteorol.* **106**, 461–482.
- Stratmann, F., H. Siebert, G. Spindler, B. Wehner, D. Althausen, J. Heintzenberg, O. Hellmuth, R. Rinke, U. Schmieder, C. Seidel, T. Tuch, U. Uhrner, A. Wiedensohler, U. Wandinger, M. Wendisch, D. Schell, and A. Stohl: 2003, 'New-particle formation events in a continental boundary layer: first results from the SATURN experiment'. *Atmos. Chem. Phys.* **3**, 1445 – 1459.

Wehner, B., H. Siebert, F. Stratmann, T. Tuch, A. Wiedensohler, T. Petäjä, M. Dal Maso, and M. Kulmala: 2006, 'Horizontal homogeneity and vertical extend of new particle formation events'. *Tellus* **accepted**.