

Curriculum Vitae – Prof. Dr. SUSANNE CREWELL

Dr. Susanne Crewell
W3 Professor for Meteorology
Institute for Geophysics and Meteorology
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Research interests

Atmospheric water cycle, microwave active and passive remote sensing, cloud physics, merging observations and atmospheric models

Education

- Habilitation, 2002, Meteorology, University of Bonn, Germany
Thesis: Ground-based remote sensing and its use for atmospheric model evaluation
- Ph.D., 1993, Physics, University of Bremen, Germany
Thesis: Submillimeter-radiometry using an airborne receiver to measure stratospheric trace gases (ClO, HCl, O₃ and N₂O) relevant for the stratospheric ozone chemistry
- Diploma, 1990: Meteorology, University of Kiel, Germany
Thesis: Determination of latent heat flux over the northern Atlantic using a combination of microwave satellite measurements and ship derived wind fields

Professional Experience

- Since 2006 Professor for Meteorology, Institute for Geophysics and Meteorology, University of Cologne, Germany
- 2004 - 2006 Professor for Experimental Meteorology, Meteorological Institute, Ludwig-Maximilian University Munich, Germany
- 1996 - 2004 Assistant Professor, Meteorological Institute, Rheinische Friedrich Wilhelms University Bonn, Germany
- 1994 - 1996 Research Associate, Department of Physics, State University of New York, Stony Brook, USA
- 1993 -1994 Post-Doctoral Fellow, Institute of Environmental Physics, University of Bremen, Germany
- 1990 - 1993 Research Fellow, Institute of Environmental Physics, University of Bremen
- 1986 - 1990 Student Assistant, Institute for Marine Sciences, University of Kiel, Germany

Visiting Scientist

- 2018 Laboratoire d'Études du Rayonnement et de la Matière en Astrophysique et Atmosphères (LERMA), Observatoire de Paris, France, Department de Radioastronomie Millimétrique
- 2018 NOAA Earth System Research Laboratory, Boulder, CO, USA

2008 - 2008 Atmospheric and Oceanic Sciences Department, University of Wisconsin,
Madison, WI, USA

Awards, Honors

2019 Alfred-Wegener-Medaille, German Meteorological Society
2013 Member of Academy of Sciences, Humanities and the Arts North Rhine Westfalia
2008 Albertus Magnus Teaching Award

Supervision of Graduate Students

2006 – present 11 PhD completed at University of Cologne and >30 as co-advisor/reviewer in seven European countries, currently supervising 6 PhD students
2014 – 2018 Speaker of the University-wide Albertus-Madnus Graduate Center
since 2014 Member of the Steering Committee, Graduate School of Geosciences (GSGS), University of Cologne
since 2008 Speaker Integrated Research Training Group (IRTG) of CRC/TR 32

Teaching (Selected)

Bachelor program „Geophysik und Meteorologie“ (in German)

Introduction to Meteorology (EGM), General Meteorology (METALG), Meteorological Observation Systems (METBEO)

Master program “Physics of the Earth and Atmosphere”

Advanced Remote Sensing (METRS), Clouds and Precipitation (METCLOUD), Inverse modelling (INVMOD)

Projects (selected)

Total third party funding raised: € 9,30 Mio. as of January 2019

Arctic Amplification: Climate Relevant. Atmospheric and Surface Processes and Feedback Mechanisms (AC)³, Transregional Collaborative Research Centre (TR172), German Science Foundation (DFG), 2016 – 2019, € 1.020,000

Earth – Evolution at the Dry Limit (CRC 1211), Sub project A01, DFG, 2016 – 2019, € 210,000

Energy Transition and Climate Change (ET-CC), Emerging Group, University of Cologne, DFG Excellence Initiative, 2014 – 2019, € 800,000,

Hans-Ertel Zentrum for Weather Research (HERZ), Retrospective analysis of regional climate

- HERZ I Retrospective analysis of regional climate, 2011 - 2014, € 350,000
- HERZ II A future-oriented framework for regional climate monitoring, 2015 – 2018, € 280,000

- HErZ III Enhancing climate monitoring through regional reanalysis – The case of renewable energy, 2019 – 2022, € 1.130,000

High Definition of clouds and precipitation for enhancing climate prediction HD(CP)², German Research Ministry (BMBF)

- HD(CP)2 I O2 – Full Domain Observations, 2012 – 2015, € 190,000
- HD(CP)2 I O3 – Integration of measurements and modelling, 2012 – 2016, € 130,000
- HD(CP)2 II-O Data Management and Integrated Observation Products, 2016 – 2019, € 360,000
- HD(CP)2 II - S1 Fast cloud adjustment to aerosols, 2016 – 2019, € 230,000

Initial Training for atmospheric Remote Sensing (ITaRS), EU, 2012 – 2016, € 1,000,000

Jülich Observatory for Cloud Evolution – Core Facility (JOYCE-CF), DFG, 2016 – 2019, € 260,000

Multi frequency radar instrument study, European Space Agency, 2017-2019, € 319,000

Patterns in soil-vegetation-atmosphere systems: Monitoring, modeling and data assimilation, Transregional Collaborative Research Centre (TR32), DFG

- TR32 I D2: Experimental study of spatio-temporal structures in atmosphere-land surface energy, water and CO₂ exchange, 2007 – 2010, € 550,000
- TR32 II D2: Experimental study of spatio-temporal structures in atmosphere-land surface energy, water and CO₂ exchange, 2011 – 2014, € 590,000
- TR32 III D2 – Measuring, modelling and understanding the spatio-temporal structures in atmosphere-land surface exchange, 2015 – 2018, € 200,000
- TR32 I MGK - Integrated Research Training group (IRTG), 2011 – 2014, € 350,000
- TR32 II MGK – Integrated Research Training group (IRTG), 2015 – 2018, € 410,000
- HD(CP)2 I O3 – Integration of measurements and modelling, 2012 – 2016, € 130,000

Community Services (Selected)

- Since 2018 Vice Dean of Research, Faculty of Mathematics and Natural Sciences, University of Cologne
- since 2015 Senate Committee on Collaborative Research Centres of the German National Science Foundation (DFG)
- since 2014 Joint ESA-EUMETSAT Microwave Imager & Ice Cloud Imager Science Advisory Group nominated by the European Space Agency (ESA)
- since 2012 Scientific Advisory Board, German Weather Service (Deutscher Wetterdienst, DWD)
- 2012 – 2015 Senate Commission of the Helmholtz Association of German Research Centers, Representative for Earth and Environment
- 2008 – 2014 Elected Member of Review Board for Atmospheric Science and Oceanography, German National Science Foundation (DFG)
- 2014 – 2016 Head of Department of Geosciences, University of Cologne, also in 2007 - 2008
- 2012 – 2017 Leader of the Network Project “Women in Science, Technology, Engineering and Mathematics STEM”
- 2010 – 2013 Equal Opportunities Officer, Faculty of Mathematics and Natural Sciences, University of Cologne
- since 2016 Collaborative Research Centre 172 "Arctic Amplification" funded by the German National Science Foundation (DFG,) Deputy Speaker,
- since 2016 Collaborative Research Centre 1211 "Earth at its Dry Limit" funded by the German National Science Foundation (DFG), Cluster speaker
- since 2012 Steering Committee High Definition of Clouds and Precipitation for Climate Prediction (HD(CP)²) funded by the German Science Ministry (BMBF)

- 2012 – 2016 Marie-Curie Initial Training Network for Atmospheric Remote Sensing (ITaRS), Coordinator
- 2007 – 2018 Transregional Collaborative Research Centre 32 " Patterns in Soil-Vegetation-Atmosphere Systems" funded by the German National Science Foundation (DFG), Speaker for University of Cologne

Community Services (Selected)

- since 2018 Vice Dean of Research at the Faculty of Mathematics and Natural Sciences, University of Cologne
- 2014 – 2018 Speaker of university wide Albertus Magnus Graduate Center (AMGC), University of Cologne
- 2014 – 2016 Head of Department of Geosciences, University of Cologne, also in 2007 - 2008
- 2012 – 2017 Leader of the Network Project "Women in Science, Technology, Engineering and Mathematics STEM"
- 2010 – 2013 Equal Opportunities Officer, Faculty of Mathematics and Natural Sciences, University of Cologne
- since 2016 Collaborative Research Centre 172 "Arctic Amplification" funded by the German National Science Foundation (DFG,) Deputy Speaker,
- since 2016 Collaborative Research Centre 1211 "Earth at its Dry Limit" funded by the German National Science Foundation (DFG), Cluster speaker
- since 2015 Senate Committee on Collaborative Research Centres of the German National Science Foundation (DFG)
- since 2014 Joint ESA-EUMETSAT Microwave Imager & Ice Cloud Imager Science Advisory Group nominated by the European Space Agency (ESA)
- since 2013 Academy of Sciences, Humanities and the Arts North Rhine Westphalia, Düsseldorf, Germany
- since 2012 Scientific Advisory Board, German Weather Service (Deutscher Wetterdienst, DWD)
- since 2012 Steering Committee High Definition of Clouds and Precipitation for Climate Prediction (HD(CP)²) funded by the German Science Ministry (BMBF)
- 2012 – 2016 Marie-Curie Initial Training Network for Atmospheric Remote Sensing (ITaRS), Coordinator
- 2012 – 2015 Senate Commission of the Helmholtz Association of German Research Centers

2007 – 2018

Transregional Collaborative Research Centre 32 " Patterns in Soil-Vegetation-Atmosphere Systems" funded by the German National Science Foundation (DFG), Speaker for University of Cologne

Host/Organisation of Conferences and Meetings (Selected)

Winter School: Observation and Modeling of High-latitude and Arctic Clouds, Hyytiälä Lappajärvi, Finland, March 2017

ARM Summer School, Oklahoma City, July 2016/2018

Outreach (Talks, press coverage, etc.)

Kölner Universitätsmagazin, Open Campus Day at University of Cologne, Wissenschaft im Rathaus, Max Planck Society, Radio Interview, Schnupperstudium für Schülerinnen

Publications

Peer-Reviewed Publications:

1. Aires, F., C. Prigent, M. Milz, S. Buehler, P. Eriksson, and S. Crewell, 2018: Towards more realistic hypotheses for the information content analysis of cloudy/precipitating situations - Application to an hyper-spectral instrument in the microwaves, Quarterly Journal of the Royal Meteorological Society, <https://doi.org/10.1002/qj.3315>.
2. Frank, C. W., S. Wahl, J.D. Keller, B. Pospichal, A. Hense, S. Crewell, 2018: A novel data set for solar energy applications based on high resolution reanalysis, Solar Energy, 164, 12-24, <https://doi.org/10.1016/j.solener.2018.02.012>.
3. Knudsen, E.M., B. Heinold, S. Dahlke, H. Bozem, S. Crewell, G. Heygster, D. Kunkel, M. Maturilli, M. Mech, A. Rinke, H. Schmithuesen, A. Ehrlich, A. Macke, C. Luepkes, and M. Wendisch, 2018: Synoptic development during the ALOUD/PASCAL field campaign near Svalbard in spring 2017, Atmospheric Physics and Chemistry, <https://doi.org/10.5194/acp-2018-494>.
4. Marke, T., S. Crewell, V. Schemann, J. H. Schween, and M. Tuononen, 2018: Long-Term Observations and High Resolution Modeling of Mid-Latitude Nocturnal Boundary-Layer Processes Connected to Low-Level-Jets, JAMC , <https://doi.org/10.1175/JAMC-D-17-0341.1>.
5. Schäfler, A., G. Craig, H. Wernli, P. Arbogast, J.D. Doyle, R. McTaggart-Cowan, J. Methven, G. Rivière, F. Ament, M. Boettcher, M. Bramberger, Q. Cazenave, R. Cotton, S. Crewell, J. Delanoë, A. Dörnbrack, A. Ehrlich, F. Ewald, A. Fix, C.M. Grams, S.L. Gray, H. Grob, S. Groß, M. Hagen, B. Harvey, L. Hirsch, M. Jacob, T. Kölling, H. Konow, C. Lemmerz, O. Lux, L. Magnusson, B. Mayer, M. Mech, R. Moore, J. Pelon, J. Quinting, S. Rahm, M. Rapp, M. Rautenhaus, O. Reitebuch, C.A. Reynolds, H. Sodemann, T. Spengler, G. Vaughan, M. Wendisch, M. Wirth, B. Witschas, K. Wolf, and T. Zinner, 2018: The North Atlantic Waveguide

and Downstream Impact Experiment. *Bull. Amer. Meteor. Soc.*, 99, 1607–1637, <https://doi.org/10.1175/BAMS-D-17-0003.1>.

6. Marke, T., S. Crewell, V. Schemann, J. H. Schween, and M. Tuononen, 2018: Long-Term Observations and High Resolution Modeling of Mid-Latitude Nocturnal Boundary-Layer Processes Connected to Low-Level-Jets, *Journal of Applied Meteorology and Climatology*, 57(5), 1155-1170, <https://doi.org/10.1175/JAMC-D-17-0341.1>.
7. Frank, C. W., S. Wahl, J.D. Keller, B. Pospichal, A. Hense, S. Crewell, 2018: A novel data set for solar energy applications based on high resolution reanalysis, *Solar Energy*, 164, 12-24, <https://doi.org/10.1016/j.solener.2018.02.012>.
8. Bony, S., B. Stevens, F. Ament, S. Bigorre, P. Chazette, S. Crewell, J. Delanoë, K. Emanuel, D. Farrell, C. Flamant, S. Gross, L. Hirsch, J. Karstensen, B. Mayer, L. Nuijens, J.H. Ruppert Jr., I. Sandu, P.A. Siebesma, S. Speich, F. Szczap, J. Totems, R. Vogel, M. Wendisch, M. Wirth, 2017: EUREC^{4A}: a field campaign to elucidate the couplings between clouds, convection and circulation. *Survey in Geophysics*, 38:6, 1529-1568, <https://doi.org/10.1007/s10712-017-9428-0>.
9. Schnitt, S., E. Orlandi, M. Mech, A. Ehrlich, and S. Crewell, 2017: Characterisation of Water Vapor and Clouds during the Next-Generation Aircraft Remote-sensing for Validation (NARVAL)-South studies, *IEEE Journal on Selected Topics in Earth Observation and Remote Sensing (JSTARS)*, 10:7, 3114-3124, <https://doi.org/10.1109/JSTARS.2017.2687943>.
10. Macke, A., P. Seifert, H. Baars, C. Barthlott, C. Beekmans, A. Behrendt, B. Bohn, M. Brück, J. Bühl, S. Crewell, T. Damian, H. Deneke, S. Düsing, A. Foth, P. Di Girolamo, E. Hammann, R. Heinze, A. Hirsikko, J. Kalisch, N. Kalthoff, S. Kinne, M. Kohler, U. Löhnert, B. L. Madhavan, V. Maurer, S. H. Muppa, J. Schween, I. Serikov, H. Siebert, C. Simmer, F. Späth, S. Steinke, K. Träumner, S. Trömel, B. Wehner, A. Wieser, V. Wulfmeyer, X. Xie, 2017: The HD(CP)2 Observational Prototype Experiment HOPE – An Overview, *Atmospheric Chemistry and Physics*, 17, 4887-4914, <https://doi.org/10.5194/acp-17-4887-2017>.
11. Ebell, K., U. Löhnert, E. Päsche, E. Orlandi, J. H. Schween, and S. Crewell, 2017: A 1-D variational retrieval of temperature, humidity, and liquid cloud properties: performance under idealized and real conditions, *Journal of Geophysical Research: Atmospheres*, 122, <https://doi.org/10.1002/2016JD025945>.
12. Wahl, S., C. Bollmeyer, S. Crewell, C. Figura, P. Friederichs, A. Hense, J. Keller, and C. Ohlwein, 2017: A novel convective-scale regional reanalysis COSMO-REA2: Improving the representation of precipitation, *Meteorologische Zeitschrift*, 26(4), 345 – 361, <https://doi.org/10.1127/metz/2017/0824>
13. Heinze, R., A. Dipankar, C.C. Henken, C. Moseley, O. Sourdeval, S. Tromel, X. Xie, P. Adamidis, F. Ament, H. Baars, C. Barthlott, A. Behrendt, U. Blahak, S. Bley, S. Brdar, M. Brueck, S. Crewell, H. Deneke, P. Di Girolamo, R. Evaristo, J. Fischer, C. Frank, P. Friederichs, T. Gocke, K. Gorges, L. Hande, M. Hanke, A. Hansen, H-C. Hege, C. Hoose, T. Jahns, N. Kalthoff, D. Klocke, S. Kneifel, P. Knippertz, A. Kuhn, T. van Laar, A. Macke, V. Maurer, B. Mayer, C. I. Meyer, S. K. Muppa, R. A. J. Neggers, E. Orlandi, F. Pantillon, B. Pospichal, N. Rober, L. Scheck, A. Seifert,

- P. Seifert, F. Senf, P. Siligam, C. Simmer, S. Steinke, B. Stevens, K. Wapler, M. Weniger, V. Wulfmeyer, G. Zängl, D. Zhang, and J. Quaas, 2017: Large-eddy simulations over Germany using ICON: A comprehensive evaluation. *Quarterly Journal of the Royal Meteorological Society*. 143: 69 – 100, <https://doi.org/10.1002/qj.2947>.
14. Saeed, U., F. Roca-denbosch, S. Crewell, 2016: Adaptive Estimation of the Stable-Boundary-Layer Height Using Combined Lidar and Microwave Radiometer Observations, *IEEE Transactions on Geoscience and Remote Sensing*, 54(12), 6895 – 6906, <https://doi.org/10.1109/TGRS.2016.2586298>.
 15. Barrera-Verdejo, M., S. Crewell, U. Löhnert, E. Orlandi, and P. Di Girolamo, 2016: Ground-based lidar and microwave radiometry synergy for high vertical resolution absolute humidity profiling, *Atmospheric Measurement Techniques*, 9, 4013-4028, <https://doi.org/10.5194/amt-9-4013-2016>.
 16. Schickling, A., M. Matveeva, A. Damm, J. H. Schween, A. Wahner, A. Graf, S. Crewell, and U. Rascher, 2016: Combining Sun-Induced Chlorophyll Fluorescence and Photochemical Reflectance Index Improves Diurnal Modeling of Gross Primary Productivity, *Remote Sensing*, 8, 574, <https://doi.org/10.3390/rs8070574>.
 17. Küchler, N., D.D. Turner, U. Löhnert and S. Crewell, 2016: Calibrating ground-based microwave radiometers: Uncertainty and drifts, *Radio Sciences*, 51 (4), 311-327, <https://doi.org/10.1002/2015RS005826>.
 18. Aires, F., C. Prigent, E. Orlandi, M. Milz, P. Eriksson, S. Crewell, C.-C. Lin, and V. Kangas, 2015: Microwave hyperspectral measurements for temperature and humidity atmospheric profiling from satellite: The clear-sky case, *Journal of Geophysical Research: Atmospheres*, 120(21), 11334-11351, <https://doi.org/10.1002/2015JD023331>.
 19. Corbetta, G., T. Heus, R. Neggers, E. Orlandi, and S. Crewell, 2015: Overlap statistics of shallow boundary layer clouds: comparing ground-based observations with large-eddy simulations, *Geophys. Res. Lett.*, 42:19,8185-8191, <https://doi.org/10.1002/2015GL065140>.
 20. Simmer, C., I. Thiele-Eich, M. Masbou, W. Amelung, S. Crewell, B. Diekkruöger, F. Ewert, H.-J. Hendricks Franssen, A. J. Huisman, A. Kemna, N. Klitzsch, S. Kollet, M. Langensiepen, U. Löhnert, M. Rahman, U. Rascher, K. Schneider, J. Schween, Y. Shao, P. Shrestha, M. Stiebler, M. Sulis, J. Vanderborght, H. Vereecken, J. van der Kruk, T. Zerenner, and G. Waldhoff, 2015: Monitoring and Modeling the Terrestrial System from Pores to Catchments - the Transregional Collaborative Research Center on Patterns in the Soil-Vegetation-Atmosphere System, *Bulletin of the American Meteorological Society*, 96(10), 1765-1787, <https://doi.org/abs/10.1175/BAMS-D-13-00134.1>.

21. Löhnert, U., J. H. Schween, C. Acquistapace, K. Ebell, M. Maahn, M. Barrera-Verdejo, A. Hirsikko, B. Bohn, A. Knaps, E. O'Connor, C. Simmer, A. Wahner, and S. Crewell, 2015: JOYCE: Jülich Observatory for Cloud Evolution, Bulletin of the American Meteorological Society, 96(7), 1157-1174, <https://doi.org/10.1175/BAMS-D-14-00105.1>.
22. Xie, X., S. Crewell, U. Loehnert, C. Simmer, and J.G. Miao, 2015: Polarization signatures and brightness temperatures caused by horizontally oriented snow particles at microwave bands: Effects of atmospheric absorption, Journal of Geophysical Research – Atmospheres, 120, 12, 6145-6160, <https://doi.org/10.1002/2015JD023158>.
23. Eikenberg, S., C. Köhler, A. Seifert, and S. Crewell, 2015: How microphysical choices affect simulated infrared brightness temperatures, Atmospheric Research, 156, 67-79, <https://doi.org/10.1016/j.atmosres.2014.12.010>.
24. Steinke, S., S. Eikenberg, U. Löhnert, G. Dick, D. Klocke, P. Di Girolamo, and S. Crewell, 2015: Assessment of Small-Scale Integrated Water Vapour Variability During HOPE Atmospheric Chemistry and Physics, Atmos. Chem. Phys. Discuss., 14, 22837-22879, <https://doi.org/10.5194/acpd-14-22837-2014>.
25. Gorodetskaya, I.V., S. Kneifel, M. Maahn, K. Van Tricht, J. H. Schween, S. Crewell, and N. P. M. Van Lipzig, 2015: Cloud and precipitation properties from ground-based remote sensing instruments in East Antarctica, The Cryosphere, 9, 285-304, <https://doi.org/10.5194/tc-9-285-2015>.
26. Bollmeyer, C., J. Keller, C. Ohlwein, S. Bentzien, S. Crewell, P. Friedrichs, A. Hense, J. Keune, S. Kneifel, I. Pscheidt, S. Redl, and S. Steinke, 2015: Towards a high-resolution regional reanalysis for the European CORDEX domain, Quarterly Journal of the Royal Meteorological Society, 141(86), 1-15. Featured Research Article, <https://doi.org/10.1002/qj.2486>.
27. Maahn M., C. Burgard, S. Crewell, I. V. Gorodetskaya, S. Kneifel, S. Lhermitte, K. Van Tricht and N. P. M. van Lipzig, 2014: How does the spaceborne radar blind zone affect derived surface snowfall statistics in polar regions? Journal of Geophysical Research – Atmospheres, 119, 13604-13620, <https://doi.org/10.1002/2014JD022079>.
28. Ahrends, H. E., R. Haseneder-Lind, J. H. Schween, S. Crewell, A. Stadler, and U. Rascher, 2014: Diurnal Dynamics of Wheat Evapotranspiration Derived from Ground-Based Thermal Imagery, Remote Sensing, 6(10), 9775-9801, <https://doi.org/10.3390/rs6109775>.

29. Steinke, S., U. Löhnert, S. Crewell, and S. Liu, 2014: Water vapor tomography with two microwave radiometers, *IEEE Geoscience Remote and Sensing Letters*, 11(2), 419-423, <https://doi.org/10.1109/LGRS.2013.2264354>.
30. Mech, M., E. Orlandi, S. Crewell, F. Ament, L. Hirsch, M. Hagen, G. Peters, and B. Stevens, 2014: HAMP - the microwave package on the High Altitude and LOng range research aircraft HALO, *Atmospheric Measurement Techniques*, 7, 4539-4553, <https://doi.org/10.5194/amt-7-4539-2014>.
31. Schween, J. H., A. Hirsikko, U. Löhnert, and S. Crewell, 2014: Mixing layer height retrieval with ceilometer and Doppler lidar: from case studies to long-term assessment, *Atmospheric Measurement Techniques*, 7, 3685-3704, <https://doi.org/10.5194/amt-7-3685-2014>.
32. Shao., Y., S. Liu, S. Crewell, and J.H. Schween, 2013: Large-Eddy Atmosphere - Land Surface Modeling over Heterogeneous Surfaces: Model Development and Comparison with Measurements. *Boundary Layer Meteorology*, 148(2), 333-356, <https://doi.org/10.1007/s10546-013-9823-0>.
33. Ebell, K., E. Orlandi, A. Hünerbein, U. Löhnert, and S. Crewell, 2013: Combining ground and satellite based measurements in the atmospheric state retrieval: Assessment of the information content, *Journal of Geophysical Research*, 18, 6940-6956, <https://doi.org/10.1002/jgrd.50548>.
34. Maschwitz, G., U. Löhnert, S. Crewell, T. Rose, and D.D. Turner, 2013: Investigation of Ground-Based Microwave Radiometer Calibration Techniques at 530 hPa, *Atmospheric Measurement Techniques*, 6, 2641-2658, <https://doi.org/10.5194/amt-6-2641-2013>.
35. Meunier, V., U. Löhnert, P. Kollias, and S. Crewell, 2013: Biases caused by the Instrument Bandwidth and Beam Width on Simulated Brightness Temperature Measurements from Scanning Microwave Radiometers, *Atmospheric Measurement Techniques*, 6, 1171-1187, <https://doi.org/10.5194/amt-6-1171-2013>.
36. Zacharias, S., M. Meyers, J.G. Pinto, J.H. Schween, S. Crewell, and M. Kerschgens, 2012: Heat and moisture budgets from airborne measurements and high resolution model simulations, *Meteorological and Atmospheric Physics*, 117, 47-61, <https://doi.org/10.1007/s00703-012-0188-6>.
37. Turner, D.D., E.J. Mlawer, G. Bianchini, M.P. Cadetdu, S. Crewell, J.S. Delamere, R.O. Knuteson, G. Maschwitz, M. Mlynzcak, S. Paine, L. Palchetti, and D.C. Tobin, 2012: Ground-based High Spectral Resolution Observations of the Entire Terrestrial Spectrum Under

Extremely Dry Conditions, *Geophysical Research Letters*, 39(10), L10801,
<https://doi.org/10.1029/2012GL051542>.

38. Akkermans, T., T. Böhme, M. Demuzere, S. Crewell, C. Selbach, T. Reinhardt, A. Seifert, F. Ament, and N. Van Lipzig, 2012: Regime-dependent evaluation of accumulated precipitation in the COSMO model, *Theoretical and Applied Climatology*, 108(1-2), 39-52,
<https://doi.org/10.1007/s00704-011-0502-0>.
39. Xie, X., U. Löhnert, S. Kneifel, and S. Crewell, 2012: Snow particle orientation observed by ground-based microwave radiometry, *Journal of Geophysical Research*, 117, D02206,
<https://doi.org/10.1029/2011JD016369>.
40. Buehler, S. A., E. Defer, F. Evans, S. Eliasson, J. Mendrok, P. Eriksson, C. Lee, C. Jimenéz, C. Prigent, S. Crewell, Y. Kasai, R. Bennartz, and A. J. Gasiewski, 2012: Observing Ice Clouds in the Submillimeter Spectral Range: The CloudIce Mission Proposal for ESA's Earth Explorer 8, *Atmospheric Measurement Techniques*, 5, 1529-1549, <https://doi.org/10.5194/amt-5-1529-2012>.
41. Löhnert, U., S. Kneifel, A. Battaglia, M. Hagen, L. Hirsch, and S. Crewell, 2011: A multi-sensor approach towards a better understanding of snowfall microphysics: The TOSCA project, *Bulletin of the American Meteorological Society*, 92, 613-628,
<https://doi.org/10.1175/2010BAMS2909.1>.
42. Böhme, T., S. Stapelberg, T. Akkermans, S. Crewell, J. Fischer, T. Reinhardt, A. Seifert, C. Selbach, and N. van Lipzig, 2011: Long-term evaluation of COSMO forecasting using combined observational data of the GOP period, *Meteorologische Zeitschrift*, 20(2), 119-132,
<https://doi.org/10.1127/0941-2948/2011/0225>.
43. Schween, J.H., S. Crewell, and U. Löhnert, 2011: Horizontal-humidity gradient from one single-scanning microwave Radiometer, *IEEE Geoscience and Remote Sensing Letters*, 8(2), 336-340, <https://doi.org/10.1109/LGRS.2010.2072981>.
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