

Prof. Dr. Susanne Crewell | Publications

My publication record spans a wide range of topics

- with more than 100 peer-reviewed publications as of 02 November 2021
Publons O-1640-2013: 140 publications, 3510 citations, h-index=33
Scopus: 146 Publications, 2698 citations, h-index = 33
[Google](#): 5551 citations, h-index = 43
- and book contributions/review reports related to observational techniques and the future development of measurement strategies.

Below also invited talks and specific reports of interest are given. The full list of my publications including conference contributions, talks and posters can be found at

http://gop.meteo.uni-koeln.de/ag_crewell/doku.php?id=publications:publications

Accepted peer-reviewed publications

Böhm, C., M. Meyers, L. Knarr, S. Crewell: The role of moisture conveyor belts for precipitation in the Atacama Desert, *Geophysical Research Letters*, accepted 28 October 2021

Konow, H., F. Ewald, G. George, M. Jacob, M. Klingebiel, T. Kölling, A. E. Luebke, T. Mieslinger, V. Pörtge, J. Radtke, M. Schäfer, H. Schulz, R. Vogel, M. Wirth, S. Bony, S. Crewell, A. Ehrlich, L. Forster, A. Giez, F. Gödde, S. Groß, M. Gutleben, M. Hagen, L. Hirsch, F. Jansen, T. Lang, B. Mayer, M. Mech, M. Prange, S. Schnitt, J. Vial, A. Walbröl, M. Wendisch, K. Wolf, T. Zinner, M. Zöger, F. Ament, and B. Stevens: EUREC4A's HALO, *Earth System Science Data*, accepted 28 September 2021

Publications

1. Böhm, C., J. H. Schween, M. Meyers, B. Maier, U. Löhnert, S. Crewell: Towards a climatology of fog frequency in the Atacama Desert via multi-spectral satellite data and machine learning techniques, *Journal of Applied Meteorology and Climatology*, <https://doi.org/10.1175/JAMC-D-20-0208.1>
2. Crewell, C., K. Ebell, P. Konjari, M. Mech, T. Nomokonova, A. Radovan, D. Strack, A. M. Triana Gomez, S. Noel, R. Scarlat, G. Spreen, M. Maturilli, A. Rinke, I. Gorodetskaya, C. Viceto, T. August, and M. Schröder: A systematic assessment of water vapor products in the Arctic: from instantaneous measurements to monthly means, *Atmospheric Measurement Techniques* (14) 7, <https://doi.org/10.5194/amt-14-4829-2021>
3. Frank, C., S. Fiedler, S. Crewell, 2021: Balancing potential of natural variability and extremes in photovoltaic and wind energy production for European countries, *Renewable Energy*, <https://doi.org/10.1016/j.renene.2020.07.103>
4. Schoger, S. Y., D. Moisseev, A. von Lerber, S. Crewell, and K. Ebell, 2021: Snowfall rate retrieval for K- and W-band radar measurements designed in Hyytiälä, Finland, and tested at Ny-Ålesund, Svalbard, *Journal of Applied Meteorology and Climatology*, 60(3), 273-289, <https://doi.org/10.1175/JAMC-D-20-0095.1>
5. Böhm, C., M. Meyers, J.-H. Schween, and S. Crewell, 2020: Water vapor variability in the Atacama Desert during the 20th century, *Global and Planetary Change*, 190, 103192, <https://doi.org/10.1016/j.gloplacha.2020.103192>
6. Jentzsch, K., A. Schulz, N. Pirk, T. Foken, S. Crewell, J. Boike, 2021: High levels of CO₂ exchange during synoptic-scale events introduce large uncertainty into the Arctic carbon budget, *Geophysical Research Letters*, 18(9), <https://doi.org/10.1029/2020GL092256>

7. Stevens, B, et al. including C.Acquistapace, S.Crewell, M.Jacob, M.Mech, S.Schnitt, 2021: EUREC4A, Earth System Science Data, 13 (8), 4067–4119, <https://essd.copernicus.org/articles/13/4067/2021/essd-13-4067-2021.pdf>
8. Cantalloube, F. j. Milli, C. Böhm, S. Crewell, J. Navarrete, K. Rehfeld, M. Sarazin, and A. Sommani, 2020: The impact of climate change on astronomical observations, *Nature Astronomy*, 4, 826-829, <https://doi.org/10.1038/s41550-020-1203-3>
9. Carbajal Henken, C., L. Dirks, S. Steinke, H. Diedrich, T. August, and S. Crewell, 2020: Assessment of Sampling Effects of Various Satellite-derived Integrated Water Vapor Datasets Using GPS Measurements in Germany as Reference, *Remote Sensing*, 12(7), 1170, <https://doi.org/10.3390/rs12071170>
10. Costa-Surós, M., O. Sourdeval, C. Acquistapace, H. Baars, C. Carbajal Henken, C. Genz, J. Hesemann, C. Jimenez, M. König, J. Kretzschmar, N. Madenach, C. I. Meyer, R. Schrödner, P. Seifert, F. Senf, M. Brueck, G. Cioni, J. F. Engels, K. Fieg, K. Gorges, R. Heinze, P.K. Siligam, U. Burkhardt, S. Crewell, C. Hoose, A. Seifert, I. Tegen, and J. Quaas, 2020: Detection and attribution of aerosol-cloud interactions in large-domain large-eddy simulations with ICON, *Atmospheric Chemistry and Physics*, 20(9), 5657-5678, <https://doi.org/10.5194/acp-20-5657-2020>
11. Jacob, M., P. Kollias, F. Ament, V. Schemann, and S. Crewell, 2020: Multi-layer Cloud Conditions in Trade Wind Shallow Cumulus – Confronting Models with Airborne Observations, *Geoscientific Model Development*, 13, 5757–5777, <https://doi.org/10.5194/gmd-13-5757-2020>
12. Mech, M., M. Maahn, S. Kneifel, D. Ori, E. Orlandi, P. Kollias, V. Schemann, and S. Crewell, 2020: PAMTRA 1.0: A Passive and Active Microwave radiative TRANSfer tool for simulating radiometer and radar measurements of the cloudy atmosphere, *Geoscientific Model Development*, 13, 4229-4251, <https://doi.org/10.5194/gmd-13-4229-2020>
13. Neher, I., S. Crewell, S. Meilinger, U. Pfeifroth, and J. Trentmann, 2020: Long-term variability of solar irradiance and its complications for photovoltaic power in West Africa, *Atmospheric Chemistry and Physics*, 20, 12871-12888, <https://doi.org/10.5194/acp-20-12871-2020>
14. Reyers, M., C. Böhm, L. Knarr Y. Shao, and S. Crewell, 2020: Synoptic-to-regional scale analysis of rainfall in the Atacama Desert (18°S-26°S) using a long-term simulation with WRF, *Monthly Weather Review*, 148 (8), 1-51, <https://doi.org/10.1175/MWR-D-20-0038.1>
15. Ruiz-Donoso, E., A. Ehrlich, M. Schäfer, E. Jäkel, V. Schemann, S. Crewell, M. Mech, B.S. Kulla, L.-L. Kliesch, R. Neuber, and M. Wendisch, 2020: Small-scale structure of thermodynamic phase in Arctic mixed-phase clouds observed by airborne remote sensing during a cold air outbreak and a warm air advection event, *Atmospheric Measurement Technology*, 20, 5487–5511, <https://doi.org/10.5194/acp-20-5487-2020>
16. Frank, C. W., B. Pospichal, S. Wahl, J. D. Keller, A. Hense, and S. Crewell, 2020: The added value of high resolution regional reanalyses for wind power applications, *Renewable Energy*, 148, 1094-1109, <https://doi.org/10.1016/j.renene.2019.09.138>.
17. Henken, C., L. Dirks, S. Steinke, H. Diedrich, T. August, and S. Crewell, 2020: Assessment of Sampling Effects of Various Satellite-derived Integrated Water Vapor Datasets Using GPS Measurements in Germany as Reference, *Remote Sensing*, 12, 1170, <https://doi.org/10.3390/rs12071170>.
18. Marke, T., Löhnert, U., Schemann, V., Schween, J. H., and S. Crewell, 2020: Detection of land-surface-induced atmospheric water vapor patterns, *Atmospheric Chemistry and Physics*, 20, 1723–1736, <https://doi.org/10.5194/acp-20-1723-2020>.
19. Stevens, B., C. Acquistapace, M. Costa-Surós, S. Crewell, M. Jacob, U. Löhnert, S. Schnitt, et al., 2020: Large-eddy and Storm Resolving Models for Climate Prediction - The Added Value for Clouds and Precipitation, *Journal of the Meteorological Society of Japan*, 98(2), 395-435, <https://doi.org/10.2151/jmsj.2020-021>
20. Konow, H., M. Jacob, F. Ament, S. Crewell, F. Ewald, M. Hagen, L. Hirsch, F. Jansen, M. Mech, B. Stevens, 2019: A unified data set of airborne cloud remote sensing using the HALO Microwave Package (HAMP), *Earth System Science Data*, 11, 921-934, <https://doi.org/10.5194/essd-2018-116>.
21. Lammert, A., A. Hansen, F. Ament, S. Crewell, G. Dick, V. Grützun, H. Klein-Baltink, V. Lehmann, A. Macke, B. Pospichal, W. Schubotz, P. Seifert, E. Stamnas, and B. Stevens, 2019: A Standardized Atmospheric Measurement Data (SAMD) Archive for distributed cloud and precipitation process-oriented observations in

- Central Europe, *Bulletin of the American Meteorological Society*, 100(7), 1299-1314, <https://doi.org/10.1175/BAMS-D-18-0174.1> 12, 3237-3254.
22. Mech, M., L.-L. Kliesch, A. Anhäuser, T. Rose, P. Kollias and S. Crewell, 2019: Microwave Radar/radiometer for Arctic Clouds MiRAC: first insights from the ACloud campaign, *Atmospheric Measurement Techniques*, 12, 5019–5037, <https://doi.org/10.5194/amt-12-5019-2019>.
 23. Neher, I., T. Buchmann, S. Crewell, B. Pospichal, S. Meilinger, 2019: Impact of atmospheric aerosols on solar energy production - Dust outbreak in West Africa, *Meteorologische Zeitschrift* Vol. 28 No. 4, p. 305 - 321, <https://doi.org/10.1127/metz/2019/0969>.
 24. Wendisch, M, A. Macke, A. Ehrlich, C. Lüpkes, M. Mech, D. Chechin, K. Dethloff, C. Barrientos, H. Bozem, M. Brückner, H.-C. Clemen, S. Crewell, T. Donth, R. Dupuy, C. Dusny, K. Ebell, U. Egerer, R. Engelmann, C. Engler, O. Eppers, M. Gehrman, X. Gong, M. Gottschalk, C. Gourbeyre, H. Griesche, J. Hartmann, M. Hartmann, B. Heinold, A. Herber, H. Herrmann, G. Heygster, P. Hoor, S. Jafariserajehlou, E. Jäkel, E. Järvinen, O. Jourdan, U. Kästner, S. Kecorius, E. M. Knudsen, F. Köllner, J. Kretzschmar, L. Lelli, D. Leroy, M. Maturilli, L. Mei, S. Mertes, G. Mioche, R. Neuber, M. Nicolaus, T. Nomokonova, J. Notholt, M. Palm, M. van Pinxteren, J. Quaas, P. Richter, E. Ruiz-Donoso, M. Schäfer, K. Schmieder, M. Schnaiter, J. Schneider, A. Schwarzenböck, P. Seifert, M. D. Shupe, H. Siebert, G. Spreen, J. Stapf, F. Stratmann, T. Vogl, A. Welti, H. Wex, A. Wiedensohler, M. Zanatta, and S. Zeppenfeld, 2019: The Arctic Cloud Puzzle: Using ACloud/PASCAL Multi-Platform Observations to Unravel the Role of Clouds and Aerosol Particles in Arctic Amplification. *Bulletin of the American Meteorological Society*, 100 (5), 841-871, <https://doi.org/10.1175/BAMS-D-18-0072.1>.
 25. Steinke, S., S. Wahl and S. Crewell, 2019: Benefit of high resolution COSMO reanalysis: The diurnal cycle of column-integrated water vapour over Germany, *Meteorologische Zeitschrift*, 28(2), 165 – 177, <https://doi.org/10.1127/metz/2019/0936>.
 26. Radovan A., S. Crewell, E.M. Knudsen and A. Rinke, 2019: Environmental conditions for polar low formation and development over the Nordic Seas: study of January cases based on the Arctic System Reanalysis, *Tellus A: Dynamic Meteorology & Oceanography*, 71, 1-16, <https://doi.org/10.1080/16000870.2019.1618131>.
 27. Rinke A., B. Segger, S. Crewell, M. Maturilli, T. Naakka, T. Nygard, T. Vihma, F. Alshawaf, G. Dick, J. Wickert and J. Kellert, 2019: Trends of vertically integrated water vapor over the Arctic during 1979-2016: Consistent moistening all over? *Journal of Climate*, 32, 6097-6116, <https://doi.org/10.1175/JCLI-D-19-0092.1>
 28. Jacob, M., F. Ament, M. Gutleben, H. Konow, M. Mech, M. Wirth, and S. Crewell, 2019: Investigating the liquid water path over the tropical Atlantic with synergistic airborne measurements, *Atmospheric Measurement Techniques*, 12, 3237-3254, <https://doi.org/10.5194/amt-12-3237-2019>.
 29. Böhm, C., O. Sourdeval, J. Mülmenstädt, J. Quaas, and S. Crewell, 2019: Cloud base height retrieval from multi-angle satellite data, *Atmospheric Measurement Techniques*, 12, 1841-1860, <https://doi.org/10.5194/amt-12-1841-2019>.
 30. Stevens, B., F. Ament, S. Bony, S. Crewell, S. Groß, L. Hirsch, B. Mayer, M. Wendisch, M. Wirth, S. Bakan, H.-M. Brück, A. Ehrlich, F. Ewald, D. Farrell, M. Forde, F. Gödde, H. Grob, M. Hagen, A. Hansen, M. Jacob, E. Jäkel, F. Jansen, C. Klepp, M. Klingebiel, H. Konow, M. Mech, G. Peters, M. Rapp, A. Wing, K. Wolf, 2019: A High-Altitude Long-Range Aircraft Configured as a Cloud Observatory: The NARVAL Expedition, *Bulletin of the American Meteorological Society*, 100 (5), 1061–1077, <https://doi.org/10.1175/BAMS-D-18-0198.1>
 31. Wolf, K., A. Ehrlich, M. Jacob, S. Crewell, M. Wirth, and M. Wendisch, 2019: Improvement of Airborne Retrievals of Cloud Droplet Number Concentration of Trade Wind Cumulus Using a Synergetic Approach, *Atmospheric Measurement Techniques*, 12, 1635-1658, <https://doi.org/10.5194/amt-12-1635-2019>
 32. 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 a hyper-spectral instrument in the microwaves, *Quarterly Journal of the Royal Meteorological Society*, 145:1–14, <https://doi.org/10.1002/qj.3315>
 33. 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>.

34. Frank, C. W., S. Wahl, J.D. Keller, B. Pospichal, A. Hense, and S. Crewell, 2018: A novel data set for solar energy applications based on high resolution reanalysis, *Solar Energy*, 164, 12-24, <https://doi.org/10.5194/acp-18-17995-2018>.
35. 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, *Bulletin of the American Meteorological Society*, 99, 1607–1637, <https://doi.org/10.1175/BAMS-D-17-0003.1>.
36. 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*, 18, 17995-18022, <https://doi.org/10.5194/acp-18-17995-2018>.
37. 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*, <https://doi.org/10.1127/metz/2017/0824>.
38. 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>.
39. Neher, I., T. Buchmann, S. Crewell, B. Evers-Dietze, K. Pfeilsticker, B. Pospichal, C. Schirrmeister, and S. Meilinger, 2017: Impact of atmospheric aerosols on daily yields of a polycrystalline PV module using a two-diode model: Scenario for the Sahel zone, *Energy Procedia*, 125, 170-179, <https://doi.org/10.1016/j.egypro.2017.08.168>.
40. 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>.
41. 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>.
42. 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>.
43. 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>.
44. Bühl, J., Alexander, S., Crewell, S., Heymesfield, A., Kalesse, H., Khain, A., Maahn, M., van Tricht, K., Wendisch, M., 2017: Ice Formation and Evolution in Clouds and Precipitation: Measurement and Modeling Challenges, Baumgardner, D., McFarquhar, G., and Heymsfield, A. (Eds.), Chapter 10: Remote Sensing. *AMS Meteorological Monographs*. 10.1-10.21, <https://doi.org/10.1175/AMSMONOGRAPHS-D-16-0015.1>.

45. 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>.
46. 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>.
47. 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>.
48. Saeed, U., F. Rocabosch, 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>.
49. Haefelin, M., S. Crewell, A. Illingworth, G. Pappalardo, H. Russchenberg, M. Chiriaco, K. Ebell, R. Hogan, and F. Madonna, 2016: Parallel Developments and Formal Collaboration between European Atmospheric Profiling Observatories and the U.S. ARM Research Program. *Meteorological Monographs*, 57, 29.1–29.34, <https://doi.org:10.1175/AMSMONOGRAPHIS-D-15-0045.1>.
50. 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), 11334-11351.14, <https://doi.org:10.1002/2015JD023331>.
51. 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>.
52. 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>.
53. 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>.
54. Xie, X., S. Crewell, U. Löhnert, 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>.
55. 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>.
56. 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, 14, 22837-22879, <https://doi.org:10.5194/acpd-14-22837-2014>.
57. 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>.
58. 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>.

59. 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>.
60. 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>.
61. 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>.
62. 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>.
63. 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>.
64. 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>.
65. 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*, 118, 6940-6956, <https://doi.org:10.1002/jgrd.50548>.
66. 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>.
67. 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>.
68. Tortora, P., S. Crewell, G. Elgered, A. Graziani, P. Jarlemark, U. Loehnert, A. Martellucci, M. Mercolino, T. Rose and J. Schween, 2013: AWARDS: Advanced Microwave Radiometers in Deep Space Stations. *Space Communications*, 22, 2009-2013, 159-170, <https://doi.org:10.3233/SC-130011>.
69. Buehler, S. A., E. Defer, F. Evans, S. Eliasson, J. Mendrok, P. Eriksson, C. Lee, C. Jimenez, 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>.
70. 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>.
71. 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>.
72. 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>.
73. 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>.
74. Reitter, S., K. Fröhlich, A. Seifert, S. Crewell, and M. Mech, 2011: Evaluation of ice and snow content in the global numerical weather prediction model GME with CloudSat, *Geoscientific Model Development*, 4, 579-589, <https://doi.org:10.5194/gmd-4-579-2011>.

75. 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>.
76. 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>.
77. Wulfmeyer, V., A. Behrendt, C. Kottmeier, U. Corsmeier, C. Barthlott, G. Craig, M. Hagen, D. Althausen, F. Aoshima, M. Arpagaus, H.-S. Bauer, L. Bennett, A. Blyth, C. Brandau, C. Champollion, S. Crewell, G. Dick, P. Di Girolamo, M. Dorninger, Y. Dufournet, and R. Eigenmann, 2011: The Convective and Orographically Induced Precipitation Study (COPS): The Scientific Strategy, the Field Phase, and Research Highlights, *Quarterly Journal of the Royal Meteorological Society*, 137, 3-30, <https://doi.org:10.1002/qj.799>.
78. Ebell, K., S. Crewell, U. Löhnert, D. Turner, and E. O'Connor, 2011: Cloud statistics and cloud radiative effect for a lowmountain site, *Quarterly Journal of the Royal Meteorological Society*, 137, 306-324, <https://doi.org:10.1002/qj.748>.
79. 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>.
80. Pfeifer, M., W. Yen, M. Hagen, G. Craig, T. Reinhardt, M. Mech, S. Crewell, A. Hünenbein, M. Schröder, J. Fischer, M. Baldauf, and A. Seifert, 2010: Validating precipitation forecasts using sensor synergy: The case study approach, *Meteorologische Zeitschrift*, 19(6), 601-617, <https://doi.org:10.1127/0941-2948/2010/0487>.
81. Ebell, K., U. Löhnert, S. Crewell, and D. Turner, 2010: On characterizing the error in a remotely sensed liquid water content profile, *Atmospheric Research*, 98(1), 57-68, <https://doi.org:10.1016/j.atmosres.2010.06.002>.
82. Kneifel, S., U. Löhnert, A. Battaglia, S. Crewell, and D. Siebler, 2010: Snow scattering signals in ground-based passive microwave measurements, *Journal of Atmospheric Research*, 115, D16214, 1-17, <https://doi.org:10.1029/2010JD013856>.
83. Pospichal, B., D. Bou Karam, S. Crewell, C. Flamant, A. Hünenbein, O. Bock, and F. Said (2010), Diurnal cycle of the inter-tropical discontinuity over West Africa analysed by remote sensing and mesoscale modelling, *Quarterly Journal of the Royal Meteorological Society*, 136(1), 92-106, <https://doi.org:10.1002/qj.435>.
84. Kalthoff, K., B. Adler, Ch. Barthlott, U. Corsmeier, S. Mobbs, S. Crewell, K. Traumner, Ch. Kottmeier, A. Wieser, and V. Smith, 2009: The Impact of Convergence Zones on the Initiation of Deep Convection: A Case Study from COPS, *Atmospheric Research*, 93(4), 680-694, <https://doi.org:10.1016/j.atmosres.2009.02.010>.
85. Löhnert, U., D. Turner, and S. Crewell, 2009: Ground-based temperature and humidity profiling using spectral infrared and microwave observations: Part 1. Simulated retrieval performance in clear sky conditions, *Journal of Applied Meteorology and Climatology*, 48(5), 1017-1032, <https://doi.org:10.1175/2008JAMC2060.1>.
86. Crewell, S., K. Ebell, U. Löhnert, and D.D. Turner, 2009: Can liquid water profiles be retrieved from passive microwave zenith observations? *Geophysical Research Letters*, 36(6), L06803, <https://doi.org:10.1029/2008GL036934>.
87. Kneifel, S., S. Crewell, U. Löhnert, and J. Schween, 2009: Investigating water vapor variability by ground-based microwave radiometry: Evaluation using airborne observations, *IEEE Geoscience and Remote Sensing Letters*, 6(1), 157-161, <https://doi.org:10.1109/LGRS.2008.2007659>.
88. Turner, D., M.P. Cadeddu, U. Löhnert, S. Crewell, and A.M. Vogelmann, 2009: Modifications to the water vapor continuum in the Microwave suggested by ground-based 150 GHz Observations, *IEEE Transactions on Geoscience and Remote Sensing*, 47(10), 3326-3337, <https://doi.org:10.1109/TGRS.2009.2022262>.
89. Crewell, S., M. Mech, T. Reinhardt, C. Selbach, H.-D. Betz, E. Brocard, G. Dick, E. O'Connor, J. Fischer, T. Hanisch, T. Hauf, A. Hünenbein, L. Delobbe, A. Mathes, G. Peters, H. Wernli, M. Wiegner, and V. Wulfmeyer, 2008: The General Observation Period 2007 within the Priority Programm on Quantitative Precipitation Forecasting: Concept and first results, *Meteorologische Zeitschrift*, 17(6), 849-866, <https://doi.org:10.1127/0941-2948/2008/0336>.

90. Kottmeier, Ch., N. Kalthoff, Ch. Barthlott, U. Corsmeier, J. Van Baelen, A. Behrendt, R. Behrendt, A. Blyth, R. Coulter, S. Crewell, P. Di Girolamo, M. Dorninger, C. Flamant, Th. Foken, M. Hagen, Ch. Hauck, H. Höller, H. Konow, M. Kunz, H. Mahlke, S. Mobbs, E. Richard, R. Steinacker, T. Weckwerth, A. Wieser, and V. Wulfmeyer, 2008: Mechanisms initiating deep convection over complex terrain during COPS, *Meteorologische Zeitschrift*, 17(6), 931-948, <https://doi.org:10.1127/0941-2948/2008/0348>.
91. Löhnert, U., S. Crewell, O. Krasnov, E. O'Connor, and H. Russchenberg, 2008: Advances in continuously profiling the thermodynamic state of the boundary layer: Integration of measurements and methods, *Journal of Atmospheric and Oceanic Technology*, 25, 1251-1266, <https://doi.org:10.1175/2007JTECHA961.1>.
92. Chaboureau, J.-P., N. Söhne, J.-P. Pinty, I. Meirold-Mautner, E. Defer, C. Prigent, J. Pardo, M. Mech, and S. Crewell, 2008: A Midlatitude Precipitating Cloud Database Validated with Satellite Observations, *Journal of Applied Meteorology and Climatology*, 47, 1337-1353, <https://doi.org:10.1175/2007JAMC1731.1>.
93. Wulfmeyer, V., A. Behrendt, H.-S. Bauer, C. Kottmeier, U. Corsmeier, A. Blyth, G. Craig, U. Schumann, M. Hagen, S. Crewell, P. Di Girolamo, C. Flamant, M. Miller, A. Montani, S. Mobbs, E. Richard, M.W. Rotach, M. Arpagaus, H. Russchenberg, P. Schlüssel, M. König, V. Gärtner, R. Steinacker, M. Dorninger, D.D. Turner, T. Weckwerth, A. Hense, and C. Simmer, 2008: The Convective and Orographically-induced Precipitation Study: A Research and Development Project of the World Weather Research Program for improving quantitative precipitation forecasting in low-mountain regions, *Bulletin of the American Meteorological Society*, 89(10), 1477-1486, <https://doi.org:10.1175/2008BAMS2367.1>.
94. Pospichal, B., and S. Crewell, 2007: Boundary Layer Observations in West Africa using a novel microwave radiometer, *Meteorologische Zeitung*, 16(5), 513-523, <https://doi.org:10.1127/0941-2948/2007/0228>.
95. Meirold-Mautner, I., C. Prigent, J. R. Pardo, J.-P. Chaboureau, J.-P. Pinty, M. Mech, and S. Crewell, 2007: Radiative transfer simulations using mesoscale cloud model outputs: comparisons with passive microwave and infrared satellite observations for mid-latitudes, *Journal of Atmospheric Research*, 64(5), 1550-1568, <https://doi.org:10.1175/JAS3896.1>.
96. Mech, M., S. Crewell, I. Meirold-Mautner, C. Prigent, and J.-P. Chaboureau, 2007: Information content of millimeter observations for hydrometeor properties in mid-latitudes, *IEEE Transactions on Geoscience and Remote Sensing*, 45(7), 2287-2299, <https://doi.org:10.1109/TGRS.2007.898261>.
97. Crewell, S. and U. Löhnert, 2007: Accuracy of boundary layer temperature profiles retrieved with multi-frequency, multi-angle microwave radiometry, *IEEE Transactions on Geoscience and Remote Sensing*, 45(7), 2195-2201, <https://doi.org:10.1109/TGRS.2006.888434>.
98. Van Lipzig, N.P.M., M. Schröder, S. Crewell, F. Ament, J.-P. Chaboureau, U. Löhnert, V. Matthias, E. van Meijgaard, M. Quante, U. Willén, and W. Yen, 2006: Model predicted low-level cloud parameters. Part I: Comparison with observations from the BALTEX Bridge Campaigns, *Atmospheric Research*, 82(1-2), 55-82, <https://doi.org:10.1016/j.atmosres.2006.01.010>.
99. Schröder, M., N. P. M. van Lipzig, F. Ament, J.-P. Chaboureau, S. Crewell, J. Fischer, V. Matthias, E. van Meijgaard, A. Walther, and U. Willén, 2006: Model predicted low-level cloud parameters: Part II: Comparison with satellite remote sensing observations during the BALTEX Bridge Campaigns, *Atmospheric Research*, 82(1-2), 83-101, <https://doi.org:10.1016/j.atmosres.2005.12.005>.
100. Scholl, T., K. Pfeilsticker, A. B. Davis, H. Klein Baltink, S. Crewell, U. Löhnert, C. Simmer, J. Meywerk, and M. Quante, 2006: Path length distributions for solar photons under cloudy skies: Comparison of measured first and second moments with predictions from classical and anomalous diffusion theories, *Journal of Geophysical Research*, 111, D12211, <https://doi.org:10.1029/2004JD005707>.
101. Venema, V., St. Meyer, S. Gimeno Garcia, A. Kniffka, C. Simmer, S. Crewell, U. Löhnert, Th. Trautmann, and A. Macke, 2006: Surrogate cloud fields generated with the Iterative Amplitude Adapted Fourier Transform algorithm, *Tellus A*, 58(1), 104-120, <https://doi.org:10.1111/j.1600-0870.2006.00160.x>.
102. Rose, T., S. Crewell, U. Löhnert, and C. Simmer, 2005: A network suitable microwave radiometer for operational monitoring of the cloudy atmosphere, *Atmospheric Research*, 75(3), 183-200, <https://doi.org:10.1016/j.atmosres.2004.12.005>.
103. van Meijgaard, E., and S. Crewell, 2005: Comparison of model predicted liquid water path with ground-based measurements during CLIWA-NET, *Atmos. Res.*, 75(3), 201-226, <https://doi.org:10.1016/j.atmosres.2004.12.006>.

104. Willen, U., S. Crewell, H.K. Baltink, and O. Sievers, 2005: Assessing Model Predicted Vertical Cloud Structure and Cloud Overlap with Radar and Lidar Ceilometer Observations for the Baltex Bridge Campaign of CLIWA-NET, *Atmospheric Research*, 75(3), 227-255, <https://doi.org/10.1016/j.atmosres.2004.12.008>.
105. Crewell, S., C. Simmer, H. Bloemink, A. Feijt, S. García, D. Jolivet, O. Krasnov, A. van Lammeren, U. Löhnert, E. van Meijgaard, J. Meywerk, K. Pfeilsticker, M. Quante, S. Schmidt, M. Schröder, T. Scholl, T. Trautmann, V. Venema, M. Wendisch, and U. Willén, 2004: The BALTEX Bridge Campaign: An integrated approach for a better understanding of clouds, *Bulletin of the American Meteorological Society*, 85(10), 1565-1584, <https://doi.org/10.1175/BAMS-85-10-1565>.
106. Löhnert, U., S. Crewell, and C. Simmer, 2004: An integrated approach towards retrieving physically consistent profiles of temperature, humidity, and cloud liquid water, *Journal of Applied Meteorology*, 43(9), 1295-1307, [https://doi.org/10.1175/1520-0450\(2004\)043<1295:AIATRP>2.0.CO;2](https://doi.org/10.1175/1520-0450(2004)043<1295:AIATRP>2.0.CO;2).
107. Wulfmeyer, V., H.-S. Bauer, S. Crewell, G. Ehret, O. Reitebuch, C. Werner, M. Wirth, D. Engelbart, A. Rhodin, W. Wergen, A. Giesen, H. Grassl, G. Huber, H. Klingenberg, P. Mahnke, U. Kummer, C. Wührer, P. Ritter, R. Wallenstein, and U. Wandinger, 2003: Lidar Research Network Water Vapor and Wind, *Meteorologische Zeitschrift*, 12, 6-24, <https://doi.org/10.1127/0941-2948/2003/0012-0005>.
108. Crewell, S. and U. Löhnert, 2003: Accuracy of cloud liquid water path from ground-based microwave radiometry. Part II. Sensor accuracy and synergy, *Radio Science*, 38(3), 8042, <https://doi.org/10.1029/2002RS002634>.
109. Löhnert, U., and S. Crewell, 2003: Accuracy of cloud liquid water path from ground-based microwave radiometry. Part I. Dependency on Cloud model statistics, *Radio Science*, 38(3), 8041, <https://doi.org/10.1029/2002RS002654>.
110. Crewell, S., M. Drusch, E. Van Meijgaard, and A. Van Lammeren, 2002: Cloud Observations and Modelling within the European BALTEX Cloud Liquid Water Network, *Boreal Environment Research*, 7, 235-245.
111. Crewell, S., H. Czekala, U. Löhnert, C. Simmer, Th. Rose, R. Zimmermann, and R. Zimmermann, 2001: Microwave Radiometer for Cloud Cartography: A 22-channel ground-based microwave radiometer for atmospheric research, *Radio Science*, 36(4), 621-638, <https://doi.org/10.1029/2000RS002396>.
112. Czekala, H., A. Thiele, S. Crewell, and C. Simmer, 2001: Discrimination of cloud and rain liquid water path by groundbased polarized microwave radiometry, *Geophysical Research Letters*, 28(2), 267-270, <https://doi.org/10.1029/2000GL012247>.
113. Czekala, H., S. Crewell, A. Hornbostel, K. Schroth, C. Simmer, and A. Thiele, 2001: Interpretation of polarization features in ground based microwave observations as caused by horizontally aligned oblate rain drops, *Journal of Applied Meteorology*, 40(11), 1918-1932, [https://doi.org/10.1175/1520-0450\(2001\)040<1918:IOPFIG>2.0.CO;2](https://doi.org/10.1175/1520-0450(2001)040<1918:IOPFIG>2.0.CO;2)
114. Löhnert, U., S. Crewell, C. Simmer, and A. Macke, 2001: Profiling cloud liquid water by combining active and passive microwave measurements with cloud model statistics, *Journal of Atmospheric and Oceanic Technology*, 18(8), 1354-1366, [https://doi.org/10.1175/1520-0426\(2001\)018<1354:PCLWBC>2.0.CO;2](https://doi.org/10.1175/1520-0426(2001)018<1354:PCLWBC>2.0.CO;2).
115. Haase, G., and S. Crewell, 2000: Simulation of radar reflectivities using a mesoscale weather forecast model, *Water Resources Research*, 36(8), 2221-2230, <https://doi.org/10.1029/2000WR900041>.
116. Crewell, S., U. Löhnert, A. van Lammeren, and M. Quante, 2000: Cloud remote sensing by combining synergistic sensor information, *Physics and Chemistry of the Earth (B)*, 25(10-12), 1042-1048, [https://doi.org/10.1016/S1464-1909\(00\)00150-7](https://doi.org/10.1016/S1464-1909(00)00150-7).
117. Meetschen, D., S. Crewell, P. Gross, C. Simmer, and A. van Lammeren, 2000: Simulation of weather radar products from a mesoscale model, *Physics and Chemistry of the Earth (B)*, 25(10-12), 1257-1261, [https://doi.org/10.1016/S1464-1909\(00\)00189-1](https://doi.org/10.1016/S1464-1909(00)00189-1).
118. Haase, G., S. Crewell, C. Simmer, and W. Wergen, 2000: Assimilation of radar data in mesoscale models: Physical Initialization and latent heat nudging, *Physics and Chemistry of the Earth (B)*, 25(10-12), 1237-1242, [https://doi.org/10.1016/S1464-1909\(00\)00186-6](https://doi.org/10.1016/S1464-1909(00)00186-6).
119. Crewell, S., G. Haase, U. Löhnert, H. Mebold, and C. Simmer, 1999: A ground based multi-sensor system for the remote sensing of clouds, *Physics and Chemistry of the Earth (B)*, 24(3), 207-211, [https://doi.org/10.1016/S1464-1909\(98\)00039-2](https://doi.org/10.1016/S1464-1909(98)00039-2).

120. Cheng, D.J., S. Crewell, U. Klein, R.L. de Zafra, and R.A. Chamberlin, 1997: Millimeter wave spectroscopic measurements over the South Pole .4. O-3 and N2O during 1995 and their correlations for two quasi-annual cycles, *Journal of Geophysical Research – Atmospheres*, 102(D5), 6109-6116, <https://doi.org:10.1029/96JD03402>.
121. de Zafra, R.L., V. Chan, S. Crewell, C. Trimble, and J.M. Reeves, 1997: Millimeter wave spectroscopic measurements over the South Pole .3. The behavior of stratospheric nitric acid through polar fall, winter, and spring, *Journal of Geophysical Research – Atmospheres*, 102(D1), 1399-1410, <https://doi.org:10.1029/95JD03679>.
122. de Valk, J.P.J.M.M., A.P.H. Göde, A.R.W. de Jonge, J. Mees, B. Franke, S. Crewell, H. Kullmann, J. Urban, J. Wohlgemuth, M.P. Chipperfield, and A.M. Lee, 1997: Airborne heterodyne measurements of stratospheric ClO, HCl, O3, and N2O during SESAME 1 over northern Europe, *Journal of Geophysical Research – Atmospheres*, 102(D1), 1391-1398, <https://doi.org:10.1029/96JD00443>.
123. Klein, U., S. Crewell, and R.L. de Zafra, 1996: Correlated millimeter wave measurements of ClO, N2O, and HNO3 from McMurdo, Antarctica, during polar spring 1994, *Journal of Geophysical Research – Atmospheres*, 101(D15), 20925-20932, <https://doi.org:10.1029/96JD01701>.
124. Crewell, S., R. Fabian, K. Kunzi, H. Nett, T. Wehr, W. Read, and J. Waters, 1995: Comparison of ClO measurements by airborne and spaceborne microwave radiometers in the Arctic winter stratosphere 1993, *Geophysical Research Letters*, 22(12), 1489-1492, <https://doi.org:10.1029/95GL01390>.
125. Wehr, T., S. Crewell, K. Kunzi, J. Langen, H. Nett, J. Urban, and P. Hartogh, 1995: Remote sensing of ClO and HCl over northern Scandinavia in winter 1992 with an airborne submillimeter radiometer, *Journal of Geophysical Research – Atmospheres*, 100(D10), 20957-20968, <https://doi.org:10.1029/95JD01925>.
126. Crewell, S., D.J. Cheng, R.L. de Zafra, and C. Trimble, 1995: Millimeter wave spectroscopic measurements over the South Pole, 1. A study of stratospheric dynamics using N2O observations, *Journal of Geophysical Research – Atmospheres*, 100(D10), 20839-20844, <https://doi.org:10.1029/95JD02346>.
127. Mees, J., S. Crewell, H. Nett, G. Delange, H. Vandestadt, J.J. Kuipers, and R.A. Panhuyzen, 1995: ASUR – an airborne SIS receiver for atmospheric measurements of trace gases at 625 to 760 GHz, *IEEE Transactions on Microwave Theory and Techniques*, 43(11), 2543-2548, <https://doi.org:10.1109/22.473176>.
128. Crewell, S., K. Kunzi, H. Nett, T. Wehr, and P. Hartogh, 1994: Aircraft measurements of ClO and HCl during EASOE 1991/92, *Geophysical Research Letters*, 21(13), 1267-1270, <https://doi.org:10.1029/93GL02499>.
129. Crewell, S., E. Ruprecht, and C. Simmer, 1991: Latent Heat Flux over the North Atlantic Ocean – A Case Study, *Journal of Applied Meteorology*, 30(12), 1627-1635, [https://doi.org:10.1175/1520-0450\(1991\)030<1627:LHFOTN>2.0.CO;2](https://doi.org:10.1175/1520-0450(1991)030<1627:LHFOTN>2.0.CO;2)

Book contributions

- | | |
|------|---|
| 2019 | <p>Crewell, S., M. Wendisch, and U. Loehnert, 2019: Passive Solar and Microwave Spectral Radiometers, in <i>Springer Handbook of Atmospheric Measurements</i>, Ed. T. Foken, accepted.</p> <p>Crewell, S., M. Mech, and C. Prigent, <i>Microwave Radiometry</i>, in <i>Springer Handbook of Atmospheric Measurements</i>, Ed. T. Foken, accepted.</p> |
| 2015 | <p>Saunders, R., S. Crewell, R. Gelaro, P.J. Minnett, V-H. Peuch, J. Schmetz, D. Turner, and C. Velden, 2015: Observations for global to convective scale models, In: <i>World Meteorological Organization, Seamless Prediction of the Earth System: from Minutes to Months</i>, (G Brunet, S Jones, PM Ruti Eds.), (WMO-No. 1156), (ISBN 978-92-63-11156-2), Geneva.</p> |
| 2012 | <p>Wendisch, M., P. Pilewskie, B. Bohn, A. Bucholtz, S. Crewell, C. Harlow, E. Jäkel, K. S. Schmidt, R. Shetter, J. Taylor, D. D. Turner, and M. Zöger, 2012: <i>Atmospheric Radiation Measurements</i>, In: <i>Airborne Measurements for Environmental Research – Methods and Instruments –</i>, Ed. Manfred Wendisch and Jean-Louis Brenguier, Wiley.</p> |

- 2010 Pospichal, B. and S. Crewell, 2010: Observations of the Lower Atmosphere Over West Africa Using Ground-Based Remote Sensing Instruments. In "Integrated Ground-Based Observing Systems-Applications for Climate, Meteorology, and Civil Protection", Chapter II.8, pp. 281-295, Eds. D.Cimini, F. S. Marzano and G. Visconti, Springer SBN 978-3-642-12967-4.
- 2006 Battaglia, A., C. Simmer, S. Crewell, H. Czekala, C. Emde, F. Marzano, M. Mishchenko, J. Pardo, and C. Prigent, 2006: Emission and scattering by clouds and precipitation. In: Thermal Microwave Radiation: Applications for Remote Sensing, Chapter 3, pp. 101-242, Edited by C. Maetzler, The Institution of Engineering and Technology, ISBN 0 86341 573 3.
- 2005 Crewell, S., 2005: Hydrological applications of remote sensing: Atmospheric states and fluxes: Water vapor and clouds (passive/active techniques). Chapter 65, pp. 981-996, Encyclopedia of Hydrological Sciences, Wiley & Sons, Edited by M G Anderson John Wiley and Sons, Ltd., ISBN: 0-471-49103-9.
- Drusch, M. and S. Crewell, 2005: Hydrological applications of remote sensing: Basic Principles and Sensors: Radiative Transfer. Chapter 46, pp.659-672, in Encyclopedia of Hydrological Sciences, Edited by M G Anderson John Wiley and Sons, Ltd., ISBN: 0-471-49103-9.

Miscellaneous

- 2020 Guerova, G., G. Möller, E. Pottiaux, H. Brenot, R. Van Malderen, H. Haralambous, F. Tymvios, J. Douša, M. Kačmařík, K. Eben, H. Vedel, K. Rannat, R. Kivi, A.-M. Harri, O. Bock, J.F. Mahfouf, J. Wickert, G. Dick, R. Potthast, S. Crewell, C. Pikridas, N. Zinas, A. Ganas, R. Szabolcs, M. Mile, S. Thorsteinsson, B.G. Ófeigsson, Y. Reuveni, S. Krichak, R. Pacione, G. Bianco, R. Biondi, G. Stankunavicius, F.N. Teferle, J. Bosy, J. Kaplon, K. Szafrank, R. Fernandes, P. Viterbo, A. Sá, J. Hefty, M.H. Igonova, E. Priego, G. Elgered, M. Lindskog, M. Ridal, U. Willén, T. Ning, E. Brockmann, K. Wilgan, A. Geiger, C. Mekik, J. Jones, Z. Liu, B. Chen, C. Wang, S. Masoumi, M. Moore, S. MacPherson, Advanced GNSS Tropospheric Products for Monitoring Severe Weather Events and Climate, 403-481, Springer
- 2019 Mattioli, V., C. Accadia, C. Prigent, S. Crewell, A. Geer, P. Eriksson, S. Fox, J. R. Pardo, E. Mlawer, M. Cadeddu, M. Bremer, C. D. Breuck, A. Smette, D. Cimini, E. Turner, M. Mech, F. S. Marzano, P. Brunel, J. Vidot, R. Bennartz, T. Wehr, S. D. Michele, and V. John, 2019: Atmospheric gas absorption knowledge in the sub-millimeter: Modeling, field measurements, and uncertainty quantification, Bulletin of the American Meteorological Society, 100, ES291-ES295, <https://doi.org/10.1175/BAMS-D-19-0074.1>.
- MWI-ICI Science Advisory Group, W. Bell, S. Bühler, S. Crewell, P. Eriksson, A. Geer, J.-F. Mahfouf, F. S. Marzano, C. Prigent, R. Tonboe, 2019: Microwave Imager (MWI) - Ice Cloud Imager (ICI) Science Plan
- 2018 Ebell, K., S. Crewell, 2018: Bodengebundene Strahlungsschließung als Qualitätsmaß für Fernerkundungsmethoden, in PROMET: Strahlungsbilanzen, Heft 100, 75-83.
- Ghate, V. P., P. Kollias, S. Crewell, A. M. Fridlind, T. Heus, U. Löhnert, M. Maahn, G. M. McFarquhar, D. Moisseev, M. Oue, M. Wendisch, C. Williams, 2018: The Second ARM Training and Science Application Event: Training the Next Generation of Atmospheric Scientists, Bulletin of the American Meteorological Society, <https://doi.org/10.1175/BAMS-D-18-0242.1>
- 2017 Schröder, M., Lockhoff, M., Shi, L., August, T., Bennartz, R., Borbas, E., Brogniez, H., Calbet, X., Crewell, S., Eikenberg, S., Fell, F., Forsythe, J., Gambacorta, A., Graw, K., Ho, S.-P., Höschel, H., Kinzel, J., Kursinski, E.R., Reale, A., Roman, J., Scott, N., Steinke, S., Sun, B., Trent, T., Walther, A., Willen, U., Yang, Q., 2017: GEWEX water vapor assessment (G-VAP). WCRP Report 16/2017; World Climate Research Programme (WCRP): Geneva, Switzerland; 216 pp.
- Wendisch, M., M. Brückner, J. P. Burrows, S. Crewell, K. Dethloff, K. Ebell, Ch. Lüpkes, A. Macke, J. Notholt, J. Quaas, A. Rinke, and I. Tegen, 2017: Understanding causes and effects of rapid warming in the Arctic. Eos, 98, page 22-26 <https://doi.org/10.1029/2017EO064803>. Published on 17 January 2017.

-
- 2016 Banks, R. F., S. Crewell, S. Henkel, and J. M. Baldasano, 2016: Training network for young atmospheric researchers, *Eos*, 97, <https://doi.org/10.1029/2016EO045899>. Published on 16 February 2016.
- 2005 Westwater, E.R., S. Crewell, C. Maetzler: Surface-based microwave and millimeter wave radiometric remote sensing of the troposphere: A tutorial, *IEEE Geoscience and Remote Sensing Society Newsletter* 134, 16-33.
- Westwater, E.R., S. Crewell, C. Maetzler, D. Cimini: Principles of surface-based microwave and millimeter wave radiometric remote sensing of the troposphere, *Quad. Soc. Ital. Elettromagnetismo* 1 (3), 50-90.
- 2004 Westwater, E.R., S. Crewell, C. Maetzler: A review of surface-based microwave and millimeter-wave radiometric remote sensing of the troposphere, *URSI Radio Science Bulletin* 2004 (310), 59-80.

Invited Talks (last 5 years)

- 2020 Crewell, S., K. Ebell, A. von Lerber, A. Radovan, B. Kulla, L.-L. Kliesch, M. Mech, A. Rinke, V. Schemann, M. Wendisch: Arctic Amplification – what can we learn from microwave measurements? Institute seminar, Institut für Physik der Atmosphäre, ETH Zürich, 27 April 2020
- Crewell, S., K. Ebell, A. von Lerber, A. Radovan, B. Kulla, L.-L. Kliesch, M. Mech, A. Rinke, V. Schemann, M. Wendisch: Arctic Amplification – what can we learn from microwave measurements? Institute seminar, Institut für Physik der Atmosphäre, DLR Oberpfaffenhofen, 8 Januar 2020
- 2019 Cloud observations in 2030, Understanding Clouds and Precipitation (UCP2019), Berlin, Germany, 25 February - 1 March 2019
- Arctic clouds - Insights from the ALOUD campaign around Svalbard, Seminar Talk, University Centre in Svalbard/, Longyearbyen, Svalbard, 28 March 2019
- 2018 Arctic clouds - first insights from the ALOUD campaign around Svalbard, Colloquium, University of Bremen, 12 January 2018
- The Role of Mixed-Phase Clouds in the Arctic, Seminar Talk, Colorado State University, Fort Collins, 20 April 2018
- Crewell, S., Warum erwärmt sich die Arktis am stärksten – und was haben die Wolken damit zu tun? STUMETA, University of Bonn, 10 May 2018
- Microwave radiometry for atmospheric application: a journey across the world from ground, via aircraft to satellites, Seminar talk, LERMA, Paris, 5 June 2018
- Microwave radiometry - an important component of the global observing system, ARM Summer workshop, Norman, Oklahoma, 20 July 2018
- 2017 Future Campaigns. HD(CP)2 Annual Meeting, Schneefernerhaus, 15 February 2017
- Narval Next-generation aircraft remote-sensing for validation studies, HALO Symposium, Oberpfaffenhofen, 14 March 2017
- Microwave Radiometry and Sensor Synergy, Winter school on the observation and modeling of high - latitude and Arctic clouds, Hyytiälä, Finland, March 19-25, 2017
- Planned HALO/HAMP campaigns + Polar 5/MiRAC, ISMAR Workshop, Eumetsat, Darmstadt, 10 May 2017

Wasser und Wolkenbildung – Atmosphäre und mögliche Vorhersagen. Wissenschaft im Rathaus, Köln, 9 October 2017

The AC3 project: why is the Arctic warming faster than the mid latitudes? Svalbard Science Conference, Oslo, 6-9 November 2017

2016

What can we learn from atmospheric profiling stations to better understand climate processes? Challenges of Atmospheric Research, DLR Conference on Climate Change, Cologne, 5 - 7 April 2016

Atmospheric Remote Sensing: Challenges and Applications, 1st ECARS Summer School, Romania, 2 June 2016

Assessment of sampling effects on precipitable water climatology, GEWEX Water Vapor Assessment (GVAP) Workshop, Eumetsat, Darmstadt, 22 September 2016

Crewell, S.: Was ist gute Betreuung? Promovierendentag, Universität zu Köln, 2 November 2016

Arctic Amplification: Climate Relevant Atmospheric and Surface Processes, and Feedback Mechanisms (AC)3 with a focus on clouds. MISU, University of Stockholm, Seminar talk, 29 November 2016

**DIE MATHEMATISCH-NATURWISSENSCHAFTLICHE FAKULTÄT
DER
RHEINISCHEN FRIEDRICH-WILHELMS-UNIVERSITÄT BONN**

stellt unter dem Rektorat des
Professors für Städtebau und Siedlungswesen
Dr.-Ing. Klaus Borchard

und unter dem Dekanat des
Professors für Mathematik
Dr. rer. nat. Ingo Lieb

die Lehrbefähigung von

Frau Dr. rer. nat. Susanne Crewell
geboren am 1. Januar 1964
in Hagen

für das Lehrgebiet

Meteorologie

fest, nachdem sie im ordnungsgemäßen Habilitationsverfahren durch die bisher von ihr
veröffentlichten Schriften, durch die Habilitationsschrift

**„Bodengebundene Fernerkundung der bewölkten Atmosphäre und deren Nutzung zur
Evaluierung dynamischer Atmosphärenmodelle“**

durch das Habilitationskolloquium und die wissenschaftliche Aussprache die Fähigkeit
nachgewiesen hat, das Fach in Forschung und Lehre selbständig zu vertreten.

Bonn, den 26. Juni 2002



Ingo Lieb
Prof. Dr. Ingo Lieb
Dekan

Universität Bremen

P R O M O T I O N S U R K U N D E

Der Fachbereich 1 (Physik/Elektrotechnik) verleiht

Susanne Crewell

geboren am 1. Januar 1964

in Hagen

den Grad einer

Doktorin der Naturwissenschaften (Dr. rer. nat.)

aufgrund des Kolloquiums am 10. Mai 1993 und der Dissertation mit dem Titel:

Submillimeter-Radiometrie mit einem flugzeuggetragenen Empfänger zur
Messung atmosphärischer Spurenstoffe

Die Promotion wurde mit dem Prädikat **magna cum laude** bewertet.

Bremen, den 13. Mai 1993

Der Rektor



(Prof. Dr. Jürgen Timm)



Der Fachbereichssprecher



(Prof. Dr. Stefan von Aufschnaiter)

CHRISTIAN-ALBRECHTS-UNIVERSITÄT KIEL
MATHEMATISCH-NATURWISSENSCHAFTLICHE FAKULTÄT

DIPLOM

Frau _____ Susanne Crewell _____
geboren am 01.01.1964 in Hagen (Kr. Cuxhaven) _____
hat am 29.01.1990 die Diplom-Hauptprüfung für Meteorologie gemäß der Prüfungsordnung
vom 1. Oktober 1970 mit dem Gesamturteil

- sehr gut -

an der Universität Kiel bestanden.


Auf Grund dieser Prüfung wird ihr hiermit der akademische Grad

DIPLOM-METEOROLOGIN


verliehen.

Kiel, den 29. Januar 1990 _____

DER VORSITZER DES PRÜFUNGS-AUSSCHUSSES
FÜR DIE DIPLOM-HAUPTPRÜFUNG
FÜR STUDIERENDE DER METEOROLOGIE


(Prof. Dr. L. Hasse)

DER DEKAN
DER MATHEMATISCH-NATURWISSENSCHAFTLICHEN FAKULTÄT
DER CHRISTIAN-ALBRECHTS-UNIVERSITÄT KIEL


(Prof. Dr. D. Adelung)

CHRISTIAN-ALBRECHTS-UNIVERSITÄT KIEL

Diplom-Hauptprüfung für Studierende der Meteorologie

PRÜFUNGSZEUGNIS

Die Studierende der Meteorologie Susanne Crewell
geboren am 01.01.1964 in Hagen (Kr. Cuxhaven)
hat sich vom 01.11.1988 bis 29.01.1990 gemäß der Prüfungsordnung vom 1. Oktober 1970
der Diplom-Hauptprüfung für Studierende der Meteorologie an der Christian-Albrechts-Universität unterzogen und die
Prüfung mit

- sehr gut -

bestanden.

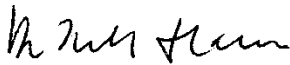
Das Thema der Diplom-Arbeit lautet:

„ Fluß latenter Wärme über dem Nordatlantik ”

Die Bewertungen der Diplom-Arbeit und der Leistungen in der mündlichen Prüfung sind untenstehend aufgeführt.

Kiel, den 29.01.1990

Der Vorsitz des Prüfungsausschusses
für Studierende der Meteorologie



(Prof. Dr. L. Hasse)

Der Dekan
der Mathematisch-Naturwissenschaftlichen Fakultät
der Christian-Albrechts-Universität zu Kiel



(Prof. Dr. D. Adeitung)

Prüfungsgebiete:

Bewertungen:

Prüfer:

1. Allgemeine Meteorologie	<u>sehr gut</u>	<u>Prof. Dr. L. Hasse</u>
2. Theoretische Meteorologie	<u>gut</u>	<u>Prof. Dr. E. Ruprecht</u>
3. Angewandte- Experimentelle Theoretische Physik	<u>sehr gut</u>	<u>Prof. Dr. U.-P. Hansen</u>
4. Wahlfach Geophysik	<u>gut</u>	<u>Prof. Dr. J. Zschau</u>
5. Diplom-Arbeit	<u>sehr gut</u>	<u>Prof. Dr. L. Hasse/ Prof. Dr. E. Ruprecht</u>
6. Zusatzfach	<u> </u>	<u> </u>

Gesamturteil²⁾

- sehr gut -

1) Nichtzutreffendes streichen.
2) Zusatzfach nicht berücksichtigt.