Publications Susanne Crewell 3 June 2025

ORCID 0000-0003-1251-5805

	Web of Science	Scopus	Google
No. Publication	169	178	259
H-Index	41	42	54
No. Citations (ISI)	5500	5815	9605

Peer-reviewed Articles

2025

1. Ehrlich, A., S.Crewell, A. Herber, M. Klingebiel, C. Lüpkes, M. Mech, S. Becker, S. Borrmann, H. Bozem, M. Buschmann, H.-C. Clemen, E. De La Torre Castro, H. Dorff, R. Dupuy, O. Eppers, F. Ewald, G. George, A. Giez, S. Grawe, C. Gourbeyre, J. Hartmann, E. Jäkel, P. Joppe, O. Jourdan, Z. Jurányi, B. Kirbus, J. Lucke, A. E. Luebke, M. Maahn, N. Maherndl, C. Mallaun, J. Mayer, S. Mertes, G. Mioche, M. Moser, H. Müller, V. Pörtge, N. Risse, G. Roberts, S. Rosenburg, J. Röttenbacher, M. Schäfer, J. Schaefer, A. Schäfler, I. Schirmacher, J. Schneider, S. Schnitt, F. Stratmann, C. Tatzelt, C. Voigt, A. Walbröl, A. Weber, B. Wetzel, M. Wirth, and M. Wendisch: A comprehensive in situ and remote sensing data set collected during the HALO–($\mathcal{AC}$)3 aircraft campaign, *Earth Syst. Sci. Data*, 17, 1295–1328, https://doi.org/10.5194/essd-17-1295-2025, 2025

2024

1. Chatterjee, D., S. Schnitt, P. Bigalke, C. Acquistapace, and S. Crewell, 2024: Capturing the diversity of mesoscale trade wind cumuli using complementary approaches from self-supervised deep learning. *Geophysical Research Letters*, 51, e2024GL108889 https://doi.org/10.1029/2024GL108889
2. Risse, N., M. Mech, C. Prigent, G. Spreen, and S. Crewell: Assessing the sea ice microwave emissivity up to submillimeter waves from airborne and satellite observations, *The Cryosphere*, 18, 4137–4163, https://doi.org/10.5194/tc-18-4137-2024
3. Schirmacher, I., S. Schnitt, M. Klingebiel, N. Maherndl, B. Kirbus, A. Ehrlich, M. Mech, and S. Crewell, 2024: Clouds and precipitation in the initial phase of marine cold air outbreaks as observed by airborne remote sensing, Atmos. Chem. Phys. 24, 12823–12842, https://acp.copernicus.org/articles/24/12823/2024/
4. Schnitt, S., A. Foth, H. Kalesse-Los, M. Mech, C. Acquistapace, F. Jansen, U. Löhnert, B. Pospichal, J. Röttenbacher, S. Crewell, and B. Stevens, 2024: Ground- and ship-based microwave radiometer measurements during EUREC4A, *Earth Systems Science Data*, 16, 681–700, https://doi.org/10.5194/essd-16-681-2024
5. Stevens, B., S. Adami, T. Ali, H. Anzt, Z. Aslan, S. Attinger, J. Bäck, J. Baehr, P. Bauer, N. Bernier, B. Bishop, H. Bockelmann, S. Bony, G. Brasseur, D.N. Bresch, S. Breyer, G. Brunet, P. L. Buttigieg, J. Cao, C. Castet, Y. Cheng, A. Dey Choudhury, D. Coen, S. Crewell, A. Dabholkar, Q. Dai, F. Doblas-Reyes, D. Durran, A. El Gaidi, C. Ewen, E. Exarchou, V. Eyring, F. Falkinhoff, D. Farrell, P. M. Forster, A. Frassoni, C. Frauen, O. Fuhrer, S. Gani, E. Gerber, D. Goldfarb, J. Grieger, N. Gruber, W. Hazeleger, R. Herken, C. Hewitt, T. Hoefler, H.-H. Hsu, D. Jacob, A. Jahn, C. Jakob, T. Jung, C. Kadow, I.-S. Kang, S. Kang, K. Kashinath, K. Kleinen-von Königslöw, D . Klocke, U. Kloenne, M. Klöwer, C. Kodama, S. Kollet, T. Kölling, J. Kontkanen, S. Kopp, M. Koran, M. Kulmala, H. Lappalainen, F. Latifi, B. Lawrence, J. Y. Lee, Q. Lejeun, C. Lessig, C. Li, T. Lippert, J. Luterbacher, P. Manninen, J. Marotzke, S. Matsouoka, C. Merchant, P. Messmer, G. Michel, K. Michielsen, T. Miyakawa, J. Müller, R. Munir, S. Narayanasetti, O. Ndiaye, C. Nobre, A. Oberg, R. Oki, T. Özkan-Haller, T. Palmer, S. Posey, A. Prein, O. Primus, M. Pritchard, J. Pullen, D. Putrasahan, J. Quaas, K. Raghavan, V. Ramaswamy, M. Rapp, F. Rauser, M. Reichstein, A. Revi, S. Saluja, M. Satoh, V. Schemann, S. Schemm, C. Schnadt Poberaj, T.

Schulthess, C. Senior, J. Shukla, M. Singh, J. Slingo, A. Sobel, S. Solman, J. Spitzer, P. Stier, T. Stocker, S. Strock, H. Su, P. Taalas, J. Taylor, S. Tegtmeier, G. Teutsch, A. Tompkins, U. Ulbrich, P.-L. Vidale, C.M. Wu, H. Xu, N. Zaki, L. Zanna, T. Zhou, and F. Ziemen, 2024: Earth Virtualization Engines (EVE), *Earth Syst. Sci. Data*, 16, 2113–2122, https://doi.org/10.5194/essd-16-2113-2024

6. Vicencio Veloso, J., C. Böhm, J.H. Schween, U.Löhnert, and S. Crewell, 2024: The overlooked role of moist northerlies as a source of summer rainfall in the hyperarid Atacama Desert. *Journal of Geophysical Research: Atmospheres*, 129, e2024JD041021. https://doi.org/10.1029/2024JD041021

7. Walbröl, A., H. Griesche, M. Mech, S. Crewell, and K. Ebell, 2024: Combining low and high frequency microwave radiometer measurements from the MOSAiC expedition for enhanced water vapour products, *Atmos. Meas. Tech*., 17, 6223–6245, https://doi.org/10.5194/amt-17-6223-2024.

8. Walbröl, A., J. Michaelis, S. Becker, H. Dorff, I. Gorodetskaya, B. Kirbus, M. Lauer, N. Maherndl, M. Maturilli, J. Mayer, H. Müller, R. A. J. Neggers, F. M. Paulus, J. Röttenbacher, J. E. Rückert, I. Schirmacher, N. Slättberg, A. Ehrlich, M. Wendisch, and S. Crewell: Environmental conditions in the North Atlantic sector of the Arctic during the HALO-(AC)3 campaign, *Atmos. Chem. Phys.,* https://doi.org/10.5194/acp-24-8007-2024

9. Wendisch, M., S. Crewell, A. Ehrlich, A. Herber, B. Kirbus, C. Lüpkes, M. Mech, S. J. Abel, E. F. Akansu, F. Ament, C. Aubry, S. Becker, S. Borrmann, H. Bozem, M. Brückner, H.-C. Clemen, S. Dahlke, G. Dekoutsidis, J. Delanoë, E. De La Torre Castro, H. Dorff, R. Dupuy, O. Eppers, F. Ewald, G. George, I.V. Gorodetskaya, S. Grawe, S. Groß, J. Hartmann, S. Henning, L. Hirsch, E. Jäkel, P. Joppe, O. Jourdan, Z. Jurányi, M. Karalis, M. Kellermann, M. Klingebiel, M. Lonardi, J. Lucke, A. Luebke, M. Maahn, N. Maherndl, M. Maturilli, B. Mayer, J. Mayer, S. Mertes, J. Michaelis, M. Michalkov, G. Mioche, M. Moser, H. Müller, R. Neggers, D. Ori, D. Paul, F. Paulus, C. Pilz, F. Pithan, M. Pöhlker, V. Pörtge, M. Ringel, N. Risse, G. C, Roberts, S. Rosenburg, J. Röttenbacher, J. Rückert, M. Schäfer, J. Schäfer, V. Schemannn, I. Schirmacher, J. Schmidt, S. Schmidt, J. Schneider, S. Schnitt, A. Schwarz, H. Siebert, H. Sodemann, T. Sperzel, G. Spreen, B. Stevens, F. Stratmann, G. Svensson, C. Tatzelt, T. Tuch, T. Vihma, C. Voigt, L. Volkmer, A. Walbröl, A. Weber, B. Wehner, B. Wetzel, M. Wirth, and T Zinner, 2024: Overview: Quasi-Lagrangian observations of Arctic air mass transformations – Introduction and initial results of the HALO–(AC)3 aircraft campaign. *Atmos. Chem. Phys.* 24, 8865–8892,https://doi.org/10.5194/acp-24-8865-2024

2023

10. Chatterjee, D., C. Acquistapace, H. Deneke, S. Crewell, 2023: Understanding cloud systems structure and organization using a machine's self-learning approach, *Journal of Artificial Intelligence for the Earth Systems*, https://doi.org/10.1175/AIES-D-22-0096.1

11. Kirbus, B. et al. (incl.S. Crewell, S., K. Ebell, M. Lauer, J. Rückert, and A. Walbröl), 2023: Surface impacts and associated mechanisms of a moisture intrusion into the Arctic observed in mid-April 2020 during MOSAiC, *Frontiers in Earth Science*, *Sec. Atmospheric Science*, 11, https://doi.org/10.3389/feart.2023.1147848

12. Lauer, M., A. Rinke, I. Gorodetskaya, M. Sprenger, M. Mech, S. Crewell, 2023: Influence of atmospheric rivers and associated weather systems on precipitation in the Arctic, *Atmospheric Chemistry and Physics*, 23, 8705–8726, https://doi.org/10.5194/acp-23-8705-2023

13. Schirmacher, I, P. Kollias, K. Lamer, M. Mech, L. Pfitzenmaier, M. Wendisch, and S. Crewell, 2023: Assessing Arctic low-level clouds and precipitation from above – a radar perspective, *Atmospheric Measurement Techniques*, 16(17), 4081 - 4100, https://doi.org/10.5194/amt-16-4081-2023

14. Vicencio, J., C. Böhm, J.H. Schween, U. Löhnert, and S. Crewell, 2023: A comparative study of the atmospheric water vapor in the Atacama and Namib Desert, *Global and Planetary Change*, 104320, https://doi.org/10.1016/j.gloplacha.2023.104320

15. Wendisch, M., et al. (incl. S. Crewell, V. Schemann, K. Ebell, R. Gierens, L.-L. Kliesch, M. Lauer, M. Mech), 2023: Atmospheric and Surface Processes, and Feedback Mechanisms Determining Arctic Amplification: A Review of First Results and Prospects of the (AC)³ Project, *Bulletin of the American Meteorological Society*, 104(1), E208-E242, https://doi.org/10.1175/BAMS-D-21-0218.1

2022

16. Acquistapace, C., N. Risse, J. H. Schween, R. Gierens, S. Crewell, A. Garcia-Benadi, R. Coulter, G. Labbri, and A. Myagkov, 2022: EUREC4A's Maria S. Merian ship-based cloud and micro rain radar observations of clouds and precipitation, Earth System Science Data, Special Issue: Elucidating the role of clouds–circulation coupling in climate: datasets from the 2020 (EUREC4A) field campaign, *Earth System Science Data*, 14, 33–55, https://essd.copernicus.org/articles/14/33/2022

17. Braun D., K. Ebell, V. Schemann, L. Pelchmann, S. Crewell, R. Borgo, T. von Landesberger, 2022: Color Coding of Large Value Ranges Applied to Meteorological Data, *IEEE Visualization and Visual Analytics* (VIS), Oklahoma City, OK, USA, 2022, pp. 125-129, https://doi.org/10.1109/VIS54862.2022.00034

18. Bresson, H., A. Rinke, M. Mech, D. Reinert, V. Schemann, K. Ebell, M. Maturilli, C. Viceto, I. Gorodetskaya, and S. Crewell, 2022: Case study of a moisture intrusion over the Arctic with the ICON model: resolution dependence of its representation, *Atmospheric Chemistry and Physics*, 22, 173–196, https://doi.org/10.5194/acp-22-173-2022

19. Geerts, B., et al. (incl. S. Crewell, K. Ebell), 2022: The COMBLE campaign: A study of marine boundary-layer clouds in Arctic cold-air outbreaks, *Bulletin of the American Meteorological Society*, 103, 5, E1371-E1389 https://doi.org/10.1175/BAMS-D-21-0044.1

20. Kneifel, S., B. Pospichal, L. von Terzi, T. Zinner, M. Puh, M. Hagen, B. Mayer, U. Löhnert and S. Crewell, 2022: Multi-year cloud and precipitation statistics observed with remote sensors at the high-altitude Environmental Research Station Schneefernerhaus in the German Alps, *Meteorologische Zeitschrift*, 31 (1), 69-86, https://doi.org/10.1127/metz/2021/1099

21. von Lerber, A., M. Mech, A. Rinke, D. Zhang, M. Lauer, A. Radovan, I. Gorodetskaya, and S. Crewell, 2022: Evaluating seasonal and regional distribution of snowfall in regional climate model simulations in the Arctic, *Atmospheric Chemistry and Physics*, 22, 7287-7317, https://doi.org/10.5194/acp-22-7287-202

22. Mech, M., A. Ehrlich, A. Herber, C. Luepkes, M. Wendisch, S. Becker, Y. Boose, D. Chechin, S. Crewell, R. Dupuy, C. Gourbeyre, J. Hartmann, E. Jaekel, O. Jourdan, L.-L. Kliesch, M. Klingebiel, B.S. Kulla, G. Mioche, M. Moser, N. Risse, E. Ruiz-Donoso, M. Schaefer, J. Stapf, and C. Voigt, 2022: MOSAiC-ACA and AFLUX - Arctic airborne campaigns characterizing the exit area of MOSAiC, Scientific Data, 9, 790, https://doi.org/10.1038/s41597-022-01900-7

23. Shupe et al. (incl. S. Crewell, K. Ebell, M. Mech), 2022: Overview of the MOSAiC Expedition—Atmosphere. Elementa: *Science of the Anthropocene*, 10(1). DOI: https://doi.org/10.1525/elementa.2021.00060

24. Viceto, C., Gorodetskaya, I. V., Rinke, A., Maturilli, M., Rocha, A., and S. Crewell, 2022: Atmospheric rivers and associated precipitation patterns during the ACLOUD and PASCAL campaigns near Svalbard (May–June 2017): case studies using observations, reanalyses, and a regional climate model, *Atmospheric Chemistry and Physics*, 22, 441–463, https://doi.org/10.5194/acp-22-441-2022

25. Walbroel, A., S. Crewell, R. Engelmann, E. Orlandi, H. Griesche, M. Radenz, J. Hofer, D. Althausen, M. Maturilli, and K. Ebell,2022: Atmospheric temperature, water vapour and liquid water path from two microwave radiometers during MOSAiC. *Scientific Data* 9, 534, https://doi.org/10.1038/s41597-022-01504-1

2021

26. Böhm, C., J. H. Schween, M. Reyers, B. Maier, U. Löhnert, S. Crewell, 2021a: 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

27. Böhm, C., M. Reyers, L. Knarr, S. Crewell, 2021b: The role of moisture conveyor belts for precipitation in the Atacama Desert, *Geophysical Research Letters*, (48) 24, http://dx.doi.org/10.1029/2021GL094372

28. 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, 2021: 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

29. 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*, 163, 674-684, https://doi.org/10.1016/j.renene.2020.07.103

30. 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

31. 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, 2021: EUREC4A's HALO, *Earth System Science Data*,13 , 5545–5563, https://doi.org/10.5194/essd-13-5545-2021

32. Reyers, M., C. Böhm, L. Knarr Y. Shao, and S. Crewell,2021: 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

33. 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

34. Stevens, B, C. Acquistapace, S. Crewell, M. Jacob, M. Mech, S. Schnitt, et al., 2021: EUREC4A, *Earth System Science Data*, 13 (8), 4067–4119, https://doi.org/10.5194/essd-2021-18

2020

35. Böhm, C., M. Reyers, 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

36. 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

37. 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

38. 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

39. Frank, C. W., B. Pospichal, S. Wahl, J. D. Keller, A. Hense, and S. Crewell, 2020a: 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

40. Frank, C., S. Fiedler, S. Crewell, 2020b: 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

41. 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, https://doi.org/10.5194/gmd-2020-14

42. 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

43. 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

44. 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

45. 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

46. 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-2019-960

47. 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

2019

48. 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

49. 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, *Atmos. Meas. Tech*., https://doi.org/10.5194/amt-12-3237-2019

50. 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-11-921-2019

51. 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

52. 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, *Atmos. Meas. Tech*., 12, 5019–5037, https://doi.org/10.5194/amt-12-5019-2019

53. Neher, I., T. Buchmann, S. Crewell, B. Pospichal, S. Meilinger: Impact of atmospheric aerosols on solar energy production - Dust outbreak in West Africa, *Meteorologische Zeitschrift*, 28, 305-321, https://doi.org/10.1127/metz/2019/0969

54. Radovan A., S. Crewell, E.M. Knudsen and A. Rinke: 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

55. 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, https://doi.org/10.1175/JCLI-D-19-0092.1

56. Steinke, S., S. Wahl and S. Crewell, 2919: Benefit of high resolution COSMO reanalysis: The diurnal cycle of column-integrated water vapour over Germany, Meteorologische Zeitschrift, http://dx.doi.org/10.1127/metz/2019/0936

57. 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. Jäckel, 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

58. Wendisch, M., A. Macke, A. Ehrlich, C. Lüpkes, M. Mech, D. Chechin, K. Dethloff, C. Barientos, 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. Gehrmann, 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: 10.1175/BAMS-D-18-0072.1

59. Wolf, K., Ehrlich, A., Jacob, M., Crewell, S., Wirth, M., and Wendisch, M.: 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

2018

60. 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*, 2018;145:1–14, https://doi.org/10.1002/qj.3315

61. 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

62. 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 ACLOUD/PASCAL field campaign near Svalbard in spring 2017, *Atmospheric Physics and Chemistry*,18, 17995-18022, https://doi.org/10.5194/acp-2018-494

63. 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-11-921-2019

64. 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, 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

65. 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

66. 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

67. Stevens, B., F. Ament, S. Bony, S.Crewell, F. Ewald, S. Gross, A. Hansen, L. Hirsch, M. Jacob, T. Kölling, H. Konow, B. Mayer, M. Wendisch, M. Wirth, K. wolf, S. Bakan, M. Bauer-Pfundstein, M. Brueck, J. Delanoe, A. Ehrlich, D. Farrell, M. Forde, F. Gödde, H. Grob, M. Hagen, E. Jäkel, F. Jansen, C. Klepp, M. Klingebiehl, M. Mech, G. Peters, M. Rapp, A. Wing, T. Zinner, 2018: A high-altitude long-range aircraft configured as a cloud observatory–the NARVAL expeditions, *Bulletin of the American Meteorological Society*, https://journals.ametsoc.org/doi/pdf/10.1175/BAMS-D-18-0198.1

68. Wendisch, M., A. Macke, A. Ehrlich, C. Lüpkes, M. Mech, D. Chechin, C. Barrientos, H. Bozem, M. Brückner, H.-C. Clemen, S. Crewell, T. Donth, R. Dupuy, K. Ebell, U. Egerer, R. Engelmann, C. Engler, O. Eppers, M. Gehrmann, X. Gong, M. Gottschalk, C. Gourbeyre, H. Griesche, J. Hartmann, M. Hartmann, A. Herber, H. Herrmann, G. Heygster, Peter 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. Zannatta, 2018: The Arctic Cloud Puzzle: Using ACLOUD/PASCAL Multi-Platform Observations to Unravel the Role of Clouds and Aerosol Particles in Arctic Amplification, The Arctic Cloud Puzzle: Using ACLOUD/PASCAL Multi-Platform Observations, *Bulletin of the American Meteorological Society*, https://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-18-0072.1

2017

69. 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, DOI 10.1007/s10712-017-9428-0.

70. 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, doi:10.1109/JSTARS.2017.2687943.

71. 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, doi:10.5194/acp-17-4887-2017.

72. Ebell, K., U. Löhnert, E. Päschke, 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, doi:10.1002/2016JD025945.

73. 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*, doi:10.1127/metz/2017/0824.

2016

74. 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, doi:10.1002/qj.2947.

75. Saeed, U., F. Rocadenbosch, 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. doi:10.1109/TGRS.2016.2586298.

76. 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. doi:10.5194/amt-9-4013-2016.

77. 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; doi:10.3390/rs8070574.

78. 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. doi:10.1002/2015RS005826.

2015

79. 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, doi:10.1002/2015JD023331

80. 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, *Geophysical Research Letters*, 42:19,8185-8191, doi:10.1002/2015GL065140.

81. Simmer, C., I. Thiele-Eich, M. Masbou, W. Amelung, S. Crewell, B. Diekkrueger, F. Ewert, H.-J. Hendricks Franssen, A. J. Huisman, A. Kemna, N. Klitzsch, S. Kollet, M. Langensiepen, U. Loehnert, 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, doi/abs/10.1175/BAMS-D-13-00134.1.

82. 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, doi:10.1175/BAMS-D-14-00105.1.

83. 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, DOI: 10.1002/2015JD023158.

84. Eikenberg, S., C. Köhler, A. Seifert, and S. Crewell, 2015: How microphysical choices affect simulated infrared brightness temperatures, *Atmospheric Research*, 156, 67-79, doi:10.1016/j.atmosres.2014.12.010.

85. Steinke, S., S. Eikenberg, U. Löhnert, G. Dick, D. Klocke, P. Di Girolamo, and S. Crewel, 2015: Assessment of Small-Scale Integrated Water Vapour Variability During HOPE *Atmospheric Chemistry and Physics*, *Discuss.*, 14, 22837-22879, doi:10.5194/acpd-14-22837-2014.

86. 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, doi:10.5194/tc-9-285-2015.

87. 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, doi:10.1002/qj.2486.

2010 - 2014

88. 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, doi:10.1002/2014JD022079.

89. 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, doi:10.3390/rs6109775.

90. 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, doi:10.1109/LGRS.2013.2264354.

91. 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, doi:10.5194/amt-7-4539-2014.

92. 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, doi:10.5194/amt-7-3685-2014.

93. 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, doi:10.1007/s10546-013-9823-0.

94. 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, doi:10.1002/jgrd.50548.

95. 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, doi:10.5194/amt-6-2641-2013.

96. 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, doi:10.5194/amt-6-1171-20135.

97. Zacharias, S., M. Reyers, 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, doi:10.1007/s00703-012-0188-6.

98. Turner, D.D., E.J. Mlawer, G. Bianchini, M.P. Cadeddu, 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, doi:10.1029/2012GL051542.

99. 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,* doi:10.1007/s00704-011-0502-0.

100. 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, doi:10.1029/2011JD016369.

101. 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, doi:10.5194/amt-5-1529-2012.

102. 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, doi:10.1175/2010BAMS2909.1.

103. 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, doi:10.1127/0941-2948/2011/0225.

104. 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, doi:10.1109/LGRS.2010.2072981.

105. 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, doi:10.5194/gmd-4-579-2011.

106. 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, doi:10.1002/qj.748.

107. 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, doi:10.1002/qj.799.

108. Pfeifer, M., W. Yen, M. Hagen, G. Craig, T. Reinhardt, M. Mech, S. Crewell, A. Hünerbein, 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, doi:10.1127/0941-2948/2010/0487.

109. 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, doi:10.1016/j.atmosres.2010.06.002.

110. 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, doi:10.1029/2010JD013856.

111. Pospichal, B., D. Bou Karam, S. Crewell, C. Flamant, A. Hünerbein, 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, doi:10.1002/qj.435.

before 2010

112. Turner, D., M.P. Caddedu, 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, doi:10.1109/TGRS.2009.2022262.

113. 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, doi:10.1016/j.atmosres.2009.02.010.

114. 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, doi:10.1175/2008JAMC2060.1.

115. 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,

116. Kneifel, S., S. Crewell, U. Löhnert, and J. Schween, 2009: Investigating water vapor variability by groundbased microwave radiometry: Evaluation using airborne observations, *IEEE Geoscience and Remote Sensing Letters*, 6(1), 157-161, doi:10.1109/LGRS.2008.2007659.

117. 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),

118. 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, doi:10.1175/2007JTECHA961.1.

119. 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, doi:10.1175/2007JAMC1731.1.

120. 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. Hünerbein, 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, doi:10.1127/0941-2948/2008/0336.

121. 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, doi:10.1127/0941-2948/2008/0348.

122. 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, doi:10.1109/TGRS.2006.888434.

123. 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, doi:10.1109/TGRS.2007.898261.

124. 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, doi:10.1175/JAS3896.1.

125. Pospichal, B., and S. Crewell, 2007: Boundary Layer Observations in West Africa using a novel microwave radiometer, *Meteorologische Zeitung*, 16(5), 513-523, doi:10.1127/0941-2948/2007/0228.

126. 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, doi:10.1016/j.atmosres.2006.01.010.

127. 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, doi:10.1016/j.atmosres.2005.12.005.

128. 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, doi:10.1029/2004JD005707.

129. 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, doi:10.1111/j.1600-0870.2006.00160.x.

130. Illingworth, A., and S. Crewell, 2005: Preface – CLIWA-NET: Observation and modelling of liquid water clouds, *Atmospheric Research*, 75(3), 149-150, doi:10.1016/j.atmosres.2005.01.001.

131. Rose, T., S. Crewell, U. Löhnert, and C. Simmer, 2005: A network suitable microwave radiometer for operational monitoring of the cloudy atmosphere, *Atmos. Res.,* 75(3), 183-200, doi:10.1016/j.atmosres.2004.12.005.

132. 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, doi:10.1016/j.atmosres.2004.12.006.

133. 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, doi:10.1016/j.atmosres.2004.12.008.

before 2005

134. 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, doi:10.1175/BAMS-85-10-1565.

135. 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, doi:10.1175/1520-0450(2004)043<1295:AIATRP>2.0.CO;2.

136. Crewell, S., and U. Löhnert, 2003: Accuraccy of cloud liquid water path from ground-based microwave radiometry. Part II. Sensor accuracy and synergy, *Radio Science*, 38(3), 8042, doi:10.1029/2002RS002634.

137. Löhnert, U., and S. Crewell, 2003: Accuraccy of cloud liquid water path from ground-based microwave radiometry. Part I. Dependency on Cloud model statistics, *Radio Science*, 38(3), 8041, doi:10.1029/2002RS002654.

138. 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, doi:10.1127/0941-2948/2003/0012-0005.

139. 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.

140. Crewell, S., H. Czekala, U. Löhnert, C. Simmer, Th. Rose, R. Zimmermann, and R. Zimmermann, 2001: Microwave Radiometer for Cloud Carthography: A 22-channel ground-based microwave radiometer for atmospheric research, *Radio Science*, 36(4), 621-638, doi:10.1029/2000RS002396.

141. 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, doi:10.1029/2000GL012247.

142. 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.

143. 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, doi:10.1175/1520-0426(2001)018<1354:PCLWBC>2.0.CO;2.

144. Haase, G., and S. Crewell, 2000: Simulation of radar reflectivities using a mesoscale weather forecast model, *Water Resources Research*, 36(8), 2221-2230, doi:10.1029/2000WR900041.

145. Crewell, S., U. Löhnert, A. van Lammeren, and M. Quante, 2000: Cloud remote sensing by combining synergetic sensor information, *Physics and Chemistry of the Earth (B)*, 25(10-12), 1042-1048, doi:10.1016/S1464-1909(00)00150-7.

146. 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, doi:10.1016/S1464-1909(00)00186-6.

147. 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, doi:10.1016/S1464-1909(00)00189-1.

before 2000

148. 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, doi:10.1016/S1464-1909(98)00039-2.

149. 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, doi:10.1029/96JD03402.

150. 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, O-3, and N2O during SESAME 1 over northern Europe, *Journal of Geophysical Research – Atmospheres*, 102(D1), 1391-1398, doi:10.1029/96JD00443.

151. 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, doi:10.1029/95JD03679.

152. 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, doi:10.1029/96JD01701.

153. 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, doi:10.1109/22.473176.

154. 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, doi:10.1029/95JD02346.

155. 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, doi:10.1029/95JD01925.

156. 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, doi:10.1029/95GL01390.

157. Crewell, S., K. Künzi, 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, doi:10.1029/93GL02499.

158. 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, doi:10.1175/1520-0450(1991)030<1627:LHFOTN>2.0.CO;2.

Contributions to Books

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, doi:10.1175/AMSMONOGRAPHS-D-16-0015.1.

Haeffelin, 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. *AMS Meteorological Monographs*, 57, 29.1–29.34, doi: 10.1175/AMSMONOGRAPHS-D-15-0045.1.

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: Atmospheric Radiation Measurements. In: *Airborne Measurements for Environmental Research – Methods and Instruments*, Eds. M. Wendisch and J.-L. Brenguier, Wiley, ISBN: 978-3-527-40996-9.

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, 281-295, Eds. D. Cimini, F. S. Marzano and G. Visconti, Springer, ISBN 978-3-642-12967-4.

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, 101-242, Ed. C. Maetzler, *The Institution of Engineering and Technology*, ISBN 0 86341 573 3.

Drusch, M., and S. Crewell, 2005: Hydrological applications of remote sensing: Basic Principles and Sensors: Radiative Transfer. In: *Encyclopedia of Hydrological Sciences*, Chapter 46, 659-672, Ed. M. G. Anderson, Wiley & Sons, Ltd., ISBN: 0-471-49103-9.

Crewell, S., 2005: Hydrological applications of remote sensing: Atmospheric states and fluxes: Water vapor and clouds (passive/active techniques). In: *Encyclopedia of Hydrological Sciences*, Chapter 65, 981-996, Ed. M. G. Anderson, Wiley & Sons, Ltd., ISBN: 0-471-49103-9.

Miscellaneous

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, DOI:10.1016/j.egypro.2017.08.168.

Wendisch, M., M. Brückner, J. P. Burrows, S. Crewell, 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, doi:10.1029/2017EO064803.

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, doi:10.3233/SC-130011.

Westwater, E. R., S. Crewell, C. Mätzler, and D. Cimini, 2005: Principles of Surface-based Microwave and Millimeter wave Radiometric Remote Sensing of the Troposphere, *Quaderni Della Societa Italiana di Elettromagnetismo*, 1(3), 50-90.

Westwater, E. R., S. Crewell, and C. Mätzler, 2004: A review of surface-based microwave and millimeter-wave radiometric remote sensing of the troposphere, *Radio Science Bulletin*, No. 310, September 2004, 59-80.