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Submitted

Walbröl, A., H. Griesche, M. Mech, S. Crewell, K. Ebell: Combining low and high frequency microwave radiometer measurements from the MOSAiC expedition for enhanced water vapour products, *Atmos. Meas. Tech.*, <https://doi.org/10.5194/egusphere-2024-1301>, in discussion since 30 May 2024

Ji, D., M. Palm, M. Buschmann, K. Ebell, M. Maturilli, X. Sun, J. Notholt: Hygroscopic Aerosols Amplify Longwave Downward Radiation in the Arctic, *Atmos. Chem. Phys.*, submitted on 17 July 2024

Rückert, J. E., A. Walbröl, N. Risse, P. Krobot, R. Haseneder-Lind, M. Mech, K. Ebell, G. Spreen: Microwave sea ice and ocean brightness temperature and emissivity between 22 and 243 GHz from ship-based radiometers, *Annals of Glaciology*, submitted on 30 Dec 2023

Peer-reviewed**2023**

Chellini, G., R. Gierens, K. Ebell, T. Kiszler, P. Krobot, A. Myagkov, V. Schemann, and S. Kneifel: Low-level mixed-phase clouds at the high Arctic site of Ny-Ålesund: A comprehensive long-term dataset of remote sensing observations, *Earth Syst. Sci. Data*, 15, 5427–5448, <https://doi.org/10.5194/essd-15-5427-2023>

Kirbus, B. et al. (incl. K. Ebell), 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>

Kiszler, T., K. Ebell, and V. Schemann, 2023: A performance baseline for the representation of clouds and humidity in cloud-resolving ICON-LEM simulations in the Arctic, *Journal of Advances in Modeling Earth Systems*, 15, e2022MS003299. <https://doi.org/10.1029/2022MS003299>

Rückert, J.E., P. Rostosky, M. Huntemann, D. Clemens-Sewall, K. Ebell, L. Kaleschke, J. Lemmetyinen, A. Macfarlane, R. Naderpour, J. Stroeve, A. Walbröl, and G. Spreen: Sea ice concentration satellite retrievals influenced by surface changes due to warm air intrusions: A case study from the MOSAiC expedition, *Elementa: Science of the Anthropocene*, <https://doi.org/10.1525/elementa.2023.00039>

Vinjamuri, K. S., M. Vountas, L. Lelli, M. Stenger, M. D. Shupe, K. Ebell, and J. P. Burrows, 2023: Validation of the Cloud_CCI cloud products in the Arctic, *Atmos. Meas. Tech.*, 16, 2903–2918, <https://doi.org/10.5194/amt-16-2903-2023>

Wendisch, M., et al. (incl. K. Ebell), 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

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>

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>

Geerts et al. (incl. 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

King, F., G. Duffy, L. Milani, C. G. Fletcher, C. Pettersen and K. Ebell, 2022: DeepPrecip: A deep neural network for precipitation retrievals, *Atmospheric Measurement Techniques, Atmospheric Measurement Techniques*, 15, 6035–6050, <https://doi.org/10.5194/amt-15-6035-2022>

Pasquier et al. (incl. K. Ebell), 2022: The Ny-Ålesund AeroSol Cloud Experiment (NASCENT): Overview and first results, *Bulletin of the American Meteorological Society*, <https://doi.org/10.1175/BAMS-D-21-0034.1>, Early Online Release

Shupe et al. (incl. K. Ebell), 2022: Overview of the MOSAiC Expedition – Atmosphere, *Elementa: Science of the Anthropocene* 10(1), <https://doi.org/10.1525/elementa.2021.00060>

Walbröl, 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

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>

Karlsson, L., R. Krejci, M. Koike, K. Ebell, and Paul Zieger, 2021: A long-term study of cloud residuals from low-level Arctic clouds, *Atmos. Chem. Phys.*, 21, 8933–8959, <https://doi.org/10.5194/acp-21-8933-2021>.

Schoger, S. Y., D. Moisseev, A. von Lerber, S. Crewell, and K. Ebell, 2021: Snowfall rate retrieval for K- and W-band radar measurements for a high-latitude site, *Journal of Applied Meteorology and Climatology*, 60(3), 273-289, <https://doi.org/10.1175/JAMC-D-20-0095.1>

2020

Ebell, K., T. Nomokonova, M. Maturilli, and C. Ritter, 2020: Radiative effect of clouds at Ny-Ålesund, Svalbard, as inferred from ground-based remote sensing observations, *J. Appl. Meteorol. Climatol.*, 59, 3-22, <https://doi.org/10.1175/JAMC-D-19-0080.1>

Gierens, R., S. Kneifel, M. D. Shupe, K. Ebell, M. Maturilli, and U. Löhnert, 2020: Low-level mixed-phase clouds in a complex Arctic environment, *Atmos. Chem. Phys.*, 20, 3459–3481, <https://doi.org/10.5194/acp-20-3459-2020>

- Maahn, M., D. D. Turner, U. Löhnert, D. J. Posselt, K. Ebell, G. G. Mace, and J. M. Comstock, What Every Atmospheric Scientist and Meteorologist Should Know About Inverse Retrievals, *Bulletin of the American Meteorological Society*, doi: <https://doi.org/10.1175/BAMS-D-19-0027.1>
- Nomokonova, T., K. Ebell, U. Löhnert, M. Maturilli, and C. Ritter, 2020: The influence of water vapor anomalies on clouds and their radiative effect at Ny-Ålesund, *Atmos. Chem. Phys.*, 20, 5157–5173, <https://doi.org/10.5194/acp-20-5157-2020>
- Schemann, V., K. Ebell, B. Pospichal, R. Neggers, C. Moseley, and B. Stevens, 2020: Linking Large-Eddy Simulations to local cloud observations, *Journal of Advances in Modeling Earth Systems*, 12, e2020MS002209. <https://doi.org/10.1029/2020MS002209>
- Schemann, V. and K. Ebell, 2020: Simulation of mixed-phase clouds with the ICON large-eddy model in the complex Arctic environment around Ny-Ålesund, *Atmos. Chem. Phys.*, 20, 475–485, <https://doi.org/10.5194/acp-20-475-2020>
- 2019** Nomokonova, T., K. Ebell, U. Löhnert, M. Maturilli, C. Ritter, and E. O'Connor, 2019: Statistics on clouds and their relation to thermodynamic conditions at Ny-Ålesund using ground-based sensor synergy, *Atmos. Chem. Phys.*, 19, 4105-4126, <https://doi.org/10.5194/acp-19-4105-2019>
- Wendisch, M., et al., 2019: The Arctic Cloud Puzzle: Using ACLOUD/PASCAL Multi-Platform Observations to Unravel the Role of Clouds and Aerosol Particles in Arctic Amplification. *Bull. Amer. Meteor. Soc.*, 100 (5), 841-871, <https://doi.org/10.1175/BAMS-D-18-0072.1>
- 2018** Maturilli, M. and K. Ebell, 2018: Twenty-five years of cloud base height measurements by ceilometer in Ny-Ålesund, Svalbard, *Earth Syst. Sci. Data*, 10, 1451-1456, <https://doi.org/10.5194/essd-10-1451-2018>
- 2017** 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, *J. Geophys. Res. Atmos.*, 122, doi:10.1002/2016JD025945
- 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, doi:10.1029/2017EO064803
- 2016** 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, doi: 10.1175/AMSMONOGRAPHS-D-15-0045.1
- Marke, T., K. Ebell, U. Löhnert, and D. D. Turner, 2016: Statistical retrieval of thin liquid cloud microphysical properties using ground-based infrared and microwave observations, *J. Geophys. Res. Atmos.*, 121, 14,558–14,573, doi:10.1002/2016JD025667
- 2015** 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, S. Crewell, 2015: JOYCE: Jülich Observatory for Cloud

Evolution, *Bull. Amer. Meteor. Soc.*, 96, 1157-1174, doi:10.1175/BAMS-D-14-00105.1

Slobodda, J., A. Hünenbein, R. Lindstrot, R. Preusker, K. Ebell, and J. Fischer, 2015: Multichannel analysis of correlation length of SEVIRI images around ground-based cloud observatories to determine their representativeness, *Atmos. Meas. Tech.*, 8, 567-578, doi:10.5194/amt-8-567-2015

- 2014** Hünenbein, A., H. Deneke, A. Macke, K. Ebell, and U. Görzdorf, 2014: Combining the Perspective of Satellite- and Ground-Based Observations to Analyze Cloud Frontal Systems. *J. Appl. Meteor. Climatol.*, 53, 2538–2552, doi:10.1175/JAMC-D-13-0274.1
- 2013** Ebell, K., E. Orlandi, A. Hünenbein, U. Löhnert, and S. Crewell, 2013: Combining ground and satellite based measurements in the atmospheric state retrieval: Assessment of the information content, *J. Geophys. Res.* 18, 6940–6956, doi:10.1002/jgrd.50548
- 2011** Ebell, K., S. Crewell, U. Löhnert, D. Turner, and E. O'Connor, 2011: Cloud statistics and cloud radiative effect for a low-mountain site. *Q. J. Roy. Meteorol. Soc.* 137, 306-324, doi:10.1002/qj.748
- 2010** Ebell, K., U. Löhnert, S. Crewell, 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
- 2009** Crewell, S., K. Ebell, U. Löhnert, and D. Turner, 2009: Can liquid water profiles be retrieved from passive microwave zenith observations?, *Geophysical Research Letters*, 36, DOI: 10.1029/2008GL03693
- 2008** Ebell, K., S. Bachner, A. Kapala und C. Simmer, 2008: Sensitivity of summer precipitation simulated by the CLM with respect to initial and boundary conditions, *Meteorologische Zeitschrift*, 17(4, Sp. Iss. SI):421-431, DOI: 10.1127/0941-2948/2008/0305

Non-peer-reviewed

- 2018** Ebell, K. and S.Crewell, 2018: Bodengebundene Strahlungsschließung als Qualitätsmaß für Fernerkundungsmethoden, in PROMET: Strahlungsbilanzen, Heft 100, 75-83.
- 2009** Ebell, K., S. Crewell, U. Löhnert, and E. O'Connor, 2009: Use of integrated profiling techniques for studying cloud-radiation interactions. 8th International Symposium on Tropospheric Profiling: Needs and Technologies ISTEP2009, 18 - 23 October 2009, Delft, The Netherlands, 4 pages

Published data sets

- 2023** Chellini, G., R. Gierens, K. Ebell, T. Kiszler, S. Kneifel, 2023: Low-level mixed-phase clouds at the high Arctic site of Ny-Ålesund: A comprehensive long-term dataset of remote sensing observations. Zenodo, <https://doi.org/10.5281/zenodo.7803064>
- Ebell, K., A. Walbröl and P. Krobot, 2023: Measurements of micro rain radar at AWIPEV, Ny-Ålesund (2017-2021). PANGAEA, <https://doi.pangaea.de/10.1594/PANGAEA.958967>

Ebell, K., S. Schnitt and P. Krobot, 2023: Parsivel disdrometer measurements at AWIPEV, Ny-Ålesund (2017-2021). PANGAEA, [https://doi.org/ 10.1594/PANGAEA.958395](https://doi.org/10.1594/PANGAEA.958395)

Ebell, K., S. Schnitt and P. Krobot, 2023: Precipitation amount of Pluvio rain gauge at AWIPEV, Ny-Ålesund (2017-2021). PANGAEA, <https://doi.org/10.1594/PANGAEA.957612>

Gierens, R, P. Krobot, K. Ebell, 2023: Ground-based cloud radar measurements with JOYRAD-94 at AWIPEV, Ny-Ålesund (June 2019 - June 2022). PANGAEA, <https://doi.pangaea.de/10.1594/PANGAEA.959745>

Gierens, R., T. Nomokonova, P. Krobot, K. Ebell, 2023: Ground-based cloud radar measurements with MiRAC-A at AWIPEV, Ny-Ålesund (July 2017 - October 2018). PANGAEA, <https://doi.pangaea.de/10.1594/PANGAEA.959775>

Gierens, R, N. Kuchler, P. Krobot, K. Ebell, 2023: Cloud radar Doppler spectra measured with JOYRAD-94 at AWIPEV, Ny-Ålesund (June 2016 - July 2017). PANGAEA, <https://doi.pangaea.de/10.1594/PANGAEA.959736>

Gierens, R., N. Kuchler, P. Krobot, K. Ebell, 2023: Ground-based cloud radar measurements with JOYRAD-94 at AWIPEV, Ny-Ålesund (June 2016 - July 2017). PANGAEA, <https://doi.pangaea.de/10.1594/PANGAEA.959732>

2022

Ebell, K. and C. Ritter, 2022: HATPRO microwave radiometer measurements at AWIPEV, Ny-Ålesund (2019-2021). PANGAEA, <https://doi.org/10.1594/PANGAEA.943004>

Pasquier, J. T., J. Henneberger, F. Ramelli, J. Wieder, R. Gierens, K. Ebell, G. Li, R. O. David, and T. Carlsen, 2022: Data from the NASCENT campaign used in the publications: "Conditions favorable for secondary ice production in Arctic mixed-phase clouds" and "Understanding the history of two complex ice crystal habits deduced from a holographic imager". Zenodo. <https://doi.org/10.5281/zenodo.7402285>

2019

Nomokonova, T., K. Ebell, 2019: Cloud microphysical properties retrieved from ground-based remote sensing at Ny-Ålesund (10 June 2016 - 8 October 2018). University of Cologne, PANGAEA, <https://doi.org/10.1594/PANGAEA.898556>

Nomokonova, T., C. Ritter, and K. Ebell, 2019: HATPRO microwave radiometer measurements at AWIPEV, Ny-Ålesund (2016-2018). PANGAEA, <https://doi.org/10.1594/PANGAEA.902183>