

List of Publications

A: Peer-reviewed Articles

Under Review

Lehner, M. and Coauthors (including S. Kneifel): The TEAMx Observational Campaign. Submitted to *J. Eur. Meteorol. Soc.*

Pieper, L., P. Seifert, H. Griesche, A. Ansmann, G. McCosh, F. Ewald, and **S. Kneifel**: Turbulence structure of dusty cirrus and its relation to atmospheric conditions: A characterization using cloud-radar measurements and reanalysis data. Submitted to *Atmos. Chem. Phys.*

Ockenfuß, P., G. Köcher, I. Petit, and **S. Kneifel**: How to Extract Lagrangian Information from Cloud Radar Doppler Spectra for Process Studies? Submitted to *Atmos. Chem. Phys.*

Gergely, M., P. Ockenfuß, F. Seeger, **S. Kneifel**, and M. Frech: Retrieval of the hail size distribution and vertical air motion from weather radar Doppler spectra. Submitted to *J. Atmos. Oceanic Tech.*

2026

1. Seifert, A., F. Jakub, C. Siewert, L. von Terzi, and **S. Kneifel**: On the geometry of aggregated snowflakes. *Tellus*, 79(1): 87–110, <https://doi.org/10.16993/tellus.4127>.
2. Ockenfuß, P., G. Köcher, M. Bauer-Pfundstein, and **S. Kneifel**: A Novel Framework for Automatic Scanning Radar Pointing Calibration Using the Sun. *Atmos. Meas. Tech.*, 19, 2961–2984, <https://doi.org/10.5194/amt-19-2961-2026>.
3. von Terzi, L., D. Ori, and **S. Kneifel**: A Microwave Scattering Database of Oriented Ice and Snow Particles: Supporting Habit-Dependent Growth Models and Radar Applications (McRadar 1.0.0). *Geosci. Model Dev.*, 19, 887–910, <https://doi.org/10.5194/gmd-19-887-2026>.
4. Ockenfuß, P., M. Frech, M. Gergely, and **S. Kneifel**: First Nationwide Analysis of Riming Using Vertical Observations from the Operational German C-Band Radar Network. *Atmos. Meas. Tech.*, 19(6), 2125–2147, <https://doi.org/10.5194/amt-19-2125-2026>.
5. Frech, M., **S. Kneifel**, P. Ockenfuß, and M. Gergely: Untapped opportunities of using vertically pointing precipitation observations from conventional weather radars for research applications and forecast products. *Bull. Amer. Meteor. Soc.*, 107, E127–E141, BAMS-D-24-0113.1, <https://doi.org/10.1175/BAMS-D-24-0113.1>.

2025

6. Ockenfuß, P., M. Gergely, M. Frech, and **S. Kneifel**: Spatial and temporal scales of riming events in nonconvective clouds derived from long-term cloud radar observations in Germany. *J. Geophys. Res.: Atmos.*, 130, e2024JD042180. <https://doi.org/10.1029/2024JD042180>.

2024

7. Chellini, G. and **S. Kneifel**: Turbulence as a key driver of ice aggregation and riming in Arctic low-level mixed-phase clouds, revealed by long-term cloud radar observations. *Geophys. Res. Lett.*, 51, e2023GL106599. <https://doi.org/10.1029/2023GL106599>.

2023

8. 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>.
9. Maherndl, N., M. Maahn, F. Tridon, J. Leinonen, D. Ori, and **S. Kneifel**: A riming-dependent parameterization of scattering by snowflakes using the self-similar Rayleigh-Gans approximation, *Q. J. Roy. Meteor. Soc.*, 149(757), 3562–3581, <https://doi.org/10.1002/qj.4573>.

2022

10. von Terzi, L., J. Dias Neto, D. Ori, A. Myagkov, and **S. Kneifel**, 2022: Ice microphysical processes in the dendritic growth layer: A statistical analysis combining multi-frequency and polarimetric Doppler cloud radar observations, *Atmos. Chem. Phys.*, 22, 11795–11821, <https://doi.org/10.5194/acp-2022-263>.
11. Tridon, F., I. Silber, A. Battaglia, **S. Kneifel**, A. Fridlind, P. Kalogeras, and R. Dhillon, 2022: Highly supercooled riming and unusual triple-frequency radar signatures over Antarctica, *Atmos. Chem. Phys.*, 22, 12467–12491, <https://doi.org/10.5194/acp-2022-136>.
12. Chellini, G., R. Gierens, and **S. Kneifel**, 2022: Ice aggregation in low-level mixed-phase clouds at a high Arctic site: Enhanced by dendritic growth and absent close to the melting level, *J. Geophys. Res.: Atmos.*, 127, e2022JD036860. <https://doi.org/10.1029/2022JD036860>.
13. Karrer, M., J. Dias Neto, L. von Terzi, and **S. Kneifel**, 2022: Melting behavior of rimed and unrimed snowflakes investigated with statistics of Triple-frequency Doppler radar observations, *J. Geophys. Res.: Atmos.*, 127, e2021JD035907. <https://doi.org/10.1029/2021JD035907>.

14. Vogl, T., M. Maahn, **S. Kneifel**, W. Schimmel, D. Moisseev, and H. Kalesse-Los, 2022: Using artificial neural networks to predict riming from Doppler cloud radar observations, *Atmos. Meas. Tech.*, 15, 365-381, <https://doi.org/10.5194/amt-15-365-2022>.
15. **Kneifel, S.**, B. Pospichal, L. von Terzi, T. Zinner, M. Puh, M. Hagen, B. Mayer, U. Löhnert, and S. Crewell, 2022: Long-term cloud and precipitation statistics observed with remote sensors at the high-altitude Environmental Research Station Schneefernerhaus in the German Alps, *Meteorol. Z. (Contrib. Atm. Sci.)*, 31, 69-86 <https://doi.org/10.1127/metz/2021/1099>.

2021

16. Karrer, M., A. Seifert, D. Ori, and **S. Kneifel**, 2021: Improving the Representation of Aggregation in a Two-moment Microphysical Scheme with Statistics of Multi-frequency Doppler Radar Observations, *Atmos. Chem. Phys.*, 21, 17133–17166, <https://doi.org/10.5194/acp-21-17133-2021>.
17. Trömel, S., Simmer, C., Blahak, U., Blanke, A., Ewald, F., Frech, M., Gergely, M., Hagen, M., Hörnig, S., Janjic, T., Kalesse-Los, H., **Kneifel, S.**, Knote, C., Mendrok, J., Moser, M., Möller, G., Mühlbauer, K., Myagkov, A., Pejčic, V., Seifert, P., Shrestha, P., Teisseire, A., von Terzi, L., Tetoni, E., Vogl, T., Voigt, C., Zeng, Y., Zinner, T., and Quaas, J., 2021: Overview: Fusion of Radar Polarimetry and Numerical Atmospheric Modelling Towards an Improved Understanding of Cloud and Precipitation Processes, *Atmos. Chem. Phys.*, 21, 17291-17314, <https://doi.org/10.5194/acp-21-17291-2021>.
18. Ori, D., L. von Terzi, M. Karrer, and **S. Kneifel**, 2021: snowScatt 1.0: Consistent model of microphysical and scattering properties of rimed and unrimed snowflakes based on the self-similar Rayleigh-Gans Approximation, *Geosci. Model Dev.*, 14, 1511-1531, <https://doi.org/10.5194/gmd-14-1511-2021>.
19. Kulie, M. S., C. Pettersen, A. J. Merrelli, T. J. Wagner, N. B. Wood, M. Dutter, D. Beachler, T. Kluber, R. Turner, M. Mateling, J. Lenters, P. Blanken, M. Maahn, C. Spence, **S. Kneifel**, P. A. Kucera, A. Tokay, L. F. Bliven, D. B. Wolff, and W. A. Petersen, 2021: Snowfall in the Northern Great Lakes: Lessons Learned from a Multi-Sensor Observatory, *Bull. Amer. Meteor. Soc.*, 102, E1317-E1339, <https://doi.org/10.1175/BAMS-D-19-0128.1>.
20. Mróz, K., A. Battaglia, **S. Kneifel**, L. von Terzi, M. Karrer, and D. Ori, 2021: Linking rain into ice microphysics across the melting layer in stratiform rain: a closure study., *Atmos. Meas. Tech.*, 14, 511-529, <https://doi.org/10.5194/amt-14-511-2021>.

2020

21. Gong, J., X. Zeng, D. Wu, S. J. Munchak, X. Li, **S. Kneifel**, D. Ori, L. Liao, and D. Barahona, 2020: Linkage among Ice Crystal Microphysics, Mesoscale Dynamics and Cloud and Precipitation Structures Revealed by Collocated Microwave Radiometer and Multi-

- frequency Radar Observations, *Atmos. Chem. Phys.*, 20, 12633-12653, <https://doi.org/10.5194/acp-20-12633-2020>.
22. Myagkov, A., **S. Kneifel**, and T. Rose, 2020: Evaluation of the reflectivity calibration of W-band radars based on observations in rain. *Atmos. Meas. Tech.*, 13, 5799-5825, <https://doi.org/10.5194/amt-13-5799-2020>.
 23. **Kneifel, S.**, and D. Moisseev, 2020: Long-term statistics of riming in non-convective clouds derived from ground-based Doppler cloud radar observations, *J. Atmos. Sci.*, 77, 3495-3508, <https://doi.org/10.1175/JAS-D-20-0007.1>.
 24. Tridon, F., A. Battaglia, and **S. Kneifel**, 2020: How to estimate total differential attenuation due to hydrometeors with ground-based multi-frequency radars?, *Atmos. Meas. Tech.*, 13, 5065-5085, <https://doi.org/10.5194/amt-13-5065-2020>.
 25. Ori, D., V. Schemann, M. Karrer, J. Dias Neto, L. von Terzi, A. Seifert, and **S. Kneifel**, 2020: Evaluation of ice particle growth in ICON using statistics of multi-frequency Doppler cloud radar observations, *Q. J. Roy. Meteor. Soc.*, 146, 3830-3849, doi:10.1002/qj.3875.
 26. 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, *Geosci. Model Dev.*, 13, 4229-4251, <https://doi.org/10.5194/gmd-13-4229-2020>.
 27. Karrer, M., A. Seifert, C. Siewert, D. Ori, A. von Lerber, and **S. Kneifel**, 2020: Ice Particle Properties Inferred from Aggregation Modelling, *Journal of Advances in Modeling Earth System*, 12, e2020MS002066. <https://doi.org/10.1029/2020MS002066>.
 28. Mróz, K., A. Battaglia, **S. Kneifel**, L. P. D'Adderio, and J. Dias Neto, 2020: Triple-frequency Doppler retrieval of characteristic raindrop size, *Earth and Space Science*, 7, e2019EA000789. <https://doi.org/10.1029/2019EA000789>.
 29. 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>.
 30. Lubin, D., D. Zhang, I. Silber, R.C. Scott, P. Kalogeras, A. Battaglia, D.H. Bromwich, M. Cadetdu, E. Eloranta, A. Fridlind, A. Frossard, K.M. Hines, **S. Kneifel**, W.R. Leitch, W. Lin, J. Nicolas, H. Powers, P.K. Quinn, P. Rowe, L.M. Russell, S. Sharma, J. Verlinde, and A.M. Vogelmann, 2020: AWARE: The Atmospheric Radiation Measurement (ARM) West Antarctic Radiation Experiment, *Bull. Amer. Meteor. Soc.*, 101, E1069-E1091, doi:10.1175/BAMS-D-18-0278.1.

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31. Mason, S. L., R. J. Hogan, C. D. Westbrook, **S. Kneifel**, D. Moisseev, and L. von Terzi, 2019: The importance of particle size distribution and internal structure for triple-frequency

- radar retrievals of the morphology of snow, *Atmos. Meas. Tech.*, 12, 4993–5018, <https://doi.org/10.5194/amt-12-4993-2019>.
32. Dexheimer, D., M. Airey, E. Roesler, C. Longbottom, K. Nicoll, **S. Kneifel**, F. Mei, G. R. Harrison, G. Marlton, and P. Williams, 2019: Evaluation of ARM Tethered Balloon System instrumentation for supercooled liquid water and distributed temperature sensing in mixed-phase Arctic clouds, *Atmos. Meas. Tech.*, 12, 6845–6864, <https://doi.org/10.5194/amt-12-6845-2019>.
 33. Tridon, F., A. Battaglia, R. J. Chase, F. J. Turk, J. Leinonen, **S. Kneifel**, K. Mroz, J. Finlon, A. Bansemer, S. Tanelli, A. J. Heymsfield, S. W. Nesbitt, 2019: The microphysics of stratiform precipitation during OLYMPEx: compatibility between 3-frequency radar and airborne in situ observations, *J. Geophys. Res.*, 124, 8764–8792. <https://doi.org/10.1029/2018JD029858>.
 34. Seifert, A., J. Leinonen, C. Siewert, and **S. Kneifel**, 2019: The geometry of rimed aggregate snowflakes: A modeling study, *Journal of Advances in Modeling Earth Systems*, 11, 712–31, doi.org/10.1029/2018MS001519
 35. Dias Neto, J., **S. Kneifel**, D. Ori, S. Trömel, J. Handwerker, B. Bohn, K. Mühlbauer, M. Lenefer, and C. Simmer, 2019: The TRIPLE-frequency and Polarimetric radar Experiment for improving process observation of winter precipitation, *Earth Syst. Sci. Data*, 11, 845–863, doi.org/10.5194/essd-11-845-2019.

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36. Mason, S., C. Chiu, R. J. Hogan, D. Moiseev, and **S. Kneifel**, 2018: Retrievals of riming and snow particle density from vertically-pointing Doppler radars, *J. Geophys. Res.*, 123, 13, 807–13834, doi: 10.1029/2018JD028603.
37. Küchler, N., **S. Kneifel**, P. Kollias, and U. Löhnert, 2018: Revisiting liquid water content retrievals in warm stratified clouds: The modified Frisch, *Geophys. Res. Lett.*, 45, 9323–9330, doi: 10.1029/2018GL079845
38. Ori, D., and **S. Kneifel**, 2018: Assessing the uncertainties of the Discrete Dipole Approximation in case of melting ice particles, *J. Quant. Spectrosc. Radiat. Transfer*, 217, 396–406, doi: 10.1016/j.jqsrt.2018.06.017.
39. **Kneifel, S.**, J. Dias Neto, D. Ori, D. Moiseev, J. Tyynelä, I. S. Adams, K-S. Kuo, R. Bennartz, A. Berne, E. E. Clothiaux, P. Eriksson, A. J. Geer, R. Honeyager, J. Leinonen, and C. D. Westbrook, 2018: The First International Summer Snowfall Workshop: Scattering properties of realistic frozen hydrometeors from simulations and observations, as well as defining a new standard for scattering databases, *Bull. Amer. Meteor. Soc.*, 99, ES55–ES58, doi: 10.1175/BAMS-D-17-0208.1.
40. Leinonen, J., **S. Kneifel**, and R. J. Hogan, 2018: Evaluation of the Rayleigh–Gans approximation for microwave scattering by rimed snowflakes, *Q. J. Roy. Meteor. Soc.*, 144, 77–88, doi:10.1002/qj.3093.

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41. K  chler, N., **S. Kneifel**, U. L  hnert, P. Kollias, H. Czekala, and T. Rose, 2017: A W-band radar-radiometer system for accurate and continuous monitoring of clouds and precipitation, *J. Atmos. Oceanic Tech.*, 34, 2375-2392, doi: 10.1175/JTECH-D-17-0019.1.
42. Souverijns, N., A. Gossart, S. Lhermitte, I. V. Gorodetskaya, **S. Kneifel**, M. Maahn, F. L. Bliven, and N. P. M. Van Lipzig, 2017: Estimating radar reflectivity - snowfall rate relationships and their uncertainties over Antarctica by combining disdrometer and radar observations. *Atmospheric Research*, 196, 211-223, doi:10.1016/j.atmosres.2017.06.001.
43. 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. Z  ngl, D. Zhang, and J. Quaas, 2017: Large-eddy simulations over Germany using ICON: A comprehensive evaluation, *Q. J. Roy. Meteor. Soc.*, 143, 69-100. doi:10.1002/qj.2947.
44. Tr  mel, S., A. V. Ryzhkov, M. Diederich, K. M  hlbauer, C. Simmer, **S. Kneifel**, and J. Snyder, 2017: Multisensor Characterization of Mammatus Clouds, *Mon. Wea. Rev.*, 145, 235-251, doi:10.1175/MWR-D-16-0187.1.
45. Hogan, R. J., R. Honeyager, J. Tyynel   and **S. Kneifel**, 2017: Calculating the millimetre-wave scattering phase function of snowflakes using the Self-Similar Rayleigh-Gans Approximation, *Q. J. R. Meteorol. Soc.*, 143, 834-844, doi:10.1002/qj.2968.
46. Acquistapace, C., **S. Kneifel**, U. L  hnert, P. Kollias, M. Maahn, and M. Bauer-Pfundstein, 2017: Optimizing observations of drizzle onset with millimeter-wavelength radars, *Atmos. Meas. Tech.*, 10, 1783-1802, doi:10.5194/amt-10-1783-2017.

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47. De Angelis, F., D. Cimini, J. Hocking, P. Martinet, and **S. Kneifel**, 2016: RTTOV-gb - Adapting the fast radiative transfer model RTTOV for the assimilation of ground-based microwave radiometer observations, *Geosci. Model Dev.*, 9, 2721-2739, doi:10.5194/gmd-9-2721-2016.
48. **Kneifel S.**, P. Kollias, A. Battaglia, J. Leinonen, M. Maahn, H. Kalesse, and F. Tridon, 2016: First Observations of Triple Frequency Radar Doppler Spectra in Snowfall, 2016: Interpretation and Applications, *Geophys. Res. Lett.*, 43, 2225-2233, doi: 10.1002/2015GL067618.

49. Kalesse, H., W. Szyrmer, **S. Kneifel**, P. Kollias, and E. Luke, 2016: Fingerprints of a riming event on cloud radar Doppler spectra: observations and modeling, *Atmos. Chem. Phys.*, 16, 2997-3012, doi:10.5194/acp-16-2997-2016.
50. Turner, D. D., **S. Kneifel**, and M. P. Cadetdu, 2016: An Improved Liquid Water Absorption Model in the Microwave for Supercooled Liquid Water Clouds, *J. Atmos. Oceanic Tech.*, 33, 33-44, doi: 10.1175/JTECH-D-15-0074.1.

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51. **Kneifel S.**, A. von Lerber, J. Tiira, D. Moiseev, P. Kollias, and J. Leinonen, 2015: Observed Relations between Snowfall Microphysics and Triple-frequency Radar Measurements, *J. Geophys. Res.*, 120, 6034-6055, doi: 10.1002/2015JD023156.
52. Gorodetskaya, I. V., **S. Kneifel**, M. Maahn, K. Van Tricht, W. Thiery, J. H. Schween, A. Mangold, 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.
53. 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, *Q. J. R. Meteorol. Soc.*, 141, 1–15, doi:10.1002/qj.2486.

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55. **Kneifel, S.**, S. Redl, E. Orlandi, U. Löhnert, M. P. Cadetdu, D. D. Turner, and M-T. Chen, 2014: Absorption Properties of Supercooled Liquid Water between 31 and 225 GHz: Evaluation of Absorption Models Using Ground-based Observations, *J. Appl. Meteor. Climatol.*, 53, 1028-1045, doi:10.1175/JAMC-D-13-0214.1
56. Battaglia, A., C. D. Westbrook, **S. Kneifel**, P. Kollias, N. Humpage, U. Löhnert, J. Tyynelä, and G. W. Petty, 2014: G-band atmospheric radars: new frontiers in cloud physics, *Atmos. Meas. Tech.*, 7, 1527-1546, doi:10.5194/amt-7-1527-2014.
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2012

- 58. Leinonen, J., **S. Kneifel**, D. Moisseev, J. Tyynelä, S. Tanelli, and T. Nousiainen, 2012: Evidence of nonspheroidal behavior in millimeter-wavelength radar observations of snowfall, *J. Geophys. Res.*, 117, D18205, doi:10.1029/2012JD017680.
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- 61. **Kneifel, S.**, M. S. Kulie, and R. Bennartz, 2011: A triple-frequency approach to retrieve microphysical snowfall parameters, *J. Geophys. Res.*, 116, D11203, doi:10.1029/2010JD015430.
- 62. 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, *Bull. Amer. Meteor. Soc.*, 92, 613–628, doi: 10.1175/2010BAMS2909.1.

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B: Contributions to Books

Kneifel, S., J. Leinonen, J. Tyynelä, D. Ori, and A. Battaglia, 2020: Scattering of Hydrometeors. In V. Levizzani, C. Kidd, D. B. Kirschbaum, C. D. Kummerow, K. Nakamura, and F. J. Turk (Ed.), *Satellite Precipitation Measurement (Vol. 1)*, New York: Springer, ISBN: 978-3-030-24568-9.

Battaglia, A., S. Tanelli, F. Tridon, **S. Kneifel**, J. Leinonen, and P. Kollias, 2020: Triple-Frequency Radar Retrievals. . In V. Levizzani, C. Kidd, D. B. Kirschbaum, C. D. Kummerow, K. Nakamura, and F. J. Turk (Ed.), *Satellite Precipitation Measurement (Vol. 1)*, New York: Springer, ISBN: 978-3-030-24568-9.

C: Conference Proceedings, Extended Abstracts, Technical Reports

Conference Proceedings (peer-reviewed)

Kneifel, S., S. Crewell, S. Redl, S. Steinke, C. Ohlwein, J. Keller, P. Friederichs, A. Hense, C. Wosnitza, and I. Pscheidt, 2012: Retrospective analysis of regional climate: The German reanalysis project - potential of remote sensing observations, *Proceedings of the International Geoscience and Remote Sensing Symposium*, July 22-27, 2012, Munich, Germany, 3689-3692, doi: 10.1109/IGARSS.2012.6350615.

Extended Abstracts

Maahn, M., P. Kollias, **S. Kneifel**, I. Gorodetskaya, G. Peters and C. Simmer: Measuring snow with a low-power K-band radar (Micro Rain Radar) at high latitudes. *European Radar Conference (ERAD)*, 25-29 June 2012, Toulouse, France, 5 pp.

Kneifel, S., U. Löhnert, L. Hirsch, A. Battaglia, S. Crewell, and D. Siebler: Ground-based remote sensing of snowfall through active and passive sensor synergy, *8th International Symposium on Tropospheric Profiling: Needs and Technologies (ISTP)*, 18-23 October, 2009, Delft, The Netherlands, 3 pp.

Technical Reports

Gorodetskaya, I., N. P. M. van Lipzig., M. R. van den Broeke, W. Boot, C. Reijmer, A. Mangold, **S. Kneifel**, S. Crewell, and J. Schween: Ground-based observations of cloud properties, precipitation and meteorological conditions at Princess Elisabeth station in

Dronning Maud Land, Antarctica, *BPRC Technical Report 2010-01, 5th Antarctic Meteorological Observation, Modeling, and Forecasting Workshop*, The Ohio State University, Columbus, Ohio, USA, 12-14 July 2010.

Kneifel, S.: Comparison of humidity data from the ATOVS and SEVIRI system with ground-based radiosonde, microwave radiometer and GPS measurements. Final Report for the Satellite Application Facility on Climate Monitoring (CM SAF), Meteorological Institute, University of Munich, Germany, 25 November 2005.

D: Invited Talks

Long-term remote-sensing observations of clouds and precipitation at the Schneesfernerhaus, *Colloquium University of Innsbruck*, Mar. 2023.

How can modern cloud radars help to improve ice microphysics in models? *Colloquium LMU*, Nov. 2022.

Why do ice and snow particles grow so rapidly at -15°C? New insights from modern cloud radars and super-particle modelling. *Colloquium Karlsruhe Institute of Technology (KIT)*, Oct. 2022.

Fascinating snow and ice clouds: What new insights into ice microphysical processes can we gain from modern cloud radars? *Colloquium Johannes Gutenberg University Mainz*, Nov. 2021.

Improving ice microphysical processes in models using novel multi-frequency radar observation: Dream or realistic chance? *Colloquium University of Leipzig*, Apr. 2019.

Ice microphysical processes inferred from single and multi-frequency radars, *University of Granada, Andalusian Institute for Earth System Research*, Granada, Spain, Oct. 2019.

How can ground-based active and passive multi-frequency microwave sensors help to improve retrievals of precipitating cold clouds?, *Jet Propulsion Laboratory (JPL), Earth Science Collaboration Center Colloquium*, Pasadena, USA, Dec. 2016.

Investigating snowfall and other cold hydrometeor properties with ground-based microwave remote sensors, *Pennsylvania State University, Meteorology Colloquium*, USA, Sept. 2015.

Snowfall microphysics observed with triple-frequency radars, *University of Reading, Meteorology Seminar*, Reading, UK, Mar. 2015.

How well do we understand mid- and low level cold clouds? New approaches using microwave remote sensors, *University of Reading, Lunchtime Seminar*, Reading, UK, Jan. 2014.

Verification of reanalysis data using a modular forward operator for active and passive microwave instruments, *Climate Monitoring – Satellite Application Facility (CM-SAF/DWD) Seminar*, Offenbach, Apr. 2013.

Snowfall observed by active and passive microwave remote sensors, *University of Reading, Radar Seminar*, Reading, UK, May 2012.

E: Outreach

Pospichal, B., U. Löhnert, and **S. Kneifel**, 2018: Langzeitmessungen des Wolkenflüssigwassers mittels Mikrowellenradiometrie an der UFS. Umweltforschungsstation Schneefernerhaus - Wissenschaftliche Resultate 2017/2018, (accessible at www.schneefernerhaus.de).

Kneifel, S., U. Löhnert, B. Pospichal und S. Crewell, 2017: Unterkühltes Flüssigwasser - Langzeitliche Messungen an der UFS liefern die Basis für verbesserte globale Messmethoden. Umweltforschungsstation Schneefernerhaus - Wissenschaftliche Resultate 2015/2016 (accessible at www.schneefernerhaus.de).

Kneifel, S. and M. Barrera-Verdejo, 2016: How does a cloud form? Outreach video project in the framework of the EU-funded Marie Curie Initial Training Network "ITaRS - Initial Training for atmospheric Remote Sensing", available on Youtube: <https://youtu.be/gcdeuluWWEQ>

Kneifel, S. X. Xie, U. Löhnert, M. Hagen und S. Crewell, 2013: Untersuchung der mikrophysikalischen Eigenschaften von Schneefall am Schneefernerhaus mit Hilfe von Mikrowellenradiometern. Umweltforschungsstation Schneefernerhaus - Wissenschaftliche Resultate 2010/2011, (accessible at www.schneefernerhaus.de).

U. Löhnert, **S. Kneifel**, A. Battaglia, M. Hagen, L. Hirsch und S. Crewell, 2011: Ein Multi-Sensor Ansatz zum verbesserten Verständnis der Schneemikrophysik: Das TOSCA-Projekt. Umweltforschungsstation Schneefernerhaus - Wissenschaftliche Resultate 2009/2010, (accessible at www.schneefernerhaus.de).