

LIST OF PUBLICATIONS

Dr. Dirk Klugmann

Reviewed papers

- [1] G. Anderson and D. Klugmann. A European lightning density analysis using 5 yr of ATDnet data. *Natural Hazards and Earth System Science*, 14(4), 815–829, DOI 10.5194/nhess-14-815-2014, 2014.
- [2] Dirk Klugmann. Retrieval of Atmospheric Parameters from Doppler Radar Profiler Backscatter by Hydrometeors. *J. Atmos. Oceanic Technol.*, 18(1):56–76, January 2001.
- [3] Dirk Klugmann, Klaus Heinsohn, and Hans-Jürgen Kirtzel. A low cost 24 GHz FM-CW-Doppler radar rain profiler. *Contrib. Atmos. Phys.*, 69(1):247–253, February 1996.
- [4] Dirk Klugmann and Rolf Judaschke. A 94 GHz FM-CW-Doppler radar profiler using semiconductor technique. *Contrib. Atmos. Phys.*, 69(1):239–246, February 1996.
- [5] Dirk Klugmann and Carolin Richter. Correction of Drop Shape-Induced Errors on Rain Rates Derived from Radar-Measured Doppler Spectra at Vertical Incidence. *J. Atmos. Oceanic Technol.*, 12(3):657–661, June 1995.

Conference Proceedings

- [6] Dirk Klugmann. FMCW RADAR IN THE DIGITAL AGE. In *2016 IEEE International Geoscience and Remote Sensing Symposium*, Beijing, China, July 2016. IEEE.
- [7] Dirk Klugmann, Simon Rea, Hui Wang, Kai Parow-Souchon, Brian Moyna, Peter Huggard, Matthew Oldfield and Brian Ellison. Upgrade of the RAL Solid State Cloud Radar. In *8th UK, Europe, China Workshop on Millimeter Waves and THz*, Cardiff, Wales, UK, September 2015. IEEE.
- [8] Dirk Klugmann, Hui Wang, Simon Rea, Brian P. Moyna, Matthew Oldfield, Peter G. Huggard and Brian N. Ellison. A Solid State W-band Radar Profiler for Cloud Observation. In *40th International Conference on Infrared, Millimeter, and Terahertz Waves*, Hong Kong, August 2015. IEEE.
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- [10] Dirk Klugmann and Hui Wang. Solid-state 94 GHz Doppler radar for meteorology. In *IET Colloquium on Millimetre-wave and Terahertz Engineering & Technology 2015*, Leeds, UK, March 2015. IET.
- [11] Joelle Buxmann, Mingxi Yang, Frances Hopkins, Dirk Klugmann, Roland von Glasow and Tim Smyth. Variability of tropospheric ozone in a polluted marine environment. In *13th Quadrennial iCACGP Symposium / 13th IGAC Science Conference on Atmospheric Chemistry*, Natal, Brazil, September 2014.
- [12] Catherine Gaffard and Dirk Klugmann (presenter). Assessing the impact of assimilating Wind Profiler data on the forecast error of the global model by FSO tool. In *COST ES0702 Final Seminar*, Brussels, Belgium, November 2012.
- [13] Catherine Gaffard, David Simonin, Colin Parret, Richard Marriott, Myles Turp and Dirk Klugmann. Monitoring and data assimilation of Wind Profiler. In *Extended Abstracts of the MST13*, Kühlungsborn, Germany, March 2012.
- [14] Dirk Klugmann and Ondrej Fišer. Mie versus point matching algorithm for radar rain properties retrieval. In *2008 IEEE International Geoscience & Remote Sensing Symposium*, pages IV 1002 – 1005, Boston, Massachusetts, USA, July 2008. IEEE. ISBN: 978-1-4244-2808-3.
- [15] Ondrej Fišer and Dirk Klugmann. Mie versus Point Matching Algorithm for Rain Properties Retrieval from Radar Measurement. In *ERAD 2008 - THE FIFTH EUROPEAN CONFERENCE ON RADAR IN METEOROLOGY AND HYDROLOGY*, Helsinki, Finland, 2008. FMI.
- [16] Dirk Klugmann and Ondrej Fišer. Application of Single Drop Scattering Algorithms to Rain Related Retrieval. In *2007 IEEE International Geoscience and Remote Sensing Symposium*, Barcelona, Spain, July 2007. IEEE.
- [17] Ondrej Fišer and Dirk Klugmann. Enhancement of Rain Retrieval from Radar Profilers. In Daniel Sempere-Torres, editor, *ERAD 2006 - Fourth European Conference on Radar in Meteorology*, volume 3 of *ERAD Publications Series*, pages 161 – 164, Barcelona, Spain, September 2006. GRAHI/UPC, Copernicus GmbH.
- [18] Dirk Klugmann and Ralf Stephan. Calibration of Portable FM-CW Doppler Radar Profilers with an Artificial Target. In *2004 IEEE International Geoscience and Remote Sensing Symposium*, Anchorage, Alaska, USA, September 2004. IEEE.
- [19] Dirk Klugmann and Ralf Stephan. Calibration of radar profilers by a rotating corner reflector. In Daniel Michelson, editor, *Third European Conference on Radar in Meteorology and Hydrology (ERAD)*, volume 2 of *ERAD*

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- [21] Dirk Klugmann, Peter Holstein, David Mackenzie, and Oliver Holinski. A RADAR RAIN PROFILER USING A MATLAB BASED DSP SYSTEM. In Lee [73], pages 694 – 696.
- [22] Dirk Klugmann, Jörg Weickert, Peter Holstein, Oliver Holinski, and David Mackenzie. A MATLAB based DSP System for a Radar Rain Profiler. In Ulla Wandigner and Volker Wulfmeyer, editors, *Sixth International Symposium for Tropospheric Profiling: Needs and Technologies*, pages 267 – 269, Leipzig, Germany, September 2003. IFT.
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- [28] Dirk Klugmann. A Semiconductor Based 94-GHz Doppler Radar Profiler. In T. Ackerman, G. Fredericks, P. May, R. Vincent, and V. Wulfmeyer, editors, *Extended Abstracts of the Fifth International Symposium on Tropospheric Profiling: Needs and Technology*, pages 247–249, Adelaide, South Australia, December 2000. ISTP.
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- [32] Dirk Klugmann. Prospects for the application of millimeter wave doppler radar profilers using semiconductors for transmitting power generation. In McKie [71], pages 178–180.
- [33] Dirk Klugmann and Rolf Judaschke. A 94 GHz FM-CW radar profiler for remote sensing of clouds. In Michael von Ortenberg and Hans-Ulrich Mueller, editors, *The 21st International Conference on Infrared and Millimeter Waves*, page BW1, Unter den Linden, D-10099 Berlin, June 1996. HUMBOLDT-Universität zu Berlin.
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- [36] Dirk Klugmann, Klaus Heinsohn and Hans-Jürgen Kirtzel. A low cost 24 GHz FM-CW-Doppler radar rain profiler. In Gage and Peters [72], pages 354–356.

Reports

- [37] Catherine Gaffard, Zhihong Li, David Simonin, Richard Marriott and Dirk Klugmann. Impact of wind profilers and other observations on model error as evaluated using FSO and data denial experiments. Met Office Internal Report, Exeter, UK, March 2014.
- [38] Graeme Anderson, Ernest Lo and Dirk Klugmann. ATDnet Sparse Network Testing. Met Office Internal Report, Exeter, UK, January 2014.
- [39] WMO COMMISSION FOR INSTRUMENTS AND METHODS OF OBSERVATION, EXPERT TEAM ON NEW TECHNOLOGIES AND TESTBEDS. First Session, FINAL REPORT — Contributor as member of the Expert Team and Rapporteur for Cloud Radar. Geneva, Switzerland, 4-7 March 2013.

- [40] W. A. Pollock and D. Klugmann. Change in the Spatial & Temporal Resolution of Observations between April 2010 to March 2013. Met Office Internal Report, Exeter, UK, April 2013.
- [41] Dirk Klugmann, Graeme Anderson, Greg Callaghan, Richard Smout, Melanie Collins and Alec Bennett. Influence of the ATDnet Outstations in Africa, Asia and the Indian Ocean on coverage, detection efficiency and location accuracy over Arabia, the Middle East and the Indian Ocean. Met Office Internal Report, Exeter, UK, August 2012.
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- [45] Dirk Klugmann. Upper Air Remote Sensing of Winds — Methodology and Instruments. Report for NATS Head Office, Met Office, Exeter, UK, February 2011
- [46] Matt Clark and Dirk Klugmann. Laser Cloud Base Recorder and LIDAR Observations of Aerosol Layers - Advise on How to Recognise Aerosol Layer Returns. Met Office Internal Report, 2011.
- [47] Dirk Klugmann. Status and Potential Continuation of FUND. Met Office Internal Report, March 2011.
- [48] Dirk Klugmann. Messung von Niederschlag und Vertikalwind in der unteren Atmosphäre mit Millimeterwellen-Doppler-RADAR-Profilern. Berichte aus dem Zentrum für Meeres- und Klimaforschung; Reihe A: Meteorologie 31, Zentrum für Meeres- und Klimaforschung, Bundesstraße 55, 20146 Hamburg, Germany, 1998. ISSN 0947-7128.
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- [54] Dirk Klugmann. Die Anwendung der Programme „7912AD“ und „7612D“ für den Commodore CBM 3032 zur Steuerung der gleichnamigen TEKTRONIX-Transientenrekorder. Interner Bericht, Universität Hamburg, 2. Institut für Experimentalphysik, Luruper Chaussee 149, 2000 Hamburg 50, January 1991.

Invited talks and presentations (if not covered by ‘Conference Proceedings’)

- [55] Owen Cox, Cristina Charlton-Perez and Dirk Klugmann (presenter). A Met Office Forward Operator for Attenuated Backscatter. 9th International Symposium on Tropospheric Profiling, L’Aquila, Italy, 2012.
- [56] Catherine Gaffard, David Simonin, Richard Marriott, Colin Parett, and Dirk Klugmann (presenter). Monitoring and Data Assimilation of Wind Profiler. 9th International Symposium on Tropospheric Profiling, L’Aquila, Italy, 2012.
- [57] Dirk Klugmann, Andrew Mizra and Graeme Anderson. Spotting convection and verifying model convection output by ATDnet. European Lightning Detection Workshop, Brussels, Belgium, 2012.
- [58] Dirk Klugmann. Das Ceilometer-Netzwerk des UK Met Office und seine Anwendung zur Vulkanasche-Überwachung. LANUV, Essen, Germany, October 2011.
- [59] Dirk Klugmann. Fernmessnetze des UK Met Office. DWD - MOL, Lindenberg, Germany, June 2011.
- [60] Dirk Klugmann. A Semiconductor Based Radar Platform for a Wide Frequency Range – X Band to W Band. The Met Office, Exeter, UK, February 2010.
- [61] Dirk Klugmann. Radar Types – Profiler vs. Weather Radar. Observatory Miletovka of the Czech Academy of Sciences, Czech Republic, September 2007.

- [62] Dirk Klugmann. A Semiconductor Cloud Radar for Airborne / Ground Based Application. NCAR/ATD, Boulder, Colorado, August 2000.
- [63] Dirk Klugmann. Cloud Microphysics at IfT: Measurement and Model. NOAA/AL, Boulder, Colorado, August 2000.
- [64] Dirk Klugmann. Wolken-Mikrophysik am IfT: Modell und Messung (Cloud Microphysics at IfT: Model and Measurement). University of Mainz, Germany, February 2000.
- [65] Dirk Klugmann and Olaf Hellmuth. Determination of the Entrainment Layer Thickness in the Convective Boundary Layer Using a Semi-empirical Entraining Jet Model. NOAA/ETL, Boulder, Colorado, September, 1998.
- [66] Dirk Klugmann. Benefits from using complete spectra for retrievals of cloud and precipitation parameters from millimeter wave Doppler radar profiler measurements. Penn State University, Department of Meteorology, University Park, Pennsylvania, October 1998.
- [67] Dirk Klugmann. Messung von Atmosphären-Parametern mit Millimeterwellen-Doppler-Radar-Profilern (Measurement of Atmospheric Parameters with Millimeter Wave Doppler Radar Profilers). Workshop of the DEGON (German Foundation for Detection and Navigation), Hamburg, Germany, February 1997
- [68] Dirk Klugmann. Technique and Application of two Solid State FM-CW-Doppler Radar Profilers. NOAA/ETL, Boulder, Colorado, September 1996, and Millitech Corp., South Deerfield, Massachusetts, September 1996.
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Cross References

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- [71] Julie McKie, editor. *Extended Abstracts of the Fourth International Symposium on Tropospheric Profiling: Needs and Technology*, Snowmass, Colorado, August 1998.
- [72] Kenneth S. Gage and Gerhard Peters, editors. *Extended Abstracts of the Third International Symposium on Tropospheric Profiling: Needs and Technology*, Hamburg, Germany, August 1994.
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