

## **Dr. Martina Krämer**

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### **Professional Career**

since 2019 Fellow of Gutenberg Research College, University of Mainz, IPA  
2012-present Head of group 'Water Vapor & Clouds' at IEK-7  
2000-2011 Head of group 'Clouds' at ICG-1, Research Center Jülich  
1996 – 2000 Research Scientist, Inst. for Chem. and Dyn. of the Geosphere:  
Stratosphere (ICG-1), Research Center Jülich  
1992-1996 Research Scientist, Inst. for Physics of the Atmosphere,  
University of Mainz.  
1992 PhD Meteorology, Univ. Mainz  
1987 Diploma in Meteorology, Univ. Mainz

### **Research Areas**

- Cloud and Aerosol Physics
- Water Vapor and Cloud Measurements
- Cirrus Cloud Modelling
- Particle and Water Vapor Techniques
- Cloud and Aerosol Particle Sampling

### **Professional Services (selected)**

since 2016 Member of ICCP (International Commission of Clouds and Precipitation)  
since 2014 Leader of EUFAR expert working group 'Aerosol and Cloud Particle Sampling'  
2011-2015 IPCC Expert Reviewer  
since 2010 Co-Editor for ACP (Atmospheric Physics and Chemistry)  
2009-2012 Chair/Co-Chair of the European Aerosol Assembly (EAA) working group  
'Atmospheric Aerosols'  
2007-2012 Member of the GAeF Smoluchowski Award Committee  
2006-2010 Vice-president of the 'Gesellschaft für Aerosolforschung' (GAeF)  
2003-2018 Convener of  
- Conference program 'Atmospheric Aerosol' and special sessions  
at EAC/IAC (Europ./Intern. Aerosol Conf.);  
- session 'Atmospheric Ice Particles' at EGU (Europ. Geophys. Union)  
since 1999 Reviewer for scientific journals (AAQR, ACP, AMT, ASL, AST, Atm.Res., Atm.  
Sol. Terr., GMD, GRL, JAS, JGR, Jtech, Nature, NPG) and  
international funding agencies (ERC, EUFAR, FFG-KIRAS, NSF, RCUK, SNF)

## Publications (10 most important articles)

- Krämer, M.**, Rolf, C., Spelten, N., Afchine, A., Fahey, D., Jensen, E., Khaykin, S., Kuhn, T., Lawson, P., Lykov, A., Pan, L. L., Riese, M., Rollins, A., Stroh, F., Thornberry, T., Wolf, V., Woods, S., Spichtinger, P., Quaas, J., and Sourdeval, O.: A Microphysics Guide to Cirrus – Part II: Climatologies of Clouds and Humidity from Observations, *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2020-40>, in review, 2020.
- Costa, A., Meyer, J., Afchine, A., Luebke, A., Günther, G., Dorsey, J. R., Gallagher, M. W., Ehrlich, A., Wendisch, M., Baumgardner, D., Wex, H., and **Krämer, M.**: Classification of Arctic, Mid-Latitude and Tropical Clouds in the Mixed-Phase Temperature Regime, *Atmos. Chem. Phys.*, 17, 1–20, <https://doi.org/10.5194/acp-17-1-2017>, 2017.
- Heymsfield, A., **M. Krämer**, A. Luebke, P. Brown, D. Cziczo, C. Franklin, P. Lawson, U. Lohmann, G. McFarquhar, Z. Ulanowski, and K. Van Tricht: Ice Formation and Evolution in Clouds and Precipitation: Measurement and Modeling Challenges, Chapter 2: Cirrus Clouds. *Meteor. Monogr.*, Vol. 58, doi:10.1175/AMSMONOGRAPHS-D-16-0010.1, pp. 2.1-2.26, 2017.
- Krämer, M.**, Rolf, C., Luebke, A., Afchine, A., Spelten, N., Costa, A., Zöger, M., Smith, J., Herman, R., Buchholz, B., Ebert, V., Baumgardner, D., Borrmann, S., Klingebiel, M., and Avallone, L. (2016): A microphysics guide to cirrus clouds – Part 1: Cirrus types, *Atmos. Chem. Phys.*, 16, 3463-3483.
- Luebke, A. E., Afchine, A., Costa, A., Meyer, J., Rolf, C., Spelten, N., Avallone, L. M., Baumgardner, D., and **Krämer, M.** (2016): The origin of midlatitude ice clouds and the resulting influence on their microphysical properties, *Atmos. Chem. Phys.*, 16, 5793-5809.
- Meyer, J., Rolf, C., Schiller, C., Rohs, S., Spelten, N., Afchine, A., Zöger, M., Sitnikov, N., Thornberry, T. D., Rollins, A. W., Bozóki, Z., Tátrai, D., Ebert, V., Kühnreich, B., Mackrodt, P., Möhler, O., Saathoff, H., Rosenlof, K. H., and **Krämer, M.** (2015): Two decades of water vapor measurements with the FISH fluorescence hygrometer: a review, *Atmos. Chem. Phys.*, 15, 8521-8538.
- Krämer, M.**, Twohy, C., Hermann, M., Afchine, A., Dhaniyala, S., and Korolev, A. (2013): Aerosol and cloud particle sampling, in: *Airborne Measurements for Environmental Research: Methods and Instruments*, edited by: Wendisch, M. and Brenguier, J.-L., Wiley-VCH Verlag GmbH & Co. KGaA, 303–341.
- Spichtinger, P. and **Krämer, M.** (2013): Tropical tropopause ice clouds: a dynamic approach to the mystery of low crystal numbers, *Atmos. Chem. Phys.*, 13, 9801–9818.
- Krämer, M.**, Schiller, C., Afchine, A., Bauer, R., Gensch, I., Mangold, A., Schlicht, S., Spelten, N., Sitnikov, N., Borrmann, S., de Reus, M. and P. Spichtinger (2009): Ice supersaturations and cirrus cloud crystal numbers. *Atmos. Chem. Phys.*, 9, 3505-3522.
- Schiller, C., **Krämer, M.**, Afchine, A., Spelten, N. and N. Sitnikov (2008): The ice water content of Arctic, midlatitude and tropical cirrus. *J. Geophys. Res.* 113, D24208, doi:10.1029/2008JD010342.
- Krämer, M.**; Beltz, N.; Schell, D.; Schütz, L.; Sprengart-Eichel, C. and S. Wurzler (2000): Cloud Processing of Continental Aerosol Particles: Experimental Investigations for Different Drop Sizes. *JGR*, 105, No. D9, pp. 11,739-11,752.