
Selected Presentations

- *The importance of aerosol water for air pollution effects on weather and climate - a new concept*, **S. Metzger**, Max Planck Institute for Chemistry, Mainz, Germany; Presented at the COSMO / CLM Community Meeting (<http://www.clm-community.eu>), Athens, Greece, 18 September 2007; http://www.cosmo-model.org/content/consortium/generalMeetings/general2007/wg3/metzger_aerosols.pdf
- ***S. Metzger** and J. Lelieveld, The importance of aerosol water for air pollution effects on weather and climate. Presented at the American Geophysical Union (AGU) Fall Meeting, San Francisco, CA, USA, 10 - 14 December 2007. Abstract. <http://www.agu.org/meetings/fm07/> Sessions overview: Session A23B, A34C, "Aerosol Water: Important for Weather and Climate? I-II". Session A23B, Exh Hall B, Tuesday "Aerosol Water: Important for Weather and Climate? I", Tuesday 13:40-18:00, MS Exh Hall B. Session A34C, MW:2007, Wednesday, "Aerosol Water: Important for Weather and Climate? II": Wednesday 16:00-18:00, MW 2007, **Convener:** Metzger, S., **Co-Convener:** Olga L. Mayol-Bracero.
- Dust Event over Eastern Mediterranean - Modeling and LIADR Observation, Strong Interaction with European Air Pollution: *Mohamed **AbdelKader**[1], Swen Metzger[1,5], Klaus Klingmüller[1], Rodanthi-Elisavet Mamouri[2], Albert Ansmann[3], Diofantos Hadjimitsis[2], Argyro Nisantzi[2], Leonard Barrie[4], Jos Lelieveld[1,5], Zev Levin[1,6], [1] The Cyprus Institute (CyI), Centre for Energy Environment and Water, Nicosia, 2020, Cyprus [2] Cyprus University of Technology (CUT), Dep. of Civil Engineering and Geomatics, Limassol, 3036, Cyprus, [3] Leibniz Institute for Tropospheric Research, Leipzig, 04318, Germany, [4] Department of Geological Sciences, Stockholm University, SE-106 91, Sweden, [5] Max Planck Institute for Chemistry, Mainz, 55128, Germany, [6] Tel Aviv University, Tel Aviv, 39040, Israel, Presented at DUST2014: International Conference on ATMOSPHERIC DUST, Castellana Marina (TA), Italy - June 1-6, 2014.
- *Sensitivity Study of Cross-Atlantic Dust Transport to Dust Emissions, Chemical Aging and Removal Processes and Comparison with Ground and Satellite Data*, Mohamed Abdelkader [1], **Swen Metzger** [1,2], Klaus Klingmüller [1], Benedikt Steil [1], Jos Lelieveld [1,2]; [1] Max Planck Institute for Chemistry, [2] The Cyprus Institute, The Energy, Environment and Water Research Center (EEWRC), Nicosia, Cyprus, Presented at Session AS3.2 Constraining global aerosol model forcing estimates with in-situ observations, EGU Vienna, Austria, 17–22 April 2016; click for [Session overview](#) and the [Presentation](#).
- Comparison of Metop PMAp Version 2 AOD with EMAC model results, ***Swen Metzger** (1,2), Mohamed Abdelkader (1), Michael Grzegorski (3), Andriy Holdak (3), Klaus Klingmüller (1), Benedikt Steil (1), Rüdiger Lang (3), Rosemary Munro (3), Jos Lelieveld (1,2); (1) Max Planck Institute for Chemistry, Mainz, Germany, (2) The Cyprus Institute, Nicosia, Cyprus, (3) EUMETSAT, Darmstadt, Germany, presented at the EUMETSAT 2016 - Meteorological Satellite Conference, 26 - 30 September 2016, Darmstadt, Germany. [Presentation](#) (go to [Oral](#), Session 6).
- *Comparing the ISORROPIA and EQSAM Aerosol Thermodynamic Options in CAMx*, **Bonyoung Koo** [1], Swen Metzger [2], Chris Emery [1], Gary Wilson [1] & Greg Yarwood [1]; [1] [Ramboll](#), 773 San Marin Dr., Suite 2115, Novato, CA 94945, USA, [2] [ResearchConcepts io GmbH](#), Freiburg im Breisgau, Germany. Presented at the ITM 2018 - 36 TH INTERNATIONAL TECHNICAL MEETING ON AIR POLLUTION MODELLING AND ITS APPLICATION, 14 - 18 MAY 2018, THE LORD ELGIN HOTEL, OTTAWA, CANADA, (IN CONJUNCTION WITH THE ANNUAL WMO-GURME MEETING). [Download pdf](#).
- Recent EMEP MSC-W model developments to improve secondary inorganic aerosols, Presented by **Svetlana Tsyro** (EMEP/MS-CW/Met Norway introducing EQSAM4clim - a new thermodynamic equilibrium model for EMEP/MS-CW), [20th Annual Meeting of Task Force on Measurements and Modelling](#) (TFMM), May 7-9, 2019, Madrid, Spain. [Download pdf](#).
- *From Air Pollution to Climate Change - Model Evaluation Results Featuring EQSAM4clim*, **Swen Metzger**, [ResearchConcepts io GmbH](#), Freiburg i.Br., Germany, presented (oral) at the [9th Annual EMAC Symposium](#), July 02 - 04, 2019, [Forschungszentrum Jülich](#), Germany. [Download pdf](#).
- *Evaluation of the MetOp PMAp Version 2 AOD Products using EMAC Model Data, AERONET Ground Station and Reference Satellite Observations (MISR and MODIS-AQUA/TERRA)*, **S. Metzger** ([ResearchConcepts io GmbH](#)), M. Abdelkader ([KAUST](#)), K. Klingmüller and B. Steil ([MPIC](#)), A. Cacciari, M. Grzegorski, R. Lang, R. Munro, M. V. Navarro, and B. Fougnie ([EUMETSAT](#)), presented (oral) at the [2019 Joint Satellite Conference](#), 29 September - 4 October 2019 in Boston, MA. [Download pdf](#).
- Recent updates in the aerosol model of the ECMWF IFS and their impact on skill scores, Zak Kipling¹, **Samuel Rémy**², Swen M Metzger³, Johannes Flemming¹, Richard J Engelen¹ and Vincent Huijnen⁴, (1)European Centre for Medium-Range Weather Forecasts, Reading, United Kingdom, (2)HYGEOS, Lille, France, (3)ResearchConcepts io GmbH, Freiburg i.Br., Germany, (4)Royal Netherlands Meteorological Institute, De Bilt, Netherlands, AGU Fall Meeting, 1-17 December 2020, online, [A123-04](#), Friday, 11 December 2020.
- *Recent updates to the atmospheric aerosol modelling of the ECMWF IFS in support to CAMS*, **Rémy**, S., Kipling, Z., Huijnen, V., Flemming, J., Metzger, S., and Engelen, R., EGU General Assembly 2021, online, 19–30 Apr 2021, EGU21-14367, <https://doi.org/10.5194/egusphere-egu21-14367>, 2021.

Selected Publications

- **Metzger, S.**, Abdelkader, M., Lang, R., Munro, R., Navarro, V.M., Fougne, B., Garrigues S., and Rémy S., et al.: Evaluation of the Metop PMAp version 2.2.3 AOD products using EMAC model data, AERONET ground station and reference satellite observations (MISR and MODIS-Aqua/Terra), in preparation, **2021**.
- B Koo, S **Metzger**, P Vennam, C Emery, G Wilson, G Yarwood, Comparing the ISORROPIA and EQSAM Aerosol Thermodynamic Options in CAMx, International Technical Meeting on Air Pollution Modelling and its Application, ITM 2018: Air Pollution Modeling and its Application XXVI pp 93-98, Part of the Springer Proceedings in Complexity book series (SPCOM), <https://link.springer.com/bookseries/11637>, **First Online:** 24 November **2019**.
- Tsyro, Svetlana and **Metzger**, Swen, contribution to the **2019** EMEP MSC-W & CCC & CEIP Status Report 1/2019 on "Transboundary particulate matter, photo-oxidants, acidifying and eutrophying components", Chapter 9 (p133): EQSAM4clim (an evaluation of the aerosol thermodynamic code of Metzger et al., 2016 and Metzger et al., 2018) Report is available from http://emep.int/publ/emep2019_publications.html (pdf 31 MB).
- **Metzger, S.**, Abdelkader, M., Steil, B., and Klingmüller, K.: Aerosol water parameterization: long-term evaluation and importance for climate studies, *Atmos. Chem. Phys.*, <https://doi.org/10.5194/acp-18-16747-2018>, **2018**.
- Klingmueller, K., **Metzger, S.**, Abdelkader, M., Karydis, V. A., Stenchikov, G. L., Pozzer, A., and Lelieveld, J.: Revised mineral dust emissions in the atmospheric chemistry-climate model EMAC (MESSy 2.52 DU_Astitha1 KKDU2017 patch), *Geoscientific Model Development*, 11, 989–1008, <https://doi.org/10.5194/gmd-11-989-2018>, **2018**.
- Abdelkader, M., **Metzger, S.**, Steil, B., Klingmueller, K., Tost, H., Pozzer, A., Stenchikov, G., Barrie, L., and Lelieveld, J.: Sensitivity of transatlantic dust transport to chemical aging and related atmospheric processes, *Atmospheric Chemistry and Physics*, 17, 3799–3821, <https://doi.org/10.5194/acp-17-3799-2017>, **2017**.
- **Metzger, S.**, Abdelkader, M., Klingmueller, K., Steil, B., and Lelieveld, J.: Comparison of Metop PMAp Version 2 AOD Products using Model Data, Final Report EUMETSAT ITT 15/210839 (<https://tinyurl.com/lifyegwq>), **2016**.
- **Metzger, S.**, Steil, B., Abdelkader, M., Klingmueller, K., Xu, L., Penner, J. E., Fountoukis, C., Nenes, A., and Lelieveld, J.: Aerosol water parameterisation: a single parameter framework, *Atmospheric Chemistry and Physics*, 16, 7213–7237, <https://doi.org/10.5194/acp-16-7213-2016>, **2016**.
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- Abdelkader, M., **Metzger, S.**, Mamouri, R. E., Astitha, M., Barrie, L., Levin, Z., and Lelieveld, J.: Dust-air pollution dynamics over the eastern Mediterranean, *Atmospheric Chemistry and Physics*, 15, 9173–9189, <https://doi.org/10.5194/acp-15-9173-2015>, **2015**.
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- **Metzger, S.**, Steil, B., Xu, L., Penner, J. E., and Lelieveld, J.: New representation of water activity based on a single solute specific constant to parameterize the hygroscopic growth of aerosols in atmospheric models, *Atmospheric Chemistry and Physics*, 12, 5429–5446, <https://doi.org/10.5194/acp-12-5429-2012>, **2012**.
- **Metzger, S.**, Steil, B., Xu, L., Penner, J. E., and Lelieveld, J.: Description of EQSAM4: gas-liquid-solid partitioning model for global simulations, *Geosci. Model Dev. Discuss.*, 4, 2791–2847, <https://doi.org/10.5194/gmdd-4-2791-2011>, **2011**.
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