



12th AeroCom Workshop

September 23 – 27, 2013

MPI-Meteorology, Hamburg, Germany

location: UNI/Geomatikum and ZMAW/MPI-M/Bundesstr. 53

host / co-organizers: Stefan Kinne / Michael Schulz and Mian Chin

Monday, September 23, 2013

AeroCom

8:00 – 9:00	AeroCom registration		ZMAW 022/023
9:00 – 10:00	SESSION 1	welcome and status	UNI-Geo H6
	Stevens	<i>institute welcome</i>	
	Kinne	<i>meeting overview and local logistics</i>	
	Schulz	<i>10 years AeroCom and status in 2013</i>	
10:00 – 10:30	coffee-break (and hang-up posters)		ZMAW 022/023
10:30 – 12:00	SESSION 2	invited former AeroCom workshop hosts (1)	UNI-Geo H6
	Ghan	<i>constraining estimates of aerosol effects on clouds</i>	
	Stier	<i>inter-comparing data and models in AeroCom and beyond</i>	
	Takemura	<i>recent topics related with aerosol-climate models in Japan</i>	
12:00 – 13:30	lunch		
13:30 – 14:00	SESSION 3	invited former AeroCom workshop hosts (2)	UNI-Geo H6
	Ginoux	<i>contribution of land-use to the variability of dust properties</i>	
14.00 – 14:30	poster introduction		UNI-Geo H6
	max 2 slides / 2 minutes poster introduction	<i>in alphabetic order</i>	
14:30 – 15:30	extended coffee-break		ZMAW 022/023



15:30 – 18:30 **SESSION 4** introduction on new / old experiments
short 10 minute presentations & discussions

UNI-Geo H6

Stier	forcing
Carslaw	perturbation studies
Timmreck	stratosphere
Bian	nitrate

short break

Chin	HTAP
Voigt	indirect (easy aerosols)
Tsigaridis	organics
Pretenko (Kahn)	biomass burning
Schutgens	data assimilation and parameter estimation

Tuesday, September 24, 2013

AeroCom

8:30 – 10:30 **SESSION 5** group discussions
ongoing work, new experiments, planning

3 diff locations
UNI-Geo H6 / ZMAW 101 / ZMAW 301
initial gathering in UNI-Geo H6

trends - hindcast and composition lead by **Chin** and **Schulz**

Chin	short presentation
Schulz	short presentation

(indirect) effect / microphysics lead by **Stier** and **Ghan**

Ghan	short presentation
Voigt	short presentation (first results of easy aerosol applications)
Stier	short presentation

emissions / adjoint / BC-OC lead by **Hunneus** and **Kinne**

Tsigaridis	short presentation (common exercises on organic aerosol)
Schutgens	short presentation

10:30 – 11:00 **coffee-break**

ZMAW 022/023

11:00 – 12:00 **SESSION 6** **key note of the meeting**

UNI-Geo H6

Bjorn Stevens (director of the Max-Planck-Institute for meteorology, Hamburg)
lessons from a scientific assessment



Wednesday, September 25, 2013

AeroCom

8:30 – 9:30	SESSION 7	trends – hindcast / composition	UNI-Geo H6
	Chin	<i>Multi-decadal aerosol variations: Sources and regional trends</i>	
	Bellouin	<i>Trends in aerosol optical depth by modeling and observations</i>	
		sub-group summary / discussions (Schulz)	
9:30 – 10:30		coffee-break and poster viewing	ZMAW 022/023
10:30 – 11:30	SESSION 8	(indirect) effects and microphysics	UNI-Geo H6
	Lee	<i>a statistical framework to quantify model uncertainty</i>	
	Liu	<i>AeroCom Inter-comparison of aerosol (→ cirrus) indirect effects</i>	
		sub-group summary / discussions (Ghan)	
11:30 – 13:00		lunch	
13:00 – 14:00	SESSION 9	emission / adjoint	UNI-Geo H6
	Kaiser	<i>global fire data-sets for model input</i>	
	Huneus	<i>anthropogenic SO₂ emissions from an atmospheric inversion</i>	
		sub-group summary / discussions (Kinne)	
14:00 – 15:00		coffee-break and poster viewing	ZMAW 022/023
15:00 – 15:45	SESSION 10	(forcing) uncertainty	UNI-Geo H6
	Kipling	<i>explanations for inter-model diversity for vertical profiles</i>	
	Peers	<i>aerosols in cloudy scenes: properties and impacts</i>	
15:45 – 16:00		brief-break / web set-up	UNI-Geo H6
16:00 – 18:00	SESSION 11	satellite remote sensing	UNI-Geo H6
	Remer (skype)	<i>(new) VIIRS aerosol products</i>	
	Hsu (skype)	<i>(new) SeaWiFS and MODIS Deep Blue aerosol products</i>	
	Levy	<i>MODIS (new) collection 6 dark target aerosol products</i>	
	Kahn	<i>we are getting better at aerosol type</i>	
	Holzer-Popp	<i>first products from ESA Aerosol_cci</i>	
		additional presentations provided	
	Winker	<i>global aerosol observations from CALIPSO</i>	
	Torres	<i>global aerosol absorption from OMI near-UV observations</i>	



Thursday, September 26, 2013

AeroCom and ACTRIS

- 8:30 – 10:00** **SESSION 12** **(black) carbon and absorption** **UNI-Geo H6**
- Schuster** *remote sensing of the relative concentrations of carbon aerosol and dust*
Schwarz *HIPPO black carbon aerosol vertical profiles vs AeroCom modeling*
Samset *black carbon radiative forcing – AeroCom vs HIPPO and A-FORCE*
Ogren *comparison of aerosol absorption (AAOD) by remote-sensing and in-situ*
- 10:00 – 10:30** *coffee-break* **ZMAW 022/023**
- 10:30 – 12:30** **SESSION 13** **ACTRIS tutorials** **UNI-Geo H6**
- Pappalardo** *introduction ACTRIS*
Wandinger *aerosol typing and microphysical properties by lidar/radiometer*
Apituley *iSPEX: 1st results of aerosols by smartphones in The Netherlands*
Russchenberg *an observational framework for the study of cloud-aerosol interaction*
Mona *ACTRIS aerosol vertical profiles: advanced data and their potential use in an aerosol observations/models combined approach*
- 12:30 – 13.45** **lunch (pick a friend and explore local cuisine)**
- 13:45 – 15:45** **SESSION 14** **ACTRIS tutorials** **UNI Geo H6**
- Kulmala** *atmospheric new particle formation*
Lund-Myhre *on the application, use and access to ground based aerosol obs. (EBAS)*
Baltensperger *aerosol life cycles: what can we learn from high altitude sites?*
Fiebig *using ground station data for improving accuracy in (global) modeling*
- 15:45 – 16:15** *coffee-break* **ZMAW 022/023**
- 16:15 – 17:30** **SESSION 15** **AeroCom wrap-up and outlook / ACTRIS future** **UNI Geo H6**
- Laj** *Perspectives for the ACTRIS network*
Schulz *AeroCom summary and next steps*



Friday, September 27, 2013

AeroSat in AeroCom

8:30 – 9:30	welcome, overview, concepts	(chair: de Leeuw)	ZMAW 101
	Kinne	<i>welcome and logistics</i>	
	Holzer-Popp	<i>purpose of the meeting, AEROCOM link</i>	
	Pinnock	<i>introduction to the concept with examples of successful network (activities in ocean color, ice sheets, SST, LST, etc.)</i>	
	Holzer-Popp	<i>overview of the initial draft ToR</i>	
9:30 – 10:00	coffee-break		ZMAW 022/023
10:00 – 12:00	individual presentations (1)		ZMAW 101
	presentation by all participants (10-15 min each)		
	- max 3 slides:	<i>current satellite aerosol activities & future priorities</i>	
	- 1 slide:	<i>collaboration through AeroSat</i>	
	- 1 slide:	<i>your interest / expectations / opportunities / suggestions</i>	
	- 1 slide:	<i>your view on the initial draft AEROSAT ToRs</i>	
	De Leeuw		
	Kahn		
	Kinne		
	Levelt		
	Levy		
	Mona (for Pappalardo)		
	Rosenfeld		
	Schüller		
12:00 – 13.15	lunch		
13:15 – 14:15	individual presentations (2)		ZMAW 101
	Goloub (for Tanre)		
	Torres (via skype)		
	Kahn (for Winker)		
	Xue		
14:15 – 14.30	short coffee-break		ZMAW 022/023
14:30 – 16:00	discussions	(panel: de Leeuw and Pinnock)	ZMAW 101
	- <i>finalize draft ToR and endorsement by majority of participants</i>		
	- <i>initial work-plan and identify ideas and leaders for (initial) subgroups (e.g. intercomparisons, data merging, dust retrieval)</i>		
	- <i>AEROSAT web site (presentations, ToR and meeting conclusions)</i>		
	- <i>set date / place / host for next (2nd AEROSAT) meeting</i>		
16:30	end of meeting		



AeroCom posters

for viewing during the entire conference (September 23-27 all day)

ZMAW 022/23

Allen, R.

evaluation of multi-decadal variability in CMIP5 surface solar radiation and inferred underestimation of aerosol direct effects over Europe, China, Japan and India

Aoki, K.

aerosol optical characteristics over the Japan measured by sky radiometer

Arola, A.

influence of observed diurnal cycles of aerosol optical depth on aerosol direct radiative effect

Bergman, T.

the enhancement of atmospheric aerosols and particle growth by amines

Carslaw, K.

the Global Aerosol Synthesis and Science Project (GASSP)

Chin, M.

Anthropogenic and volcanic contributions to stratospheric aerosol trend in the last decade

Doppler, L.

Absorbing aerosols, influence of the microscopic properties on the direct radiative forcing

Dunne, E.

comparison of AEROCOM simulations with marine observational data

Fillmore, D.

regional aerosol optical depth trends and interannual variability with MATCH, CCCM and MODIS

Griesfeller, J.

update on the AEROCOM infrastructure

Huttunen, J.

aerosol direct radiative effect efficiency, aerosol optical properties and surface albedo - comparison between simulations of models and results derived with measurements

Ichoku, C.

lessons from coherent uncertainty analysis of aerosol observations from multiple satellite sensors and implications for model evaluation



Kinne, S.

the MPI Aerosol Climatology (MAC)

Koffi, B.

evaluation of aerosol vertical profiles from AeroCom Phase II simulations using a global gridded CALIOP product

Kokkola, H.

explaining secondary organics underestimates in global modeling

Kuehn, T.

impact of aerosol emissions in China and India on climate

Leeuw, G.

a new advanced sea-spray source function (OSSA) and applications in the ECHAM model

Lund-Myhre, C.

ACTRIS data centre: an atmospheric data portal - actris.nilu.no

Mann, G.

global distributions of cloud droplet number concentrations and cloud albedo effects from AeroCom models of a range of complexity.

Neubauer, D.

impact of the representation of stratocumulus clouds on the anthropogenic aerosol effect

Olivie, D.

estimates of aerosol radiative forcing from regional emission

Pan X.

evaluation of aerosol simulations in multi-models over South Asia

Partridge, D.

aerosol cloud droplet concentration closure for marine stratocumulus clouds: comparison of two parameterizations using an inverse modeling framework

Pitkanen, M.

estimate of the radiative effect of brown carbon using AERONET products

Povey, A.

retrieval of aerosol and volcanic ash properties from Raman lidar with optimal estimation

Randles, C.

the impact of southern African biomass burning aerosols on temperature tendencies in the GEOS-5 Earth System Model



Righi, M.

the global impact of the transport sectors on atmospheric aerosol and climate

Saini, R.

particulate Matter and Ozone distributions in the urban environment of Agra during summer months

Schuster, G.

comparisons of Level 1.5 and Level 2.0 AERONET absorption products

Schutgens, N.

a global view on aerosol micro- and macrophysical processes

Singh, P.

composition of PM in low- mid- and high income households in Agra City

Timmreck, C.

the WCRP-SPARC Stratospheric Sulfur and Its role in Climate (SSiRC) activity

Voulgarakis, A.

regional aerosol emissions and their effects on precipitation

Voyles, J.

aerosol measurements of the ARM climate research facility

Wang, J.

constraints on aerosol sources using GEOS-Chem adjoint and MODIS radiances, and evaluation with Multi-sensor (OMI, MISR) data

Wang, Z.

radiative forcing and climate response due to the presence of black carbon in cloud droplets

Weigum, N.

effect of sub-grid variability on aerosol processes

Winker, D.

global aerosol distribution

Yu, F.

inclusion of an advanced particle microphysics (APM) in the NCAR Community Atmosphere Model version 5.3 (CAM5.3)

Zhang, H.

application and evaluation of a two-moment cloud microphysics scheme in the global climate model BCC_AGCM2.0.1 coupled with aerosol model CUACE/Aero