Remote sensing of atmospheric aerosol, clouds, and aerosol-cloud interactions

16-19 December 2013

Haus der Wissenschaft, Sandstrasse 4, 28195 Bremen(http://www.hausderwissenschaft.de/)

Scientific organizing committee:

Alexander A. Kokhanovsky, Johannes Quaas, Gerrit de Leeuw, Stefan Kinne

16 December 2013 (Monday)

9:00-9:15 Introductory session

Kokhanovsky Welcome and logistics

Session 1A Aerosol remote sensing: using intensity and polarization of reflected solar light, Chair: Kokhanovsky

09:15-09:45 Breon *The use of directional and polarized signatures in the reflectances for aerosol and cloud monitoring*

09:45-10:15 Hasekamp *Polarimetric remote sensing of atmospheric aerosols: POLDER and beyond*

10:15-10:45 Coffee break

10:45-11:15 Litvinov *Optimization of aerosol retrieval from space: achievements and limitations*

11:15-11:45 Sano *Aerosol observations using S-GLI sensor*

11:45-12:05 *Marbach* *The Multi-Viewing, -Channel, -Polarisation Imaging (3MI) Mission of the EUMETSAT Polar System - Second Generation (EPS-SG) dedicated to aerosol characterisation*

12:05-12:30 Discussion: *Aerosol remote sensing using intensity and polarization of reflected solar light*

12:30-14:00 Lunch

Session 1B Aerosol remote sensing: recent developments, Chair: Breon

14:00-14:30 *Sogacheva* *Lessons learned from 3 years ESA Climate Change Initiative on improving aerosol retrieval algorithms*

14:30-15:00 Thomas *The Oxford-RAL aerosol/cloud algorithm for (A)ATSR and SEVIRI*

15:00-15:30 *Kolmonen**: AATSR dual view algorithm: current status and applications*

15:30-17:00 Coffee break and poster session

19:00 Dinner at Bremer Ratskeller (http://www.ratskeller-bremen.de/)

17 December 2013 (Tuesday)

Session 1B (continued) Aerosol and cloud remote sensing: recent developments, Chair: Hasekamp

09:00-09:30 ***Di Noia*** *Polarimetric aerosol remote sensing using neural networks*

09:30-10:00 ***Davis*** *Aerosol and cloud remote sensing using AirMSPI*

10:00-10:30 Coffee break

10:30-11:00 ***Sayer*** *Recent developments in NASA 'Deep Blue' aerosol datasets*

11:00-11:30 ***Lang*** *Retrieval of aerosol properties from cloudy scenes using METOP*

11:30-12:00 ***Xue*** *The algorithm developments of multi-scale aerosol remote sensing in China*

12:00-13:30 Lunch

Session 2 Cloud remote sensing, Chair: Quaas

13:30-14:00 ***Hollmann*** *European Cloud CCI Project*

14:00-14:30 ***Lelli*** *Oxygen A-band spectrometry of cloud fields: recent advances*

14:30-15:00 Coffee break

15:00-15:30 ***Grosvenor*** *The effect of solar zenith angle on MODIS cloud microphysical retrievals*

15:30-16:00 ***Sihler*** *3D radiative transfer in clouds*

16:00-16:45 Discussion *Aerosol and cloud remote sensing: current status and outlook*

18 December 2013 (Wednesday)

Session 3 Aerosol-cloud and aerosol-trace gases interactions, Chair: Tomasi

09:00-09:30 Wagner *Investigation of trace gas to aerosol relationships over biomass burning areas using daily satellite observations*

09:30-10:15 Rosenfeld *Remote sensing of aerosol interactions with marine stratocumulus: cloud radiative effects or forcing?*

10:15-10:45 Discussion *Aerosol- Trace gases - Cloud interactions: current status and outlook*

10:45-11:15 Coffee break

Session 4 Aerosol indirect and direct radiative effects, Chair: Rosenfeld

11:15-11:45 *Quaas* *A review of approaches to observe the anthropogenic aerosol indirect effect*

11:45-12:00 *Chang* *A global modeling study on aerosol-cloud interactions with the chemistry-climate model EMAC*

12:00-13:30 Lunch

13:30-13:50 *Neubauer* *The representation of stratocumuls clouds and anthropogenic aerosol effect*

13:50-14:10 *Devasthale* *The large-scale changes in cloud top temperatures over Europe: a possible link to aerosol effect on cloud height*

14:10-14:30 Costantino *Satellite analysis of aerosol direct and indirect effect on stratocumulus clouds over South-East Atlantic*

14:30-15:00 Coffee break

15:00-15:20 Tomasi *Direct aerosol radiative effects*

15:20-15:40 *Arola* *Estimate of the radiative effect of brown carbon using AERONET products*

15:40-16:00 *Doppler* Direct radiative impact of aerosols above clouds

16:00-16:20 *Sundström* *On the use of satellite remote sensing to determine aerosol direct radiative effect over land: a case study over China*

16:20-16:40 *Kinne* *Simplifying the aerosol representation in global modeling to address aerosol direct and indirect radiative effects*

16:40 – 17:00 Discussion *Aerosol direct and indirect radiative effects: current status and outlook*

19 December 2013 (Thursday)

Session 1C Aerosol and cloud remote sensing : recent developments, Chair: Kinne

09:00-09:30 *Povey* *A joint aerosol and sea surface temperature retrieval from AATSR*

09:30-09:50 Duan *Simultaneous retrieval of aerosol optical depth and surface albedo over land: a cloud shadow method*

09:50-10:10 Stap *Aerosol retrievals in partially cloudy scenes*

10:10-10:30 *Penning de Vries* *Combining SCIAMACHY limb and nadir aerosol measurements: sulfate aerosols from Nabro volcano*

10:30-10:45 Coffee break

10:45-11:05 ***Fan*** *Comparison of column-integrated aerosol optical and physical properties in Beijing and Xianghe*

11:05-11:20 ***Mazzola*** *Development of first moon photometric measurements at Arctic stations*

11:20-11:40 ***Devasthale*** *PPS-PROB: A probabilistic cloud masking approach applied to AVHRR and VIIRS data for climate and nowcasting*

11:40-12:00 ***Yoon*** *Changes in atmospheric AOT retrieved from MODIS (on board Terra and Aqua), MISR (Terra), and SeaWiFS (OrbView-2) during the past decade*

12:00-12:15 Conclusions and outlook

12:15-12:30 Coffee break

12:30 Departure

Poster session

1. **Kreling** The construction of a 3D aerosol climatology from CALIOP for the improvement of tropospheric trace gas retrievals from satellites
2. **van Beelen** Aerosol chemical composition from remote sensing data
3. **Penning de Vries** Timescales of aerosol formation and depletion: a case study for the Kilauea volcano
4. **von Bismarck** Saharan dust remote sensing with the FUB Sun- and Sky- Photometers
5. **Kolmonen** Using a multi-resolution wavelet method to analyze spectrometer information for OMI cloud detection
6. **Sogacheva** Cloud retrieval using AATSR: case studies
7. **Istomina** Cloud screening over melting ice and melt pond fraction retrieval using AATSR
8. **Hörnquist** NWCSAF Polar Platform System Status and on-going development
9. **Saponaro** Satellite observations of the aerosol effect on cloud droplet size over the Baltic sea region
10. **Ahmad** Assessment of aerosol-cloud interactions using MODIS and in situ data

List of participants

N	Name	Institute	Country	email
1.	Kokhanovsky A.	EUMETSAT	Germany	alexander.kokhanovsky@eumetsat.int
2.	Quaas J.	Uni Leipzig	Germany	johannes.quaas@uni-leipzig.de
3.	Kinne S.	MPI Meteorology	Germany	stefan.kinne@zmaw.de
4.	Sayer A.	GSFC, NASA	USA	andrew.sayer@nasa.gov

5.	Breon F.-M.	LSCE, Gif sur Yvette	France	Francois-Marie.Breon@cea.fr
6.	Chang D. Y.	MPI Chemistry, Mainz	Germany	dongyeong.chang@mpic.de
7.	Costantino L.	*CEA*, *DAM*, *DIF*, Arpajon	France	lore.costantino@gmail.com
8.	Litvinov P.	LOA, Lille University	France	Pavel.Litvinov@univ-lille1.fr
9.	Sano I.	Kinki University, Osaka	Japan	sano@info.kindai.ac.jp
10.	Doppler L.	LOA, Lille	France	lionel.doppler@wew.fu-berlin.de
11.	Neubauer D.	ETH, Zürich	Switzerland	david.neubauer@env.ethz.ch
12.	Arola A.	FMI, Kuopio	Finland	antti.arola@fmi.fi
13.	Tomasi C.	ISAC, Bologna	Italy	c.tomasi@isac.cnr.it
14.	Povey A.	Oxford University	UK	povey@atm.ox.ac.uk
15.	Macke A.	Leibniz Institute for Tropospheric Research	Germany	macke@tropos.de
16.	Kreling F.	MPI Chemistry, Mainz	Germany	f.kreling@mpic.de
17.	Grosvenor D.	University of Washington, Seattle	USA	daniel.p.grosvenor@gmail.com
18.	Rosenfeld D.	The Hebrew University of Jerusalem	Israel	*daniel.rosenfeld@huji.ac.il*
19.	Fischer J.	Berlin Free University	Germany	fischer@zedat.fu-berlin.de
20.	Penning de Vries M.	MPI Chemistry, Mainz	Germany	marloes.penningdevries@mpic.de

21.	Lupi A.	ISAC, Bologna	Italy	a.lupi@isac.cnr.it
22.	Fan X.	IAP, Beijing	China	fxh@mail.iap.ac.cn
23.	Mazzola M.	ISAC, Bologna	Italy	m.mazzola@isac.cnr.it
24.	Kolmonen P.	FMI	Finland	pekka.kolmonen@fmi.fi
25.	von Hoyningen-Huene W.	Uni Bremen	Germany	hoyning@iup.physik.uni-bremen.de
26.	Sandstrom A.-M.	FMI	Finland	anu-maija.sundstrom@helsinki.fi
27.	Stap A.	SRON	The Netherlands	F.A.Stap@sron.nl
28.	Hasekamp O.	SRON	The Netherlands	O.Hasekamp@sron.nl
29.	Mei L.	Bremen Uni	Germany	mei@iup.physik.uni-bremen.de
30.	Hollmann R.	DWD	Germany	Rainer.Hollmann@dwd.de
31.	Istomina L.	Uni Bremen	Germany	lora@iup.physik.uni-bremen.de
32.	Sihler H.	MPI Chemistry, Mainz	Germany	holger.sihler@mpic.de
33.	Wagner T.	MPI Chemistry, Mainz	Germany	thomas.wagner@mpic.de
34.	Burrows J.	Bremen Uni	Germany	burrows@iup.physik.uni-bremen.de
35.	Vountas M.	Bremen Uni	Germany	marco.vountas@iup.physik.uni-bremen.de
36.	Lelli L.	Bremen Uni	Germany	luca@iup.physik.uni-bremen.de
37.	Xue Y.	London Metropolitan University	UK	y.xue@londonmet.ac.uk
38.	Thomas G.	Oxford Uni	UK	gthomas@atm.ox.ac.uk
39.	Bismarck J.	Free University of Berlin	Germany	jonas.bismarck@wew.fu-berlin.de

40.	Ahmad I.	University of Eastern Finland	Finland	irshad.ahmad@uef.fi
41.	Sogacheva L.	FMI	Finland	Larisa.Sogacheva@fmi.fi
42.	di Noia A.	SRON	The Netherlands	A.di.Noia@sron.nl
43.	van Beleen A.	Institute for Marine and Atmospheric Research	The Netherlands	A.J.vanBeelen@uu.nl
44.	Saponaro G.	FMI	Finland	Giulia.Saponaro@fmi.fi
45.	Duan M.	IAP, Beijing	China	dmz@mail.iap.ac.cn
46.	Devasthale A.	SMHI	Sweden	Abhay.Devasthale@smhi.se
47.	Yoon J.	MPI Chemistry, Mainz	Germany	jongmin.yoon@mpic.de
48.	Davis A.	JPL, Pasadena	USA	Anthony.B.Davis@jpl.nasa.gov
49.	Marbach T.	EUMETSAT	Germany	Thierry.Marbach@eumetsat.int
50.	Roelofs G. J.	Institute for Marine and Atmospheric Research	The Netherlands	G.J.H.Roelofs@uu.nl
51.	Lang R.	EUMETSAT	Germany	Ruediger.lang@eumetsat.int

Internet:
id: aerosol
pwd: aerosol