6th NDMC Meeting

Grainau, Hotel "Haus Hammersbach", Bavaria, Southern Germany
19 - 22 May, 2014

Agenda Status as of 07 May, 2014

Monday, 19 May 2014 — Arrival day

18:00 **Icebreaker**

Tuesday, 20 May 2014 — Meeting day 1

08:45h ***Welcome note by Dr. Helmut Theiler, Bavarian State Ministry of the Environment and Consumer Protection (BayStMUV), Head of Department Climate Politics and Climate Research***

09:00h **TOP 1** **Introduction and meeting objectives** *Michael Bittner, Jürgen Scheer*

09:15h **TOP 2** **Scientific presentations** *Chair: F. Mulligan*

09:20h **Johannes Wintel and Dirk Offermann**
University Wuppertal, Physics Department, Germany

Vertical structures of middle atmosphere intra-decadal oscillations

09:40h **Dirk Offermann[1], O. Goussev[3], R. Koppmann[1], Hauke Schmidt[2], W. Steinbrecht[4] and J. Wintel[1]**
[1]University of Wuppertal, Physics Department, Germany
[2]Max Planck Institute for Meteorology, Hamburg, Germany
[3]German Aerospace Center (DLR-DFD), Oberpfaffenhofen, Germany
[4]German Weather Service, Meteorological Observatory Hohenpeißenberg, Germany

Intra-decadal oscillations in GLOTI surface data and HAMMONIA middle atmosphere temperatures

10:00h **I.I. Mokhov and Anatoly Semenov**
Institute of Atmospheric Physics of the Russian Academy of Sciences, Moscow, Russia

Joint analysis of the long-term behaviour of temperature in the mesopause and on the Earth surface during the period about 60 years

10:20h **Patrick Espy**
Norwegian University of Science and Technology (NTNU) Trondheim, Norway

Using astronomical background data as a source of or supplement to long-term OH data sets

10:40h Coffee break

11:10h TOP 2 continued *Chair: Patrick Espy*

11:15h **Anastasia Ammosova and Petr Ammosov**
Shafer institute of Cosmophysical Research and Aeronomy, Yakutsk, Russia

Winter mesopause temperature trend over Yakutia

11:35h **Sabine Wüst[1], Carsten Schmidt[1] and Michael Bittner[1,2]**
[1]German Aerospace Center, (DLR-DFD), Oberpfaffenhofen, Germany
[2]University of Augsburg, Institute of Physics, Germany

Derivation of gravity wave products from GRIPS measurement at different stations

11:55h **Sabrina Lichtenstern[1], Sabine Wüst[1], Carsten Schmidt[1] and Michael Bittner[1,2]**
[1]German Aerospace Center, (DLR-DFD), Oberpfaffenhofen, Germany
[2]University of Augsburg, Institute of Physics, Germany

Gravity wave features derived from airglow imaging measurements in the alpine Region

12:15h **Peter Hoffmann and Michael Gerding**
Leibniz Institute of Atmospheric Physics at the Rostock University, Kühlungsborn, Germany

Mesospheric winds and waves during SSW 2013 in comparison to 2009 und 2010

12:35h Lunch

14:00 TOP 2 continued *Chair: Sabine Wüst*

14:00h **Stefan Kowalewski**
Institute of Environmental Physics, University of Bremen, Germany

A sensitivity study on the quenching process of OH* by O and O2 based on simulations from SD-WACCM4

14:20h **Irina Medvedeva, Andrey Medvedev, Konstantin Ratovsky and Alexandr Scherbakov**
Institute of Solar-Terrestrial Physics, Irkutsk, Russia

Effect of the sudden stratospheric warming on January 2013 on the neutral upper atmosphere and ionosphere over Eastern Siberia

14:40h **Michael Bittner[1,2], Lisa Küchelbacher[2], Carsten Schmidt[1], Sabine Wüst[1], Silje Eriksen Holmen[3], Patrick Espy[4] and Petr Ammosov[5]**
[1]German Aerospace Center, (DLR-DFD), Oberpfaffenhofen, Germany
[2]University of Augsburg, Institute of Physics, Germany
[3]Birkeland Centre for Space Science, The University Centre in Svalbard (UNIS),Longyearbyen, Norway
[4]Norwegian University of Science and Technology (NTNU) Trondheim, Norway
[5]Shafer institute of Cosmophysical Research and Aeronomy, Yakutsk, Russia

Impact of the stratospheric warming 2012 / 2013 on the upper mesosphere

15:00h **Stefanie Unterguggenberger[1], Stefan Noll[1], Wolfgang Kausch[1,2], Stefan Kimeswenger[3,1] and Amy M. Jones[1]**
[1]*Institute for Astro- and Particle Physics, University of Innsbruck, Austria*
[2]*University of Vienna, Department of Astrophysics, Vienna, Austria*
[3]*Instituto de Astronomia, Universidad Catolica del Norte, Antofagasta, Chile*

Using astronomical data for airglow research

15:20h **Stefan Noll[1], Stefanie Unterguggenberger[1], Wolfgang Kausch[1,2], Stefan Kimeswenger[3,1] and Amy M. Jones[1]**
[1]*Institute for Astro- and Particle Physics, University of Innsbruck, Austria*
[2]*University of Vienna, Department of Astrophysics, Vienna, Austria*
[3]*Instituto de Astronomia, Universidad Catolica del Norte, Antofagasta, Chile*

First results on mesopause temperatures measured at Cerro Paranal in Chile

15:40 Coffee break

16:30 TOP 2 continued *Chair: Christian v. Savigny*

16:30h **Igor Koltovskoi and Petr Ammosov**
Shafer institute of Cosmophysical Research and Aeronomy, Yakutsk, Russia

New infrared spectrograph with InGaAs detector for measurements of the rotational temperature of molecule hydroxyl

16:50h **Frank Mulligan[1], W.J.R. French[2] and R.P. Lowe[3]**
[1]*National University of Ireland Maynooth, Department of Experimental Physics, Co. Kildare, Ireland*
[2]*Australian Antarctic Division, Kingston, Tasmania, Australia*
[3]*The University of Western Ontario, London, Ontario, N6A 3K7, Canada*

Climatology of gravity waves at Davis Station, Antarctica, during the period 1999-2013

17:10h **John French**
Australian Antarctic Division Ice Ocean Atmosphere Climate, IOAC, Australia

Update of the Davis trend results and status of the observing program

17:30h **Tereza Sindelarova and Jan Lastovicka**
University of Prague, Institute of Atmospheric Physics, ASCR, Czech Republic

Infrasound observations in the Czech microbarograph network

17:50h **Florian Streicher[1], Sabine Wüst[1] and Michael Bittner[1,2]**
[1]*German Aerospace Center, (DLR-DFD), Oberpfaffenhofen, Germany*
[2]*University of Augsburg, Institute of Physics, Germany*

The effect of long term atmospheric trends on infrasound propagation and absorption

18:10h **Ali Jalali[1], R.J.Sica[1,2,3] and P. S. Argall[1,4]**

[1]*Department of Physics and Astronomy, University of Western Ontario, London, Canada*
[2]*Visiting Scientist, MétéoSuisse, Payerne, Switzerland*
[3]*Visiting Scientist, Environmental Fluid Dynamics Laboratory, École Polytechnique Fédérale de Lausanne, Switzerland*
[4]*School of Applied Science and Technology, Fanshawe College, London, Ontario*

Extending and Merging the Purple Crow Lidar Temperature Rayleigh and Vibrational Raman Climatologies

18:30 End of session - 19:00h Dinner

Evening: Possibility for coming together in the Hotel bar

Wednesday, 21 May 2014 — Meeting day 2

09:00 TOP 2 continued — *Chair: J. French*

09:05h **Christian von Savigny and Olexandr Lednytskyy**
University of Greifswald, Institute of Physics, Germany

Experimental evidence for quenching of OH* by O as a cause of vertical shifts between different Meinel bands

09:25h **Robert J. Sica and A. Haefle**
University of Western Ontario, Department of Physics and Astronomy, Canada

How to increase the altitude of temperature measurement for a Rayeligh lidar without new hardware: an Inversion Approach to Temperature Retrieval

09:45h **Michael Gerding[1], Mike Taylor[2], Dominique Pautet[2] and Werner Singer[1]**
[1]Leibniz Institute of Atmospheric Physics, Kühlungsborn, Germany
[2]Utah State University, Logan/UT, USA

In-situ generation of a circular wave by static instability: Observations by airglow imager, lidar, and radar

10:05h **Jan Lastovicka, J. Chum and T. Sindelarova**
Institute of Atmospheric Physics ASCR, 14131 Prague, Czech Republic

International network of ionospheric Doppler shift measurements lead by IAP Prague

10:25 Coffee break

11:00h TOP 2 continued — *Chair: Jan Lastovicka*

11:00h **Markus Rapp[1,2], Andreas Dörnbrack[1] and Sonja Gisinger[1]**
[1]German Aerospace Center (DLR-IPA), Oberfaffenhofen, Germany
[2]Ludwig-Maximilians-University Munich, Physics Department, Munich, Germany

GW-LCYCLE-1 Campaign

11:20h **Goderdzi G. Didebulidze, Giorgi Dalakishvili, Nikoloz Gudadze and Giorgi Matiashvili**
E. Kharadze Abastumani Astophysical Observatory at Ilia State University, Georgia

The variations of the mid-latitude oxygen green 557.7 nm and red 630.0 nm line nightglow intensities coupled with ionosphere sporadic structures

11:40h **N. Gudadze and Goderzi G. Didebulidze**
E. Kharadze Abastumani Astophysical Observatory at Ilia State University, Georgia

Terdiurnal tidal motions in the lower mesosphere and ionosphere F2 region over Abastumani (41.75N,42.82E) by nightglow observations

12:00h **Maya Todua, Goderdzi G. Didebulidze**
E. Kharadze Abastumani Astophysical Observatory at Ilia State University, Georgia

Seasonal peculiarities of the inter-annual distributions of cloudless days and nights at Abastumani, their possible coupling with the cosmic factors and lower atmosphere dynamics

12:20 Lunch

14:00 TOP 2 continued *Chair: Michael Gerding*

14:00h **Paul Wachter[1], Carsten Schmidt[1], Sabine Wüst[1], Michael Bittner[1,2]**
[1]*German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany*
[2]*University of Augsburg, Institute of Physics, Germany*

Recent developments of GRIPS: From scanning of multiple FOV towards “operation-on-demand”?"

14:20h **Patrick Hannawald[2], Carsten Schmidt[1], Sabine Wüst[1], Michael Bittner[1,2]**
[1]*German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany*
[2]*University of Augsburg, Institute of Physics, Germany*

A high-speed imager for the observation of transient features in OH-Airglow

14:40h **Carsten Schmidt[1], Sabine Wüst[1], Michael Bittner[1,2]**
[1]*German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany*
[2]*University of Augsburg, Institute of Physics, Germany*

Simultaneous observation of different OH vibrational bands: implications for vertical wave propagation

15:00h **Tim Dunker[1], Carsten Schmidt[2], Sabine Wüst[2], Michael Bittner[2,3] and Ulf-Peter Hoppe[1]**
[1]*University of Oslo, Department of Physics, Norway*
[2]*German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany*
[3]*University of Augsburg, Institute of Physics, Germany*

High-latitude mesopause response to the January 2012 stratospheric warming and solar proton event

15:20h TOP3 Network-wide activities

15:30h **Oleg Goussev, Julian Meyer-Arnek and Michael Bittner**
German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany
WMO/ICSU World Data Center for Remote Sensing of the Atmosphere

Report on NDMC data platform, data policy etc.

16:00h Coffee break

16:45h TOP 3 continued *Chair: R.J. Sica*

New projects related to NDMC

16:45h **Christian Monte**
Physikalisch-Technische Bundesanstalt, Temperature and Synchrotron Radiation, Infrared Radiation Thermometry,Berlin, Germany

MetEOC-2: Towards a European Metrology Centre for Earth Observation and Climate, Phase 2

17:00h **Jan Lastovicka**
Institute of Atmospheric Physics ASCR, 14131 Prague, Czech Republic

VarSITI/ROSMIC project, a new SCOSTEP project

17:15h **Michael Bittner**
German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany
University of Augsburg, Institute of Physics, Germany

The Virtual Alpine Observatory, VAO

17:30h **Elisabeth Blanc**
Commissariat à l'énergy atomique et aux energies alternatives, CEA, Paris, France

ARISE (Atmospheric dynamics Research InfraStructure in Europe)

17:45h Ideas for new R&D-proposals within NDMC

Jan Franke
Bavarian Research Alliance (BayFor), Munich, Germany

Information about COST and ITN within EU-Horizon2020

18:00h **Michael Bittner**
German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany
University of Augsburg, Institute of Physics, Germany

NDMC-ITN reloaded and EU NDMC-COST-Action

18:15h **Carsten Schmidt**
German Aerospace Center, DLR-DFD, Oberpfaffenhofen, Germany

Prove of concept: “open hardware”

18:30h Top 4 Any other business *Chair: Michael Bittner*

Short activity reports from NDMC thematic areas by thematic speakers

Next NDMC meeting 2016

others

19:00h End of meeting – 19:30h Dinner

Evening: Possibility for coming together in the Hotel bar

Awarding the “NDMC Young Scientist Award 2014”

Poster

Olexander Lednytskyy and Christian von Savigny
University of Greifswald, Institute of Physics, Germany

Optimization of atomic oxygen retrievals in the MLT region from oxygen greenline nightglow observations

Thursday, 22 May 2014 **Excursion day**

Trip with cogwheel-train to the Environmental Research Station Schneefernerhaus on top of the mountain Zugspitze

(Departure apprx. 08:30h; Return apprx. 14:00h-16:00h, depending on individual plans)