Preliminary Program

Sixth International SRNWP-Workshop on Non-Hydrostatic Modelling

Bad Orb, 31 October - 2 November 2005

Deutscher Wetterdienst

Monday, 31/10/2005

09:00	-	09:10	**U. Gärtner**	**DWD, Offenbach, Germany** Opening by President of DWD
09:10	-	09:20	**J. Quiby**	**EUMETNET, SRNWP Programme Manager, Zürich, Switzerland** Address of SRNWP Representative
09:20	-	09:30	**J. Steppeler**	**DWD, Offenbach, Germany** Lead Centre for Non-Hydrostatic Modelling

Data Assimilation for High Resolution

Chairperson: **W. Skamarock**

09:30	-	09:50	**M. Dixon, Univ. of Reading, UK** Data Assimilation in the High-Resolution Versions of the Met Office Unified Model
09:50	-	10:10	**S. Klink, K. Stephan, Ch. Schraff, DWD, Germany** Assimilation of Radar Reflectivity in the Mesoscale NWP-Model of DWD
10:10	-	10:30	**T. Kawabata, K. Tamiya, T. Kuroda, K. Saito, T. Tsuyuki, JMA, Japan** Assimilation Experiment for Nerima Heavy Rainfall Using a Cloud Resolving Non-Hydrostatic 4DVAR Assimilation System
10:30	-	10:50	**M. Milan, F. Ament and C. Simmer, Univ. of Bonn, Germany** Physical Initialization to Incorporate Radar Precipitation Data into a Numerical Weather Prediction Model (Lokal Modell)
10:50	-	**11:20**	**Coffee and Poster**
11:20	-	11:40	**M. Nishijima, Y. Honda, Chiyoda, Tokyo, Japan** Assimilation of Surface Observation with Non-Hydrostatic 3DVAR

Physical Parameterisation

Chairperson: **J. Klemp**

11:40		12:00	**U. Blahak, A. Seifert, K. D. Beheng, Univ. of Karlsruhe, DWD, Germany** Influence of Ambient Environmental Conditions and Orography on the Characteristics of Convective Cells - Idealized Studies with LM
12:00	-	12:20	**J. Correia Jr., R. W. Arrit, Univ. of Ames, USA** Use of Explicit Convective Simulations to Improve Convective Parameterization

12:20 - 12:40 **A. Schomburg, F. Ament, C. Simmer, Univ. of Bonn, Germany**
Reconsidering the Update Frequency of Radiative Flux Calculation at High Resolution Numerical Weather Prediction

12:40 - 14:00 Lunch

14:00 - 14:20 **S. Bohnenstengel, K. H. Schlünzen, Univ. of Hamburg, Germany**
Impact of Parameterization of Sub-Grid-Scale Land-Use Effects and Resolution on Model Performance

14:20 - 14:40 **Y. Ishikawa, T. Satomura, Univ. of Kyoto, Japan**
Simulation of Air-Sea Interaction Processes Associated with the Tropical Convective Clouds Using a High-Resolution Coupled Model

14:40 - 15:00 **A. Noda, M. Ujiie, R. Nagasawa, T. Iwasaki, Univ. of Tokyo, Japan**
Development of Shallow Cloud Parameterization Scheme Based on Cloud Resolving Simulations

15:00 - 15:20 **M. Sawada, T. Iwasaki, W. Sha, Univ. of Tohoku, Japan**
Roles of Cloud Physics in Development of Tropical Cyclone

15:20 - 15:50 **Coffee and Posters**

15:50 - 16:10 **F. Theunert, A. Seifert, MetBW, DWD, Germany**
Simulation Studies on the Impact of Parameterized Shallow Convection in the High Resolution Version of the DWD Lokal Modell (LMK)

Poster **C. Halliwell, Univ. of Reading, UK**
Impacts of Turbulent Boundary Layer Parameterization on Deep Convection in km Scale NWP Models

Poster **T. Reinhardt, DWD, Offenbach, Germany**
A Prognostic Graupel Microphysics Scheme for High-Resolution NWP

Numerical Developments

Chairperson: **H. Tomita**

16:10 - 16:30 **W. Skamarock, NCAR, Boulder, USA**
Filtering in High-Resolution NWP Models

16:30 - 16:50 **M. Diamantakis, T. Davies, Exeter, UK**
Increasing Vertical and Horizontal Resolution in the Met Office Unified Model (UM): Constraints on Numerical Algorithms and Attempts to overcome them

16:50 - 17:10 **W. Sha, Univ. Aoba-Ku, Sendai, Japan**
Development and Applications of a High-Resolution Non-Hydrostatic Atmospheric Numerical Model in Cartesian Coordinate

17:10 - 17:30 **G. Zängl, Univ. of München, Germany**
A Simple Approach for Implementing Hybrid Coordinates into Non-Hydrostatic Models

19:15 - 19:40 Concert of Classical Music (Lesehalle)

20:00 **Dinner**
Hotel Eigenart

Tuesday, 1/11/2005

Chairperson: **M. Baldauf**

09:00 - 09:20 **D. Cesari, L. Bonaventura, M. Restelli, Italy**
An Efficient Nonhydrostatic Model for Very High Resolution NWP and Air Quality Simulations

09:20 - 09:40 **A. Männik, R. Rõõm, A. Luhamaa, Tartu, Estonia**
Non-Hydrostatic HIRLAM with Semi-Lagrangian Semi-Implicit Dynamic Core in High Resolution NWP Environment

09:40 - 10:00 **M. Baldauf, DWD, Germany**
Stability Analysis of Different Time Splitting Schemes in the Meso-Gamma Model LMK

Poster **G. Schröder, K. H. Schlünzen, DKRZ, Univ. Hamburg, Germany**
Flux Integrated (weighted) Essentially Non-Oscillating Advection Schemes

Global Non-Hydrostatic Modelling

Chairperson: **W. Sha**

10:00 - 10:20 **H. Tomita, H. Mura, T. Nasuno, S. Iga, M. Satoh, Yokohama, Japan**
A Global Cloud-Resolving Simulation by the Icosahedral Non-Hydrostatic Model

10:20 - 10:40 **T. Heinze, P. Ripodas, D. Majewski, H. Frank, D. Liermann, B. Ritter, DWD, E. Röckner, M. Giorgetta, L. Kornblueh, P. Korn, H. Wan (MPI), Germany, L.Bonaventura (MPI/ Polytechnic University of Milan)**
ICON-Project: Development of a Unified Non-Hydrostatic Model

10:40 - 11:00 **J. Steppeler, DWD, Germany**
Third Order Approximation on Icosahedral Great Circle Grids on the Sphere

11:00 - 11:30 **Coffee and Posters**

High Resolution Case Studies and Climate Investigations

Chairperson: **E. Richard**

11:30 - 11:50 **J. Klemp, NCAR, Boulder, USA**
Convection Resolving Forecasting with WRF

11:50 - 12:10 **G. Bryan, W. Skamarock, NCAR, Boulder, USA**
Systematic Biases in Simulations of Convection that use 1-4 km Grid Spacing

12:10 - 12:30 **P. Clark, H. Lean, R. Forbes, Univ. of Reading, Reading, UK**
Forecasting Deep Convection and its Initiation Using the Unified Model at 1 km Resolution

12:30 - 14:00 **Lunch**

14:00 - 14:20 **B. Fay, L. Neunhäuserer, H. Glaab, DWD, Germany**
Results of First Urbanisation Steps in LM and Application of Very High-Resolution LM Simulations to Air Pollution Models in Selected Air Pollution Episodes

14:20 - 14:40 **T. Hara, NPD, Tokyo, Japan**
Development of the Surface and Boundary Layer Processes of a Non-Hydrostatic Model at Japan Meteorological Agency

14:40 - 15:00 **A. Hashimoto, M. Murakami, Ch. Muroi, S. Kanada, Y. Wakazuki, K. Yasunaga, T. Kato, K. Kurihara, M. Yoshizaki, A. Noda, Tsukuba, Japan**
Simulation of the Baiu (Mei-yu) Front in the Global Warming Climate with a Non-Hydrostatic Regional Climate Model

15:00 - 15:20 **G. Heinemann, M. Kerschgens, Univ. of Bonn, Univ. of Köln, Germany**
High-Resolution Simulations of the Atmospheric Boundary Layer and Comparisons with Measurements during the LITFASS-2003 Experiment

15:20 - 15:40 **A. Kataoka, T. Satomura, Univ. of Kyoto, Japan**
Numerical Experiments on the Diurnal Variation of Precipitation in Wet Asia Using Nested Non-Hydrostatic Model

15:40 - 16:10 **Coffee and Posters**

16:10 - 16:30 **M. Kašpar, ASCR, Prague, Czech Republic**
Postprocessing of LM COSMO Outputs – The Objective Analysis of Gust Fronts

16:30 - 16:50 **C. Hohenegger, D. Lüthi, Ch. Schär, ETH, Zürich, Schwitzerland**
Error Growth in Cloud-Resolving Models

16:50 - 17:10 **D. Reinert, J. Eichhorn, W. G. Panhans, V. Wirth, Univ. of Mainz, Germany**
A New LES-Model for Simulating Warm Clouds in Highly Complex Flows

17:10 - 17:30 **Pao K. Wang, University of Wisconsin-Madison, USA**
A Convection Resolving Model Interpretation of Satellite-Observed Features atop Thunderstorms

Poster **I. V. Pescaru, L. Velea, R. Dumitrache, C. Barbu, National Meteorological Administration, Bucharest, Romania**
Pre-Operational Estimations of Non-Hydrostatic Model LM (Lokal Modell) Performances on Romanian Region

Poster **J. Trentmann, H. Wernli, Institute for Atmospheric Physics, Univ. of Mainz**
Convection-Resolving Model Simulations Using the Lokal Modell (LM)

Poster **P. Mukhopadhyay, Indian Institute of Tropical Meteorology, Pune, India**
High Resolution Mesoscale Model Simulation of Thunderstorms over Indian Region and Verification with Doppler Radar Observations

Poster **F. Ament, R. Girmes, G. Vogel, E. Heise, C. Simmer, Univ. of Bonn, DWD, Potsdam, Offenbach, Germany**
Soil Moisture and its Impact on High Resolution Numerical Weather Prediction

Poster **R. Ahmadov, C. Gerbig, M. Heimann, U. Karstens, MPI for Biogeochemistry, Jena, Germany**
The Role of High Resolution Mesocale Models in Constraining Carbon Budgets

Poster **J.W. Schipper, Univ. of Karlsruhe, B. Früh, Univ. of Mainz, A. Pfeiffer, Univ. of München, Germany**
Wind direction dependent downscaling of precipitation in the Upper Danube Catchment

Verification for High Resolution

Chairperson: **D. Rezácová**

17:30 - 17:50 **N. van Lipzig, F. Ament, M. Schröder, S. Crewell, Univ. of München, Univ. of Bonn, Univ. of Berlin, Germany**
The Representation of Low-Level Clouds in the Lokal Modell: Sensitivity Tests with the Shallow Convection Scheme

17:50 - 18:10 **E. Richard, CNRS/UPS, Toulouse, France**
Numerical Simulations of Microphysical Processes Involved during Different Cases of Heavy Alpine Rain

Wednesday, 2/11/2005

09:00 - 09:20 **Z. Sokol, D. Rezácová, IAP ASCR, Prague, Czech Republic**
The Use of Radar-Based Verification in Evaluating the QPF Uncertainty. Demonstration by LM Application to the Forecast of Local Convective Rainfall.

09:20 - 09:40 **H. Volkert, DLR, Oberpfaffenhofen, Germany**
Pathways to a Better Understanding of Convective Processes in the Atmosphere and in Forecast Models

09:40 - 11:00 Working Groups

Working Group1: Vertical Discretisation

Chairperson: W. Sha
Protocol: M. Baldauf

Working Group 2: Test Cases

Chairperson: W. Skamarock
Protocol: A. Seifert

Working Group 3: Global High Resolution Modelling

Chairperson: J. Klemp
Protocol: J. Steppeler

11:00 - 11:30 Coffee and Posters

11:30 - 11:50 **Report of the Chairperson of Working Group 1 and Discussion**

11:50 - 12:20 **Report of the Chairperson of Working Group 2 and Discussion**

12:20 - 12:40 **Report of the Chairperson of Working Group 3 and Discussion**

13:00 **End of Workshop**