



SPARC DATA ASSIMILATION WORKSHOP

2 - 4 October 2006

ESTEC

(European Space research and Technology Centre)

Noordwijk, The Netherlands



MONDAY OCTOBER 2, 2006

MEETING ROOM: EINSTEIN

08:00 Registration

09:00 Welcome from ESA/ESTEC (**Einar-Arne Herland**)

09:10 SPARC Science and Data Assimilation (**Saroja Polavarapu and Ted Shepherd**)

Transport errors

09:30 Fidelity of UT/LS transport processes in CTM simulations using GCM and assimilated meteorological products

(**INVITED S.E. Strahan, B.N. Duncan, S. Pawson and J.M. Rodriguez**)

10:15 Diagnosing stratospheric winds and recent insights in their use in CTMs

(**INVITED Bram Bregman**)

11:00 Coffee break

11:30 Stratospheric transport sensitivity to different assimilation systems in long-term CTM simulations

(**B. M. Monge-Sanz, M. P. Chipperfield, A. J. Simmons and S. M. Uppala**)

12:00 Intercomparision of reanalyses, JRA25, NCEP/NCAR and ERA40 with emphasis on their application to driving CTM

(**Toshiki Iwasaki, Takashi Hamada and Kazuyuki Miyazaki**)

12:30 Poster ads (3 min each)

13:00 Lunch and poster viewing

Dynamic variable assimilation

14:30 The importance of the stratosphere in operational weather forecasting
(Mike Keil et al.)

15:00 Water vapour assimilation in the lower stratosphere
(Elias Valur Holm)

15:30 Poster session with refreshments

16:00 Use of Canadian Quick Covariances in the Met Office data assimilation system
(David Jackson, Mike Keil and Ben Devenish)

16:30 Ensemble estimation of stationary background error covariances in CMAM-DA
(Yulia Nezlin, Saroja Polavarapu, Shuzhan Ren and Yves Rochon)

17:00 Nonlocal responses of the middle atmosphere to data insertion
(Saroja Polavarapu, David Sankey, Shuzhan Ren, Yves Rochon, Yulia Nezlin and Stephen Beagley)

18:00 Bus departure to hotels

TUESDAY OCTOBER 3, 2006

MEETING ROOM: EINSTEIN

09:00 On the use of CCMVal diagnostics for validating DA products
(Ted Shepherd)

TTL

09:30 Insight into tropical troposphere-to-stratosphere transport from analysis data
(INVITED Stephan Fueglistaler)

10:15 Observed versus modelled/analyzed temperature structure in the tropical tropopause layer
(INVITED Thomas Birner)

11:00 Coffee break and posters

12:00 A trajectory study to diagnose troposphere-to-stratosphere transport via the TTL
(Michiel van Weele, Rinus Scheele, Peter van Velthoven and Peter Siegmund)

12:30 Using chemical tracers to constrain tropospheric convective outflow; comparisons with several convective schemes
(Ian Folkens)

13:00 Lunch

Polar Processes

14:00 The exceptional Arctic winter 2005/06: an example to investigate polar processes using different assimilations systems

(INVITED Kirstin Krüger, Gloria Manney, Steven Pawson, Susann Tegtmeier and Katja Grunow)

14:45 The impact of airborne wind and water vapour lidar measurements on ECMWF analyses and forecasts

(INVITED Martin Weissmann, Carla Cardinali, Andreas Dörnbrack, Gerhard Ehret, Elias Holm, Christoph Kiemle, Stephan Rahm and Oliver Reitebuch)

15:30 A Dynamical Study of Ozone and N₂O in the 2004/2005 and 2005/2006 Arctic Polar Vortices

(John Rösevall and Donal Murtagh)

16:00 Poster session with refreshments

16:30 Discussion: International Polar Year (60 min) led by Alan O'Neill

18:00 Bus departure to hotels

*****SOCIAL EVENT:*****

RESTAURANT: LA GALLERIA

Koningin Wilhelmina Boulevard 18, Noordwijk.

The restaurant is located in walking distance from the hotels, in the middle of Noordwijk's main beach promenade.

WEDNESDAY OCTOBER 4, 2006

MEETING ROOM: FRESNEL

Chemical Data Assimilation

09:00 SPARC-DA and IGACO linkages

(Geir Ole Braathen)

09:30 Chemical Data Assimilation: choices and challenges

(William Lahoz)

10:00 Chemical-dynamical coupling in data assimilation

(R. Menard, S. Chabrillat, P. Gauthier, C. Charette, M. Charron, J. deGrandpre, A. Robichaud, C. Xie, C. Cote, A. Kallaur, Y. Yang, Y. Rochon, J.C. McConnell and J.W. Kaminski)

10:30 Ozone-radiation interaction in the GEM model with stratospheric chemistry
(Yves J. Rochon, Jean de Grandpré, Simon Chabrilat, Cécilien Charette, Alain Robichaud, Richard Ménard, Martin Charron, Pierre Gauthier)

11:00 Coffee break

11:30 Assimilation of EOS Aura ozone data at the Global Modeling and Assimilation Office

(Kris Wargan, I. Stajner, L.-P. Chang, H. Hayashi, S. Pawson, L. Froidevaux, N. Livesey, and P. K. Bhartia, GMAO)

12:00 Assimilation of Aura Data Using the ECMWF Re-analysis System

(Alan O'Neill, Liang Feng, Robert Harwood and Roger Brugge)

12:30 Ozone data assimilation of GOME, SCIAMACHY and OMI measurements

(Henk Eskes, Ronald van der A, Arjo Segers, Pieternel Levelt, Pepijn Veefkind and Ellen Brinksma)

13:00 Lunch

14:00 Four dimensional variational assimilation of MIPAS stratospheric trace gas observations into the SACADA global chemistry circulation model

(Hendrik Elbern and Joerg Schwinger)

14:30 Sequential and Four-Dimensional Variational Data Assimilation for Reanalyses of MIPAS Observations: Comparison and Evaluation

(F. Baier, H. Elbern, J. Schwinger, R. Bochorishvili, Th. Erbertseder, J. Meyer-Arnek and M. Bittner)

15:00 Coffee break

15:30 Discussion: All issues (60 min) led by H. Elbern and S. Polavarapu

END of WORKSHOP

POSTERS (Monday and Tuesday only)

Assimilation of stratospheric chemistry observations into the operational numerical weather prediction model GEM

(Simon Chabrilat, Richard Ménard, Pierre Gauthier, Yves Rochon, Yan Yang, Alain Robichaud, Cécilien Charette, Martin Charron and Jean Degrandpré)

Model-Measurement-Intercomparison of CO₂ and SF₆ in the extratropical Upper Troposphere Lower Stratosphere (UTLS) region

(Harald Bönisch, Bram Bregman and Andreas Engel)

Stratospheric Humidity Assimilation
(Hazel Thornton)

Jacobian mapping between vertical coordinate systems in variational assimilation
(Yves J. Rochon, Louis Garand, David S. Turner and Saroja Polavarapu)

A comprehensive case study of a stratospheric descent to the surface during March 2006 over Eastern North America
(Alain Robichaud, Richard Ménard, Cécilien Charette, Jean Degrandpré, Yves Rochon, Martin Charron and Simon Chabrillat)

Tuning of observation and background error variances in data assimilation
(Yan Yang, Richard Menard, Yves J. Rochon and Mark Buehner)

MIPAS assimilation by BASCOE
(Q. Errera, S. Chabrillat, F. Daerden and S. Bonjean)

Investigating the UTLS: ECHAM5/MESSy and comparisons with airborne observations
(P.Hoor, Ch.Bruehl, D.Brunner, H.Fischer, M.Giorgetta, M.I.Hegglin, P.Jöckel, M.Krebsbach, J.Lelieveld, C.Schiller and B.Steil)