WAVACS Workshop
on the water isotopologues in the atmosphere
27-30 April 2010
Université Pierre & Marie Curie, Paris

Programme

(9 April 2010)

Tuesday 27 April

-- 13:30-14:20: REGISTRATION

-- 14:20-15:10: **OPENING**

(10') **Bernard Legras**
Introduction

(40') **Jean Jouzel**
From simple isotopic models to IGCMs : an historical perspective

-- 15:10-16:10: **UTLS SESSION STARTS**

(40') **Thomas Röckmann**
Tropical dehydration processes constrained by the seasonality of stratospheric deuterated water

(20') **Liz Moyer**
Isotopic Signatures of Deep Convection from ACE

-- 16:10-16:40: BREAK

-- 16:40-18:00: UTLS SESSION 2

(20') **David Sayres**
The influence of convection on the water isotopic composition of the TTL and tropical stratosphere

(20') **Peter Blossey**
A cloud-resolving model study of stable water isotopes in the tropical tropopause layer

(20') **Maximilien Bolot**
Idealized simulations of HDO profiles in the TTL

(20') **Jens-Uwe Grooss**
Simulation of isotopes within the Chemical Lagrangian Model of the Stratosphere (CLaMS)

-- 18:00: END OF DAY

Wednesday 28 April

-- 9:00-10:20: UTLS SESSION 3

(40') **Jörg Steinwagner**
Massbalance of stratospheric deuterated water

(20') **Donal Murtagh**
Can we use water vapour isotopologues to determine the age of stratospheric air ?

(20') **Gabrielle Stiller**
Water isotope retrievals from MIPAS/Envisat

– 10:20-10:40: BREAK

-- 10:40-11:00: UTLS SESSION 4

(20') **Joachim Urban**
Global observations of water isotopologues in the stratosphere and mesosphere by the Odin Sub-Millimetre Radiometer

– 11:00-12:20: **TOOLS SESSION STARTS**

(40') **Vyacheslav Zakharov**
Teledetection of water vapour isotopes in the atmosphere using satellite and groundbased FTS in infrared

(20') **Dan Yakir**
Insights to the daily and seasonal isotopic variations in the near surface water vapor in the Eastern Mediterranean.

(20') **Matthias Schneider**
Monitoring tropospheric HDO/H2O profiles within the ground-based FTIR network (NDACC)

-- 12:20-14:00: LUNCH

-- 14:00-15:40: TOOLS SESSION 2

(20') **Doug Baer**
Development and Deployment of a Portable Water Vapor Isotope Analyzer for Accurate, Continuous and High-Frequency Measurements of 18O and 2H in Liquid Water and in Water Vapor

(20') **Guillaume Tremoy**
Tests and validation of two instruments using wavelength-scanned cavity ring-down spectroscopy (WS-CRDS) technology in laboratory. A way to assess the isotopic composition measurement of water vapor.

(20') **Aaron Van Pelt**
Recent advances in real-time water isotopologue measurements using cavity ringdown spectroscopy

(20') **Andreas Zahn**
Design and airborne application of a tunable diode laser spectrometer for in-situ measurements of water isotope ratios

(20') **VasileiosGkinis**
Continuous flow - on line measurements of water stable isotope ratios. Procedures for calibration and applications for ice core studies.

-- 15:40-16:10: BREAK

-- 16:10-16:50: TOOLS SESSION 3

(20') **Ulli Seibt**
Kinetic isotope fractionation during pan evaporation

(20') **Luis Araguas**
Global hydrological isotope networks and databases

-- 16:50-17:45: **DISCUSSION**
-- 17:45: END OF SESSION

- 19:30 WORSHOP DINER ON THE BOAT

Thursday 29 April

-- 9:00-10:20: **CLIMATE SESSION STARTS**

(40') **David Noone**
Harnessing complementary strengths in approaches to monitoring the isotopic state of the global water cycle

(20') **Naoyuki Kurita**
Water vapor isotope monitoring and its modeling over the Ocean

(20') **free slot**

-- 10:20-10:40: BREAK

-- 10:40-12:20: **POSTER SESSION**
(posters will be hanged all the week and visibles during breaks)

-- 12:20-14:00: LUNCH

-- 14:00-15:40: CLIMATE SESSION 2

(40') **John Worden**
Remote sensing of water vapor and its isotops from the Aura TES satellite

(20') **Christian Frankenberg**
A new look at the atmospheric water cycle: measurements of water vapor and its main isotopologue using SCIAMACHY

(20') **Jean-Lionel Lacour**
Measurements of the HDO/H216O ratio with IASI/METOP

(20') **Jeonghoon Lee**
Comparisons between Tropospheric Emission Spectrometer (TES) observations and isotope enabled GCMs

-- 15:40-16:10: BREAK

-- 16:10-16:50: CLIMATE SESSION 3

(20') **Valérie Masson-Delmotte**
State of the art and challenges in the use of water stable isotopes in deep ice cores for climate reconstructions

(20') **Christophe Genthon**
Reconstructing annual Antarctic accumulation from water isotopes

-- 16:50-17:45: **DISCUSSION**

-- 17:45: END OF DAY

Friday 30 April

-- 9:00-10:20: CLIMATE SESSION 4

(40') **Camille Risi**
What can we learn about processes controlling atmospheric humidity from water stable isotopes observed from satellites? Analysis using water tagging experiments with the LMDZ-iso GCM

(20') **Martin Werner**
Global modelling of delta-18O and delta-D: First results of the ECHAM5 AGCM

(20') **Lisa Wingate**
Seasonal leaf and soil water isotope dynamics obtained from the d18O signals of CO2 fluxes.

-- 10:20-10:40: BREAK

-- 10:40-11:00: CLIMATE SESSION 5

(20') **Amaelle Landais**

17Oexcess in water as a new tracer of the hydrological cycle: applications to the tropical and polar regions

-- 11:00-12:20: **TROPICAL SESSION STARTS**

(40') **Gavin Schmidt**
What controls tropical isotope records on climate timescales? Moving beyond the so-called "amount effect"

(20') **Steven Sherwood**
Can isotopes help resolve outstanding issues in the behaviour and parameterization of convection?

(20') **Jung-Eun Lee**
Sensitivity of stable water isotopic values to convective parameterization schemes

-- 12:20-14:00: LUNCH

-- 14:00-15:40: TROPICAL SESSION 2

(40') **Kei Yoshimura**
Regional downscaling for stable water isotopes: A case study of an Atmospheric River event

(20') **Stephen Parkes**
The stable isotope signal of atmospheric water vapour measured by FTIR spectroscopy in Sydney, Australia

(20') **Harald Sodemann**
Local and regional influences on the stable isotope signature in northeastern Borneo rainfall and water vapour

(20') **Stephan Pfahl**
Event-based modeling of stable isotopes in near-surface water vapor

-- 15:40-16:10: BREAK

-- 16:10-16:50: TROPICAL SESSION 3

(20') **Françoise Vimeux**
(talk given by G. Tremoy)
What controls the isotopic composition of Andean precipitation ? Insights from 10-year long observations

(20') **Jean-Pierre Pinty**
A water isotopologue scheme for the cloud resolving model MesoNH

-- 16:50-17:45: **DISCUSSION**

-- 17:45: END OF MEETING

POSTERS

Doug Baer
Development and Deployment of a Portable Water Vapor Isotope Analyzer for Accurate, Continuous and High-Frequency Measurements of 18O and 2H in Liquid Water and in Water Vapor

Maximilien Bolot
Convective transport of HDO at TTL levels from the mass flux perspective

Erik Kerstel & Janek Landsberg
Continuous water vapor isotope measurements at Troll station during the 2010-2011 Antarctic Summer

David Noone
Calibrate, calibrate, calibrate: Getting to low humidity to commercial isotopic analyzers

Stephen Parkes & Christian Frankenberg
Inter-comparison of surface and column measurements of the stable isotope composition of atmospheric water vapour

Stephan Pfahl
Lagrangian analysis of stable isotope measurements in water vapor in the Eastern Mediterranean

David Sayres
Measurements of water isotopologues using OA-ICOS at 2.7 microns for in situ observations in the signal limited UT/LS

Remco Scheepmaker
Towards better global atmospheric HDO/HO retrievals

Matthias Schneider
Monitoring tropospheric HDO/H2O profiles within the ground-based FTIR network (NDACC): development of analysis techniques
2004-2010

Harald Sodermann
Seasonality of water sources and transport in the polar regions of the northern and southern hemisphere

Aaron Van Pelt
Real-Time Field-Based Water Vapor Isotope Measurements with a CRDS Analyzer: Probing Cropland Evapotranspiration

Lisa Wingate
Strong seasonal disequilibrium measured between the oxygen isotope signals of leaf and soil CO2 exchange.

John Worden

Exploring the potential of Satellites to obtain profiles of water vapor isotopes in the troposphere

Kei Yoshimura
Validating an isotopic AGCM with new satellite measurements for vapor isotopes

Vyacheslav Zakharov
First groundbased FTIR observations of HDO to H2O ratio in atmospheric water vapour over Ural