

# First Workshop on Water Vapor Isotopes

16-10-2013 to 18-10-2013



Cet atelier, organisé par l'IPSL et le Labex-IPSL en partenariat avec l'UVSQ, l'ANR, PICARRO, Ecotech et le LGR (Los Gatos Research), a eu lieu dans les locaux du CNRS à Gif sur Yvette du 16 au 18 octobre 2013.

Nous publions ici les présentations de ce colloque.

**Location :** CNRS, Gif sur Yvette

**Presentations :**

## Topic 1 : Surface water vapor measurements & data distribution

**Eric Kerstel:** Water vapor isotope ratio measurements at low water concentration by means of optical feedback cavity enhanced spectroscopy

[Eric Kerstel](#)

**Doug Baer :** Recent advances in instrumentation for continuous measurements of isotopic water vapor

[Doug Baer](#)

**Kate Dennis :** Utilizing cavity ring-down spectroscopy for high -precision analysis of the triple oxygen isotopic composition of water and water vapor

[Kate Dennis](#)

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**Vladislav Bastrikov** : Web database for publishing and sharing water vapor isotopes monitoring data  
[Vladislav Bastrikov](#)

## Topic 2 : Evaporation and oceanic moisture sources

**Hans Christian Steen-Larsen** : What controls the water vapor isotopic composition of the marine boundary layer ?  
[Hans Christian Steen-Larsen](#)

**Harald Sodemann** : To what extent do we understand the moisture source imprint conveyed by isotopic parameters?  
[Harald Sodemann](#)

**Arny Sveinbjörnsdottir** : Issues with isotope-enabled General Circulation Model's ability to simulate observed water vapor isotopic composition in Iceland  
[Arny Sveinbjörnsdottir & H-C Steen-Larsen](#)

**Chun-Ta Lai** : Influence of winter storms and Santa Ana winds on the isotopic composition of near-surface atmospheric moisture in San Diego, USA  
[Chun-Ta Lai](#)

**Minghu Ding & Jingfeng Liu** : Latitudinal variation of atmospheric water vapor isotopic composition along the Chinese-Antarctica transect (31N-69S) and its significance on the water cycle

## Topic 3 : Atmospheric water vapor transport

**Xuhui Lee** : A large-eddy simulation study of water vapor isotopes in the atmospheric boundary layer  
[Xuhui Lee](#)

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**Marion Benetti** : Stable isotopes of water vapor during the STRASSE cruise in the sub-tropical North Atlantic. Atmospheric boundary layer composition in relation to local evaporation.

**Jean-Louis Bonne** : Isotopic observations of water vapour and precipitation in Ivittuut, Southern Greenland  
[Jean-Louis Bonne](#)

**Martin Butzin & Martin Werner** : Water vapour isotope monitoring at Kourouka Observatory (Western Siberia), a model-data comparison  
[Martin Butzin & Martin Werner](#)

**Gabriel Bowen** : Mapping atmospheric water transport with water and water vapor isotopes  
[Gabriel Bowen](#)

**Samuel Jonson Sutanto** : Hydrologic processes governing the changes in isotopic composition of water vapor during ENSO events

**Atsushi Okazaki** : Interannual variability of  $\delta^{18}O$  of water vapor in West Africa and its relation to ENSO  
[Atsushi Okazaki](#)

**Obbe Tuinen** : Added value of using IASI  $q$  and  $\delta D$  data to constrain LMDZ processes during different MJO phases and different degrees of convection  
[Obbe Tuinenburg](#)

**Jesper Sjolte** : Open questions about deuterium excess: the annual cycle in models and ice cores  
[Jesper Sjolte](#)

**Jing Gao** : The controls of precipitation  $\delta^{18}O$  in the southern Tibetan Plateau  
[Jing Gao](#)

**Jung-Eun Lee** : Stable isotopes over East Asia: modeling and data  
[Jung-Eun Lee](#)

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# Topic 4 : Atmospheric water vapor isotopes and interactions with the biosphere

**Max Berkelhammer** : The nocturnal water cycle in an open-canopy forest elucidated through continuous measurements of the isotopic composition of water vapor

[Max Berkelhammer](#)

**Christiane Werner** : On-line water vapor and chamber based  $\delta^{18}\text{O}$  measurements to partition evapotranspiration and testing the Craig-Gordon equation in a semi-arid environment

[Christiane Werner](#)

**Cynthia Gerlein** : Isotopic equilibrium between precipitation and water vapor: evidence from continental rains in central Kenya

# Topic 5 : Remote sensing of water vapor isotopes in the atmosphere

**Matthias Schneider** : Do we understand tropospheric  $\delta^2\text{D}$  remote sensing products? Examples for NDACC/FTIR and METOP/IASI

[Matthias Schneider](#)

**Cyrille Flamant** : Can concentration profiles of water vapour isotopes be measured in the lower troposphere using a differential absorption lidar?

**Vyacheslav Zakharov** : Regarding retrieval of columnar  $\delta^2\text{D}$  and  $\delta^{18}\text{O}$  in the atmosphere from ground-based FTIR spectral measurements in near IR

**Jean-Lionel Lacour** :  $\delta^2\text{D}$  observations from IASI/MetOp: retrieval strategy, results across the globe and comparisons with other measurements/instruments

[Jean-Lionel Lacour](#)

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# Topic 6 : Water vapor isotopes and clouds

**Elisabeth Moyer** : Water isotopic measurements for cloud microphysical studies

**Peter Blossey** : Clarifying the Amount Effect  
[Peter Blossey](#)

**Camille Risi** : The added value of tropospheric water vapor isotopic measurements for process-oriented evaluation of convective and cloud processes in climate models  
[Camille Risi](#)

**David Noone** : Signatures of microphysics and transport processes from measurements of isotope ratios in clouds.

# Topic 7 : New methods for comparing observations and simulations

**Kei Yoshimura** : Isotope data assimilations: Possibility and problems to be solved

**Amaelle Landais** : The added value of  $\delta^{17}\text{O}_{\text{excess}}$  measurements in understanding cloud processes  
[Amaëlle Landais](#)

**Martin Werner** : Simulated present-day trends and variability of water vapour isotopes

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