

## NDACC Publications – 2017

2017; Bader, W.

Benoît Bovy, Stephanie Conway, Kimberly Strong, Dan Smale, Alexander J. Turner, Thomas Blumenstock, Chris Boone, Martine Collaud Coen, Ancelin Coulon, Omaira Garcia, David W. T. Griffith, Frank Hase, Petra Hausmann, Nicholas Jones, Paul Krummel, Isao Murata, Isamu Morino, Hideaki Nakajima, Simon O'Doherty, Clare Paton-Walsh, John Robinson, Rodrigue Sandrin, Matthias Schneider, Christian Servais, Ralf Sussmann, and Emmanuel Mahieu

The recent increase of atmospheric methane from 10 years of ground-based NDACC FTIR observations since 2005

Atmos. Chem. Phys., 17, 2255-2277

doi:10.5194/acp-17-2255-2017

FTIR; CH<sub>4</sub>

2017, Barthlott, S.

Schneider, M., Hase, F., Blumenstock, T., Kiel, M., Dubravica, D., Garcia, O. E., Sepalveda, E., Mengistu Tsidu, G., Takele Kenea, S., Grutter, M., Plaza-Medina, E. F., Stremme, W., Strong, K., Weaver, D., Palm, M., Warneke, T., Notholt, J., Mahieu, E., Servais, C., Jones, N., Griffith, D. W. T., Smale, D., Robinson, J. Tropospheric water vapour isotopologue data (H<sub>2</sub>16O, H<sub>2</sub>18O, and HD<sub>16</sub>O) as obtained from NDACC/FTIR solar absorption spectra

Earth Syst. Sci. Data, 9, 15-29

doi: 10.5194/essd-9-15-2017

FTIR; H<sub>2</sub>O

2017, Baylon, J. L.

Stremme, W., Grutter, M., Hase, F., and Blumenstock, T.

Background CO<sub>2</sub> levels and error analysis from ground-based solar absorption IR measurements in central Mexico

Atmos. Meas. Tech., 10, 2425-2434

Doi: 10.5194/amt-10-2425-2017

FTIR; CO<sub>2</sub>; Validation

2017, Yann Blanchard

Alain Royer, Norman T. O'Neill, David D. Turner, and Edwin W. Eloranta

Thin ice clouds in the Arctic: cloud optical depth and particle size retrieved from ground-based thermal infrared radiometry

Atmos. Meas. Tech., 10, 2129–2147

Doi: 10.5194/amt-10-2129-2017

FTIR; Cloud; H<sub>2</sub>O

2017, Buchholz, R. R.

Merritt N. Deeter, Helen M. Worden, John Gille, David P. Edwards, James W. Hannigan, Nicholas B. Jones, Clare Paton-Walsh, David W. T. Griffith, Dan Smale, John Robinson, Kimberly Strong, Stephanie Conway, Ralf Sussmann, Frank Hase, Thomas Blumenstock, Emmanuel Mahieu, and Bavo Langerock  
Validation of MOPITT carbon monoxide using ground-based Fourier transform infrared spectrometer data from NDACC  
Atmos. Meas. Tech., 10, 1927-195  
FTIR; CO; Validation

2017, Bo Christiansen  
Nis Jepsen, Rigel Kivi, Georg Hansen, Niels Larsen, and Ulrik Smith Korsholm  
Trends and annual cycles in soundings of Arctic tropospheric ozone  
Atmos. Chem. Phys., 17, 9347–9364  
doi: 10.5194/acp-17-9347-2017  
Sonde; Ozone; Trends

2017, Dammers E.  
Shephard M., Palm M, Cady-Pereira K., Capps S., Lutsch E, Strong K., Hannigan J., Toon G., Stremme W., Grutter M., Jones N., Smale D., Siemons J., Hrpcek K., Tremblay D., Schaap M., Notholt J., and Willem-Erisman  
Validation of the CrIS Fast Physical NH<sub>3</sub> Retrieval with ground-based FTIR  
J. Atmos. Meas. Tech., 10, 2645-2667  
FTIR; NH<sub>3</sub>

2017, Terry Deshler  
Rene Stübi, Francis J. Schmidlin, Jennifer L. Mercer, Herman G. J. Smit, Bryan J. Johnson, Rigel Kivi, and Bruno Nardi  
Methods to homogenize electrochemical concentration cell (ECC) ozonesonde measurements across changes in sensing solution concentration or ozonesonde manufacturer  
Atmos. Meas. Tech., 10, 2021–2043  
doi: 10.5194/amt-10-2021-2017  
Sonde; Ozone

2017, Anne R. Douglass  
Susan E. Strahan, Luke D. Oman, and Richard S. Stolarski  
Multi-decadal records of stratospheric composition and their relationship to stratospheric circulation change  
Atmos. Chem. Phys., 17, 12081–12096  
doi: 10.5194/acp-17-12081-2017  
Model

2017, Valentin Duflot

Jean-Luc Baray, Guillaume Payen, Nicolas Marquestaut, Françoise Posny, Jean-Marc Metzger, Bavo Langerock, Corinne Vigouroux, Juliette Hadji-Lazaro, Thierry Portafaix, Martine De Mazière, Pierre-François Coheur, Cathy Clerbaux, and Jean-Pierre Cammas

Tropospheric ozone profiles by DIAL at Maïdo Observatory (Reunion Island): system description, instrumental performance and result comparison with ozone external data set

Atmos. Meas. Tech., 10, 3359–3373

doi: 10.5194/amt-10-3359-2017

Lidar; Ozone; Validation

2017, Evans, R.D.

Petropavlovskikh, I., McClure-Begley, A., McConville G., Quincy, D., and Miyagawa, K.

The US Dobson Station network Data Record Prior to 2015, Re-evaluation of NDACC and WOUDC archived records with WinDobson Processing Software

Atmos. Chem. Phys.

doi: 10.5194/acp-2017-383

Dobson; Ozone

2017, Robert D. Evans

Irina Petropavlovskikh, Audra McClure-Begley, Glen McConville, Dorothy Quincy, and Koji Miyagawa

Technical note: The US Dobson station network data record prior to 2015, re-evaluation of NDACC and WOUDC archived records with WinDobson processing software

Atmos. Chem. Phys., 17, 12051–12070

doi: 10.5194/acp-17-12051-2017

Dobson; Ozone

2017, Frederick, J. E.

An analysis of couplings between solar activity and atmospheric opacity at the South Pole.

J. Atmos. Solar-Terr. Phys., 164, 97-104

Spectral UV; UV Irradiance

2017, Petra Hausmann

Ralf Sussmann, Thomas Trickl, and Matthias Schneider

A decadal time series of water vapor and D / H isotope ratios above Zugspitze: transport patterns to central Europe

Atmos. Chem. Phys., 17, 7635–7651

doi: 10.5194/acp-17-7635-2017

FTIR; Lidar; H<sub>2</sub>O

2017, Sergey M. Khaykin

Sophie Godin-Beekmann, Philippe Keckhut, Alain Hauchecorne, Julien Jumelet, Jean-Paul Vernier, Adam Bourassa, Doug A. Degenstein, Landon A. Rieger, Christine Bingen, Filip Vanhellemont, Charles Robert, Matthew DeLand, and Pawan K. Bhartia

Variability and evolution of the midlatitude stratospheric aerosol budget from 22 years of ground-based lidar and satellite observations

Atmos. Chem. Phys., 17, 1829–1845

doi: 10.5194/acp-17-1829-2017

Lidar; Satellite; Aerosol

2017, Travis N. Knepp

Richard Querel, Paul Johnston, Larry Thomason, David Flittner, and Joseph M. Zawodny

Intercomparison of Pandora stratospheric NO<sub>2</sub> slant column product with the NDACC-certified M07 spectrometer in Lauder, New Zealand

Atmos. Meas. Tech., 10, 4363–4372

doi: 10.5194/amt-10-4363-2017

UVVis; Satellite; NO<sub>2</sub>; Validation

2017, Lejeune, B.

Mahieu, E., Vollmer, M. K., Reimann, S., Bernath, P. F., Boone, C. D., Walker, K. A. and Servais, C.

Optimized approach to retrieve information on atmospheric carbonyl sulfide (OCS) above the Jungfraujoch station and change in its abundance since 1995

J. Quant. Spectrosc. Radiat. Transf., 186, 81–95

doi: 10.1016/j.jqsrt.2016.06.001

FTIR; OCS

2017, Lorena Moreira

Klemens Hocke, and Niklaus Kämpfer

Comparison of ozone profiles and influences from the tertiary ozone maximum in the night-to-day ratio above Switzerland

Atmos. Chem. Phys., 17, 10259–10268

doi: 10.5194/acp-17-10259-2017

Microwave; Ozone; Diurnal

2017, Olsen, K. S

Strong, K., Walker, K. A., Boone, C. D., Raspollini, P., Plieninger, J., Bader, W., Conway, S., Grutter, M., Hannigan, J. W., Hase, F., Jones, N., de Maziere, M., Notholt, J., Schneider, M., Smale, D., Sussmann, R., and Saitoh, N.

Comparison of the GOSAT TANSO-FTS TIR CH<sub>4</sub> volume mixing ratio vertical profiles with those measured by ACE-FTS, ESA MIPAS, IMK-IAA MIPAS, and 16 NDACC stations

Atmos. Meas. Tech., 10, 3697–3718

doi: 10.5194/amt-10-3697-2017

FTIR; Satellite; CH<sub>4</sub>; Validation

2017, Enno Peters

Gaia Pinardi, André Seyler, Andreas Richter, Folkard Wittrock, Tim Bösch, Michel Van Roozendael, François Hendrick, Theano Drosoglou, Alkiviadis F. Bais, Yugo Kanaya, Xiaoyi Zhao, Kimberly Strong, Johannes Lampel, Rainer Volkamer, Theodore Koenig, Ivan Ortega, Olga Puentedura, Mónica Navarro-Comas, Laura Gómez, Margarita Yela González, Ankie Piters, Julia Remmers, Yang Wang, Thomas Wagner, Shanshan Wang, Alfonso Saiz-Lopez, David García-Nieto, Carlos A. Cuevas, Nuria Benavent, Richard Querel, Paul Johnston, Oleg Postlyakov, Alexander Borovski, Alexander Elokhov, Ilya Bruchkouski, Haoran Liu, Cheng Liu, Qianqian Hong, Claudia Rivera, Michel Grutter, Wolfgang Stremme, M. Fahim Khokhar, Junaid Khayyam, and John P. Burrows

Investigating differences in DOAS retrieval codes using MAD-CAT campaign data

Atmos. Meas. Tech., 10, 955–978

doi: 10.5194/amt-10-955-2017

UVVis; Validation

2017, Plaza-Medina E.F.

Stremme W., Bezanilla A., Grutter M., Schneider M., Hase F., and Blumenstock, T.

Ground-based remote sensing of O<sub>3</sub> by high and medium resolution FTIR spectrometers over the Mexico City basin

Atmos. Meas. Tech., 10, 2703-2725, 2017. doi.org/10.5194/amt-10-2703-2017. FTIR; Ozone

2017, Wolfgang Steinbrecht, Lucien Froidevaux, Ryan Fuller, Ray Wang, John Anderson, Chris Roth, Adam Bourassa, Doug Degenstein, Robert Damadeo, Joe Zawodny, Stacey Frith, Richard McPeters, Pawan Bhartia, Jeannette Wild, Craig Long, Sean Davis, Karen Rosenlof, Viktoria Sofieva, Kaley Walker, Nabiz Rahpoe, Alexei Rozanov, Mark Weber, Alexandra Laeng, Thomas von Clarmann, Gabriele Stiller, Natalya Kramarova, Sophie Godin-Beekmann, Thierry Leblanc, Richard Querel, Daan Swart, Ian Boyd, Klemens Hocke, Niklaus Kämpfer, Eliane Maillard Barras, Lorena Moreira, Gerald Nedoluha, Corinne Vigouroux, Thomas Blumenstock, Matthias Schneider, Omaira García, Nicholas Jones, Emmanuel Mahieu, Dan Smale, Michael Kotkamp, John Robinson, Irina Petropavlovskikh, Neil Harris, Birgit Hassler, Daan Hubert, and Fiona Tummon

An update on ozone profile trends for the period 2000 to 2016

Atmos. Chem. Phys., 17, 10675–10690, <https://doi.org/10.5194/acp-17-10675-2017>, 2017

Lidar; Microwave, Sonde; Satellite; Ozone; Trends

2017, Sterling, C. W.

B. J. Johnson, S. J., Oltmans, H. G. J. Smit, A., Jordan, P. D., Cullis, E. G., Hall, A. M., Thompson, and J. C. Witte

Homogenizing and Estimating the Uncertainty in NOAA's Long Term Vertical Ozone Profile Records Measured with the Electrochemical Concentration Cell Ozonesonde, Atmos. Meas. Tech.

doi: 10.5194/amt-2017-397.

Sonde; Ozone; Validation

2017, Taquet N.

Meza-Hernandez I., Stremme W., Bezanilla A., Grutter M., Campion R., Palm M., Boulesteix T

Continuous measurements of SiF<sub>4</sub> and SO<sub>2</sub> by thermal emission spectroscopy: Insight from a 6-month survey at the Popocatepetl volcano

Journal of Volcanology and Geothermal Research 341 (2017) 255-26

doi.org/10.1016/j.jvolgeores.2017.05.009

FTIR; SiF<sub>4</sub>; SO<sub>2</sub>

2017, Thompson, A. M.

J. C. Witte, C., Sterling, A., Jordan, B. J., Johnson, S. J. Oltmans, Thiongo, K.

First reprocessing of Southern Hemisphere Additional Ozonesondes (SHADOZ) ozone profiles (1998-2016): 2. Comparisons with satellites and ground-based instruments

Journal of Geophysical Research: Atmospheres, 122, 13,000-13,025

doi: 10.1002/2017JD027406

Sonde; Satellites; Ozone; Validation

2017, Virolainen, Y. A.

Timofeyev, Y. M., Kostsov, V. S., Ionov, D. V., Kalinnikov, V. V., Makarova, M. V., Poberovsky, A. V., Zaitsev, N. A., Imhasin, H. H., Polyakov, A. V., Schneider, M., Hase, F., Barthlott, S., and Blumenstock, T.

Quality assessment of integrated water vapour measurements at St. Petersburg site, Russia: FTIR vs. MW and GPS techniques

Atmos. Meas. Tech., 10, 4521-4536

doi: 10.5194/amt-10-4521-2017

FTIR; H<sub>2</sub>O; Validation

2017, D. Weaver

K. Strong, M. Schneider, P.M. Rowe, C. Sioris, K.A. Walker, Z. Mariani, T. Uttal, C.T. McElroy, H. Vömel, A. Spassiani, and J.R. Drummond

Intercomparison of atmospheric water vapour measurements at a Canadian High Arctic site. Atmos. Meas. Tech., 10, 2851-2880

doi: 10.5194/amt-10-2851-2017

FTIR; H<sub>2</sub>O

2017, Witte, J.C.

A. M. Thompson, H. G. J. Smit, M. Fujiwara, F. Posny, Gert J. R. Coetzee, F. R. da Silva

First reprocessing of Southern Hemisphere ADDitional OZonesondes (SHADOZ) profile records (1998-2015) 1. Methodology and evaluation

J. Geophys. Res. Atmos., 122, 6611-6636

doi: 10.1002/2016JD026403

Sonde; Ozone; Validation

2017, Yela, M.

Gil-Ojeda, M., Navarro-Comas, M., Gonzalez-Bartolomé, D., Puenteadura, O., Funke, B., Iglesias, J., Rodríguez, S., García, O., Ochoa, H., and Deferrari, G.

Hemispheric asymmetry in stratospheric NO<sub>2</sub> trends

Atmos. Chem. Phys., 17, 13373–13389

doi: 10.5194/acp-17-13373-2017

UVVis; NO<sub>2</sub>; Trends

2017, Guang Zeng

Olaf Morgenstern, Hisako Shiona, Alan J. Thomas, Richard R. Querel, and Sylvia E. Nichol

Attribution of recent ozone changes in the Southern Hemisphere mid-latitudes using statistical analysis and chemistry–climate model simulations

Atmos. Chem. Phys., 17, 10495–10513

doi: 10.5194/acp-17-10495-2017

Model; Sonde; Ozone