NDACC Publications – 2017

Latest updates – 4/15/2020

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; CH4

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 (H216O, H218O, and HD16O) as obtained from NDACC/FTIR solar absorption spectra
Earth Syst. Sci. Data, 9, 15-29
doi: 10.5194/essd-9-15-2017
FTIR; H2O

2017, Baylon, J. L.
Stremme, W., Grutter, M., Hase, F., and Blumenstock, T.
Background CO2 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; CO2; Validation

2017, Christine Bingen, et. Al
Stratospheric aerosol data records for the climate change initiative: Development, validation and application to chemistry-climate modelling
Remote Sensing of Environment, 203, 296-321
Doi: 10.1016/j.rse.2017.06.002.
Lidar; Models; Aerosol; CalVal

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; H2O

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 NH3 Retrieval with ground-based FTIR
J. Atmos. Meas. Tech., 10, 2645-2667
FTIR; NH3

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, Francoise Posny, Jean-Marc Metzger, Bavo Langerock, Corinne Vigouroux, Juliette Hadji-Lazaro, Thierry Portafaix, Martine De Mazière, Pierre-Francois 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, Huang, G. et al.
52/52: Validation of 10-year SAO OMI Ozone Profile (PROFOZ) product using ozonesonde observations
Atmos. Meas. Tech., 10, 2455-2475
doi: 10.5194/amt-10-2455-2017
Sonde; Satellite; Ozone; CalVal

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; H2O

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 NO2 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; NO2; 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, Moshammer, H.
Simic, S.; Haluza, D.
UV-Radiation: From Physics to Impacts
Int J Environ Res Public Health. 2017; 14(2)
Spectral UV; Health

2017, G. E. Nedoluha et al.
The SPARC water vapor assessment II: intercomparison of satellite and ground-based microwave measurements
Atmos. Chem. Phys., 17, 14543-14558
Microwave; Satellite; H2O; Validation

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 CH4 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; CH4; 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 Postylyakov, 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 O3 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 SiF4 and SO2 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; SiF4; SO2

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; H2O; 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; H2O

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

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Gil-Ojeda, M., Navarro-Comas, M., Gonzalez-Bartolomé, D., Puentedura, O., Funke, B., Iglesias, J., Rodríguez, S., García, O., Ochoa, H., and Deferrari, G.
Hemispheric asymmetry in stratospheric NO2 trends
Atmos. Chem. Phys., 17, 13373- 13389
doi: 10.5194/acp-17-13373-2017
UVVis; NO2; 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