

NDACC Publications – 2016

2016, Aculinin, A.

C. Brogniez, M. Bengulescu, D. Gillotay, F. Auriol, and L. Wald

Assessment of Several Empirical Relationships for Deriving Daily Means of UV-A Irradiance from
Meteosat-Based Estimates of the Total Irradiance

Remote Sens., 8, 537

doi: 10.3390/rs8070537

Spectral UV; Satellite; UV Irradiance

2016, Brogniez, C.

F. Auriol, C. Deroo, A. Arola, J. Kujanpss, B. Sauvage, N. Kalakoski, M. R. A. Pitksnen, M. Catalfamo, J.-M.
Metzger, G. Tournois, and P. Da Conceicao

Validation of satellite-based noontime UVI with NDACC ground-based instruments: influence of
topography, environment and satellite overpass time

Atmos. Chem. Phys., 16, 15049-15074

doi: 10.5194/acp-16-15049-2016

Spectral UV; Satellite; UV Index; Validation

2016, E. Dammers

M. Palm, M. Van Damme, C. Vigouroux, D. Smale, S. Conway, G. C. Toon, N. Jones, E. Nussbaumer, T.
Warneke, C. Petri, L. Clarisse, C. Clerbaux, C. Hermans, E. Lutsch, K. Strong, J. W. Hannigan, H. Nakajima,
I. Morino, B. Herrera, W. Stremme, M. Grutter, M. Schaap, R. J. Wichink Kruit, J. Notholt, P.-F. Coheur
and J.W. Erisman

An evaluation of IASI-NH₃ with ground-based FTIR measurements

Atmos. Chem. Phys., 16, 10351-10368

doi:10.5194/acp-16-10351-2016

FTIR; NH₃

2016, Susana Fernandez, Rolf Rüfenacht, Niklaus Kämpfer, Thierry Portafaix, Françoise Posny, and
Guillaume Payen

Results from the validation campaign of the ozone radiometer GROMOS-C at the NDACC station of
Réunion island

Atmos. Chem. Phys., 16, 7531–7543

doi: 10.5194/acp-16-7531-2016

Microwave; Ozone; Validation

2016, Franco, B.

Mahieu, E., Emmons, L. K., Tzompa-Sosa, Z. A., Fischer, E. V, Sudo, K., Bovy, B., Conway, S., Griffin, D.,
Hannigan, J. W., Strong, K. and Walker, K. A.

Evaluating ethane and methane emissions associated with the development of oil and natural gas extraction in North America

Environ. Res. Lett., 11(4), 44010

doi: 10.1088/1748-9326/11/4/044010

FTIR; C₂H₄; CH₄

2016, Frederick, J. E.

Solar irradiance observed at Summit, Greenland: Possible links to magnetic activity on short timescales

J. Atmos. Sol.-Terr. Phys., 147, 59-70

doi: 10.1016/j.jastp.2016.07.001

Spectral UV, UV Irradiance

2016, Gaubert, B., et al.

Toward a chemical reanalysis in a coupled chemistry-climate model: An evaluation of MOPITT CO assimilation and its impact on tropospheric composition

Journal of Geophysical Research: Atmospheres, 121(12), 7310-7343

doi:10.1002/2016JD024863

FTIR; Model; CO

2016, Maria Jose Granados-Muñoz

Thierry Leblanc

Tropospheric ozone seasonal and long-term variability as seen by lidar and surface measurements at the JPL-Table Mountain Facility, California

Atmos. Chem. Phys., 16, 9299–9319

doi: 10.5194/acp-16-9299-2016

Lidar; Ozone

2016, Petra Hausmann

Ralf Sussmann, and Dan Smale

Contribution of oil and natural gas production to renewed increase in atmospheric methane (2007–2014): top–down estimate from ethane and methane column observations

Atmos. Chem. Phys., 16, 3227–3244,

doi: 10.5194/acp-16-3227-2016

FTIR; CH₄; C₂H₆

2016, Helmig, D.

Rossabi, S., Hueber, J., Tans, P., Montzka, S. A., Masarie, K., Thoning, K., Plass-Duelmer, C., Claude, A., Carpenter, L. J., Lewis, A. C., Punjabi, S., Reimann, S., Vollmer, M. K., Steinbrecher, R., Hannigan, J. W., Emmons, L. K., Mahieu, E., Franco, B., Smale, D. and Pozzer, A.

Reversal of global atmospheric ethane and propane trends largely due to US oil and natural gas production, Nature Geoscience, 9(7), 490-495

doi:10.1038/ngeo2721

FTIR; C2H6; C3H8

2016, Matthäus Kiel

Frank Hase, Thomas Blumenstock, and Oliver Kirner

Comparison of XCO abundances from the Total Carbon Column Observing Network and the Network for the Detection of Atmospheric Composition Change measured in Karlsruhe

Atmos. Meas. Tech., 9, 2223–2239

doi: 10.5194/amt-9-2223-2016

FTIR; XCO

2016, Thierry Leblanc

Robert J. Sica, Joanna A. E. van Gijssel, Sophie Godin-Beekmann, Alexander Haeefe, Thomas Trickl, Guillaume Payen, and Frank Gabarrot

Proposed standardized definitions for vertical resolution and uncertainty in the NDACC lidar ozone and temperature algorithms – Part 1: Vertical resolution

Atmos. Meas. Tech., 9, 4029–4049

doi: 10.5194/amt-9-4029-2016

Lidar; Temperature; Ozone; Algorithm; Validation

2016, Thierry Leblanc, Robert J. Sica, Joanna A. E. van Gijssel, Sophie Godin-Beekmann, Alexander Haeefe, Thomas Trickl, Guillaume Payen, and Gianluigi Liberti

Proposed standardized definitions for vertical resolution and uncertainty in the NDACC lidar ozone and temperature algorithms – Part 2: Ozone DIAL uncertainty budget

Atmos. Meas. Tech., 9, 4051–4078

doi: 10.5194/amt-9-4051-2016

Lidar; Ozone; Validation; Algorithm

2016, Thierry Leblanc

Robert J. Sica, Joanna A. E. van Gijssel, Alexander Haeefe, Guillaume Payen, and Gianluigi Liberti

Proposed standardized definitions for vertical resolution and uncertainty in the NDACC lidar ozone and temperature algorithms – Part 3: Temperature uncertainty budget

Atmos. Meas. Tech., 9, 4079–4101

doi: 10.5194/amt-9-4079-2016

Lidar; Temperature; Algorithm; Validation

2016, E. Lutsch

E. Dammers, S. Conway, and K. Strong

Long-range Transport of NH₃, CO, HCN and C₂H₆ from the 2014 Canadian Wildfires

Geophys. Res. Lett., 43, 8286–8297

doi:10.1002/2016GL070114

FTIR; NH₃; CO; HCN; C₂H₆

2016, Lorena Moreira

Klemens Hocke, Francisco Navas-Guzmán, Ellen Eckert, Thomas von Clarmann, and Niklaus Kämpfer
The natural oscillations in stratospheric ozone observed by the GROMOS microwave radiometer at the NDACC station Bern

Atmos. Chem. Phys., 16, 10455–10467

doi: 10.5194/acp-16-10455-2016

Microwave; Ozone

2016, Gerald E. Nedoluha

Brian J. Connor, Thomas Mooney, James W. Barrett, Alan Parrish, R. Michael Gomez, Ian Boyd, Douglas R. Allen, Michael Kotkamp, Stefanie Kremser, Terry Deshler, Paul Newman, and Michelle L. Santee
20 years of ClO measurements in the Antarctic lower stratosphere

Atmos. Chem. Phys., 16, 10725–10734

doi: 10.5194/acp-16-10725-2016

Microwave; ClO

2016, Andreas Reichert

Ralf Sussmann

The Zugspitze radiative closure experiment for quantifying water vapor absorption over the terrestrial and solar infrared – Part 3: Quantification of the mid- and near-infrared water vapor continuum in the 2500 to 7800 cm^{-1} spectral range under atmospheric conditions

Atmos. Chem. Phys., 16, 11671–11686

doi: 10.5194/acp-16-11671-2016

FTIR; H₂O

2016, Andreas Reichert

Markus Rettinger, and Ralf Sussmann

The Zugspitze radiative closure experiment for quantifying water vapor absorption over the terrestrial and solar infrared – Part 2: Accurate calibration of high spectral-resolution infrared measurements of surface solar radiation

Atmos. Meas. Tech., 9, 4673–4686

doi: 10.5194/amt-9-4673-2016

FTIR; H₂O; Validation

2016, Ralf Sussmann, Andreas Reichert, and Markus Rettinger

The Zugspitze radiative closure experiment for quantifying water vapor absorption over the terrestrial and solar infrared – Part 1: Setup, uncertainty analysis, and assessment of far-infrared water vapor continuum

Atmos. Chem. Phys., 16, 11649–11669

doi: 10.5194/acp-16-11649-2016

FTIR; H₂O; Validation

2016, Ronsmans, G., et al

First characterization and validation of FORLI-HNO₃ vertical profiles retrieved from IASI/Metop

Atmos. Meas. Tech., 9, 4783-4801

doi: 10.5194/amt-9-4783-2016

FTIR; HNO₃; Satellite; Validation

2016, Schneider, M.

Wiegele, A., Barthlott, S., Gonzolez, Y., Christner, E., Dyroff, C., Garcia, O. E., Hase, F., Blumenstock, T., Sepalveda, E., Mengistu Tsidu, G., Takele Kenea, S., Rodreguez, S., and Andrey, J.

Accomplishments of the MUSICA project to provide accurate, long-term, global and high-resolution observations of tropospheric {H₂O,dD} pairs - a review

Atmos. Meas. Tech., 9, 2845-2875

doi: 10.5194/amt-9-2845-2016

FTIR; H₂O

2016, Tao, Y., et al

Seasonal variability of surface and column carbon monoxide over the megacity Paris, high-altitude Jungfrauoch and Southern Hemispheric Wollongong stations

Atmos. Chem. Phys., 16(17), 10911-10925

doi: 10.5194/acp-16-10911-2016

FTIR; CO

2016, Thölix, L.

Backman, L., Kivi, R., and Karpechko, A. Yu.

Variability of water vapor in the Arctic stratosphere

Atmos. Chem. Phys., 16, 4307-4321

doi: 10.5194/acp-16-4307-2016

Sonde; H₂O

2016, Timofeyev Yury

Yana Virolainen, Maria Makarova, Anatoly Poberovsky, Alexander Polyakov, Dmitry Ionov, Sergey Osipov, Hamud Imhasin,

Ground-based spectroscopic measurements of atmospheric gas composition near Saint Petersburg (Russia)

J. Mol.Spectr., 323,

doi: 10.1016/j.jms.2015.12.007

FTIR

2016, Van Malderen, R.

Allaart, M. A. F., De Backer, H., Smit, H. G. J., and De Muer, D.

On instrumental errors and related correction strategies of ozonesondes: possible effect on calculated ozone trends for the nearby sites Uccle and De Bilt

Atmos. Meas. Tech., 9, 3793-3816, doi:10.5194/amt-9-3793-2016
Sonde; Ozone; Validation; Trends

2016, Vömel, H.

T. Naebert, R. Dirksen, and M. Sommer

An update on the uncertainties of water vapor measurements using Cryogenic Frostpoint Hygrometers

Atmos. Meas. Tech., 9, 3755-3768

doi: 10.5194/amt-9-3755-2016

Sonde; H₂O; Validation

2016, Wang, Y., et al

Towards understanding the variability in biospheric CO₂ fluxes: using FTIR spectrometry and a chemical transport model to investigate the sources and sinks of carbonyl sulfide and its link to CO₂

Atmos. Chem. Phys., 16(4), 2123-2138

doi: 10.5194/acp-16-2123-2016

FTIR; CO₂; OCS

2016, Xiaoyi Zhao

Vitali Fioletov, Alexander Cede, Jonathan Davies, and Kimberly Strong

Accuracy, precision, and temperature dependence of Pandora total ozone measurements estimated from a comparison with the Brewer triad in Toronto

Atmos. Meas. Tech., 9, 5747-5761,

doi: 10.5194/amt-9-5747-2016

Brewer; Temperature; Ozone; Validation

2016, X. Zhao

K. Strong, C. Adams, R. Schofield, X. Yang, A. Richter, U. Friess, A.M. Blechschmidt, and J.H. Koo

A case study of a transported bromine explosion event in the Canadian high Arctic

J. Geophys. Res.: Atmos. 121, 457-477

UVVis; Sonde; BrO

2016, Zhou, M.

Vigouroux, C., Langerock, B., Wang, P., Dutton, G., Hermans, C., Kumpp, N., Metzger, J.-M., Toon, G., and De Mazière, M.

CFC-11, CFC-12 and HCFC-22 ground-based remote sensing FTIR measurements at Réunion Island and comparisons with MIPAS/ENVISAT data

Atmos. Meas. Tech., 9, 5621-5636

doi: 10.5194/amt-9-5621-2016

FTIR; Satellite; CFC; HCFC; Validation