

NDSC Publication - 2003

2003, Ajtic, J.

Connor, B.J.; Randall, C.E.; Lawrence, B.N.; Bodeker, G.E.; Rosenfield, J.E.; Heuff, D.N.,
Antarctic air over New Zealand following vortex breakdown in 1998
Annales Geophysicae 21: 2175-2183
Dobson; Sonde; Ozone

2003, Antuña, J. C.

A. Robock, G. Stenchikov, J. Zhou, C. David, J. Barnes, and L. Thomason
Spatial and temporal variability of the stratospheric aerosol cloud produced by the 1991 Mount
Pinatubo eruption
J. Geophys. Res., 108(D20), 4624
doi: 10.1029/2003JD003722
Lidar; Aerosol; Volcano

2003, Bais, A. F.

S. Madronich, J. Crawford, S. Hall, B. Mayer, M. VanWeele, J. Lenoble, J. Calvert, C. Cantrell, R. Shetter,
A. Hofzumahaus, P. Koepke, P. Monks, G., Frost, R. McKenzie, N. Krotkov, A. Kylling, W. H. Swartz, S.
Lloyd, G. Pfister, T. Martin, P. Roeth, E. Griffioen, A. Ruggaber, M. Krol, A. Kraus, G. Edwards, M. Mueller,
B. Lefer, P. Johnston, H. Schwander, D. Flittner, B. G. Gardiner, J. Barrick, R. Schmitt
International photolysis frequency measurement and model intercomparison (IPMMI) : spectral actinic
solar flux measurements and modelling
J. Geophysical Res. 108, D16 8543
doi: 10.1029/2002JD002891
Spectral UV; Model; UV Irradiance; Validation

2003, Barnes, J. E.

S. Bronner, R. Beck, and N. C. Parikh
Boundary layer scattering measurements with a CCD camera lidar
Applied Optics, 42, 2647-2652
Lidar

2003, Barret, B.

De Mazière, M., Mahieu, E.
Ground-based FTIR measurements of CO from the Jungfraujoeh: characterisation and comparison with
in-situ surface and MOPITT data
Atmos. Chem. Phys., 3, 2217-2223
FTIR; Satellite; CO; Validation

2003, Bencherif, H.

Portafaix, T., Baray, J.L., Morel, B., Baldy, S., Leveau, J., Moorgawa A., M. Michaelis, Hauchecorne, A., Keckhut, P., Diab, R.

LIDAR observations of lower stratospheric aerosols over South Africa linked to large scale transport across the southern subtropical barrier

Journal of Atmospheric and Solar-Terrestrial Physics, 65, 707-715

Lidar; Aerosol

2003, Bernhard, G.

C. R. Booth, and R. D. McPeters

Calculation of total column ozone from global UV spectra at high latitudes

J. Geophys. Res., 108(D17), 4532

doi:10.1029/2003JD003450

UVVis; Ozone

2003, Davies, S.

Chipperfield, M. P., Carslaw, K. S., Sinnhuber, B.-M., Anderson, J. G., Stimpfle, R., Wilmouth, D., Fahey, D. W., Popp, P. J., Richard, E. C., von der Gathen, P., Jost, H., Webster, C. R.

Modeling the effect of denitrification on Arctic ozone depletion during winter 1999/2000

J. Geophys. Res., 107, 8322

doi: 10.1029/2001JD000445

Sonde; Ozone, N2

2003, C., L. Deaver

J. Zavodny, E. Kyro, B. Jonson, H. Kelder, V.M. Dorokhov, G. Konig-Lango, M. Gil, J. E. Randal, D.W. Rusch, R.M. Bevilacqua, K.W. Hoppel, J.D. Lumpe, E. Shettle, E.Thompson

Validation of POAM III Ozone: Comparisons with Ozonesonde and Satellite Data

Geophys. Res., 108, 4367

UVVIs; Sonde; Satellite; Ozone

2003, Deshler, T.

M.E. Hervig, D.J. Hofmann, J.M. Rosen, and J.B. Liley

Thirty years of in situ stratospheric aerosol size distribution measurements from Laramie Wyoming (41 deg. N)

J. Geophys. Res., vol. 108, No D5, 5167

doi: 10.1029/2002JD002514

Dustsonde; Sonde; Aerosol

2003, Beat Deuber

Dietrich G. Feist and Niklaus Kämpfer

Calibration of a 22 GHz Radiometer for Middle Atmospheric Water Vapour Measurements: a non Common Approach

in: Remote Sensing of Clouds and the Atmosphere VII, ed.: Klaus Schäfer and Adolfo Cameron, vol.: 5235, no.: 5235-38
Microwave; H2O

2003, Eric Fetzer

Larry McMillin, David Tobin, Hartmut Aumann, Michael Gunson, W. Wallace McMillan, Denise Hagan, Mark Hofstadter, James Yoe, David Whiteman, John Barnes, Ralf Bennartz, Holger Vömel, Von Walden, Michael Newchurch, Peter Minnett, Robert Atlas, Francis Schmidlin, Edward Olsen, Mitch Goldberg, Sisong Zhou, HanJung Ding, Hank Revercomb

AIRS/AMSU/HSB Validation

IEEE Trans. Geosci. Remote Sensing, 41

Lidar; Satellite; Validation

2003, Peter Forkman

Patrick Eriksson and Anders Winnberg

The 22 GHz radio-aeronomy receiver at Onsala Space Observatory

Journal of Quantitative Spectroscopy & Radiative Transfer Vol. 77, pp 23-42

Microwave

2003, Peter Forkman

Patrick Eriksson, Anders Winnberg, Rolando Garcia and Douglas Kinnison

Longest continuous ground-based measurements of mesospheric CO

Geophysical Research Letters, Vol. 30 (10), 2003.

Microwave; CO

2003, Fortuin, J.P.F.

H. Kelder, M. Sigmond, R. Oemraw, and C. Becker

Inertial instability flow in the troposphere over Suriname during the South American Monsoon

Geophys. Res. Lett., 30

Sonde

2003, Gerding, M.

Baumgarten, G., Blum, U., Thayer, J.P., Fricke, K.H., Neuber, R., Fiedler, J.

Observation of an unusual mid-stratospheric aerosol layer in the Arctic: possible sources and implications for polar vortex dynamics

Annales Geophysicae, 21, 1057-1069

Lidar; Aerosol

2003, Godin-Beekmann, S.

J. Porteneuve, A. Garnier

Systematic DIAL ozone measurements at Observatoire de Haute-Provence

J. Env. Monitoring, 5, 57-67

Lidar; Ozone

2003, A. Goldman

M.T. Coffey, J.W. Hannigan, W.G. Mankin, K.V. Chance, C.P. Rinsland,
HBr and HI line parameters update for atmospheric spectroscopy databases,
JQSRT 82, 313–317
FTIR; HBr; HI

2003, Grant, W. B.

Browell, E. V., Butler, C. F., Gibson, S. C., Kooi, S. A., von der Gathen, P.
Estimation of Arctic polar vortex ozone loss during the winter of 1999/2000 using vortex-averaged
airborne differential absorption lidar ozone measurements referenced to N₂O isopleths
J. Geophys. Res., 108, D10, 4309
doi: 10.1029/2002JD002668
Sonde; Lidar; Ozone, N₂O

2003, Griffith, D.W.T.

N.B. Jones, B. McNamara, C. Paton-Walsh, W. Bell, and C. Bernardo
Intercomparison of ground-based solar FTIR measurements of atmospheric trace gases at Lauder, New
Zealand
Journal of Atmospheric Technology, 20(8) 1138-1153
FTIR

2003, Hansen, G.

K. Bramstedt, V. Rozanov, M. Weber, and J.P. Burrows
Validation of GOME ozone profiles by means of the ALOMAR ozone lidar
Ann. Geophys., 21, 1879 – 1886
Lidar; Satellite; Ozone; Validation

2003, Harris, J.M.

Oltmans, S.J.; Bodeker, G.E.; Stolarski, R.S.; Evans, R.D.; Quincy, D.L.
Long-term variations in total ozone derived from Dobson and satellite data.
Atmospheric Environment 37: 3167-3175
Dobson; Satellite; Ozone

2003, Immler, F.

Schrems, O.
Vertical profiles, optical and microphysical properties of Saharan dust layers determined by a ship-borne
lidar
Atmospheric chemistry and physics, Vol. 3, p. 1353-1364
Lidar; Aerosol

2003, H. Jäger

T. Deshler

Correction to "Lidar backscatter to extinction, mass and area conversions for stratospheric aerosols based on midlatitude balloonborne size distribution measurements"

Geophys. Res. Lett., Vol. 30, No. 7 (2003), 1382,

doi: 10.1029/2003GL017189

Lidar; Sonde; Aerosol

2003, Karpetchko, A.

Kyro, E., von der Gathen, P.

Generation of layering in the upper Arctic troposphere away from the jet stream

Annales Geophysicae, 21, 1653-1665

Sonde

2003, Khaikin, S. M.

V. M. Dorokhov, D. V. Ignatiev, A. Mieville, F. Goutail, J-P. Pommereau, and J-C. Lambert

Investigation of the influence of geophysical factors on satellite-based GOME total O3 and NO2 measurements; Comparison with ground-based observations with SAOZ in polar latitudes

Issledovaniya Zemli iz Kosmosa (in Russian), Vol. 3, 1-11

Satellite; UVVis; O3; NO2; Validation

2003, G. Kopp

H. Berg, T. Blumenstock, H. Fischer, F. Hase, G. Hochschild, M. Höpfner, W. Kouker, T. Reddman, R. Ruhnke, U. Raffalski, Y. Kondo

Evolution of ozone and ozone related species over Kiruna during the THESEO 2000-SOLVE campaign retrieved from ground-based millimeter wave and infrared observations

J. Geophys. Res. 108 (D5), 8308

FTIR; Microwave; Ozone

2003, Kröger, Chris

Hervig, Mark; Nardi, Bruno; Oolman, Larry; Deshler, Terry; Wood, Stephen; Nichol, Sylvia

Stratospheric ozone reaches new minima above McMurdo Station, Antarctica, between 1998 and 2001

J. Geophys. Res., 108, 4555

doi: 10.1029/2002JD002904

Dobson; Sonde; Ozone

2003, Lakkala, K.

Kyrö, E.; Turunen, T.,

Spectral UV Measurements at Sodankylä during 1990-2001

J. Geophys. Res., Vol. 108, No. D19, 4621

Spectral UV

2003, Logan JA

Jones DBA, Megretskaia IA, Oltmans SJ, Johnson BJ, Vomel H, Randel WJ, Kimani W, Schmidlin FJ
Quasibiennial oscillation in tropical ozone as revealed by ozonesonde and satellite data
J. Geophys. Res., 108 (D8): Art. No. 4244 APR 23 2003
Sonde; Satellite; Ozone, QBO

2003, McKenzie, R.
Smale, D.; Bodeker, G.; Claude, H.
Ozone profile differences between Europe and New Zealand: Effects on surface UV irradiance and its estimation from satellite sensors
J. Geophys. Res., 108, D6, 4179
doi: 10.1029/2002JD002770
Lidar; Satellite; Sonde; Spectral UV; Ozone; UV Irradiance

2003, Meijer YJ
van der A RJ, van Oss RF, Swart DPJ, Kelder HM, Johnston P.V.
Gome ozone profile characterisation using interpretation tools and lidar measurements for intercomparison
Journal of Geophysical Research, 108(D23), 4723
doi:10.1029/2003JD003498
Lidar; Satellite; Ozone; Validation

2003, Müller, M.
R. Neuber, F.Fierli, A. Hauchecorne, H.Vömel, and S. J. Oltmans
Stratospheric water vapour as tracer for vortex filamentation in the Arctic winter 2002/2003
Atmos. Chem. Phys., 3, 1991-1997
doi:10.5194/acp-3-1991-2003
Sonde; H2O

2003, Narayana Rao, T.
Kirkwood, S., Arvelius, J., von der Gathen, P., Kivi, R.
Climatology of UTLS ozone and the ratio of ozone and potential vorticity over Northern Europe
J. Geophys. Res., 108 (D22), 4703
doi: 10.1029/2003JD003860
Sonde; Ozone; Climatology

2003, Nedoluha, G. E.
R. M. Bevilacqua, R. M. Gomez, B. C. Hicks, J. M. Russell III, and B. J. Connor
An evaluation of trends in middle atmospheric water vapor as measured by HALOE, WVMS, and POAM
J. Geophys. Res., 108 (D13), 4391
doi: 10.1029/2002JD003332
Microwave; Satellite; H2O; Trends

2003, Nichol, S.E.

Pfister, G.; Bodeker, G.E.; McKenzie, R.L.; Wood, S.W.; Bernhard, G.
Mitigation of cloud reduction of UV in the Antarctic due to high surface albedo
Journal of Applied Meteorology 42(8): 1174-1183
Spectral UV; Cloud; UV Irradiance

2003, Notholt J.

Z. Kuang, C. P. Rinsland, G. C. Toon, M. Rex, N. Jones, T. Albrecht, H. Deckelmann, J. Krieg, C. Weinzierl,
H. Bingemer, R. Weller, O. Schrems
Enhanced upper tropical tropospheric COS: Impact on the stratospheric aerosol layer
Science, 300, 307-310
FTIR; COS; Aerosol

2003, Orsolini, Y. J.

Eskes, H., Hansen, G., Hoppe, U.-P., Kylling, A., Kyrö, E., Notholt, J., Van der A, R., von der Gathen, P.
Summertime low-ozone episodes at northern high latitudes
Quart. J. Roy. Met. Soc., 129, 3265-3276
Sonde; Ozone

2003, Parrish, A.

I.S. Boyd, J.M. Zawodny, L.W. Thomason, G.E. Bodeker, and B.J. Connor
Relative performance of three SAGE-II data versions under high aerosol conditions based on
comparisons with microwave and ozonesonde profiles measured at two NDSC sites
J. Geophys. Res. 108 (D5)
Microwave; Satellite; Ozone; Validation

2003, Pfister, G.

McKenzie, R.L.; Liley, J.B.; Thomas, A.; Forgan, B.W.; Long, C.N.
Cloud coverage based on all-sky imaging and its impact on surface solar irradiance
J. of Applied Meteorology 42(10): 1421-1434
Spectral UV; Cloud; UV Irradiance

2003, Portafaix, T.

Morel, B., Bencherif, H., Godin-Beekmann, S., Baldy, S., Hauchecorne, A.
Fine scale study of a thick stratospheric ozone lamina at the edge of the southern subtropical barrier
J. Geophys. Res., 108(D6), 4196
doi: 10.1029/2002002741
Lidar; Ozone

2003, C. E. Randall

D.W. Rusch, R.M. Bevilacqua, K.W. Hoppel, J.D. Lumpe, E. Shettle, E. Thompson, C., L. Deaver
J. Zavodny, E. Kyrö, B. Jonson, H. Kelder, V.M. Dorokhov, G. König-Lango, M. Gil

Validation of POAM III Ozone: Comparisons with Ozone Sonde and Satellite Data

J. Geophys. Res., 108, D12, 4367

Sonde; Satellite; Ozone; Validation

2003, Rinsland, C. P.

E. Mahieu, R. Zander, N. B. Jones, M. P. Chipperfield, A. Goldman, J. Anderson, J. M. Russell III, P.

Demoulin, J. Notholt, G. C. Toon, J.-F. Blavier, B. Sen, R. Sussmann, S. W. Wood, A. Meier, D. W. T.

Griffith, L. S. Chiou, F. J. Murcray, T. M. Stephen, F. Hase, S. Mikuteit, A. Schultz, T. Blumenstock

Long-Term Trends of Inorganic Chlorine from Ground-Based Infrared Solar Spectra: Past Increases and Evidence for Stabilization

J. Geophys. Res., 108 (D8), 4252

doi:10.1029/2002JD003001

FTIR; Cl; Trends

2003, Rinsland, C. P.

A. Goldman, T. M. Stephen, L. S. Chiou, E. Mahieu and R. Zander

SF6 ground-based infrared solar absorption measurements: long-term trend, pollution events and a search for SF5CF3 absorption

J. Quant. Spectrosc. Radiat. Transfer, 78, 41-53

FTIR; SF6; SF5CF3; Trends

2003, Rinsland, C. P.

D. K. Weisenstein, M. K. W. Ko, C. J. Scott, L. S. Chiou, E. Mahieu, R. Zander, and P. Demoulin

Post Mount Pinatubo eruption ground-based stratospheric column measurements of HNO3, NO, and NO2 and their comparison with model calculation

J. Geophys. Res., 108(D15), 4437, ACL1

doi:10.1029/2002JD002965

FTIR; Model; HNO3; NO; NO2; Volcano

2003, G. J. Roelofs

A. S. Kentarchos, T. Trickl, A. Stohl, W. J. Collins, R. A. Crowther, D. Hauglustaine, A. Klonecki, K. S. Law,

M. G. Lawrence, R. von Kuhlmann, M. van Weele

Intercomparison of tropospheric ozone models: Ozone transport in a complex tropopause folding event

J. Geophys. Res. 108, No. D12, 8529, STA 14-1 - 14-13

doi: 10.1029/2003JD003462

Lidar; Ozone; Validation

2003, Schneider, N.

Lezeaux, O., de La Noë, J., Urban, J. and Ricaud, P.

Validation of ground-based observations of stratospheric ozone

J. Geophys. Res., 108, 4540

doi:10.1029/2002JD002925, 2003.

Microwave; Ozone; Validation

2003, Shetter, R.E.

W. Junkermann, W.H. Swartz, G.J. Frost, J.H. Crawford, B.L. Lefer, J.D. Barrick, S.R. Hall, A. Hofzumahaus, A. Bais, J.G. Calvert, C.A. Cantrell, S. Madronich, M. Müller, A. Kraus, P.S. Monks, G.D. Edwards, R. McKenzie, P. Johnston, R. Schmitt, E. Griffioen, M. Krol, A. Kylling, R.R. Dickerson, S.A. Lloyd, T. Martin, B. Gardiner, B. Mayer, G. Pfister, E.P. Röth, P. Koepke, A. Ruggaber, H. Schwander, and M. van Weele
Photolysis frequency of NO₂: Measurement and modeling during the International Photolysis Frequency Measurement and Modeling Intercomparison (IPMMI)

J. Geophys. Res., 108 (D16)

doi: 10.1029/2002JD002932

Model; UVVis; NO₂; Validation

2003, Smolskaia, I.

D. Masserot, J. Lenoble, C. Brogniez, and A. de La Casinière

Retrieval of the ultraviolet effective snow albedo during 1998 winter campaign in the French Alps

Applied Optics, 42, 9, 1583-1587

Spectral UV; UV Irradiance

2003, Steele, H.M.

A.M. Eldering, B. Sen, and G. C. Toon

Retrieval of Stratospheric Aerosol Size and Composition Information from Solar Infrared Transmission Spectra

Appl. Opt., 42(12), 2140-2154

FTIR; Aerosol

2003, Steinbrecht, W.

Hassler, B.; Claude, H.; Winkler, P.; Stolarski, R.S.

Global distribution of total ozone and Lower stratospheric temperature variations

Atmospheric Chemistry and Physics (ACP), 3, 1421

Lidar; Sonde; Ozone; Temperature

2003, Thayer, J. P.

G. E. Thomas, and F.-J. Lübken

Foreword: Layered phenomena in the mesopause region

J. Geophys. Res., 108(D8), 8434

doi:10.1029/2002JD003295

Lidar

2003, Thayer, J. P.

M. Rapp, A. J. Gerrard, E. Gudmundsson, and T. J. Kane

Gravity-wave influences on Arctic mesospheric clouds as determined by a Rayleigh lidar at Sondrestrom, Greenland

J. Geophys. Res., 108(D8), 8449

Lidar; Clouds

2003, Thomson, A.M.

J.C. Witte, S.J. Oltmans, F.J. Schmidlin, J.A. Logan, M. Fujuiwara, V.W.J.H. Kirchhoff, F. Psny, G.J.R.

Coetzel, B. Oegger, S. Kawakami, T. Ogawa, J.P.F. Fortuin and H. Kelder

The 1998-2000 SHADOZ (southern Hemisphere Additional ozonesondes) tropical ozone climatology. 2.

Stratospheric and tropospheric ozone variability and the zonal wave-one

J. Geophys. Res., 108, (D2), 8241

doi: 10.1029/2002JD002241

Sonde; Ozone; Climatology

2003, Urban, J.

Baron, P. Lauté, N., Dassas, K., Schneider, N. Ricaud, P., and de La Noë, J.

MOLIERE (v5): A versatile forward- and inversion model for the millimeter and sub-millimeter wavelength range

J. Quant. Spectrosc. Radiat. Transfer, 83(3-4), 529-554

Microwave; Algorithm

2003, Valks, P.J.M.

A.J.M. Piters, J.-C. Lambert, C. Zehner, and H. Kelder

A Fast Delivery System for the retrieval of near-real time ozone columns from GOME data

International Journal of Remote Sensing, Vol. 24, pp. 423-436

Satellite; Ozone

2003, van der A, R.J.

A.J.M. Piters, R.F. van Oss and C. Zehner

Global Stratospheric Ozone Profiles from GOME in Near-Real Time

Int. J. of Remote Sens., 24, 23, 4969-4974

Sonde; Satellite; Ozone

2003, Vömel, H.

M. Fujiwara, M. Shiotani, F. Hasebe, S. J. Oltmans, and J. E. Barnes

The behavior of the Snow White chilled-mirror hygrometer in extremely dry conditions

J. of Atmos. and Oceanic Tech., 20, 1560-1567

Lidar; Sonde; H₂O

2003, Wu D.L.

W.G. Read, Z. Shippony, T. Leblanc, T.J. Duck, D.A. Ortland, R.J. Sica, P.S. Argall, J. Oberheide, A.

Hauchecorne, P. Keckhut, C.Y. She, and D.A. Krueger

Mesospheric Temperature from UARS MLS: Retrieval and Validation

J. Atmos. Sol. Terr. Phys., 65, 245-267

Lidar; Satellite; Temperature; Validation

2003, Zander, R.

E. Mahieu, P. Duchatelet, P. Demoulin, F. Mélen, and C. Servais

Monitoring of the Variability and Long-term Evolution of Tropospheric Constituents by Infrared Solar Absorption Spectrometry at the Jungfraujoch, Switzerland

in "Sounding the Troposphere from Space: A New Era for Atmospheric Chemistry", P. Borrell, P.M.

Borrell, J.P. Burrows, and U. Platt, Eds., ISBN 3-540-40873-8, Springer-Verlag Berlin Heidelberg, pp. 407-416

FTIR; Trends

2003, P. Zanis

T. Trickl, A. Stohl, H. Wernli, O. Cooper, C. Zerefos, H. Gaeggeler, A. Priller, C. Schnabel, H. E. Scheel, H. J.

Kanter, L. Tobler, P. W. Kubik, P. Cristofanelli, C. Forster, P. James, E. Gerasopoulos, A. Delcloo, A.

Papayannis, H. Claude

Forecast, observation and modelling of a deep stratospheric intrusion event over Europe

Atmos. Chem. Phys. 3, 763-777

Lidar; Model; Aerosol

2004, A. Adriani

P. Massoli; G. Di Donfrancesco; F. Cairo; M. Moriconi; M. Snels

Climatology of polar stratospheric clouds based on lidar observations from 1993 to 2001 over McMurdo Station, Antarctica

J. Geophys. Res., 109, 24211

Lidar; Aerosol; PSC; Climatology