

NDSC Publications - 1997

1997, Ancellet, G.

M. Beekmann

Evidence for changes in the ozone concentrations in the free troposphere over Southern France from 1976 to 1995

Atmos. Environ., 31, 2835-2851

Lidar; Sonde; Ozone

1997, Barnes, J. E.

D. J. Hofmann

Lidar measurements of stratospheric aerosol over Mauna Loa Observatory

Geophys. Res. Lett., 24, 1923-1926

Lidar; Aerosol

1997, Beekmann, M.

G. Ancellet, S. Blonsky, D. De Muer, A. Ebel, H. Elbern, J. Hendricks, J. Kowol, C. Mancier, R. Sladkovic, H.G.J. Smit, P. Speth, T. Trickl and P. Van Haver

Regional and global tropopause fold occurrence and related ozone flux across the tropopause

J. Atmos. Chem., 28, 29-44

Lidar; Ozone

1997, Bernhard G.

B. Mayer, Seckmeyer G., A. Moise

Measurements of spectral solar UV irradiance in tropical Australia

J. Geophys. Res., 102, 8719- 8730

Spectral UV; UV Irradiance

Bernhard G., Seckmeyer G.: New entrance optics for solar spectral UV measurements, Technical Note, Photochem. and Photobio., 65, 923-930, 1997.

1997, Beyerle, G.

B. Luo, R. Neuber, Th. Peter, and I. S. McDermid

Temperature dependence of ternary solution particle volumes as observed by lidar in the Arctic stratosphere during winter 1992/1993

J. Geophys. Res., 102, 3603-3609

Lidar; Aerosol; Temperature

1997, Bird, J. C.

S. R. Pal, A. I. Carswell, D. P. Donovan, G. L. Manney, J. M. Harris, and O. Uchino

Observations of Ozone Structures in the Arctic Polar Vortex

J. Geophys. Res., 102, 10,785-10,800

Lidar; Ozone

1997, Blumenstock, T.

H. Fischer, A. Friedle, F. Hase, and P. Thomas

Column amounts of ClONO₂, HCl, HNO₃, and HF from ground-based FTIR measurements made near Kiruna, Sweden, in late winter 1994

J. Atmos. Chem., 26, 311-321

FTIR; ClONO₂; HCl; HNO₃; HF

1997, Bodhaine, B.A.

E.G. Dutton, D.J. Hofmann, R.L. McKenzie, and P.V. Johnston

Spectral UV measurements at Mauna Loa: July 1995-July 1996

J. Geophys. Res., 102, 19,265-19,273

Spectral UV; UV Irradiance

1997, Cheng, D.

S. Crewell, U. Klein, R.L. de Zafra, and R.A. Chamberlin

Millimeter Wave Spectroscopic Measurements Over the South Pole, 4: O₃ and NO₂ during 1995 and their correlations for two quasi-annual cycles

J. Geophys. Res., 102, 6107-6116

Microwave; Ozone; NO₂

1997, Chipperfield, M. P.

M. Burton, W. Bell, C. Paton Walsh, T. Blumenstock, M. T. Coffey, J. W. Hanningan, W. G. Mankin, B. Galle, J. Mellqvist, E. Mahieu, R. Zander, J. Notholt, B. Sen, and G. C. Toon

On the use of HF as a reference for the comparison of stratospheric observations and models

J. Geophys. Res., 102, 12,901-12,919

FTIR; Model; HF

1997, de Zafra, R.L.

V. Chan, S. Crewell, C. Trimble, and J.M. Reeves

Millimeter Wave Spectroscopic Measurements Over the South Pole, 3: The Behavior of Stratospheric Nitric Acid Through the Polar Fall, Winter, and Spring

J. Geophys. Res., 102, 1399-1410

Microwave; HNO₃

1997, Donovan, D. P.

H. Fast, Y. Makino, J. C. Bird, A. I. Carswell, J. Davies, T. J. Duck, J. W. Kaminski, C. T. McElroy, R. L.

Mittelmeier, S. R. Pal, V. Savastiouk, D. Velkov, and J. A. Whiteway

Ozone, column ClO and PSC measurements made at the NDSC Eureka observatory (80°N, 86°W) during the spring of 1997

Geophys. Res. Lett., 24, 2709-2712

Lidar; Aerosol; ClO; Ozone

1997, Gibson-Wilde, D.E.

R.A. Vincent, C. Souprayen, S. Godin, A. Hertzog and S.D. Eckermann

Dual lidar observations of mesoscale fluctuations of ozone and horizontal winds

Geophys. Res. Lett., 24, 1627-1630

Lidar; Ozone

1997, Gross, M. R.

T. J. McGee, R. A. Ferrare, U. Singh, and P. Kimvilikani

Temperature Measurements Made with a Combined Rayleigh-Mie/Raman Lidar

Applied Optics, 24, 5987-5995

Lidar; Temperature

1997, Hamdouni, A.

A. Barbe, P. Demoulin, and R. Zander

Retrieval of ozone vertical column amounts from ground-based high resolution infrared solar spectra

J. Quant. Spectrosc. Radiat. Transfer, 57, 11-22

FTIR; Ozone

1997, Hansen, G.

M. Chipperfield, T. SvenM-xe, A. Dahlback, and U-P. Hoppe

Evidence of substantial ozone depletion in winter 95/96 over Northern Norway

Geophys. Res. Lett., 24, 799-802

Lidar; Ozone

1997, Hansen, G.

U.-P. Hoppe

Lidar observations of Polar Stratospheric Clouds and stratospheric temperatures in winter 1995/96 over northern Norway

Geophys. Res. Lett., 24,131 -134

Lidar; Aerosol; PSC; Temperature

1997, Harder, J. W.

J. W. Brault, P. V. Johnston, and G. H. Mount

Temperature dependent NO₂ cross sections at high spectral resolution

J. Geophys. Res., 102, 3861-3879

UVVis; NO₂

1997, Hofmann, D.J.

S.J. Oltmans, J.M. Harris, B.J. Johnson, J.A. Lathrop

Ten Years of Ozone-sonde Measurements at the South Pole: Implications for Recovery of Springtime Antarctic Ozone

J. Geophys. Res., 102, 8931-8943

Sonde; Ozone

1997, Hoiskar, B.A.K.

A. Dahlbak, G. Vaughan, G.O. Braathen, F. Goutail, J.P. Pommereau and R. Kivi

Interpretation of ozone measurements by ground-based visible spectroscopy - A study of seasonal dependence of airmass factors for ozone on climatology data

J. Quant. Spectrosc. Radiat. Transfer, 57, 569-579

UVVis; Ozone; Climatology

1997, Kreher, K.

P.V. Johnston, S.W. Wood, B. Nardi, and U. Platt

Ground-based measurements of tropospheric and stratospheric BrO at Arrival Heights (78°S), Antarctica

Geophys. Res. Lett., 24, 3021-3024

UVVis; BrO

1997, Kylling A.

Albold A., Seckmeyer G.

Transmittance of a cloud is wavelength-dependent in the UV-range: Physical Interpretation

Geophys. Res. Lett., 24, 397-400

Spectral UV; UV Irradiance; Cloud

1997, Larsen, N.

B. M. Knudsen, J. M. Rosen, N. T. Kjome, R. Neuber, and E. Kyrö

Temperature histories in liquid and solid PSC formation

J. Geophys. Res., 102, 23,505-23,517

Sonde; Temperature; PSC

1997, Leuning, R.

O.T. Denmead, D.W.T. Griffith, I.M. Jamie, P. Issacs, J. Hacker, C.P. Meyer, I.E. Galbally, H.A. Cleugh, M.R.

Raupach, and M.B. Esler

Assessing biogenic sources and sinks of greenhouse gases at three interlinking scales

CSIRO Land & Water, Canberra

FTIR

1997, Lu, J.

V. A. Mohnen, G. K. Yue, R. J. Atkinson, and W. A. Matthews

Intercomparison of Stratospheric Ozone profiles Obtained by Stratospheric Aerosol and Gas Experiment II, Halogen Occultation Experiment, and Ozone Sondes in 1994-1995

J. Geophys. Res., 102, 16137-16144

Sonde; Satellite; Ozone; Validation

1997, Mahieu E.

R. Zander, L. Delbouille, P. Demoulin, G. Roland, and C. Servais

Observed Trends in Total Vertical Column Abundances of Atmospheric Gases from IR Solar Spectra Recorded at the Jungfraujoch

J. Atmos. Chem., 28, 227-243

FTIR; Trends

1997, Marengo, F.

A. di Sarra, M. Cacciani, G. Fiocco, and D. Fua

Thermal structure of the winter middle atmosphere observed by lidar at Thule, Greenland, during 1993-94

J. Atmos. Terr. Phys., 59, 151-158

Lidar; Temperature

1997, Mayer B.

Seckmeyer G., Kylling A.

Systematic longterm comparison of spectral UV measurements and UVSPEC modelling results

J. Geophys. Res., 102, 8755-8768

Spectral UV; UV Irradiance; Validation

1997; McGee, T. J.

M. Gross, U. Singh, P. Kimvilikani, A. Matthews, G. Bodeker, B. Connor, J. J. Tsou, M. Proffitt, and J. Margitan

Lidar Measurements of Ozone at Lauder, NZ During ASHOE/MAESA

JGR - Atmospheres, 102, 13,283-13289

Lidar; Sonde; Ozone

1997, McKenzie, R.L.

P.V. Johnston, and G. Seckmeyer

UV spectro-radiometry in the network for the detection of stratospheric change (NDSC)

In Solar Ultraviolet Radiation. Modelling, Measurements and Effects, edited by C.S. Zerefos, and A.F.

Bais, pp. 279-287, Springer-Verlag, Berlin

Spectral UV; UV Irradiance

1997, McKenzie, R.L.

K. Paulin, and M. Kotkamp

Erythemal UV irradiances at Lauder New Zealand: relationship between horizontal and normal incidence

Photochem. and Photobio., 66, 683-689

Spectral UV; Erythemal UV

1997, Meerkoetter R.

Wissinger B., Seckmeyer G.

Surface UV from ERS-2/GOME and NOAA/AVHR data: A case study

Geophys. Res. Lett., 24, 1939-1942

Spectral UV; Satellite; UV Irradiance

1997, Meier, A.

Determination of atmospheric trace gas amounts and corresponding natural isotopic ratios by means of ground-based FTIR spectroscopy in the high arctic

Reports on Polar Research, Vol. 236, 311 p., ISSN 0176-5027, Bremerhaven

FTIR

1997, Murata, I.

Y. Kondo, H. Nakajima, M. Koike, Y. Zhao, W. A. Matthews, and K. Suzuki

Accuracy of total ozone columns observed with infrared solar spectroscopy

Geophys. Res. Lett., 24, 77-80

FTIR; Ozone; Validation

1997, Nagai, T.

O. Uchino, T. Itabe, T. Shibata, K. Mizutani and T. Fujimoto

Polar stratospheric clouds observed at Eureka (80N, 86W) in the Canadian Arctic during the 1994/1995 winter

Geophys. Res. Lett., 24, 2243-2246

Lidar; Aerosol, PSC

1997, Nagai, T.

O. Uchino, T. Itabe, T. Shibata, K. Mizutani, T. Fujimoto and M. Hirota

Lidar observations of the PSCs and stratospheric aerosols over Eureka in Canadian Arctic

Advances in Atmospheric Remote sensing with Lidar, 505-508

Lidar; Aerosol

1997, Nakajima, H.

X. Liu, I. Murata, Y. Kondo, F.J. Murcray, M. Koike, Y. Zhao, and H. Nakane

Retrieval of vertical profiles of ozone from high resolution infrared solar spectra at Rikubetsu Japan, J. Geophys. Res., 102, 29981-29990

FTIR; Ozone

1997, Nardi, B.

T. Deshler, M. E. Hervig, and L. Oolman

Ozone measurements over McMurdo Station, Antarctica, during spring 1994 and 1995

Geophys. Res. Lett., 22, 285-288

Sonde; Ozone

1997, Nedoluha, G. E.

R. M. Bevilacqua, R. M. Gomez, W. B. Waltman, B. C. Hicks, D. L. Thacker, J. M. Russell III, M. Abrams, H. C. Pumphrey, and B. J. Connor

A comparative study of mesospheric water vapor measurements from the ground-based Water Vapor Millimeter-wave Spectrometer and space-based instruments

J. Geophys. Res., 102, 16647-16661

Microwave; Satellite; H₂O; Validation

1997, Notholt, J.

H. Schütt, A. Keens

Solar absorption measurements of stratospheric OH in the UV with a Fourier-transform spectrometer

Appl. Optics, 78, 833-841

FTIR; OH

1997, Notholt, J.

G.C. Toon, R. Lehmann, B. Sen, J.-F. Blavier

Comparison of Arctic and Antarctic trace gas column abundances from ground-based FTIR spectrometry

J. Geophys. Res., 102, 12863-12869

FTIR

1997; Notholt, J.

G. Toon, F. Stordal, S. Solberg, N. Schmidbauer, E. Becker, A. Meier, and B. Sen

Seasonal variations of atmospheric trace gases in the high arctic at 79deg N

J. Geophys. Res., 102, 12855-12861

FTIR

1997, Orsolini, Y.J.

G. Hansen, U.-P. Hoppe, G.M. Manney, and K.H. Fricke

Dynamical modelling of wintertime Lidar observations in the Arctic: Ozone laminae and ozone depletion

Q.J.R. Meteorol. Soc., 123, 785-800

Lidar; Ozone

1997, Paton Walsh, C.,

W. Bell, T. Gardiner, N. Swann, P. Woods, J. Notholt, H. Schütt, B. Galle, W. Arlander, J. Mellqvist

An uncertainty budget for ground-based Fourier transform infrared column measurements of HCl, HF, N₂O, and HNO₃ deduced from results of side-by-side instrument intercomparisons

J. Geophys. Res., 102, 8867-8873

FTIR; HCl; HF; N₂O; HNO₃

1997, Rex, M.

N.R. Harris, P. von der Gathen, R. Lehmann, G.O. Braathen, E. Reimer, A. Beck, M.P. Chipperfield, R. Alfier, M. Allaart, F.O'Connor, H. Dier, V. Dorokhov, H. Fast, M. Gil, E. Kyrö, Z. Litynska, I. S. Mikkelsen, M. Molyneux, H. Nakane, J. Notholt, M. Rummukainen, P. Viatte, J. Wenger
Prolonged stratospheric ozone loss in the 1995/96 Arctic winter
Nature, 389, 835-838
FTIR; Sonde; Ozone

1997, Ricaud, P.
J. De la Noe, R. Lauque and A. Parrish
Analysis of stratospheric ClO measurements made by a ground-based radiometer located at Plateau de Bure, France
J. Geophys. Res., 102, 1423-1439
Microwave; ClO

1997, Rosen, J. M.
N. T. Kjome, N. Larsen, B. M. Knudsen, E. Kyrö, R. Kivi, J. Karhu, R. Neuber, and I. Beninga
Polar stratospheric threshold temperatures in the 1995-1996 arctic vortex
J. Geophys. Res., 102, 28,195-28,202
Sonde; Temperature

1997, Rosen, J.M.
N.T.Kjome, J.B.Liley
Tropospheric aerosol backscatter at a midlatitude site in the northern and southern hemispheres
J. Geophys. Res., 102, 21,329-21,339
Sonde; Aerosol

1997, Rusch, D. W.
R.M. Bevilacqua, C. E. Randall, J. D. Lumpe, K. W. Hoppel, M.D. Fromm, D. J. Debresterian, J. J. Olivero, J. S. Hornstein, F. Guo, E. P. Shettle
Validation of POAM II Ozone Measurements with Coincident MLS, HALOE, and SAGE II Observations
J. Geophys. Res., 102, 23615-23627
Satellite; Ozone; Validation

1997, Sarkissian, A.
G. Vaughan, H.K. Roscoe, L.M. Bartlett, F.M. O'Connor, D.G. Drew, P.A. Hughes and D. Moore
Accuracy of measurements of total ozone by a SAOZ ground-based zenith-sky visible spectrometer
J. Geophys. Res., 102, 1379-1390
UVVis; Ozone

1997, Schmidt, U.
H. K. Roscoe, N. R. P. Harris, K. Künzi, L. Stefanutti, and R. Zander
Instrument Development and Deployment, pp. 201-241

in "European Research in the Stratosphere B The contribution of EASOE and SESAME to our current understanding of the ozone layer", European Commission B DGXII, Ref. EUR16986/ISBN 92-827-9719-8 FTIR; Ozone

1997, Seckmeyer G.

Mayer B., Bernhard G., Albold A., Erb R., Jaeger H., Stockwell W.R.
New Maximum UV Irradiance Levels Observed in Central Europe
Atmos. Envir., 31, 2971-2976
Spectral UV; UV Irradiance

1997, Sherlock, V.J.

N.B. Jones, W.A. Matthews, F.J. Murcray, R.D. Blatherwick, D.G. Murcray, A. Goldman, C.P. Rinsland, C. Bernardo, and D.W.T. Griffith
Increase in the vertical column abundance of HCFC-22 (CHClF₂) above Lauder, New Zealand, between 1985 and 1994
J. Geophys. Res., 102, 8861-8865
FTIR; HCFC-22

1997, Shindell, D.T.

Robert L. de Zafra
Limits on heterogeneous processing in the Antarctic spring vortex from a comparison of measured and modeled chlorine
J. Geophysical Res., 102, 1441-1449
Microwave; Model; Cl

1997, Slusser, J.R.

D.J. Fish, E.K. Strong, R.L. Jones, H.K. Roscoe and A. Sarkissian, Five years of NO₂ vertical column measurements at Faraday (65°S): evidence for the hydrolysis of BrONO₂ on Pinatubo aerosols
J. Geophys. Res., 102, 12987-12993
UVVis; NO₂; BrONO₂; Aerosol; Volcano

1997, Steinbrecht, W.

H. Jager, A. Adriani, G. di Donfrancesco, J. Barnes, G. Beyerle, R. Neuber, C. David, S. Godin, D. Donovan, A. I. Carswell, M. Gross, T. McGee, F. Masci, A. D'Altorio, V. Rizi, G. Visconti, I. S. McDermid, G. Megie, A. Mielke, B. Stein, C. Wedekind, T. Nagai, O. Uchino, H. Nakane, M. Osborn and D. Winker
NDSC Intercomparison of Stratospheric Aerosol Processing Algorithms
Advances in Atmospheric Remote Sensing with Lidar, 501-504
Lidar; Aerosol; Algorithm; Validation

1997, Sussmann, R., et al.

Infrared spectroscopy of tropospheric trace gases: combined analysis of horizontal and vertical column abundances

Appl. Opt. 36, 735-741

FTIR

1997, Thayer, J. P.

N. B. Nielsen, R. Warren, C. J. Heinselman, and J. Sohn

Rayleigh lidar system for middle atmosphere research in the arctic

Opt. Eng., 36, 2045-2061

Lidar

1997, Vömel, H.

M. Rummukainen, R. Kivi, J. Karhu, T. Turunen, E. Kyrö, J. M. Rosen, N. T. Kjöme, and S. J. Oltmans

Dehydration and sedimentation of ice particles in the Arctic stratospheric vortex

Geophys. Res. Lett., 24, 795-798

doi: 10.1029/97GL00668

Sonde; H₂O

1997, Whiteway, J. A.

T. J. Duck, D. P. Donovan, J. C. Bird, S. R. Pal, and A. I. Carswell

Measurements of gravity wave activity within and around the Arctic stratospheric vortex

Geophys. Res. Lett., 22, 3389-3492

Lidar

1997, Van Roozendaal, M.

M. De Mazière, C. Hermans, P.C. Simon, J.P. Pommereau, F. Goutail, X.X. Tie, G.P. Brasseur and C.

Granier

Ground-based observations of stratospheric NO₂ at high and mid-latitudes in Europe after the Mount Pinatubo eruption

J. Geophys. Res., 102, 19171-19176

UVVis; NO₂; Aerosol; Volcano

1997, Vaughan, G.

H.K. Roscoe, L.M. Bartlett, F.M. O'Connor, A. Sarkissian, M. Van Roozendaal, J.C. Lambert, P.C. Simon, K.

Karlsen, B.A. Kastad Hoiskar, D.J. Fish, R.L. Jones, R. Freshwater, J.P. Pommereau, F. Goutail, S.B.

Andersen, D.J. Drew, P.A. Hughes, D. Moore, J. Mellqvist, E. Hegels, T. Klupfel, F. Erle, K. Pfeilsticker and

U. Platt

An intercomparison of ground-based UV-visible sensors of ozone and NO₂

J. Geophys. Res., 102, 1411-1422

UVVis; Ozone; NO₂

1997, Zander, R.

P. Demoulin, E. Mahieu, G. Roland, L. Delbouille, and C. Servais

Total Vertical Column Abundances of Atmospheric Gases Derived from IR Remote Solar Observations made at the Jungfraujoch Station
in *Transport and Chemical Transformation of pollutants in the Troposphere*, Vol. 6 - Tropospheric Ozone Research, Østein Hov Ed., Springer-Verlag, Berlin Heidelberg New York, pp. 413-425
FTIR

1997, Zhao, Y.

Y. Kondo, F.J. Murcray, X. Liu, M. Koike, K. Kita, H. Nakajima, I. Murata, and K. Suzuki, Carbon monoxide column abundances and tropospheric concentrations retrieved from high resolution ground-based infrared solar spectra at 43.5N over Japan

J. Geophys. Res., 102, 23403-23411

FTIR; CO