CURRICULUM VITAE

JOHN P. BURROWS FRS

CURRICULUM VITAE - JOHN P. BURROWS FRS

Address:

Institute of Environmental Physics and Remote Sensing IUP/IFE
University of Bremen - FB1
Postfach 330440
28334 Bremen
Germany

For delivery by Courier:
Institut für Umweltphysik und Fernerkundung der Universität Bremen
Gebäude NW1
Zimmer U2120
Otto-Hahn-Allee 1,
28359 Bremen
Germany

Direct Telephone:	0049 (0) 421 21862100
Cell/Mobile Telephone:	0049 (0) 173 6241781
Secretary Telephone:	0049 (0) 421 21862101
Fax:	0049 (0) 421 218 4555
Email:	burrows@iup.physik.uni-bremen.de
WWW:	http://www.iup.uni-bremen.de

Professor Burrows is also a fellow of the Natural Environment Research Council: Centre for Ecology and Hydrology, Maclean Building,
Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB
United Kingdom.

Personal:

Born 16th August 1954, Whiston nr. Liverpool U.K.
British and German Citizen
Married

Education:

Ph.D., Trinity College, Cambridge University, U.K. 1975-1978
Ph.D. thesis title, "Study of free radical reactions by laser magnetic resonance."
Research Supervisor: Professor B. A. Thrush FRS.
M.A. Trinity College, Cambridge University, U.K. taken in 1979.
B.A.(Hons), Trinity College, Cambridge University, U.K- 1972-1975
West Park Grammar School St. Helens, Merseyside U.K. 1965-1971
Our Lady's and St. Joseph's RC Primary School, Prescot, Merseyside, U.K 1959-1965.

Employment:

(5) Science Director,
Natural Environment Research Council
Centre for Ecology and Hydrology
Maclean Building,

Benson Lane,
Crowmarsh Gifford,
Wallingford, Oxfordshire, OX10 8BB
United Kingdom
On a secondment from 01.12.2008 to 01.04.2010, after which Professor Burrows became a fellow of NERC: CEH now UK CEH 2010 to 2024.

(4) Professor (Chair Title "Physics of the Oceans and the Atmosphere") Faculty of Physics and Electrical Engineering, University of Bremen.
March 1992 to the present.

I have been a Guest Scientist at NASA-GSFC and University of Maryland since 1992 taking sabbatical leave at these institutions in 1995, and I am an adjunct Professor at the University of Maryland since 2006.

(3) Max Planck Institut für Chemie, Atmospheric Chemistry Department, (Director Prof. Dr. Dr. P. J. Crutzen F.R.S.) Research Scientist and then Research Group Leader): November 1981 to March 1992.

(2) Environmental and Medical Sciences Division, A.E.R.E. Harwell, Didcot, Oxfordshire, U.K.: Higher Scientific Officer,
and Guest Scientist at the Physical Chemistry Laboratory, Oxford University, March 1979 to November 1981 (within the group of Professor R. P. Wayne).

(1) Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts, U.S.A.: Research Scientist, 1978 to1979 (within the group of the late Dr. H. E. Radford).

Scientific Societies:

Member of the following scientific societies: American Chemical Society (ACS), SPIE-The International Society for Optical Engineering, European Physical Society (EPS); Deutsche Physikalische Gesellschaft (DPG);

Life Member/ Fellow of the following scientific societies:
American Association for the Advancement of Science (AAAS), the American Geophysical Union (AGU), The International Academy of Astronautics (IAA); the European Geosciences Union, (EGU, International Commission of Atmospheric Chemistry and Global Pollution (iCACGP), the Royal Society, and the Leopoldina, the German National Academy of Science.

Awards, Honours, and Related:

1975-1978 Royal Society Gassiot Committee Research Student;
1992 Professor of Atmospheric and Oceanographic Physics at the University of Bremen;
1995 NASA Guest Scientist at the Laboratory of Atmospheres NASA GSFC;
1998 Distinguished Scientist Lectureship German American Scientific Committee (DAAD);
2003 Fellow of the AAAS;
2004 Fellow AGU;

2004 Distinguished Guest Lecture Royal Society of Chemistry – Environmental Chemistry Group;
2006 William Nordberg Medal COSPAR 2006;
2006 – present Adjunct Professor at the Department of Atmospheric and Oceanic Science, The University of Maryland, College Park, MD 20742,USA;
2006 EU GMES/CopernicusWorking Group 4, which recommended to the EU on the space segment required for GEOSS;
2007 Noble Lecturer, University of Toronto, Department of Atmospheric 2007 Physics and Environment Canada, 24-31st March 2007;
2007 NASA Group Achievement Award for outstanding achievements in the Intercontinental Chemical Transport Experiment conducted in the United States and Mexico. 10th May 2007;
2008 The Harold S. Johnston Lecturer University of California, Berkeley USA, Member of the International Academy of Aeronautics (IAA) 2008;
2010 Journal of Quantitative Spectroscopy and Radiative Transfer selected on its 50 anniversary a JQSRT Milestone Paper award to Burrows et al 1999 manuscript, January;
2008-2010 Guest member of high table at Christ Church Oxford;
2010-2024 Honorary fellow of the Natural Environmental Research Council: Centre for Ecology and Hydrology from 2019 UK Centre for Ecology and Hydrology;
2010 Member of the CEOS Carbon Task Force;
2012 Haagen Smit Prize presented by Atmospheric Environment, a premier journal of Elsevier Science, in recognition of outstanding 1991 contribution "The Nitrate radical: Physics, Chemistry and the Atmosphere" by Wayne et al;
2013 Vilhelm Bjerknes Medal by the European Geosciences Union, EGU;
2014 EGU Invited Speaker on the Atmosphere;
2015 IUGG Silver Medal and elected IUGG Fellow;
2016 EGU Alfred Wegener Medal and life member;
2016 Fellow of the Royal Society FRS;
2020 Member of the Leopoldina, the German Academy of Science;
2022 Honorary member for life of the International Association of Meteorology and Atmospheric Sciences (IAMAS) – international Commission on Atmospheric Pollution and Global Pollution (iCACGP).

International Projects of note:

EUROTRAC-PI in various projects1985-2003;
PI of different research projects within different consortia in all the EU Framework Research programmes, from the 1st to the current round;
Proposer, Principal Investigator-Lead Scientist of the GOME, (Global Ozone Monitoring Experiment) Project 1985 – 2020 end of mission;
Proposer, Principal Investigator and initiator of the SCIAMACHY, (SCanning Imaging Absorption spectrometer for Atmospheric CHartographY) Project.
Principal Investigator and initiator of the mission concepts GeoSCIA, GeoTROPE, GeoSCIA-Lite;
Chair of the SCIAMACHY Scientific Advisory Group, SSAG, established by ESA and the national space agencies of Germany, DLR, the Netherlands, formerly Nederlands Instituut voor Vliegtuigontwikkeling en Ruimtevaart (NIVR), now Netherlands Space Organisation (NSO) and Belgium Ministry of Space 1992- 2020 end of mission;

Founding Member and first scientific secretary of the GOME Scientific Advisory Group, GSAG, run by ESA and EUMETSAT 1990 to 2019;
Co-Investigator of the German French Merlin Experiment 2010 – present;
One of the Initiators and Proposers of the Space based Concepts for the measurement of the Greenhouse Gas: CarbonSat and CarbonSat Constellation; Following a peer review and in completion with 32 proposals CarbonSat was selected by ESA for its Earth Explorer 8 Phase A B1 studies in November 2010; The concept has now been selected for the EU Copernicus ESA CO2M mission
Initiator of the SCIA-ISS project concept;
Principal Investigator of the Effect of Megacities on the Transport and Transformation of Pollutants on the Regional to Global Scales EMeRGe, a DFG HALO project and international research consortium;

Community Service:

Scientific Reviewer of the Atmospheric Division of the NASA Langley Research Center 1997;
Member of the steering committee of IGAC (International Global Atmospheric Chemistry) Core Project of the IGBP (International Geosphere Biosphere Project) 2002 – 2008;
Co Proposer and Member of the scientific steering committee of the German Research Community Aircraft HALO (High Altitude Long duration) – 2000- 2020;
Member of the WMO - CEOS IGOS IGACO team and co-author of its recommendations 2002 – 2006;
Member of iCACGP (International Commission on Atmospheric Chemistry and Global Pollution) of IAMAS (International Association of Meteorology and Atmospheric Sciences), 2002 -2006; Officer and Secretary of iCACGP 2006 – 2010, President of iCACGP 2010-2014 and 2104-2018;
Member Scientific Steering Group of SPARC (Stratospheric Processes and their Role in Climate) a project of the WCRP (World Climate Research Programme) - WMO (World Meteorological organisation) -2003 – 2011, COSPAR SPARC Liaison 2012- 2020;
COSPAR Commission A – 1998 vice chair 2000 – 2008; COSPAR Member of national COSPAR Committee 2010 – present;
Member of Environmental Section of the European Physical Society – 2003 to 2016;
IGOS-IGACO member and an author of the IGACO Strategy document 2004,
Contributor to the quadrennial WMO UNEP Ozone Assessments a as co-author and reviewer 2002 –2020;
WMO-IGACO-Ozone group member, Advisor to GCOS 2004-2006;
Member of the Post-EPS Advisory Group for EUMETSAT 2005-2013;
Member of the EU Working Group - GMES Atmosphere Service and Space infrastructure of the service 2007 – 2009;
Member of the review board of the research programme of the Bundesamt für Seeschifffahrt und Hydrographie (Federal Maritime and Hydrographic Agency) 2008;
Member Advisory Board of the Leibniz Institute of Atmospheric Physics, Schlossstrasse, 618225 Kuehlungsborn Germany 2009-2016;
Member COSPAR Prize Committee 2008 – 2016;
Member AGU awards committee 2010- 2014;
Member EGU awards committee 2013-2020;
Reviewer of the DLR Research Programme 2013 – 2018;

Member of the Royal Society Selection Committee 5 2018-2020;
Member of Royal Society Future Leaders – African Independent Research (FLAIR) Fellowship committee 2018-2020;
Vice President of IAMAS 2019 to 2027;
Chair of the Academic Advisory, Committee of the Research Centre Environmental Change at Academia Sinica, Taiwan 2020-2026;
Member of the Copernicus Journal Atmospheric Chemistry and Physics PauL J. Crutzen Award committee 2022-2024;

Editorships:

Journal of Geophysical Research, Associate Editor 1998- 2002
Journal of Photochemistry and Photobiology A – Chemistry, Guest Editor 2003.
Advances in Space Research, Editor of Special Issues 1998- 2008
Atmospheric Physics and Chemistry 2001 – 2010, Associate Editor
Journal of Advances in Space Research, Associate Editor 2008 – 2015
Member of the Editorial Board Atmospheric Environment 2006 – 2011.
Advances in Measurement Techniques, Associate Editor 2008-2019
Member of the Editorial Board of the Progress in Earth and Planetary Science, PEPS, 2013- present.

Experience in Teaching:

I taught in a special needs school in Rainhill, Merseyside UK after completing my B.A. (hons) and before beginning my doctorate in 1978 and later in adult education in evening classes at the Volkshochschule Wiesbaden Germany from 1983-1983. During my time as a graduate student and postdoctoral scientist, I supervised undergraduates and taught practical undergraduates taking the Natural Sciences Tripos at Cambridge University and Part II students in Physical Chemistry at Oxford University 1975-1981. I have taught courses at the University level for the past 32 years in the following areas: a) 1991- 2005 Diploma in Physics, Diploma in Engineering and Diploma in Electrical Engineering – Courses: Physics for Engineers, Atomic and Molecular Physics; Atmospheric Physics; Atmospheric Chemistry; Remote Sensing; Optical Sensor; b) 2005-present M.Sc. Physics, M.Sc. Environmental Physics – Courses: Atomic and Molecular Physics, Atmospheric Physics, Atmospheric Chemistry.
I was one of the founders in 2000 of the first M.Sc. course in Germany focussing on "Environmental Physics: Atmosphere, Ocean, Land and Climate". I have been formally responsible for this course since 2004. I am also one of the leaders of the M.Sc. in Space Sciences and Technologies, which began in 2017.

Experience in the Supervision of graduate students for the Diploma in Physik, B.Sc., M.Sc. and Ph.D.:

A team comprising myself and my research group leaders have supervised ~ 120 students, who completed successfully the research projects for their Diploma in Physics, B.Sc. or M.Sc. degrees 1992- present.
I have supervised 110 graduate students within my research, who have completed successfully and been awarded the Doctor rerum naturalium, which is abbreviated to Dr. rer. Nat. and is equivalent to a Ph.D. or D.Phil. In addition, I have been a) the second reviewer and examiner of ~10 Dissertations for Dr. rer. nat. at the University of Bremen, and an external reviewer and examiner of Ph.D. / D.Phil. in the UK ((the University of

Oxford) the Netherlands (the University of Utrecht, the Free University of Amsterdam and the University of Eindhoven) and Sweden (Chalmers University). A majority of my doctoral students have embarked on academic and research careers. A number are now in senior positions at research and space agencies (NASA, ESA, DLR, EUMETSAT, ECMWF, South Korean NIER), a group have followed the calling of becoming teachers, and a similar group have successfully moved to industrial research and management.

Experience in the supervision and mentoring of postdoctoral scientists for their habilitation and promotion to a Professorship:

I have supervised eight postdoctoral scientists in my department, who successfully were awarded the German higher degree called habilitation or an honorary Professorship, one whom was awarded a DFG Leibniz Prize in 2021, another is an academic Dean. This group are now Professors at University Physics departments and/or Group leaders at Large Research Centres in Germany. Four additional post-doctoral scientists, who now also hold prestigious professorships in Ghana, the USA and China.

Research Interests and Motivation:

I am fascinated by the intricate interplay of biogeochemical, physical, and chemical processes that govern the behaviour of the Earth system. The latter comprises the sun, the earth's domains of the atmosphere, the ocean, the cryosphere and the land. The rapid growth of the earth's population, its longevity, and standard of living since the industrial revolution has resulted in the earth entering a new geological epoch called the Anthropocene. My research has been motivated by a desire to improve our understanding and knowledge of how the Earth system responds to both natural phenomena and the consequences of anthropogenic activity. Both scientific curiosity and the needs of environmental policymakers, who are tasked by society to achieve sustainable development, are addressed by my research.

My scientific interests and the motivation, described briefly above, led me initially to the study the kinetics and spectroscopy of atmospheric free radicals and key constituents in the laboratory. Physical, chemical and photochemical processes and mechanisms determine the composition of key atmospheric constituents. e.g. stratospheric ozone and short-lived climate pollutants (e.g. tropospheric ozone and aerosols) and their precursors. Subsequently, I realised that the accurate measurement of atmosphere constituents was a prerequisite required to improve our understanding of atmospheric physics and chemistry and to test the accuracy of atmospheric model and their predictions and projections. Consequently, I then began the development of instrumentation for field measurement campaigns using both in situ and remote sensing techniques from ground based and ship and aircraft borne sensors. This in turn led me to make pioneering contributions to earth observation science. These began with my development of the proposal in 1988 and subsequent leadership of projects. comprising SCIAMACHY (Scanning Imaging Absorption spectrometer for Atmospheric Cartography), which flew on ESA Envisat (2002 t 2012), and SCIA-mini, which later was renamed and became GOME (Global Ozone Monitoring Experiment) on ESA ERS-2 (1995-2011). The success of these missions led to the selection and development of GOME-2, the first instrument of its type, which flies on the ESA EUMETSAT Metope A, B and C series of operational meteorological satellites launched for numerical weather prediction, chemical weather and climate research.

Between 1997 and 2005, I developed and led with my scientific collaborators the GeoSCIA and GeoTrope proposals and concepts. This resulted in the selection by EU Copernicus, EUMETSAT and ESA in 2008 of Sentinel 4 for flight on the series of Meteosat Third Generation of satellites, which make diurnal measurements from geostationary orbits. I participated in the definition of the EU ESA Copernicus Sentinel 5, which builds on the heritage of SCIAMACHY, GOME and GOME-2 and will fly on the EUMETSAT Metop - Second Generation of satellites beginning in 2025. The SCIAMACHY development also led to the spin off OMI, which flies on the NASA AURA (2002- present and the ESA Sentinel 5 Precursor TROPOMI instrument.

One unique success of SCIAMACHY was the demonstration of the measurement the dry column mixing ratio of the greenhouse gases carbon dioxide (CO_2) and methane (CH_4). This arose from my recognition that the absorptions in the overtone and combination vibrational rotational bands of CO_2 and CH_4 could be measured from space in the short wave infrared spectral region. In contrast to the thermal infrared solar similar sensitivity throughout the troposphere. These measurements, when combined with knowledge of the wind velocities or, the use of inversion techniques enables the surface fluxes of CO_2 and CH_4 to be measured top down from space.

In parallel to my involvement in the development of space instrumentation, together with my co-workers in Bremen, I developed the ground based DOAS (Differential Optical Absorption Spectroscopy) and the first Multi-Axial or MAX-DOAS instrument. This to the formation of BreDOM (BREmen's network of MaxDOAS (Multiple Axis DOAS) Measurements). In addition, AMAXDOAS (Airborne MAXDOAS) system was developed for the validation of SCIAMACHY and flew on the DLR Falcon aircraft. More recently the Airborne Imaging

My research and that of my students and co-workers has been in the fields of Biogeochemistry, Atmospheric Physics and Chemistry, Photochemistry, Photophysics and Chemical Kinetics. A particular highlight has been the development of in-situ and remote sensing measurement techniques to determine the amounts and distributions of trace atmospheric constituents, and their use as a tool for

- the study of air pollution, climate and chemistry interactions, the study of the stratospheric ozone layer, its destruction by ozone depleting substance and its response to the measures of the Montreal Protocol to ban and control ODS,
- the improvement of numerical weather and chemical weather prediction,
- the improvement of our knowledge of biogeochemical cycles,
- the establishment of a quantitative experimental basis for atmospheric, environmental and climatic change.

Following the recognition and definition of the new geological epoch the Anthropocene, a significant part of my research is dedicated to observing the changing Anthropocene and quantifying the impact of humankind on the earth system.

My most significant achievements in science:

I have made significant contributions over the past five decades in the following fields of atmospheric physic and chemistry, earth observation and earths system science:

Chemical kinetics of atmospheric free radicals and gas phase molecules:
a) experimental techniques

During my doctorate in Cambridge UK and post-doctoral study at the Harvard Smithsonian Center for Astrophysics I developed the discharge flow kinetic apparatuses coupled with laser magnetic resonance spectroscopy LMR. These apparatuses exploited the unique ability of LMR to measure free radicals and its high sensitivity and low detection limit. They were used to study the reactions of the atmospheric free radicals: hydroxyl (OH), hydroperoxyl (HO_2), the hydromethyl (CH_2OH), methoxy (CH_3O), nitric oxide (NO) and nitrogen dioxide (NO_2).

At Oxford University I developed an apparatus which coupled discharge flow with resonance fluorescence spectroscopy. This was developed for the study of OH and HO2 and chlorine atoms (Cl) and chlorine monoxide (ClO).

At the UKAEA in Harwell Oxfordshire and at the Max Planck Institute for Chemistry I developed and used the following kinetic experimental techniques

i) Modulated photolysis spectroscopy, which is an advance on molecular modulation spectroscopy. The modulated photolysis system was coupled with ultraviolet and visible spectroscopy and either tuneable diode laser absorption spectroscopy or matrix isolation Fourier transform spectroscopy;
ii) The photolysis of nitrous acid (HONO as a source of OH in Teflon chambers with product analysis by gas chromatography.

At the University of Bremen, I further developed the following techniques:

i) modulated photolysis technique
ii) time resolved flash photolysis, coupled with either grating spectrometers and Fourier transform spectrometers;
iii) Time resolved flash photolysis, coupled with spectrometers using 2D diode array detectors.

b) The studies of rate coefficients, photolysis frequencies, branching ratios and chemical mechanisms:

The experimental techniques, described above were used to study the rate coefficients, branching ratios of key stratospheric and tropospheric reactions of free radicals and molecules in the gas phase.

The chemistry and photochemistry of the following free radicals and gas phase molecules were studied.

Free radicals: HOx (OH, HO_2), CH_3Ox (methoxy (CH_3O) methyl peroxy (CH_3O_2) and acetyl peroxy (CH_3COO_2) ClOx (Cl, ClO, chlorine dioxide isomers (OClO and ClOO) the chlorine dioxide dimer (ClOOCl)), BrOx (bromine atoms bromine atoms (Br) bromine oxide (BrO) bromine dioxide (OBrO)) IOx (iodine atoms (I), iodine monoxide (IO), iodeine dioxide (OIO), iodine monoxide dimer (I_2O_2) and higher iodine oxides) NOx (NO, NO_2), and the nitrate radical (NO_3).

Gas phase molecules: ozone (O_3), carbon monoxide (CO) dinitrogen tetraoxide (N_2O_4) dinitrogen pentoxide pentoxide (N_2O_5), chlorine nitrate ($ClONO_2$), Sulphur dioxide (SO_2), carbonyl sulphide (OCS).

Some highlights of this phase of my research were:
some of the first accurate measurement of the rate coefficients for the reactions of HO_2 with NO, O and OH; the discovery of the pressure dependence of the rate coefficient for the disproportionation of the HO_2 and its dependence on the concentration of water (H_2O); the study and mechanism of the reactions of OH with CS_2; the determination of the rate coefficients and branching ratios for the reactions of HO_2 and CH_3O_2 with ClO; the observation of the chlorine monoxide dimer from its the ultraviolet spectral region; the study of the products of the ClO and NO_2 reaction and the photolysis of $ClONO_2$; the study of the equilibrium between NO_2 NO_3 and N_2O_5; the studies of the kinetics of IO, OIO, I_2O_2 and higher oxides of iodine.

Spectroscopy of atmospheric free radicals and trace gases for use in atmospheric remote sensing

In addition to scientific curiosity about the structure of molecules, the motivation for these studies is to have high spectral resolution absorption cross sections and line parameters for use in atmospheric remote sensing.

a) Experimental Techniques:

For the study of short-lived free radicals, I developed experiments with double jacketed quartz cells / reaction vessels, which are coupled with flash photolysis and modulated photolysis to study short lived atmospheric free radical spectra in the solar spectral region from 200 to 3000 nm.

For longer-lived atmospheric radicals and trace gases, these are generated externally and then flowed quartz cells. These the temperature are controlled accurately from 180 to 350 K and the bulk gas pressure range from vacuum to 1.5 atmospheres. The absorption spectra are measured by either Fourier transform spectrometer or a UV Visible NIR grating spectrometer.

b) Experimental Spectroscopic studies

The spectra, of the free radicals and trace gases spectra measured by the SCIAMACHY GOME and similar were the targets.
The study of the absorption cross sections of Ozone(O_3), NO_2, N_2O_4, NO_3, BrO, OBrO, IO, OIO, ClO, OClO, IO OIO and higher oxides of Iodine.

Some highlights of this part of my research were as follows:
the discovery of an infrared band of NO_3 the visible spectrum of OIO; the accurate measurements of the absorption cross sections of key atmospheric constituents: O_3, NO_2, NO_3, BrO OBrO, ClO, OClO, IO, OIO etc.

c) Theoretical spectroscopic studies

The objective of these experiments was to generate “noise free” spectra for use in DOAS by fitting a quantum mechanical model for the molecule. The molecules ClO, chlorine, (Cl_2), bromine (Br_2), bromine chloride (BrCl) and RO_2 were studied and their spectra and absorption cross sections modelled.

The study of atmospheric composition using in situ remote ground based, ship borne aircraft borne and satellite borne instrumentation

My decision to begin to investigate from 1980s the changing composition of the atmosphere was motivated by the following:

- the scientific opportunities of the organisations, where I undertake my research.
- The fact that atmospheric scientists recognised in the 19th century if not earlier that accurate measurements of key atmospheric constituents are essential to improve our understanding the dynamical, physico-chemical, and biogeochemical processes which determine the composition of the atmosphere and the conditions for the biosphere and humanity.
- The need observations to test the ability of atmospheric models to simulate predict and project into the future the changes in the conditions within the atmosphere.
- The fact that human activity began to increase in the Holocene and has become a dominant force on the in the Anthropocene, the recognition in the 20th century that the consequence of human activity, through release of short lived and long-lived pollutants and their impact on the stability of the stratospheric ozone layer, air pollution/ quality, ecosystems, ecosystem services and climate change has led to the societal demand for sustainable development.
- The need for better knowledge of the solar spectrum and the role of the solar radiation and solar wind in initiating photochemical and chemical processes in the atmosphere and their impact on climate change.

The development and use of tuneable diode lasers for the study of tropospheric composition.

Tuneable diode lasers, which emit an intense beam of radiation in the thermal infrared coupled with long optical path cells provided in the 1980s some unique opportunities to measure tropospheric trace constituents. Ambient air drawn into the optical cell, having multipath optics to create typically an absorption path of several hundred meters for a base path of 1 or 1.5 m. The system I developed with colleagues successfully measured four trace gases from a selection of NO_2, Hydrogen peroxide H_2O_2, formaldehyde HCHO, CO and hydrogen chloride HCl. At the time we used this instrument in field campaigns measuring the trace gas composition in the marine boundary layer of the Atlantic Ocean. We observed the influence of the emissions pollutants from continental sources in particular from Africa and from ship in shipping lanes. In the North Atlantic marine boundary layer, the cleanest air appeared to be that which had travelled a long distance e.g. from the Caribbean. The TDLAS technique was later adapted at the MPI to be flown on aircraft.

The development of the peroxy radical detectors

Having studied HO_2 and some organic peroxy radicals, (RO_2) in the laboratory (e.g. CH_3O_2 and $CHCO.O_2$), I elected to make measurements of these radicals in the troposphere. Using the approach first proposed by D. Stedman, which uses the peroxy radical chemical amplification or PERCA technique, HO_2 and RO_2 are converted into NO_2 in a chemical reactor in which excess amounts of NO and CO are added. This is then followed by the

specific detection of NO_2. The techniques required the development of sources of known amounts of HO_2 and RO_2 in an air flow to calibrate the response of the PERCA instrument.

Initially the Luminol NO_2 chemiluminescence reaction was used to detect NO_2. More recently a cavity ring down (CRD) detector was developed and deployed in the PERCEAS (Peroxy Radical Chemical Enhancement and Absorption Spectrometer), which was deployed on the DLR HALO (High Altitude LOng duration) research aircraft during the EMeRGe (Effect of Megacities on the transport and transformation of pollutants on the Regional to Global scales) campaign.

By deploying the PERCA and PERCEAS instruments in a series of campaigns over the past three decades, the presence of HO_2 and RO_2 and their role in atmospheric chemistry has been successfully studied. Our knowledge of the sources and sinks of HO_2 and RO_2 has been improved. In addition, our measurements of the HO_2 and RO_2 have provided evidence for the presence and the role of halogen oxides in the marine boundary. This explains the early morning initiation of photochemistry by the photolysis of Cl_2 and the production IO and BrO. IO is both a source of new particles and like BrO participates in chain reactions, which catalytically deplete O_3.

The development of Earth Observation science: passive remote sensing of tropospheric constituents and surface parameters using satellite and aircraft borne ship borne and ground based instrumentation.

Since 1984, I have devoted the largest part of my own energy and that of my research group to the development and use of remote sensing techniques to measure the amounts and distributions of atmospheric constituents (trace gases amounts, cloud and aerosol parameters) and land and ocean absorption (phytoplankton amounts, sun induced fluorescence etc.). We are investigating changes and deconvolving the origins of change i.e. natural phenomena or anthropogenic activity.

Satellite borne passive remote sensing: SCIAMACHY, GOME, EUMETSAT ESA GOME-2 GeoSCIA/ EU Copernicus ESA EUMETSAT Sentinel 4, EU Copernicus ESA EUMETSAT Sentinel 5, and CarbonSat/ EU Copernicus ESA EUMETSAT Sentinel 7 CO2M

a) The beginning – SCIAMACHY and GOME

Beginning in 1984, when starting a new research group in optical measurements at the Air Chemistry Department of the MPI for Chemistry in optical measurements at the instigation of its director, the late Professor P. J. Crutzen, I recognised that the differential optical absorption spectroscopy (DOAS), which had recently been developed by my then colleague the late Dr. Dieter Perner, could be used for the retrieval of trace gas column amounts from the measurements of upwelling radiances, which leave the top of the atmosphere and are measured by satellite instruments. To this end I developed with support from Paul and Dieter, a scientific team and an industrial partner (then Dornier now Airbus the SCIAMACHY (Scanning Imaging Absorption spectrometer for Atmospheric CHartographY) concept. I proposed in July 1988, as Principal Investigator, the SCIAMACHY instrument in response to the ESA call for instruments for its Polar Platform, which later was renamed Envisat. After a review, ESA selected SCIAMACHY for Phase A studies, in February 1989, as a national contribution to the Envisat payload, funded by the BMFT (German ministry for research and technology). SCIAMACHY was originally

proposed as having two identical instruments, which measured alternately in nadir and limb viewing geometry and undertook solar and lunar occultation during sun or moon rise and set. During phase A studies, a Dutch industrial team joined the SCIAMACHY industrial team, funded by NIVR, now NSO. In Phase B the Belgian industry, funded by the Belgian Ministry responsible for space activity also joined the SCIAMACHY industrial consortium.

At this time, the interest in SCIAMACHY was coupled with the strategic need for European global measurements of stratospheric O_3 and key trace gases controlling its depletion, because Europe was about 30% responsible for the release of chlorofluorocarbons. This was recognised by ESA and led to a call for a small payload to make measurements of key atmospheric constituents from the planned ERS-2 (the second ESA Earth research Satellite). Space and spacecraft resource had been found by ESA for such an instrument, which needed to be built in four years. The building of this instrument was not allowed to delay the launch of ERS-2. I proposed SCIA-mini in response to this call. SCIA-mini was intended to make simultaneous measurements in the UV visible and near IR (232 to 783 nm) in limb and nadir viewing geometries. SCIA-min was then selected by ESA. However, after a short phase A study, SCIA-mini was descoped to make only nadir measurements and was renamed GOME (Global Ozone Monitoring Experiment). During Phase A study of Envisat, SCIAMACHY was descoped to be only one instrument, which made alternate limb nadir and solar in the NH or lunar in the SH occultation measurements. Both of these descopes were done to reduce the costs. The reason for the near simultaneous measurements in limb nadir is to be able to separate the stratospheric and mesospheric columns of trace constituents from the tropospheric columns. This was capability was lost for GOME.

I led, as Principal Investigator/Lead Scientist GOME and SCIAMACHY to their successful launches respectfully on ESA ERS-2 on the 20th April 1995 and on ESA Envisat on the 28th February 2002. GOME made successful measurements until ERS-2 was decommissioned in 2011whereas SCIAMACHY made successfully measurements until Envisat mysteriously failed on the Easter Sunday, 08 04 2012. Both GOME and SCIAMACHY were pathfinder satellite missions.

One key responsibility of a PI is to build a research team, which developed a majority of the scientific retrieval algorithms used in GOME and SCIAMACHY. This necessitated building a fast-radiative transfer models, which we named GOMETRAN and SCIATRAN. This was only possible with the unique capabilities of the key scientists, but in particular Vladimir Romanov, who joined my group in 1989 and has played a key role on our exploitation GOME, SCIAMACHY and subsequent missions.

Both GOME and SCIAMACHY were remarkably successful and made unique measurements. The nadir measurements although limited by data rate to have relatively poor spatial resolution demonstrated the ability to measure key tropospheric trace gases using the contiguous UV visible NIR measurements using DOAS and related inversion techniques. The retrievals of GOME delivered the following trace gas data products: the vertical profiles of O_3, total and stratospheric columns of NO_2, total and tropospheric columns of BrO, stratospheric column of OClO, the total column of formaldehyde, HCHO, and the total column of water vapour H_2O.

The improved performance of SCIAMACHY enabled in addition both IO and Glyoxal (CHO.CHO) to be measured. To a good approximation, these measurements represent the total tropospheric column, because the stratospheric concentrations both gases are small. The extended spectral coverage out to as far 2.38 micron measured in addition, the dry column mixing ratios of the greenhouse gases carbon dioxide (CO_2), XCO2, methane (CH_4), XCH4, nitrous oxide (N_2O), and the pollutant CO. Sun induced fluorescence, from the biosphere on the land and in the ocean is also retrieved well from SCIAMACHY.

The results for CO_2 and CH4 demonstrated for the first time that the XCO2 and XCH4 could be measured at sufficiently high precision that they can be used for the determination of surface fluxes i.e. emission and surface uptake/deposition. This represents a significant breakthrough.

The limb measurements of SCIAMACHY provide unique measurements of the vertical profiles of O_3, NO_2, BrO, Aerosol extinction and optical depth/thickness (AOD/AOT). The solar occultation measurements have been successful used for the measurement of the vertical profiles of O_3, NO_2, BrO, Aerosol extinction and optical depth/thickness (AOD/AOT).

The limb measurements of SCIAMACHY were exploited to prove very successfully the emissions by metals and mon metals from the mesopause to the lower thermosphere. For example, Na, Li, Ca, Mg, Mg+, Fe and many more emissions are readily observed. These originate from dust which ablates after entering the earth's atmosphere. These emissions are also exploited from the nadir measurements. The emissions of NO, $O_2(^1\Delta)$ and vibrationally and rotationally excited OH have been scientifically exploited to measure NO from solar proton events, retrieve O_3 profiles in the mesosphere and the temperature of the mesopause. The scattering signal has also been successfully used to measure noctilucent or polar mesospheric clouds.

b) The first operational SCIAMACHY like operational mission: ESA EUMETSAT GOME-2

I played a key role in helping to define GOME-2, which was selected by EUMETSAT for launches on the Metop platforms (A 2006-2022, B 2011-present, and C 2018-present). GOME-2 has somewhat higher spatial resolution, similar to SCIAMACHY and near daily coverage at the equator.

c) GeoSCIA, GeoTROPE and EU Copernicus ESA EUMETSAT Sentinel 4 and geostationary constellations

I led the development of The Geostationary Scanning Imaging absorption spectrometer GeoSCIA and the Geostationary Tropospheric Explorer, GeoTROPE concepts and proposals to the ESA and DLR calls between 1998 and 2005. The objective was to make geostationary measurements over Europe and Africa to provide diurnal variations of key tropospheric gases. There were different variants of GeoSCIA used including UV visible, NIR and SWIR bands similar to SCIAMACHY but optimised for high spatial resolution and signal to noise. The GeoTROPE concept included a GeoSCIA and a geostationary Fourier transform Interferometric Spectrometer, GeoFIS.

The GeoSCIA and GeoTROPE proposals and the related scientific and industrial studies were used by the EU Copernicus (formerly GMES) ESA and EUMETSAT to select a realisation of GeoSCIA as Sentinel 4 for MeteoSat Third Generation.

The idea of geostationary measurements has now been successfully achieved with the launch of the Korean Space Agency, KSA, Geostationary Environment Monitoring Spectrometer (GEMS) on 18th February 2020. This has now been followed by the launch of NASA's Tropospheric Emissions: Monitoring of Pollution (TEMPO) on the 14th April 2020. The EU Copernicus ESA EUMESAT Sentinel 4 is now planned for launch on MeteoSat TG in 2024.

d) EU Copernicus ESA EUMETSAT Sentinel 5

As a Member of the EUMTSAT Post EPS advisory group (2006 to 2012). I defined specifically the specifications required for what is now known as EU Copernicus ESA EUMETSAT Sentinel 5 as part of Metop Second Generation. This is much closer to SCIAMACHY in terms of spectral coverage but with optimised spatial coverage and improved signal to noise. It is the follow on to GOME-2. The Metop-SG will have three series of platforms each having two 3 axis stabilised satellites and will measure from 2025 to 2040.

e) CarbonSat to EU Copernicus ESA EUMETSAT Sentinel 7 CO2M

From 2008 together with the industry partner OHB, my research group developed the CarbonSat and CarbonSat Constellation concepts. Building on the success and heritage of SCIAMACHY the objective is to make high spatial and diurnal sampling to invert XCO2 and XCH4 and thereby in combination with knowledge of the wind, retrieve surface fluxes of CH_4 and CO_2 . CarbonSat was investigated for flight on an ESA Explorer. This concept was then used and expanded on to create the EU Copernicus ESA EUMETSAR Sentinel 7 CO2M. I and my research group have provided unique scientific support to the development of this mission, which now comprises a small constellation of satellites. This mission is planned for launch by ESA in 2026.

f) Contibution to the active remote sensing MERLIN
I am member of the Mission Advisrory Group for the DLR MERLIN (Methane Remote Sensing Lidar Mission) and have supported scientifically this exciting mission since its inception. It is now scheduled for launch in 1927.

g) Other satellite systems which have befitted from GOME SCIAMACHY and related: OMI, TropOMI, OCO OCO-2 OCO-3, GOSAT GOSAT-2 and GOSAT-GW

i) OMI (2004 – present on NASA AURA) and ESA Sentinel 5 Precursor (S5P) (2018 – present) are spin offs supported by NSO. These instruments focus of UV Visible measurements using the approach first developed for GOME and SCIAMACHY and target measurements at progressively much higher spatial resolution of O_3, NO_2 etc.

ii) Nadir Viewing
The following nadir viewing satellites successfully used the observation of NIR and SWIR bands first proposed for SCIAMACHY to measure XCO2 and XCH4: NASA OCO (failed at launch) OCO-2 (2016-present) and OCO-3 on ISS (2019- present) and JAXA Greenhouse Gases Observing Satellite (GOSAT) (2009- present), GISAT-GW (2018- present) GOSAT-GW (launch 2024). The satellites are improving their spatial coverage and GOSAT-GW has added a channel for NO_2 similar to that on SCIAMACHY and CO2M.

iii) Limb viewing
The OSIRIS instrument on ODIN (201 to present), although proposed after SCIAMACHY, was independently developed by the CSA (Canadian Space Agency) and the SSA (Swedish Space agency). It like SCIAMACHY makes limb observations. The OSIRIS and SCIAMACHY tams have collaborated extensively in their exploitation of limb scattered measurements to retrieve trace gases and aerosol.

The ESA Altius mission is planned for launch in 2025 and is building on the heritage of SCIAMAHY in a novel small satellite approach.

Ground based shipborne and aircraft borne passive remote sensing

In support of the satellite missions described above and to evolve ground based, ship and aircraft borne observations of trace gases in the atmosphere, a series of DOAS instrument has been developed.

Ground based DOAS instruments were developed in Bremen and have operated continuously in Bremen (1993-present) in Svalbard at the AWI at the German and Norway bas in Ny-Aalesund. MAX-DOAS instruments were introduced from 1997 onwards. Measurements are also made in Athens and for some time at the UNEP building in Nairobi. These instruments operate in the Near UV and/or visible. They target the retrieval of trace gases O_3, NO_2, BrO, IO, OClO, SO_2, HCHO and CHO.CHO but also provide information about H_2O and aerosol. The MaxDOAS concept was developed in collaboration with the University of Heidelberg.

Our DOAS instruments are part of the network for the detection of atmospheric composition change NDACC, which began network operations as The Network for Detection of Stratospheric Change (NDSC) in January 1991. They have also been

DOAS and MAXDOAS instruments have been regularly used during ship campaigns. An airborne instrument AMAXDOAS was developed for the validation of SCIAMACHY. A current workhorse is the AIRMAP instrument which has successfully flown on aircraft to validate satellite data products in particular for S5P data products.

To measure XCO2 and XCH4 at high spatial resolution and to use this to determine the surface of CO_2 and CH_4 I initiated around 2006 the construction of the first MaMAP instrument, which is a Methane And carbon dioxide MAPper instrument. This at the time used a 1D diode array. This was deployed very successfully in a series of campaigns. It was used as a demonstrator for CarbonSat. It has also been successfully deployed to measure selected point sources of CO_2 and CH_4 around the globe. In 2016 I initiated the for our Greenhouse Gas Group the construction of family of MaMap-2D instruments.. This

comprises a MaMap-2D-Light, which has successfully flown on light aircraft and on the DLR HALO. This instrument has one channel around 1.6 micron for CO_2 and CH_4 absorption measurements, and can be deployed. The MaMAP-2D which has two channels: one being at 1.6 micron and the second at 0,76 micron. This is an evacuated instrument and is now in its final phase of construction and testing.

The most recent addition to the MaMaP instrument family is CaMAP, which has a focus on carbon dioxide and methane. The first two channels are identical to MaMAP-2D but it also has an additional channel around 2 microns similar to SCIAMACHY. It is a demonstrator for EU Copernicus ESA EUMETSAT Sentinel 7 CO2M.

Acknowledgement

In my career I have had the good fortune to work for and with some outstanding scientists. Since establishing my own research group four decades ago, it has been my pleasure to supervise and mentor excellent graduate students and postdoctoral scientists. I thank our outstanding engineers and administrative staff, who, together with the sub-group leaders and senior scientists, have facilitated over the past three to four decades the smooth running my department, which is 80% supported by third party funding. I thank our funders: the University and State of Bremen, the DFG, DLR, ESA, EU Copernicus, EUMETSAT and ECMWF. I also thank our industrial partners Airbus Space and Defence and OHB, who have supported the development of scientifically driven space missions, addressing issues societal importance. Finally, my and our department's international collaborations in science and in particular in earth observation have been very fruitful and provide evidence that humans of all genders, races and religious beliefs can work successfully together to achieve the goal of sustainable development.

BIBLIOGRAPHY

JOHN P. BURROWS FRS

INTRODUCTION TO THE RESEARCH PUBLICATIONS OF J. P. BURROWS.

The drive of my research over the past nearly five decades has been to improve our understanding of the earth system and in particular the physics and chemistry of the atmosphere. One key issue is to separate natural phenomena from human activity and thereby to quantify the anthropogenic impacts and provide objective evidence for policymakers of environmental and climate change. My research has consequently involved laboratory studies of the kinetics and spectroscopy of atmospheric constituents and surface phenomena, field measurements of atmospheric composition and modelling.

The rapid increase in population and its standard of living, since the industrial revolution, have resulted in a rapid growth in the release of both short-lived climate pollutants and long-lived greenhouse gases. The earth system has entered a new geological epoch, which is called the Anthropocene, dominated by human activity. The need to observe and assess the changing atmospheric composition within the evolving Anthropocene.

To address the above research needs, I have been developing and evolving a world leading university research institute at the University of Bremen called the Institute of Environmental Physics / Institute of Remote Sensing. This institute undertakes multidisciplinary research in the fields of atmospheric physics and chemistry, biogeochemistry, kinetics, spectroscopy and the related fundamental aspects of physical chemistry and chemical physics. Important foci of activity have been the study of photochemical and chemical reactions of atmospheric importance and the development and application of both in situ and remote sensing measurement techniques. I was also a science director of the Natural Environment Research Council: Centre for Ecology and Hydrology NERC-CEH from 2008 to 2010 on secondment. I am now a fellow of UK: CEH.

The results of my research have significantly contributed towards our current understanding of the following

i) the kinetics and spectroscopic parameters of atmospheric free radicals and constituents,
ii) solar interactions with the upper atmosphere,
iii) the behaviour of the stratospheric ozone layer and its response to anthropogenic modification of its composition,
iv) tropospheric air pollution and air quality
v) the global distribution of both long lived and short-lived climate pollutants.

I have invented, developed or significantly further improved the following:

a) a series of measurement techniques for laboratory studies of free radical spectroscopy, their reaction rate coefficients and product distributions,
b) free radical and trace gas in situ measurement techniques,
c) remote sensing instrumentation and retrieval techniques for ground based, ship, aircraft and satellite borne, deployment.

My roles in the study of kinetics and spectroscopy of atmospheric constituents as well as my pioneering contributions to the development of Earth Observation and in particular the observation of atmospheric composition from space are internationally well acknowledged, as evidenced by the honours warded to me by my peers.

The remote sensing of atmospheric composition from space has revolutionised atmospheric science and its applications. It has provided the opportunity to develop a global observing system required to yield the objective global evidence base for the development of international environmental policy for sustainable development. I have participated by proposing and developing unique instrumentation and retrieval techniques and by helping to define the strategy and requirements to achieve an adequate “fit for purpose” global observing system.

Beginning in the early 1980s and building on my experience in experimental science, I initiated and led scientifically the development of the remote sensing instrumentation to determine the composition of key atmospheric trace gases in the atmosphere from space using the differential optical absorption spectroscopy, DOAS, and related retrieval techniques. I pioneered the retrieval of tropospheric trace constituents by passive remote sensing of solar radiation upwelling at the top of the atmosphere. This had been comparable to "the search for the holy grail” for the remote sensing community. To achieve my research goals in remote sensing, I led the scientific development and proposed the following concepts:

i) SCIAMACHY (SCanning Imaging Absorption spectrometer for Atmospheric CHartographY 1988), which flew on ESA ENVISAT (2002-2012),
ii) SCIA-mini (1988), which became GOME (Global Ozone Monitoring Experiment) in 1990 on ESA ERS-2 (1995-2011),
iii) GOME-2, which is the first European operational trace gas instrument on ESA/EUMETSAT MetOp series (2006 to 2020). This will be followed by the EU/EUMETSAT/ESA Sentinel 5 on Metop Second Generation series beginning 2020.
iv) GeoSCIA (Geostationary Scanning Imaging absorption spectrometer 1998), GeoSCIA++ (2002) and GeoTROPE (Geostationary Tropospheric Explorer 2002), which were used for the development of EU Copernicus Sentinel 4, now planned for launch in 2019 on EU/ESA/EUMETSAT MeteoSat Third Generation.

Building on the heritage of one of several unique successful innovative data products retrieved from SCIAMACHY measurements, viz. the first accurate retrievals of the dry mole fraction of the greenhouse gases carbon dioxide and methane, from nadir viewing, the CarbonSat and CarbonSat Constellation concepts were developed and proposed and then developed by department and the Industry OHB with support from an international scientific team. CarbonSat was then proposed selected by ESA, as one of two concepts for Phase a B1 studies within its 8th Earth Explorer Opportunity Mission. The CarbonSat concept was then used as part of the EU/ESA Copernicus 7 CO2M, which was selected for launch in 2026. I have also developed concepts to utilise the ISS as an atmospheric observatory with the modular instrument suite SCIA-ISS being proposed, as one of the key sets of instrumentation.

Complementing my research on trace gases, another research focus of my research team is the determination of aerosol, cloud and surface reflectance parameters by passive remote sensing techniques. Accurate knowledge about these atmospheric constituents and their optical properties is essential to retrieve trace gas abundance. In addition, cloud, aerosol and

surface reflectance are key players in climate research. The PHYTODOAS approach was successfully developed to study ocean colour by separating different phytoplankton types and investigating novel vegetation indices. This project is now led by Professor Astrid Bracher of the Alfred Wegener Institute, who was a member of my research group and is now a scientific collaborator. Recently we have also been able to observe the fluorescence of chlorophyll from both for land and oceanic biomass for the first time using the hyperspectral instruments SCIAMACHY and GOME-2, which also deliver the phytoplankton types.

In addition to my research using space-based instrumentation, a key activity of my department is the development of ground based, ship board and aircraft borne instrumentation. This evolving capability, yielded the ground based BreDOM (BREmen's network of MaxDOAS (Multiple Axis DOAS) Measurements), which has been successfully deployed around the world and forms part of the NDACC (Network for the Detection of Atmospheric Change). These experiments probe both in the short term and in the longer term the behaviour of key atmospheric constituents. The aircraft instrument AMAXDOAS and more recently AIR-DOAS (AIRborne Imaging DOAS) and MaMap (Methane and Carbon dioxide mapper) have been used in the validation of GOME SCIAMACHY and GME-2 data products and most recently to determine surface fluxes of both long lived and short lived climate pollutants from power stations, coal mines, landfills as well as ship emissions.

Finally, as my research began with the laboratory study of free radical chemistry for atmospheric applications, this naturally led to my direct investigation of their transformation within air both clean and polluted air masses. This has been another important research area for my multidisciplinary research team. Of special importance is the development of an in situ peroxy radical RO_2 detector by using the chemical amplification technique. Recently this detector been further developed employing the cavity ring down detection of nitrogen dioxide for use on the national research facility HALO (High Altitude LOng duration) aircraft platform.

An important application of my research has been the delivery of an objective evidence base about the evolving atmospheric composition and earth surface for evaluation and use by environmental policymakers. The results of my research are used extensively in the assessment work such as:

a) The UN Vienna Convention and its Montreal Protocol and the UNEP/WMO Assessments of Ozone over the past 3 decades, the most recent being the published recently,
b) The UNECE LTAP/HTAP assessment of tropospheric pollution and air quality
c) The UNFCCC and the Intergovernmental Panel on Climate Change Assessment Reports.

1. A SUMMARY OF MY PUBLISHED MANUSCRIPTS

Up to the end of June 2023, J. P. Burrows, and his collaborators have published over 700 manuscripts in peer-reviewed journals. The Clarivate Web of Knowledge finds 682: the sum of cited references being 29,806, the average number of citations per manuscript is 44 and the h-index is currently 82. In comparison the following metrics are found by a) Scopus: publications 775; Citations 31,581 and an h-index of 84, and ii) Google Scholar: Publications 2115, Citations 49,829, h-index 105, i10-index 636, and since 2018: Citations, 14,849 h-index 55 and i10-index 346.

I have organised, edited and written a textbook on the remote sensing of tropospheric composition. In an accompanying work, I led the development of an e-learning module for remote sensing of tropospheric nitrogen dioxide. I have contributed to all the WMO UNEP Ozone assessments, as co-author to chapters or reviewer since 1992. In addition, I have written chapters in 12 books about atmospheric chemistry and remote sensing. The following list contains the 30 most cited manuscripts as of 01.06.2014:

1) Bovensmann H., Burrows J. P., Buchwitz M., Frerick J., Noël S., Rozanov V. V., Chance K. V., and Goede A. P. H., 1999 “SCIAMACHY: Mission objectives and measurement modes”, Source: JOURNAL OF THE ATMOSPHERIC SCIENCES Volume: 56 Issue: 2 Pages: 127-150 DOI: 10.1175/1520-0469(1999)056 <0127:SMOAMM>2.0.CO,2 Published: JAN 15 1999: Web of Knowledge - Times Cited: 13343.

2) Richter A,, Burrows J. P., Nuss H., Granier C., and Niemeier U., 2005 “Increase in tropospheric nitrogen dioxide over China observed from space”, Source: NATURE Volume: 437 Issue: 7055 Pages: 129-132 DOI: 10.1038/nature04092 Published: SEP 1 2005 Web of Knowledge - Times Cited: 1024

3) Burrows J. P., Weber M., Buchwitz M., Rozanov V., Ladstatter-Weissenmayer A., Richter A., DeBeek R., Hoogen R., Bramstedt K., Eichmann K.-U.,and Eisinger M., 1999, “The global ozone monitoring experiment (GOME): Mission concept and first scientific results“, Source: JOURNAL OF THE ATMOSPHERIC SCIENCES Volume: 56 Issue: 2 Pages: 151-175 DOI: 10.1175/1520-0469(1999)056<0151: TGOMEG>2.0.CO,2 Published: JAN 15 1999 Web of Knowledge - Times Cited: 921.

4) Wayne R. P., Barens I, Biggs P., Burrows J. P., Canosa Mas, C. E., Hjorth, J., Lebras,G., Moortgat,G. K., Perner, D., Poulet G., Restelli G., and SidebottomH., 1991 “The Nitrate Radical – Physics, Chemistry and the Atmosphere, Source: Atmospheric EnvironmentPART A-GENERAL TOPICS Volume: 25 Issue: 1 Pages: 1-203 DOI: 10.1016/0960-1686(91)90192-APublished: 1991 Web of Knowledge - Times Cited: 661

5) Crisp D., Atlas R. M., Breon F. M., Brown L R., Burrows J. P., Ciais P., Connor B. J., Doney S. C., Fung I. Y., Jacob D. J., Miller C. E., O'Brien D., Pawson S., Randerson J. T., Rayner P., Salawitch R. J., Sander S. P., Sen B., Stephens G. L., Tans P. P., Toon G. C., Wennberg P. O., Wofsy S. C., Yung Y. L., Kuang Z. M., Chudasama, B., Sprague G., Weiss B., Pollock R., Kenyon D., and Schroll S. 2004, "The orbiting carbon observatory (OCO) mission“, Source: TRACE CONSTITUENTS IN THE

TROPOSPHERE AND LOWER STRATOSPHERE Editor(s): Burrows J. P.,Thompson A. M.,, Book Series: Advances in Space Research Volume: 34 Issue: 4 Special Issue: Sp. Iss. 2004 Pages: 700-709 DOI: 10.1016/j.asr.2003.08.062Published: 2004 Web of Knowledge - Times Cited: 508.

6) Fu, T.-M., Jacob, D. J., Wittrock, F., Burrows, J. P., Vrekoussis, M., and Henze, d. K., 2008, "Global budgets of atmospheric glyoxal and methylglyoxal, and implications for formation of secondary organic aerosols" Source: Journal of Geophysical Research-Atmospheres Volume: 113 Issue: D15 Article Number: D15303 Published: 2008, doi:10.1029/2007JD009505; Web of Knowledge - Times Cited: 498.

7) Bogumil, K ,Orphal, J.,Homann, T.,Voigt, S.,Spietz, P.,Fleischmann, O. C., Vogel, A .,Hartmann, M.,Kromminga, H., , Bovensmann, H.,Frerick, J., and Burrows, J. P., 2003, " Measurements of molecular absorption spectra with the SCIAMACHY pre-flight model: instrument characterization and reference data for atmospheric remote-sensing in the 230-2380 nm region", Source: Journal of Photochemistry and Photobiology A-ChemistryVolume: 157 Issue: 2-3 Pages: 167-184 DOI: 10.1016/S1010-6030(03)00062-5 Published: MAY 5 2003, Web of Knowledge - Times Cited: 497.

8) Simpson, W. R.,von Glasow, R.,Riedel, K., Anderson, P., Ariya, P., Bottenheim, J., Burrows, J., Carpenter, L. J., Goodsite, M. E., Heard, D., Hutterli, M.,Jacobi, H.-W., Kaleschke, L., Neff, B.,Plane, J., Platt, U., Richter, A., Roscoe, H., Sander, R., Shepson, P., Sodeau, J.,Steffen, A., Wagner, T., and Wolff, E, 2007, "Halogens and their role in polar boundary-layer ozone depletion", Source: Atmospheric Chemistry and Physics Volume: 7 Issue: 16 Pages: 4375-4418 Published: 2007 Times Cited: 331. Web of Knowledge - Times Cited: 428.

9) Burrows J. P., Richter A., Dehn A., Deters B., Himmelmann S., and Orphal J, 1999, "Atmospheric remote-sensing reference data from GOME – 2. Temperature-dependent absorption cross sections of O3 in the 231-794 nm range", Source: Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 61 Issue: 4 Pages: 509-517 DOI: 10.1016/S0022-4073(98)00037-5 Published: MAR 1999 Times Cited: 330.

10) Zhang, Q., Streets, D. G., He, K., Wang, Y., Richter, A., Burrows, J. P., Uno, I., Jang, C. J., Chen, D., Yao, Z., Lei, Y., 2007, "NO(x) emission trends for China, 1995-2004: The view from the ground and the view from space", Source: Journal of Geophysical Research-Atmospheres Volume: 112 Issue: D22 Article Number: D22306 DOI: 10.1029/2007JD008684 Published: NOV 29 2007, Web of Knowledge - Times Cited: 314.

11) Burrows J. P., Hölzle, E., Goede, A. P. H., Visser, H. and Fricke, W., 1995, "SCIAMACHY - Scanning Imaging Absorption Spectrometer for Atmospheric Chartography." Source: ACTA ASTRONAUTICA Volume: 35 Issue: 7 Pages: 445-451 DOI: 10.1016/0094-5765(94)00278-T Published: APR 1995 Times Cited: 296.

12) Richter A., and Burrows J. P., 2002 "Tropospheric NO_2 from GOME measurements", Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL

OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly WARSAW, POLAND, JUL, 2000 Comm Space Res Book Series: Editor(s): Burrows J. P., Takeucki N.Advances in Space Research Volume: 29 Issue: 11 Pages: 1673-1683DOI: 10.1016/S0273-1177(02)00100-X Published: 2002 Times Cited: 280.

13) Ebinghaus R., Kock H. H , Temme C., Einax J. W., Lowe A. G., Burrows J. P., and Schroeder W.H., 2002, "Antarctic springtime depletion of atmospheric mercury", Source: ENVIRONMENTAL SCIENCE & TECHNOLOGY Volume: 36 Issue: 6 Pages: 1238-1244 DOI: 10.1021/es015710z Published: MAR 15 2002 Times Cited: 250.

14) Buchwitz, M., de Beek, R., Burrows, J. P., Bovensmann, H., Warneke, T., Notholt, J., Meirink, J. F., Goede, A. P. H., Bergamaschi, P., Korner, S., Heimann, M., Schulz, A. "Atmospheric methane and carbon dioxide from SCIAMACHY satellite data: initial comparison with chemistry and transport models Source: Atmospheric Chemistry and Physics Volume: 5 Pages: 941-962 Published: MAR 21 2005 Times Cited: 236.

15) Serdyuchenko A., Gorshelev V., Weber M., Chehade W. and Burrows, J. P., 2014, "High spectral resolution ozone absorption cross-sections - Part 2: Temperature dependence", Atmospheric Measurement Techniques, Volume: 7 Issue: 2 Pages: 625-636, DOI: 10.5194/amt-7-625-2014,Published: 2014.; Times Cited 231.

16) Schneider W., Moortgat G. K., Tyndall G. S., and Burrows, J. P. 1991, "Absorption Cross-Section of NO2 in the UV and Visible region (200-700 nm)", Source: Journal of Photochemistry and Photobiology A-Chemistry Volume: 40 Issue: 2-3 Pages: 195-217 DOI: 10.1016/1010-6030(87)85001-3 Published: NOV 1981 Times Cited: 222.

17) Gaudel, A.; Cooper; Cooper, O. R.; Ancellet, G.; Barret, B.; Boynard, A.; Burrows, J. P.; Clerbaux, C.; Coheur, P. -F.; Cuesta, J.; Cuevas, E.; Doniki, S.; Dufour, G.; Ebojie, F.; Foret, G.; Garcia, O.; Granados-Munoz, M.J.; Hannigan, J.W.; Hase, F.; Hassler, B.; Huang, G.; Hurtmans, D.; Jaffe, D.; Jones, N. ; Kalabokas, P. ; Kerridge, B.; Kulawik, S.; Latter, B.; Leblanc, T.; Le Flochmoen, E.; Lin, W.; Liu, J.; Liu, X.; Mahieu, E.; McClure-Begley, A.; Neu, J.L.; Osman, M.; Palm, M.; Petetin, H.; Petropavlovskikh, I.; Querel, R.; Rahpoe, N.; Rozanov, A.; Schultz, M.G.; Schwab, J.; Siddans, R.; Smale, D.; Steinbacher, M.; Tanimoto, H.; Tarasick, D. W.; Thouret, V.; Thompson, A. M.; Trickl, T.; Weatherhead, E.; Wespes, C.; Worden, H. M.; Vigouroux, C.; Xu, X; Zeng, G.; Ziemke, J. 2018; Elementa-Science of the AnthropoceneVolume: 6 Article Number: 39 DOI: 10.1525/elementa.291 Published:MAY 10 2018. Times cited 215.

18) Rozanov A., Rozanov V., Buchwitz M., Kokhanovsky A., and Burrows J. P., 2005, "SCIATRAN 2.0 - A new radiative transfer model for geophysical applications in the 175-2400 nm spectral region", Conference Information: 35th COSPAR Scientific Assembly Paris, FRANCE, JUL 18-25, 2004 Comm Space Res, Editor(s): Burrows J. P., Eichmann K. U... Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - I Book Series: Advances in Space Research Volume: 36Issue: 5Special Issue: Sp. Iss. 2005 Pages: 1015-1019 Published: 2005, Times Cited 213.

19) Wittrock F., Richter A., Oetjen H., Burrows J. P., Kanakidou M., Myriokefalitakis S., Volkamer R., Beirle S., Platt U. and Wagner T.,2006, "Simultaneous global observations of glyoxal and formaldehyde from space", GEOPHYSICAL RESEARCH. LETTERS, 33, L16804, doi:10.1029/2006GL026310, Times cited 209.

20) Richter A., Wittrock F., Eisinger M., and Burrows J. P., 1998, "GOME observations of tropospheric BrO in northern hemispheric spring and summer 1997", Source: Geophysical Research Letters Volume: 25 Issue: 14 Pages: 2683-2686 DOI: 10.1029/98GL52016 Published: JUL 15 1998 Times Cited: 209.

21) Kanakidou, M. Mihalopoulos, N., Kindap, T. Im, U., Vrekoussis, M. Gerasopoulos, E., Dermitzaki, E., Unal, A., Kocak, M., Markakis, K., Melas, D., Kouvarakis, G., Youssef, A., Richter, A., Hatzianastassiou, N., Hilboll, A., Ebojie F., Wittrock, F., von Savigny, C., Burrows, J. P., Ladstaetter-Weissenmayer, A., Moubasher, H., 2011," Megacities as hot spots of air pollution in the East Mediterranean", Source: ATMOSPHERIC ENVIRONMENTVolume: 45 Issue: 6 Pages: 1223-1235 Published: FEB 2011; Times cited 198.

22) Burrows J. P., Dehn A., Deters, B., Himmelmann, S., Richter, A., Voigt, S. and Orphal, J. 1998, "Atmospheric remote-sensing reference data from GOME: Part I. Temperature-dependent absorption cross-sections of NO_2 in the 231-794 nm range", Source: Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 60 Issue: 6 Pages: 1025-1031 DOI: 10.1016/S0022-4073(97)00197-0 Published: DEC 1998 Times Cited: 194.

23) Kopacz M., Jacob D. J., Fisher J. A., Logan J. A., Zhang L., Megretskaia I. A., Yantosca R. M., Singh K., Henze D. K.., Burrows J. P., Buchwitz M., Khlystova I., McMillan W. W., Gille J. C., Edwards D. P., Eldering A., Thouret V. and Nedelec P. 2010, "Global estimates of CO sources with high resolution by adjoint inversion of multiple satellite datasets (MOPITT, AIRS, SCIAMACHY, TES)", Source: ATMOSPHERIC CHEMISTRYPHYSICS DISCUSSIONS, Volume: 9, Pages: 19967-20018, Published. 2009 Source Atmospheric Chemistry and Physics Volume: 10 Issue: 3 Pages: 855-876 Published: 2010, Times cited 196.

24) Kim S.-W., Heckel A., McKeen S. A., Frost G. J., Hsie E.-Y., Trainer M. K., Richter A., Burrows J. P., Peckham S. E. and Grell G. A.,2006, "Satellite-observed US power plant NOx emission reductions and their impact on air quality", GEOPHYSICALRESEARCH. LETTERS, 33, L22812, doi:10.1029/2006GL027749; Times cited 187.

25) Hilboll A., Richter A., and Burrows J. P., "Long-term changes of tropospheric NO2 over megacities derived from multiple satellite instruments", Source: Atmospheric Chemistry and PhysicsVolume: 13 Issue: 8 Pages: 4145-4169 DOI: 10.5194/acp-13-4145-2013 Published: 2013; Times cited 182.

26) Wittrock F., Oetjen H., Richter A., Fietkau S., Medeke T., Rozanov A., and Burrows J. P., 2004, "MAX-DOAS measurements of atmospheric trace gases in Ny-Ålesund - Radiative transfer studies and their application", ATMOSPHERIC CHEMISTRY

PHYSICS DISCUSSIONS., 3, 6109-6145, 2003 and Atmospheric Chemistry and Physics, 4, pp. 955-966, 2004. Times Cited 171.

27) Eisinger, M.; Burrows, J.P.; Tropospheric sulfur dioxide observed by the ERS-2 GOME instrumen; Geophysical Research Letters; Volume: 25 Issue: 22 Pages: 4177-4180; DOI: 10.1029/1998GL900128; Published: NOV 15 1998; Times Cited 167.

28) Kaleschke L., Richter A., Burrows J. P., Afe O., Heygster G.,Notholt J., Rankin A. M, Roscoe H. K., Hollwedel J., Wagner T., and Jacobi, H. W., 2004, "Frost flowers on sea ice as a source of sea salt and their influence on tropospheric halogen chemistry", Source: Geophysical Research Letters Volume: 31 Issue: 16 Article Number: L16114 Published: AUG 25 2004; Times cited 166.

29) Buchwitz, M.; Rozanov, V.V.; Burrows, J.P.; A near-infrared optimized DOAS method for the fast global retrieval of atmospheric CH_4, CO, CO_2, H_2O, and N_2O total column amounts from SCIAMACHY Envisat-1 nadir radiances; View ResearcherID and ORCID; Journal of Geophysical Research-Atmospheres; Volume: 105 Issue: D12 Pages: 15231-15245; DOI: 10.1029/2000JD900191; Published: JUN 27 2000, Times Cited: 143.

30) Platt U., Le Bras, G., Poulet, G., Burrows, J. P., and Moortgat, G. K.1990, "Peroxy radicals from night-time reaction of NO_3." NATURE Volume: 348 Issues: 6297 Pages: 147-149 Published: NOV 8 1990, Times Cited: 145.

2. BOOKS, BOOK CHAPTERS – peer reviewed

1) Reviewer - The 2014 WMO/UNEP assessment, Scientific Assessment of Ozone Depletion: 2014, contains the most up-to-date understanding of ozone depletion. It reflects the thinking of hundreds of international scientific experts who contribute to its preparation and review. Co-chairs of this Assessment are Dr. A.R. Ravishankara of Colorado State University and the NOAA ESRL Chemical Sciences Division, USA, Dr. Paul A. Newman of the NASA Goddard Space Flight Center, USA, Dr. John A. Pyle of the University of Cambridge, UK, and Dr. Ayité-Lô Nohende Ajavon of the North-South Environment, Togo. Other members of the ESRL Chemical Sciences Division are making substantial contributions to the report, serving as coauthors, contributors, reviewers, coordinating editor, and editorial and computing support staff.

2) Climate and Weather of the Sun- Earth System: Highlights from a priority program 2013 Editor Franz. Joseph Lübchen J. P. Burrows one of the authors of Chapter: 3 "Investigation of solar irradiance variations and their impact on middle atmospheric ozone Chapter: 9"Data assimilation and model calculations to study the chemistry climate interactions in the stratosphere" and Chapter: 20 "Impact of short term solar variability on the polar summer mesosphere and noctiluscent clouds", SSN 2194-5217 ISN 2194 – 5225 (electronic),ISBN 978-94-007-4347-2, ISBN 978-94-007-4348-9 (eBook), DOI 10.1007/978-94-007-4348-9, published by Springer Dordrecht Heidelberg New York, London 2013

3) The remote sensing of tropospheric composition from space 2011, Editors John P. Burrows, Ulrich Platt, and Peter Borrell
J. P. Burrows one of the authors of Chapter 1: Tropospheric remote sensing from space and Chapter 10: Conclusions and perspectives

4) Chemie über den Wolken: und darunter, Editor Reinhard Zellner, J. P. Burrows an author of the chapter: Spurenstoff in Visier , ISBN 978-3-527-32651-8, WILEY-VCH Verlag GmbH & Co. KGaA, Boschstr. 12 69469 Weinheim, Germany 2011

5) SCIAMACHY – Exploring the Changing Earth's Atmosphere, Editors Manfred Gottwalk Heinrich Bovensmann, J. P. Burrows an author of Chapter 1, ISBN 978-90-481-9895-5,e-ISBN 978-90-481-9896-2,DOI: 10.1007/978-90-481-9896-2 published by Springer Dordrecht Heidelberg New York, London 2011

6) Scientific Assessment of ozone Depletion: 2010, World Meteorological Organization, Global Ozone Research and Monitoring Project—Report No. 52, Pursuant to Article 6 of the Montreal Protocol on Substances that Deplete the Ozone Layer. National Oceanic and Atmospheric Administration, National Aeronautics and Space Administration, United Nations Environment Programme, World Meteorological Organization and European Commission, Published by World Meteorological Organization at http://www.esrl.noaa.gov/csd/assessments/ozone/2010/chapters/prefaceprologue.pdf

7) Chemie in unserer Zeit **3** pp 170 - 1912007, Spurenstoffe und ihre Sondierung, J. P. Burrows, H. Foscher, K. Künzi, K. Pfeilsticker, U. Platt, A. Richter, M. Riese, G. Stiller, T. Wagner.

8) Scientific Assessment of Ozone Depletion: 2006, World Meteorological Organization Global Ozone Research and Monitoring Project - Report No. 50, National Oceanic and Atmospheric Administration, National Aeronautics and Space Administration, United Nations Environment Programme, World Meteorological Organization and European Commission, published by World Meteorological Organization
7 bis, avenue de la Paix
Case postale No. 2300
CH-1211, Geneva 2
Switzerland
ISBN: 978-92-807-2756-2 OZO/0872/NA
J. P. Burrows one of the authors.

9) Sounding the Troposphere from Space: A New Era for Atmospheric Chemistry 2004, Borrell, P., Borrell, P.M., Burrows, J.P., Platt, U. (Eds.) XXIX, 446 p. 269 illus., 225 in color, TROPOSAT: the project and the scientific highlights. Peter Borrell, John P. Burrows, Ulrich Platt ISBN 978-3-540-40873-4 This format is available online on SpringerLink.com within an e-book package.

10) Current and future passive remote sensing techniques used to determine atmospheric constituents 1999, in Developments in Atmospheric Sciences 24: Approaches to Scaling Trace Gas Fluxes in Ecosystems, Ed A. F. Bouwman Elsevier Amsterdam pp 315-347. ISBN: 0-444-82934-2. Burrows J. P.

11) Halogen Oxides: radical sources and reservoirs in the laboratory and in the atmosphere, 1995, Office for official publication of the European Communities, 1995, ISBN 92-827-4642-9 R. P. Wayne, G. Poulet, P. Biggs, J. P. Burrows, R. A. Cox, G. D. Hayman, M. E. Jenkin, G. Le Bras, G. K. Moortgat U. Platt and R. N. Schindler

12) Report of the Earth Observation User Consultation Meeting, 1991ESA SP-1143, European Space Agency ESA Publications Division, ESTEC Nordwijk, The Netherlands, ISBN 92-9092-148-X

13) The Nitrate Radical: Physics, Chemistry and the Atmosphere, Office for official publication of the European Communities, 1991 Wayne R. P., Barnes, I., Biggs, P., Burrows, J. P., Canosa-Mas, C. E., Hjorth, J., Le Bras, G., Moortgat, G. K., Perner, D., Poulet, G., Restelli, G.and Sidebottom, H., 1991.

3. PEER REVIEWED PUBLICATIONS: J. P. BURROWS

*****1977*****

1) Burrows J. P., Harris, G. W., and Thrush B. A., 1977, "Rates of reaction of HO_2 with HO and O studied by laser magnetic resonance.", NATURE, 267 233 (1977).

*****1979*****

2) Burrows J. P., Cliff, D. I., Davies, P. B., Harris, G. W., Thrush, B. A., and Wilkinson, J. P. T., 1979,"Pressure broadening of the lowest rotational transition of OH studied by laser magnetic resonance.", CHEMICAL PHYSICS LETTERS, 65 197.

3) Burrows J. P., D. I. Cliff, G. W. Harris, B. A. Thrush and J. P. T. Wilkinson 1979, "Atmospheric reactions of the HO_2 radical studied by laser magnetic resonance spectroscopy.", PROCEEDINGS OF THEROYAL SOCIETY A368 463.

4) Burrows J. P., R. A. Cox and M. C. Addison 1979, "Kinetic studies of atmospheric free radicals." Published in the peer reviewed Proceedings of the NATO Advanced Study Institute on Atmospheric Ozone. October 1979 Federal Aviation Agency Report No. FAA-EE-80-20 483-497.

5) Cox R. A. and J. P. Burrows 1979, "Kinetics and mechanism of the disproportionation of HO_2 in the gas phase." JOURNAL OF PHYSICAL CHEMISTRY, 83 2560-2568.

*****1980*****

6) Addison M. C., J. P. Burrows, R. A. Cox and R. Patrick 1980, "Absorption spectrum and kinetics of the acetyl peroxy radical.", CHEMICAL PHYSICS LETTERS, 73 283.

*****1981*****

7) Batt L., J. P. Burrows and G. N. Robinson 1981, "On the isomerisation of the methoxy radical: relevance to atmospheric chemistry and combustion.", CHEMICAL PHYSICS LETTERS Volume: 78 Issue: 3 Pages: 467-470 Published: 1981

8) Burrows J. P. and Cox, R. A., 1981, "Kinetics of chlorine oxide radical reactions using modulated photolysis. Part 4.—The reactions Cl + Cl2O → Cl2+ ClO and ClO + HO2→ products studied at 1 atm and 300c k ", JOURNAL OF THE CHEMICAL SOCIETY, FARADY TRANSACTIONS I, 77 2465-2479.
9) Burrows J. P., Cox R. A. and Derwent, R. G., 1981, "Modulated photolysis of the ozone—water vapour system: kinetics of the reaction of OH with HO2", J. Photochem. 16 147-168.

10) Cox R. A., Burrows J. P. and Wallington, T., 1981, "Rate coefficient for the reaction OH + HO2 = H2O + O2 at 1 atmosphere pressure and 308 K", Chemical Physics Letters. 84 217-221.

*****1982*****

11) Jones B. M. R., J. P. Burrows, R. A. Cox and S. A. Penkett, 1982, "OCS formation in the reaction of OH with CS_2", CHEMICAL PHYSICS LETTERS, 88 372 (1982).

*****1983*****

12) Burrows J. P., T. J. Wallington and R. P. Wayne 1983, "Kinetics of the gas-phase reactions of OH with NO_2 and with NO" JOURNAL OF CHEMICAL SOCIETY, FARADAY TRANSACTIONS 2, 79 111.

13) Burrows J. P., G. K. Moortgat and D. W. T. Griffith 1983, "Some studies of the chemistry of $ClONO_2$, N_2O_5 and NO_3." BULLETIN DES SOCIETES CHIMIQUES BELGES Volume: 92 Issue: 6-7 Pages: 659-659 Published: 1983

*****1984*****

14) Cox R. A., Burrows, J. P., and Coker, G., 1984, "Product formation in the association reaction of ClO with NO_2, investigated by diode laser spectroscopy." Int. J. Chem. Kin. 16 445 1984.

15) Griffith D. W. T., Tyndall, G.S., Burrows, J. P., and Moortgat, G. K. 1984, "Matrix isolation spectra of $ClONO_2$." CHEMICAL PHYSICS LETTERS 107 341.

16) Burrows J. P., Tyndall, G. S., Griffith, D. W. T., and Moortgat, G. K., 1984, "A study of the reaction between ClO and NO_2 using matrix isolation F.T.I.R. spectroscopy and UV-visible spectroscopy." Published in the peer reviewed Proceedings of the 3rd European Symposium on the Physico-Chemical Behaviour of Atmospheric Pollutants, Ed. B. Versino and G. Angeletti, Varese Italy, p 249 published by D. Reidel Co., Dordrecht 1984.

17) Burrows J. P., Tyndall G. S., and Moortgat, G. K., 1984, "A study of N_2O_5 and NO_3 chemistry and the photolysis of N_2O_5 mixtures." Published in the peer reviewed Proceedings of the 3rd European Symposium on the Physico Chemical Behaviour of Atmospheric Pollutants, Ed. B. Versino and G. Angeletti, D. Reidel and Co., Dordrecht 1984.

18) Burrows J. P., T. J. Wallington T. J, and Wayne, R. P., 1984, "Kinetics of the reaction of OH with ClO." JOURNAL OF CHEMICAL SOCIETY, FARADAY TRANSACTIONS 2, 80 957.

*****1985*****

19) Burrows J. P., Griffith, D. W. T., Moortgat, G. K. and G. S. Tyndall 1985, "Matrix Isolation-FTIR study of the products of the reaction between ClO and NO_2.", JOURNAL OF PHYSICAL CHEMISTRY, 89 266.

20) Burrows J. P., G. S. Tyndall and G. K. Moortgat 1985, "A study of the N_2O_5 equilibrium between 275 K and 315 K and the determination of the heat of formation of NO_3." CHEMICAL PHYSICS LETTERS 119 193.

21) Burrows J. P., G. S. Tyndall and G. K. Moortgat 1985," Absorption spectrum of NO_3 and kinetics of the reactions of NO_3 with NO_2, Cl, and several stable atmospheric species at 298 K, JOURNAL OF PHYSICAL CHEMISTRY 89 4848-4856.

*****1986*****

22) Burrows J. P., Tyndall, G.S., Schneider, W., Bingemer, H., Moortgat, G. K., and Griffith, D. W. T., 1986, "Some studies of the atmospheric reactions of NO_3 and FTIR matrix isolation spectrum of NO_3.", published in the peer reviewed Proceedings of the 17th International Symposium of free radicals, Granby Co., August 18-23 1985, NBS Special Publication Nr. 716 137-157.

23) Tyndall G. S., J. P. Burrows, W. Schneider and G. K. Moortgat 1986, "Rate coefficient for the reaction between NO_3 radicals and dimethyl sulphide.", CHEMICAL PHYSICS LETTERS 130 463.

24) Stedman D. H., Walega, J. G., Cantrell C. A., Burrows J. P., and Tyndall G. S., 1986, "Ambient radical concentrations in the presence of airborne liquid water.", published in the peer reviewed NATO ASI Series, in Chemistry of Multiphase Atmospheric Systems, W. Jaeschke Ed., Springer-Verlag, Berlin-Heidelberg Vol. G6, 352-366.

*****1987*****

25) Tyndall G. S., Stedman, K. M., Schneider W., Burrows J. P., Moortgat,, G.K., "The absorption spectrum of ClNO between 190 and 350 nm", JOURNAL OF PHOTOCHEMISTRY Volume: 36 Issue: 2 Pages: 133-139 Published: FEB 1987

26) Schneider W., Moortgat, G. K., Tyndall, G. S., and Burrows, J. P.,1987, "Absorption cross-sections of NO_2 in the UV and visible region (200 – 700 nm) at 298 K", Journal of Photochemistry and Photobiology A-Chemistry Volume: 40 Issue: 2-3 Pages: 195-217 Published: NOV 1987

*****1988*****

27) Burrows J. P., Tyndall, G. S. and Moortgat, G. K., 1988, "Kinetics and mechanism of the photooxidation of formaldehyde. 2. Molecular modulation studies", JOURNAL OF

PHYSICAL CHEMISTRY Volume: 92 Issue: 15 Pages: 4340-4348 Published: JUL 28 1988.

*****1989*****

28) Burrows J. P., Moortgat, G. K, Tyndall, G. S., Cox, R. A., Jenkin, M. E., Hayman G. D. and Veyret B., 1989, "The Kinetics and mechanism of the HO_2 + HCHO reaction: Part II Molecular modulation studies.", JOURNAL OF PHYSICAL CHEMISTRY Volume: 93 Issue: 6 Pages: 2375-2382 Published: MAR 23 1989

29) Johnson T. J., Wienhold, F. G., Burrows, J. P. and Harris, G. W., 1989, "A diode laser FM spectrometer for monitoring weak atmospheric absorptions in the Near-Infrared." Transactions of the American Geophysical Union 70 No. 43, 1007.

30) Mellouki A., Poulet, G., Le Bras, G., Singer, R. S., Burrows, J. P., and Moortgat, G. K., 1989, "Discharge flow study of the reaction of NO_3 with Br, BrO, HBr and HCl.", JOURNAL OF PHYSICAL CHEMISTRY Volume: 93 Issue: 24 Pages: 8017-8021 Published: NOV 30 1989

31) Moortgat G. K., Cox R. A., Schuster G. and Burrows J. P., 1989, "Peroxy radical reactions in the photo-oxidation of CH_3CHO.", JOURNAL OF THE CHEMICAL SOCIETY-FARADAY TRANSACTIONS II Volume: 85 Pages: 809-829 Part: 7 Published: JUL 1989

32) Simon F. G., Burrows J. P., Schneider W., Moortgat G. K., and Crutzen P. J., 1989, "Study of the reaction ClO + CH_3O_2 $\rightarrow$ products at 300K", JOURNAL OF PHYSICAL CHEMISTRY Volume: 93 Issue: 23 Pages: 7807-7813 Published: NOV 16 1989

33) Singer R. J., Crowley J. N., Burrows J. P., Schneider W. and Moortgat G. K., 1989, "Measurement of the absorption cross section of peroxynitric acid between 210 and 330 nm in the range 253 to 298 K.", Journal of Photochemistry and Photobiology A-Chemistry Volume: 48 Issue: 1 Pages: 17-32 Published: JUL 1989

*****1990*****

34) Burrows J. P., Schneider W., Geary J. C., Chance K. V., Goede A. P. H., Aarts H. J. M., de Vries J., Smorenburg C., and Visser, H., 1990, "Atmospheric remote sensing with SCIAMACHY.", Digest of Topical Meeting on Optical Remote Sensing of the Atmosphere 1990 (Optical Society of America, Washington D.C. 1990) 4 71 1990.

35) Crowley J. N., Burrows J. P., Moortgat G. K., Poulet G. and LeBras G., 1990, "Room temperature rate coefficient for the reaction between CH_3O_2 and NO_3.", : INTERNATIONAL JOURNAL OF CHEMICAL KINETICS Volume: 22 Issue: 7 Pages: 673-681 Published: JUL 1990

36) Platt U., Le Bras G., Poulet G., Burrows J. P. and Moortgat, G. K.1990, "Peroxy radicals from night-time reaction of N03 with organic compounds" NATURE Volume: 348 Issue: 6297 Pages: 147-149 Published: NOV 8 1990

37) Simon F. G., Schneider W., Moortgat G. K., and Burrows J. P., 1990, "A study of the ClO absorption cross-section between 240 and 310 nm and the kinetics of its disproportionation reaction at 300K.", Journal of Photochemistry and Photobiology A-Chemistry Volume: 55 Issue: 1 Pages: 1-23 Published: DEC 10 1990

*****1991*****

38) Burrows J. P. and K. V. Chance 1991, "Scanning imaging absorption spectrometer for atmospheric chartography." Future European and Japanese Remote Sensing Sensors and Programs - Philip N. Slater Editor Proc SPIE 1490 146-155.

39) Chance K. V., Burrows J. P., and Schneider W., 1991, "Retrieval and molecule sensitivity studies for the global ozone monitoring experiment and the scanning imaging absorption spectrometer for atmospheric chartography.", Remote Sensing of Atmospheric Chemistry - James L. McElroy and Robert J. McNeal Editors Proc SPIE 1491 151-168

40) Crowley J. N., Simon F., Burrows J. P., Moortgat G. K., Jenkin M.E., and Cox R.A., 1991 "The HO_2 radical UV absorption spectrum measured by molecular modulation, UV/diode-array spectroscopy", Journal of Photochemistry and Photobiology A-Chemistry Volume: 60 Issue: 1 Pages: 1-10 Published: AUG 15 1991

41) Hastie D. R., Weißenmeyer M., Burrows J. P., and Harris G.W., 1991, "A calibrated chemical amplifier for atmospheric RO_X measurements.", ANALYTICAL CHEMISTRY Volume: 63 Issue: 18 Pages: 2048-2057 Published: SEP 15 1991

42) Johnston T. J, Wienhold F.G, Burrows J. P., Harris G. W., and Burkhard H., 1991, "Measurements of Line strengths in the HO_2 v_1 Overtone Band at 1.5 μm using an InGaAs Laser.", JOURNAL OF PHYSICAL CHEMISTRY Volume: 95 Issue: 17 Pages: 6499-6502 Published: AUG 22 1991 DOI: 10.1021/j100170a022

43) Johnson T. J., Wienhold F. G., Burrows J. P. and Harris, G. W., 1991 "Frequency-Modulation Spectroscopy at 1.3 MU-M using INGAASP Lasers - A Prototype Field Instrument for Atmospheric Chemistry Research", APPLIED OPTICS Volume: 30 Issue: 4 Pages: 407-413 Published: FEB 1 1991

44) Wayne R. P., Barnes I., Biggs P., Burrows J. P., Canosa-Mas C. E., Hjorth J., Le Bras G., Moortgat G. K., Perner D., Poulet G., Restelli G.and Sidebottom H., 1991, "The Nitrate Radical: Physics, Chemistry and the Atmosphere", Atmospheric EnvironmentPART A-GENERAL TOPICS Volume: 25 Issue: 1 Pages: 1-203 Published: 1991

*****1992*****

45) Harris G. W., Klemp D., Zenker T., Burrows J. P., and Mathieu B. 1992, "Tunable diode laser measurements of trace gases during the 1988 Polarstern cruise and Intercomparisons with other methods.", JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 15 Issue: 3-4 Pages: 315-326 Published: 1992

46) Maric D. and Burrows, J. P., 1992, "Formation of N_2O in the photolysis/photo excitation of NO, NO_2 and air", Journal of Photochemistry and Photobiology A-Chemistry Volume: 66 Issue: 3 Pages: 291-312 Published: JUN 30 1992

47) Maric D., Burrows J. P. and Moortgat G. K., 1992, "A study of the formation of N_2O in the reaction of $NO_3(A^2E)$ with N_2.", JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 15 Issue: 2 Pages: 157-169 Published: AUG 1992

48) Rozanov V. V., Timofeyev Yu. M, Polyakov A. V., Burrows J. P. and Chance, K. V., 1992, "On the possibilities of precision measurements of O_3 and NO_2 from space by solar radiation absorption spectra.", IZVESTIYA AKADEMII NAUK FIZIKA ATMOSFERY I OKEANA Volume: 28 Issue: 5 Pages: 500-505 Published: MAY 1992

49) Rozanov V. V., Timofeyev Yu. M., Burrows J. P. and W. Schneider 1992, "On the sensitivity of atmospheric transmission functions on slant paths to variations of several trace gases in the UV and visible." IZVESTIYA AKADEMII NAUK FIZIKA ATMOSFERY I OKEANA Volume: 28 Issue: 7 Pages: 714-720 Published: JUL 1992

50) Rozanov V. V., Timofeyev Yu. M.,. Burrows J. P and Chance K. V., 1992, "On the potential accuracy of determination of the content of some minor gaseous constituents from satellite limb measurements of atmospheric transparency", Izvestiya Akademii Nauk SSSR Fizika Atmosfery I Okeana 28(8) pp 884-887.

****1993*****

51) Burrows J. P., Rozanov V. V., Timofeyev Yu. M., Polyakov A. V., Spurr R. J. D. and Chance K. V., 1993, "A study of the accuracy of atmospheric trace gas vertical profile retrieval from satellite based occultation measurements.", published in the peer reviewed International Radiation Symposium 1992 Eds Keevallik and Kärner 398-400 ISBN 0-937194-28-X

52) Burrows J. P. and Chance K.V.,1993, "GOME and SCIAMACHY: the scientific objectives.", Optical methods in Atmospheric Chemistry H. I. Schiff and U. Platt Editors PROC SPIE 1715 502-513

53) Crowley J. N., Burrows J. P., Moortgat G. K., Poulet G., and LeBras G. 1993, "Optical detection of NO_3 and NO_2 in "pure" HNO_3 vapour: the liquid phase decomposition of HNO_3.", Int. J. Chem. Kin 25 795-803

54) Diebel D., Spurr R. J. D., Burrows J. P., Rozanov V. V. and Timofeyev, Yu. M., 1993, "Forward Model considerations and precision estimates for the retrieval of atmospheric profiles for GOME.", Optical methods in Atmospheric Chemistry H. I. Schiff and U. Platt Editors PROC SPIE 1715 573-585

55) Kamperman Th., Goede A. P.H., Gunsing C. J. Th., Mewe R., Slijkhuis S., de Vries J., Spurr R. J., Burrows, J. P., and Chance, K. V., 1993, "GOME Instrument Simulation.", Optical methods in Atmospheric Chemistry H. I. Schiff and U. Platt Editors PROC SPIE 1715 562-573.

56) Maric M., Burrows J. P., Meller R., and Moortgat G. K., 1993, "A study of the UV-visible absorption spectrum of molecular chlorine.", Journal of Photochemistry and Photobiology A-Chemistry Volume: 83 Issue: 3 Pages: 179-192 Published: OCT 25 1994

57) Rozanov V. V., Yu. Timofeyev Y. M, Biryulina M. S., Burrows J. P., Spurr R. J. D, and D. Diebel 1993, "Accuracy of atmospheric constituent retrieval from multichannel remote sensing instruments.", published in the peer reviewed Proceedings of the International Radiation Symposium 1992 Eds Keevallik and Kärner 394-397 ISBN 0-937194-28-X

58) Behmann T., Weißenmayer M., and Burrows J. P., 1993 “Peroxy radicals in the night-time oxidation chemistry”, published in the peer reviewed Proceedings of the 6th European Symposium on the physico-chemical behaviour of atmospheric pollutants, pp 259-264, Varese.

*****1994*****

59) Chance. K., Wijnbergen J.J., Schneider W., and Burrows J. P., 1994, “The OHIO Concept - A Baseline Design for Satellite Based Measurements of Stratospheric OH”, Conference on High-Temperature Superconducting Detectors: Bolometric and Nonbolometric, Date: JAN 25-26, 1994 LOS ANGELES CA Source: HIGH-TEMPERATURE SUPERCONDUCTING DETECTORS: BOLOMETRIC AND NONBOLOMETRIC Volume: 2159 Pages: 21-33 Published: 1994

60) Maric D., Burrows J. P., and Moortgat G. K., 1994, "A study of the UV-visible Absorption spectra of Br_2 and BrCl.", Journal of Photochemistry and Photobiology A-Chemistry Volume: 83 Issue: 3 Pages: 179-192 Published: OCT 25 1994

*****1995*****

61) Burrows J. P., Hölzle E., Goede A. P. H., Visser H. and Fricke, W., 1995, "SCIAMACHY - Scanning Imaging Absorption Spectrometer for Atmospheric Chartography." ACTA ASTRONAUTICA Volume: 35 Issue: 7 Pages: 445-451 Published: APR 1995

62) Chance. K., Wijnbergen J.J., de Valk P., Schneider W., and Burrows J. P. 1995, "The OHIO Concept- Refinements on a Design for Satellite based Measurements of Stratospheric OH", Conference Information: Conference on Atmospheric Sensing and Modelling, Date: SEP 29-30, 1994 ROME ITALY, ATMOSPHERIC SENSING AND MODELING Volume: 2311 Pages: 236-239 Published: 1995

63) Wayne R. P., Biggs P., Burrows J. P., Cox R. A., Crutzen P. J., Hayman G. D., Jenkin M. E., LeBras G., Moortgat G. K., Poulet G., and Platt, U., 1995 "Halogen oxides: Radicals, sources and reservoirs in the laboratory and in the atmosphere", Atmospheric EnvironmentVolume: 29 Issue: 20 Pages: 2677-2881 Published: OCT 1995

*****1996*****

64) Blindauer C., Rozanov V. V., and Burrows, J. P., 1996 "Actinic Flux and Photolysis Frequency Comparison Computations using the new model PHOTOGT", JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 24 Issue: 1 Pages: 1-21 Published: 1996

65) Deters B., Burrows J. P., Himmelmann S. and C. Blindauer 1996, "Gas Phase spectra of HOBr and Br_2O and their atmospheric significance", ANNALES GEOPHYSICAE-ATMOSPHERES HYDROSPHERES AND SPACE SCIENCES Volume: 14 Issue: 4 Pages: 468-475 Published: 1996

66) Eisinger M., Richter A., Burrows J. P., and Piters A., 1996, "Studies on DOAS column retrieval from the UV and Visible measurements of GOME", ESA WPP-108 161-174.

67) Eisinger M., Burrows J. P., and Richter A., 1996, "Studies on the precision of GOME Irradiance and Radiance products and GOME measurements of OClO and BrO over Antarctica", ESA WPP-108 93-109.

68) Gurlit W., Burrows J. P., Burkhard H., Böhm R., Baev V. M. and Toschek, P. E., 1996, "Intracavity diode laser for atmospheric field measurements", 4th International Symposium on Monitoring of Gaseous Pollutants by Tuneable Diode Lasers, Date: OCT 19-20, 1994 FREIBURG GERMANY
Source: INFRARED PHYSICS & TECHNOLOGY Volume: 37 Issue: 1 Pages: 95-98 Published: 1996

69) Gurlit W., Trentmann J., Burrows J. P., and Burkhard H., 1996, "External resonator tuneable diode laser (TDL) system for extra cavity and intra cavity absorption: experiments and modelling", Conference on the Application of Tuneable Diode and Other Infrared Sources for Atmospheric Studies and Industrial Process Monitoring, Date: AUG 08-09, 1996 DENVER CO, APPLICATION OF TUNABLE DIODE AND OTHER INFRARED SOURCES FOR ATMOSPHERIC STUDIES AND INDUSTRIAL PROCESS MONITORING SPIE Volume: 2834 Pages: 24-33 Published: 1996

70) Himmelmann S., Orphal J. Bovensmann H., Richter A., Ladstätter-Weißenmayer A. and Burrows, J. P., 1996, "First observation of the OIO molecule by time resolved flash

photolysis absorption spectroscopy", CHEMICAL PHYSICS LETTERS Volume: 251 Issue: 5-6 Pages: 330-334Published: 1996

71) Maric D. and Burrows J. P., 1996, "Application of a Gaussian distribution function to describe molecular UV-visible absorption continua - Part 1: theory." JOURNAL OF PHYSICAL CHEMISTRY Volume: 100 Issue: 21 Pages: 8645-8659 Published: 1996

72) Rozanov V. V., Timofeev Yu., M., and Burrows J. P., 1996," Informativeness of measurements of outgoing ultraviolet, visible, and near-infrared solar radiation (GOME instruments)",EARTH OBSERVATION AND REMOTE SENSING Volume: 13 Issue: 6 Pages: 903-918 Published: 1996

73) Voigt S., Dreher S., Orphal J. and Burrows J.P., 1996, "N_2 broadening in the (CO)-C-13-O-16 2-0 band around 4167 cm(-1)", JOURNAL OF MOLECULAR SPECTROSCOPY Volume: 180 Issue: 2 Pages: 359-364 Published: DEC 1996

*****1997*****

74) Burkert J., Andres Hernandez M. D., Schwoppe H.D., Stobener D., Weißenmayer M., and Burrows J. P.,1997, "Ozone production calculated by using peroxy radical measurements", EUROTRAC Symposium 96 - Transport and Transformation of Pollutants in the Troposphere, Date: MAR 25-29, 1996 GARMISCH PARTENKI GERMANY, PROCEEDINGS OF EUROTRAC SYMPOSIUM '96 - TRANSPORT AND TRANSFORMATION OF POLLUTANTS IN THE TROPOSPHERE, VOL 2 Pages: 627-631 Published: 1997

75) Burrows J. P., Buchwitz M., Rozanov V. V., Weber M., Richter A., Ladstatter-Weissenmayer A. and Eisinger, M., 1997, "The global ozone monitoring experiment (GOME): Mission, instrument concept, and first scientific results", Conference Information: 3rd ERS Symposium on Space at the Service of Our Environment, Date: MAR 14-21, 1997 FLORENCE ITALY, THIRD ERS SYMPOSIUM ON SPACE AT THE SERVICE OF OUR ENVIRONMENT, VOLS. II & III Volume: 414 Pages: 585-590 Published: 1997

76) Chance K., Burrows J. P., Perner D. and Schneider, W., 1997 "Satellite measurements of atmospheric ozone profiles, including tropospheric ozone from UV/visible measurements in the nadir geometry: a potential method to retrieve tropospheric ozone", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 57 Issue: 4 Pages: 467-476 Published: APR 1997

77) de Beek R, Hoogen R, Rozanov V. and Burrows J.P.,1997 "Ozone profile retrieval from GOME satellite data I: Algorithm description" THIRD ERS SYMPOSIUM ON SPACE AT THE SERVICE OF OUR ENVIRONMENT, VOLS. II & III Book Series: ESA SPECIAL PUBLICATIONS Volume: 414Pages: 749-754Published: 1997

78) Eichmann K.-U., Bramstedt K., Weber M., Rozanov V., de Beek R., Hoogen R. and Burrows J.P. "Ozone profile retrieval from GOME satellite data II: Validation and applications", Conference Information: 3rd ERS Symposium on Space at the Service of

Our Environment, Date: MAR 14-21, 1997 FLORENCE ITALY Source: THIRD ERS SYMPOSIUM ON SPACE AT THE SERVICE OF OUR ENVIRONMENT, VOLS. II & III Volume: 414 Pages: 755-758 Published: 1997

79) Eisinger M., Richter A., Ladstätter-Weißenmayer A. and Burrows J. P., 1997, "DOAS Zenith Sky Observations: 1 BrO Measurements over Bremen (53 ºN) 1993-1994", JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 26 Issue: 1 Pages: 93-108 Published: JAN 1997

80) Frerick J., Bovensmann H., Noël S., Burrows J.P. and Dobber M., 1997, "SCIAMACHY on-ground/in-flight calibration, performance verification and monitoring concepts", Conference Information: Earth Observing Systems II Conference, Date: JUL 28-29, 1997 SAN DIEGO CA
Source: EARTH OBSERVING SYSTEMS II Volume: 3117 Pages: 176-187 Published: 1997

81) Hegels E., Crutzen P.J., Klupfel T., Perner D., and Burrows J.P., 1997, "Global ozone monitoring experiment, GOME: Global distribution of BrO", Conference Information: 3rd ERS Symposium on Space at the Service of Our Environment, Date: MAR 14-21, 1997 FLORENCE ITALY, THIRD ERS SYMPOSIUM ON SPACE AT THE SERVICE OF OUR ENVIRONMENT, VOLS. II & III Volume: 414 Pages: 681-685 Published: 1997

82) Kurosu T, Rozanov V. V., and Burrows J. P.,1997, "Parameterization schemes for terrestrial water clouds in the radiative transfer model GOMETRAN", Journal of Geophysical Research-Atmospheres Volume: 102 Issue: D18 Pages: 21809-21823 Published: SEP 27 1997

83) Maric D., Crowley J. N., and Burrows J. P., 1997, "Application of a Gaussian Distribution Function to describe molecular UV-Visible Absorption Continua 2 The UV Spectra of RO_2 Radicals" JOURNAL OF PHYSICAL CHEMISTRY A Volume: 101 Issue: 14 Pages: 2561-2567 Published: APR 3 1997

84) Perner D., Klupfel T., Hegels E., Crutzen P.J., and Burrows J.P., 1997, "First results on tropospheric observations by the global ozone monitoring experiment, GOME, on ERS 2", Conference Information: 3rd ERS Symposium on Space at the Service of Our Environment, Date: MAR 14-21, 1997 FLORENCE ITALY, THIRD ERS SYMPOSIUM ON SPACE AT THE SERVICE OF OUR ENVIRONMENT, VOLS. II & III Volume: 414 Pages: 647-652 Published: 1997

85) Rathman W., Monks P. S., Llewellyn-Jones D., and Burrows J. P. 1997, "A preliminary comparison between TOVs and GOME level 2 Ozone data", Geophysical Research Letters Volume: 24 Issue: 17 Pages: 2191-2194 Published: SEP 1 1997

86) Rozanov V.V., Diebel, D., Spurr, R. J. D., and Burrows, J. P., 1997, "GOMETRAN: A Radiative Transfer Model for the Satellite Project GOME: the Plane-Parallel Version",

Journal of Geophysical Research-Atmospheres Volume: 102 Issue: D14 Pages: 16683-16695 Published: JUL 27 1997 DOI: 10.1029/96JD01535 Published: JUL 27 1997.

*****1998*****

87) Buchwitz M., Rozanov V.V. and Burrows, J. P. 1998 “Development of a correlated-k distribution band model scheme for the radiative transfer program GOMETRAN/SCIATRAN for retrieval of atmospheric constituents form SCIAMACHY/ENVISAT-1 data“, Satellite Remote Sensing of clouds and the atmosphere III, edited by J.E. Russell, Proceedings of SPIE, Conference on Satellite Remote Sensing of Clouds and the Atmosphere III, Date: SEP 21-23, 1998 BARCELONA SPAIN, SATELLITE REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE III Volume: 3495 Pages: 171-186 Published: 1998

88) Burrows J. P., Dehn A., Deters B., Himmelman S. Richter A., Voigt S. and Orphal J., 1998, "Atmospheric remote sensing reference data from GOME: Part 1 temperature dependent absorption cross-sections of NO_2 in the 231-794 nm Range", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 60 Issue: 6 Pages: 1025-1031 Published: DEC 1998

89) Burrows J. P., Weber M., Hilsenrath E., Gleason J., Janz S., Cebula R.P., Gu X.-Ý. and Chance K.,1998, "Global Ozone Monitoring Experiment (GOME): Comparison of Back Scattered Measurements and O_3 DOAS/BUV Retrievals" ", XVIII Quadrennial Ozone Symposium 1996 L’Aquila Italy Atmospheric Ozone: Proceedings of the Quadrennial Ozone Symposium 1996 Italy 12-21 September 1996, Eds R. D. Bojkov and G. Visconti, pp 657-660.

90) Burrows J. P, Eisinger M., Richter A., Rozanov V., Perner D. and Hegels E., 1998, " Global Ozone Monitoring Experiment (GOME): Measurements of OClO over Antarctica 1995" ", XVIII Quadrennial Ozone Symposium 1996 L’Aquila Italy Atmospheric Ozone: Proceedings of the Quadrennial Ozone Symposium 1996 Italy 12-21 September 1996, Eds R. D. Bojkov and G. Visconti, pp 661-664.

91) Burrows J. P. 1998, “Current and future passive remote sensing techniques used to determine atmospheric constituents”, International Workshop on Scaling of Trace Gas Fluxes Between Terrestrial and Aquatic Ecosystems and the Atmosphere, Date: JAN 18-22, 1998 BENNEKOM NETHERLAND, in APPROACHES TO SCALING OF TRACE GAS FLUXES IN ECOSYSTEMS Volume: 24 Pages: 317-347 Published: 1998, Ed A. F. Bouwman Elsevier Amsterdam pp 315-347. ISBN: 0-444-82934-2.

92) Deters B., Burrows J. P. and Orphal J., 1998, "UV-visible absorption cross sections of bromine nitrate determined by photolysis of $BrONO_2/Br_2$ mixtures", Journal of Geophysical Research-Atmospheres Volume: 103 Issue: D3 Pages: 3563-3570 Published: FEB 20 1998

93) Dobber M.R., Goede A. P. H. and J. P. Burrows 1998, "Observations of the Moon by GOME: Radiometric calibration and lunar albedo", APPLIED OPTICS Volume: 37 Issue: 33 Pages: 7832-7841 Published: NOV 20 1998

94) Eichmann K.-U., Weber M., Bramstedt K., Hoogen R., Rozanov V.V. and J.P. Burrows, 1998, “Ozone profile distributions in the Arctic from GOME satellite observations during spring 1997 and 1998“, Satellite Remote Sensing of clouds and the atmosphere III, edited by J.E. Russell, Proceedings of SPIE, Conference on Satellite Remote Sensing of Clouds and the Atmosphere III, Date: SEP 21-23, 1998 BARCELONA SPAIN, SATELLITE REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE III Volume: 3495 Pages: 357-366 Published: 1998

95) Eisinger M., and Burrows J. P., 1998, "Observations of SO_2 from volcanic plumes", Earth Observation Quarterly 58 pp16-18.

96) Eisinger M. and Burrows J. P., 1998, “Tropospheric Sulphur Dioxide observed by the ERS-2 GOME Instrument, Geophysical Research Letters Volume: 25 Issue: 22 Pages: 4177-4180 Published: NOV 15 1998

97) Hegels E., Perner D., Crutzen P. J., Burrows J. P., Ladstätter-Weißenmayer A., Eisinger M., Callies J. and Balzer W., 1998 "Global Ozone Monitoring Experiment: first BrO measurements", XVIII Quadrennial Ozone Symposium 1996 L’Aquila Italy Atmospheric Ozone: Proceedings of the Quadrennial Ozone Symposium 1996 Italy 12-21 September 1996, Eds R. D. Bojkov and G. Visconti, pp 293-296.

98) Hegels E., Crutzen P. J., Klüpfel T., Perner D. and Burrows J. P., 1998, "Global Distribution of Atmospheric Bromine-Monoxide from GOME on Earth Observing Satellite ERS-2”, Geophysical Research Letters Volume: 25 Issue: 16 Pages: 3127-3130 Published: 1998

99) Hoogen R., Rozanov V.,. Bramstedt K., Eichmann, K.-U., Weber M., de Beek R., Buchwitz M. and Burrows J. P., 1998, "Height resolved ozone information from GOME data", Earth Observation Quarterly 58 pp 9-10.

100) Hoogen R., V.V. Rozanov, K. Bramstedt, K.-U. Eichmann, M. Weber and J.P. Burrows, 1998 “Validation of ozone profiles from GOME satellite data“, Satellite Remote Sensing of clouds and the atmosphere III, edited by J.E. Russell, Proceedings of SPIE, Conference on Satellite Remote Sensing of Clouds and the Atmosphere III, Date: SEP 21-23, 1998 BARCELONA SPAIN
Source: SATELLITE REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE III Volume: 3495 Pages: 367-378 Published: 1998

101) Hoogen R., Rozanov V. V., Bramstedt K., Eichmann K.-U., Weber M. and Burrows J. P., 1998, “GOME: Neue Auswertealgorithmen liefern Ozonprofile”, Ozonbulletin des Deutschen Wetterdienstes, Ausgabe Nr. 5723. September 1998

102) Ladstätter-Weißenmayer A. and Burrows J. P., 1998, "Biomass burning over Indonesia", Earth Observation Quarterly 58 pp 28-30.

103) Noël S., Bovensmann H., Burrows J. P., Frerick J., Chance K. V., Goede A. H. P., and Muller C., 1998, “The SCIAMACHY instrument on ENVISAT-1“, Conference on

Sensors, Systems, and Next-Generation Satellites II, Date: SEP 21-24, 1998 BARCELONA SPAIN,SENSORS, SYSTEMS, AND NEXT-GENERATION SATELLITES II Volume: 3498 Pages: 94-104 Published: 1998

104) Orphal J., Dreher S.,, Voigt S., Burrows J. P., Jost R. and Delon A., 1998, "The Near-Infrared Bands of NO_2 observed by high resolution Fourier-transform spectroscopy", JOURNAL OF CHEMICAL PHYSICS Volume: 109 Issue: 23 Pages: 10217-10221 Published: DEC 15 1998

105) Richter A., M. Eisinger, F. Wittrock and J. P. Burrows, "GOME observations of tropospheric BrO in northern hemispheric spring and summer 1997", Geophysical Research Letters Volume: 25 Issue: 14 Pages: 2683-2686 Published: JUL 15 1998

106) Richter A., Eisinger M., Ladstätter-Weißenmayer A., Wittrock F. and Burrows J. P., 1998, "Ground based UV/Vis measurements of O_3, NO_2 and BrO over Bremen (53N 9E) ", ", XVIII Quadrennial Ozone Symposium 1996 L'Aquila Italy Atmospheric Ozone: Proceedings of the Quadrennial Ozone Symposium 1996 Italy 12-21 September 1996, Eds R. D. Bojkov and G. Visconti, pp 591-594.

107) Richter A., Eisinger M., Wittrock F. and Burrows J. P., 1998, "Measurements of halogen oxides by GOME", Earth Observation Quarterly 58pp19-20.

108) Rozanov V.V., Kurosu T. and Burrows J. P., 1998, "Retrieval of atmospheric constituents in the UV-visible: a new quasi-analytical approach for the calculation of weighting functions", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 60 Issue: 2 Pages: 277-299 Published: 1998

109) Seitzinger S.P., Malingreau J. P., Batjes N.H., Bouwman A.F., Burrows J.P., Estes J.E., Fowler D., Frankignoulle M. and Lapitan R.L., 1997 Working group report - How can we best define functional types and integrate state variables and properties in time and space?", APPROACHES TO SCALING OF TRACE GAS FLUXES IN ECOSYSTEMS Book Series: DEVELOPMENTS IN ATMOSPHERIC SCIENCE Volume: 24Pages: 153-167Published: 1998, Ed A. F. Bouwman Elsevier Amsterdam pp 315-347. ISBN: 0-444-82934-2

110) Sumpf R., Burrows J. P., Kissel A., Kronfeldt H. D., Kurtz O., Meusel I., Orphal J., and S. Voigt, 1998,"Line shift investigations for different isotopomers of carbon monoxide", JOURNAL OF MOLECULAR SPECTROSCOPY Volume: 190 Issue: 2 Pages: 226-231 Published: AUG 1998

111) Vountas M., Rozanov V. V., and Burrows J. P.,1998, "Ring-effect: Impact of rotational Raman scattering on radiative transfer in earth's atmosphere", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 60 Issue: 6 Pages: 943-961 Published: DEC 1998

112) Weber M., Eichmann K.-U., Bramstedt K. and Burrows J. P., 1998"GOME observations of the NH and SH ozone holes in 1996 and 1997", Earth Observation Quarterly 58 pp 3-5,

113) Weber M., Burrows J. P. and Cebula R. P., 1998, "GOME Solar UV/Vis Irradiance measurements between 1995 and 1997: First Results on Proxy Solar Activity Studies", SOLAR PHYSICS Volume: 177 Issue: 1-2 Pages: 63-77 Published: JAN 1998

114) Wittrock F., Eisinger M., Ladstätter-Weißenmayer A., Richter A. and Burrows J. P., 1998, "Ground based UV/Vis measurements of O_3, NO_2, OClO and BrO over Ny-Aalesund (79N, 12E) ",XVIII Quadrennial Ozone Symposium 1996 L'Aquila Italy Atmospheric Ozone: Proceedings of the Quadrennial Ozone Symposium 1996 Italy 12-21 September 1996, Eds R. D. Bojkov and G. Visconti, pp 623-626.

115) Zenker T., Fischer H., Nikitas C., Parchatka U., Harris G. W., Mihelcic D., Müsgen P., Pätz H. W., Schultz M., Volz-Thomas A., Schmitt R., Behmann T., Weißenmayer M. and Burrows J. P., "Intercomparison of NO, NO_2, NO_y, O_3 and RO_x measurements during the OCTA campaign 1993 at Izana", Journal of Geophysical Research-Atmospheres Volume: 103 Issue: D11 Pages: 13615-13634 Published: 1998

*****1999*****

116) Bovensmann, H., Burrows J. P., Buchwitz M., Frerick J., Noël S., Rozanov V. V., Chance K. V. and Goede A. P. H. 1999, "SCIAMACHY- Mission Objectives and Measurement Modes", Conference on Global Measurement Systems for Atmospheric Composition, Date: MAY, 1997 TORONTO CANADA
Source: JOURNAL OF THE ATMOSPHERIC SCIENCES Volume: 56 Issue: 2 Pages: 127-150 Published: 1999

117) Buchwitz, M., Rozanov V.V. and. Burrows J.P, 1999 „Development of a correlated-k distribution band model for the retrieval of atmospheric constituents from SCIAMACHY/ENVISAT-1 data", Book title: Satellite Remote Sensing of Clouds and the Atmosphere III by J.E. Russell, Proceedings of SPIE, Vol. 3495 pp171-186.

118) Burrows, J.P., Richter A., Dehn A., Deters B., Himmelmann S., Voigt S. and Orphal J., 1999, "Atmospheric remote sensing reference data from GOME: Part 2 temperature dependent absorption cross-sections of O_3 in the 231-794 nm range", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 61 Issue: 4 Pages: 509-517 Published: MAR 1999

119) Burrows, J.P., Weber M., Buchwitz M., Rozanov V. V., Ladstätter Weißenmayer A., Richter A., DeBeek R., Hoogen R., Bramstedt K. and Eichmann K.-U., 1999, "The Global Ozone Monitoring Experiment (GOME): Mission Concept and First Scientific Results", Conference on Global Measurement Systems for Atmospheric Composition, Date: MAY, 1997 TORONTO CANADA Source: JOURNAL OF THE ATMOSPHERIC SCIENCES Volume: 56 Issue: 2 Pages: 151-175 Published: 1999

120) Dickerson, R.R., Rhoads K. P., Carsey T. P., Oltmans S. J., Crutzen P. J. and Burrows J. P., 1999, "Ozone in the remote marine boundary layer: a possible role for halogens", Journal of Geophysical Research-Atmospheres Volume: 104 Issue: D17 Pages: 21385-21395 Published: SEP 20 1999

121) Eichmann K.-U., Bramstedt K., Weber M., Rozanov V. V., Hoogen R., Burrows J. P., 1999, "O_3 profiles from GOME satellite data-II: Observations in the Arctic spring 1997 and 1998", PHYSICS AND CHEMISTRY OF THE EARTH PART C-SOLAR-TERRESTIAL AND PLANETARY SCIENCE Volume: 24 Issue: 5 Pages: 453-457 Published: 1999

122) Hoogen R., Rozanov V. V., Bramstedt K., Eichmann K.-U., Weber M., Burrows J. P., 1999, "O_3 profiles from GOME satellite data-I: Comparison with ozonesonde measurements", PHYSICS AND CHEMISTRY OF THE EARTH PART C-SOLAR-TERRESTIAL AND PLANETARY SCIENCE Volume: 24 Issue: 5 Pages: 447-452 Published: 1999

123) Hoogen, R., V. V. Rozanov and J. P. Burrows 1999, "Ozone profiles from GOME satellite data: algorithm description and first validation", Journal of Geophysical Research-Atmospheres Volume: 104 Issue: D7 Pages: 8263-8280 Published: APR 20 1999 (1998JD100093).

124) Hoogen R., Burrows J. P., Noël S., Platt U., and Wagner T., 1999, "Sciamachy mission objectives and validation concept: The German contribution, 14th ESA Symposium on European Rocket and Balloon Programmes and Related Research, Date: MAY 31-JUN 03, 1999 POTSDAM GERMANY
Source: 14TH ESA SYMPOSIUM ON EUROPEAN ROCKET AND BALLOON PROGRAMMES AND RELATED RESEARCH Volume: 437 Pages: 227-234

125) Maric, D. and Burrows J. P., 1999, "Analysis of the UV Absorption Spectrum of ClO: A Comparative Study of Four Methods for Spectral Computations", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 62 Issue: 3 Pages: 345-369 Published: JUN 1999

126) Müller, R., J.-U. Grooß, McKenna D. S., Crutzen P. J., Brühl C., Russell III J. M., Gordley L. L., Burrows J. P., and Tuck A. F., 1999, "Chemical ozone loss in the Arctic vortex in the winter 1995-96: HALOE measurements in conjunction with other observations", ANNALES GEOPHYSICAE-ATMOSPHERES HYDROSPHERES AND SPACE SCIENCES Volume: 17 Issue: 3 Pages: 437-437 Published: 1999

127) Noël , S., Bovensmann H., Burrows J.P., Frerick J., Chance K.V., Goede A.H.P. and Muller C., 1999, "The SCIAMACHY Instrument on ENVISAT-1" Sensors, Systems and Next-Generation Satellites II", editor: H. Fujisada, Proceedings of SPIE, Vol. 3498, pp. 94-104.

128) Noël , S., Buchwitz M., Bovensmann H., Hoogen R. and Burrows J.P., 1999, "Atmospheric Water Vapour Amounts Retrieved from GOME Satellite Data", Geophysical Research Letters Volume: 26 Issue: 13 Pages: 1841-1844 Published: JUL 1 1999

129) Noël , S., Bovensmann H., Burrows J.P.,. Chance K.V and Goede A.H.P., 1999, "Global Atmospheric Monitoring with SCIAMACHY",PHYSICS AND CHEMISTRY

OF THE EARTH PART C-SOLAR-TERRESTIAL AND PLANETARY SCIENCE Volume: 24Issue: 5Pages: 427-434Published: 1999

130) Pfeilsticker, K., Arlander D. W., Burrows J. P., Erle F., Gil M., Goutail F., Hermans C., Lambert J. C., Platt U., Pommereau J. P., A. Richter, A. Sarkissian, M. van Roozendael, T. Wagner, T. Winterrath 1999, „Intercomparison of the influence of tropospheric clouds on UV-visible absorptions detected during the NDSC intercomparison campaign at OHP in June 1996“,Geophysical Research Letters Volume: 26 Issue: 8 Pages: 1169-1172 Published: APR 15 1999

131) Roscoe H. K., Johnston P.V., van Roozendael M., Richter A., Sarkissian A., Roscoe J., Preston K. E., Lambert C., Hermans W., Decuyper S., Dzenius S., Winterath T., Burrows J. P., Goutail F., Pommereau J. P., D'Almeida E., Hottier J., Coureul C., Didier R., Pundt I., Bartlett L. McElroy C. T., Kerr J. E., Elokhov A., Gionvanelli G., Ravegnani F., Premuda M., Kostadinov I., Erle F., Wagner T., Pfeilstecker K., Kenntner M., Marquard L. C., Gil M., Puentedura O., Yela M., Arlander D. W., Kastad Hoiskar B. A., Tellefsen C. W., Karösen Tornkvist K., Heese B., Jones R. L., Aliwell S. R., and Freshwater R. A., 1999, "Slant column measurements of O_3 and NO_2 during the NDSC Intercomparison of Zenith-Sky UV-visible Spectrometers in June 1996", JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 32 Issue: 2 Pages: 281-314 Published: FEB 1999

132) Richter, A., Eisinger M., Ladstätter-Weißenmayer A. and Burrows J. P. 1999, "DOAS Zenith Sky Observations: 2 Seasonal variation of BrO over Bremen (53°N) 1994-1995", JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 32 Issue: 1 Pages: 83-99 Published: JAN 1999

133) Sinnhuber B.-M., Müller R., Langer L., Bovensmann H., Eyring V., Klein U., Trentmann J., Burrows J. P., and Künzi K. F., 1999, "Interpretation of Mid-Stratospheric Arctic Ozone Measurements Using a Photochemical Box-Model", JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 34 Issue: 3 Pages: 281-290 Published: NOV 1999

134) Winterrath T., Kurosu T. P., Richter A. and Burrows J. P.,1999, "Enhanced O_3 and NO_2 in thunderstorm clouds: Convection or production?", Geophysical Research Letters Volume: 26 Issue: 9 Pages: 1291-1294 Published: MAY 1 1999 1999GL900243.

*****2000*****

135) Buchwitz, M., Rozanov, V. V. and Burrows, J. P. 2000, "A near-infrared optimised DOAS method for the fast global retrieval of atmospheric CH_4, CO, CO_2, H_2O and N_2O total column amounts from SCIAMACHY/ENVISAT-1 nadir radiances", Journal of Geophysical Research-Atmospheres Volume: 105 Issue: D12 Pages: 15231-15245 Published: JUN 27 2000 (2000JD900191).

136) Buchwitz, M., Rozanov V. V. and Burrows J. P., 2000, "A correlated-k distribution scheme for overlapping gases suitable for retrieval of atmospheric constituents from moderate resolution radiance measurements in the visible/near infrared spectral regions",

Journal of Geophysical Research-Atmospheres Volume: 105 Issue: D12 Pages: 15247-15261 Published: JUN 27 2000 (2000JD900171).

137) Burrows J. P., Richter A., Weber M., Eichmann K.-U., Bramstedt K., Ladstaetter-Weissenmayer A., Wittrock F., Eisinger M., and Hild L., 2000, "Satellite observations of tropospheric and stratospheric gases", Editor(s): Zerefos CS, Isaksen ISA, Ziomas I Source: CHEMISTRY AND RADIATION CHANGES IN THE OZONE LAYER Book Series: NATO ADVANCED SCIENCE INSTITUTES SERIES, SERIES C, MATHEMATICAL AND PHYSICAL SCIENCES Volume: 557Pages: 301-329Published: 2000

138) Goede A. P. H., Tanzi C. P., Aben I., Burrows J. P., Weber M., Perner D., Monks P. S., Llewellyn-Jones D., Corlett G. K. Arlander D. W., Platt U., Wagner T., Pfeilsticker K., Taalas P., Kelder H. and Piters A., 2000 "GODIVA, a European project for ozone and trace gas measurements from GOME", Editor(s): Rees D Source: ADVANCES IN REMOTE SENSING OF THE ATMOSPHERE FROM SPACE AND FROM THE GROUND Book Series: Advances in Space Research Volume: 26Issue: 6Pages: 951-954Published: 2000

139) Gross, U., Ubelis A., Spietz P. and Burrows J. P. 2000, "Iodine and mercury resonance lamps for kinetic experiments and their spectra in the far ultraviolet", OURNAL OF PHYSICS D-APPLIED PHYSICS Volume: 33 Issue: 13 Pages: 1588-1591 Published: JUL 7 2000

140) Orphal, J., Perrin A., Flaud J.-M., Smirnow M., Himmelmann S., Voigt S. and Burrows J.P., 2000, "New High-Resolution Analysis of the ν_3 Band of the $^{15}N^{16}O_2$ Isotopomer of Nitrogen Dioxide by Fourier Transform Spectroscopy ", JOURNAL OF MOLECULAR SPECTROSCOPY Volume: 204 Issue: 1 Pages: 72-79 Published: NOV 2000

141) Rozanov, A., Rozanov V. and Burrows J. P., 2000 "Combined differential integral approach for the radiation field computation in a spherical shell atmosphere: non limb geometry", Journal of Geophysical Research-Atmospheres Volume: 105 Issue: D18 Pages: 22937-22942 Published: SEP 27 2000

142) Sinnhuber B.-M., Chipperfield M. P., Davies S., Burrows J. P., Eichmann K.U., Weber M., van der Gathen P., Guirlet M., Cahill G., Lee A. and J. Pyle, 2000, "Large loss of total ozone during the Arctic winter 1999/2000." Geophysical Research Letters Volume: 27 Issue: 21 Pages: 3473-3476 Published: NOV 1 20002000GL101176.

143) Weber, M., Eichmann K. U., Bramstedt K., Burrows J. P. and Naujokat B., 2000, "An Overview of the stratosphere 1995-1999 as measured by GOME", Stratospheric Ozone Proceedings of the fifth European symposium 127-130, Official Publications of the European Communities ISBN 92-827-5672-6.

144) Wittrock F., Muller R., Richter A., Bovensmann H., and Burrows J. P., 2000 "Measurements of iodine monoxide (IO) above Spitsbergen", Geophysical Research Letters Volume: 27 Issue: 10 Pages: 1471-1474 Published: MAY 15 2000

*****2001*****

145) Andrés Hernández, M.D., Burkert J., Reichert L., Stöbener D., Meyer- Arnek, J., Burrows J. P., Dickerson R. R. and Doddridge B., 2001 "Marine boundary layer peroxy radical chemistry during the AEROSOLS99 campaign: measurements and analysis", Journal of Geophysical Research-Atmospheres Volume: 106 Issue: D18 Pages: 20833-20846 Published: SEP 27 2001

146) Bogumil, K., Orphal J., Burrows J. P. and Flaud J. M., 2001" Vibrational progressions in the visible and near-ultraviolet absorption spectrum of ozone", CHEMICAL PHYSICS LETTERS Volume: 349 Issue: 3-4 Pages: 241-248 Published: NOV 30 2001

147) Buchwitz M., Rozanov V. V., Eichmann K.-U., de Beek R. and Burrows J. P., 2001 "SCIATRAN - A new atmospheric radiative transfer model for the ultraviolet, visible, and near-infrared spectral regions", Editor(s): Smith WL, Timofeyev YM Source: IRS 2000: CURRENT PROBLEMS IN ATMOSPHERIC RADIATION Book Series: STUDIES IN GEOPHYSICAL OPTICS AND REMOTE SENSING Pages: 365-368Published: 2001

148) Burkert, J., Andrés Hernández M. D., Stöbener D., Burrows J.P., Weißenmayer M. and Kraus A., 2001, "Peroxy radical and related trace gas measurement in the marine boundary layer above the Atlantic Ocean", 2nd AGU Chapman Conference on Water Vapour in the Climate System, Date: OCT 12-15, 1999 POTOMAC MD, Journal of Geophysical Research-Atmospheres Volume: 106 Issue: D6 Pages: 5457-5477 Published: 2001

149) Burkert J., Behmann T., Andrés Hernández M.D., Weißenmayer M., Perner D. and Burrows J.P., 2001, "Measurements of Peroxyradicals in a forested area in Portugal", Chemosphere-Global Change Science, pp 3327-3338, 2001.

150) Burrows J. P., Richter A., and Wittrock F., 2001, "Remote sensing of tropospheric constituents from space", Editor(s): Midgley P, Reuther M, Williams M Source: TRANSPORT AND CHEMICAL TRANSFORMATION IN THE TROPOSPHERE Pages: 177-184Published: 2001

151) De Beek de, R., Vountas M., Rozanov V. V., Richter A., and Burrows J. P., 2001, "The Ring Effect in the cloudy atmosphere", Geophysical Research Letters Volume: 28 Issue: 4 Pages: 721-724 Published: FEB 15 2001

152) Gurlit W. and Burrows J. P., 2001 "Sciamachy solar irradiance validation using radiometric calibration of balloon borne DOAS and FTIR instruments", Editor(s): Warmbein B. Source: 15TH ESA SYMPOSIUM ON EUROPEAN ROCKET AND BALLOON PROGRAMMES AND RELATED RESEARCH, PROCEEDINGS Book Series: ESA SPECIAL PUBLICATIONS Volume: 471 Pages: 337-341Published: 2001

153) Ionov D. V., Timofeev Y. M., Ionov V. V., Shalamyanskii A. M., Johannessen O. M., and Burrows J. P., 2001, "Comparison of measurements of total ozone by the GOME

(ERS-2) spectrometer with data from the Russian ozonometric network", EARTH OBSERVATION AND REMOTE SENSING Volume: 16 Issue: 4 Pages: 527-539Published: 2001

154) Kaiser J. W., Rozanov A. V., Rozanov V. V., and Burrows J. P., 2001, "Evaluation of approximate radiative transfer models intended for retrievals from limb measurements, Editor(s): Smith WL, Timofeyev YM Source: IRS 2000: CURRENT PROBLEMS IN ATMOSPHERIC RADIATION Book Series: STUDIES IN GEOPHYSICAL OPTICS AND REMOTE SENSING Pages: 417-420 Published: 2001

155) Kaiser J. W., Eichmann K.-U., Rozanov V. V., and Burrows J. P., 2001, "Precision estimates for SCIAMACHY limb retrievals", IEEE, IEEE Source: IGARSS 2001: SCANNING THE PRESENT AND RESOLVING THE FUTURE, VOLS 1-7, PROCEEDINGS Book Series: IEEE International Symposium on Geoscience and Remote Sensing (IGARSS)Pages: 1832-1834Published: 2001

156) Noël S., Bovensmann H., Burrows J. P., and Kaiser J. W., 2001, "SCIAMACHY - A hyper spectral sensor for global atmospheric studies", IEEE Source: IGARSS 2001: SCANNING THE PRESENT AND RESOLVING THE FUTURE, VOLS 1-7, PROCEEDINGS Book Series: IEEE International Symposium on Geoscience and Remote Sensing (IGARSS)Pages: 216-218Published: 2001

157) Noël S., Burrows J. P., Bovensmann H., Frerick J., Chance K. V., Goede A. H. P. and Muller C., 2001, "Atmospheric trace gas sounding with SCIAMACHY" Editor(s): Debus A., Rummel J. D., Horneck G, Rettberg P., Source: LIFE SCIENCES: PLANETARY PROTECTION, OZONE AND UVB RADIATION EFFECTS Book Series: Advances in Space Research Volume: 26Issue: 12Pages: 1949-1954Published: 2001

158) Orphal, J., Bogumil K., Fleischmann O. C., Homann T., Kromminga H., Spietz P., Vogel A., Voigt S. and Burrows J. P., 2000, "Laboratory Spectroscopy in Support of Atmospheric Remote-Sensing, Recent Research Developments in Physical Chemistry Vol. 4, 2000.

159) Poisson N., Kanakidou M., Bonsong B., Burrows J. P., Behmann T., Volz-Thomas A., Harder H., Trapp D., Seuwen R., Moortgat G. K., Platt U., Gölz C., Senzig J., Seakins P., Lewis A., Pio C. and Nunes T. 2001, "The Impact of natural non-methane hydrocarbon oxidation on the free radical and ozone budget above a eucalyptus forest", Chemosphere 3 pp 353-366.

160) Rozanov A., Rozanov V. V., and Burrows J. P., 2001, "A numerical radiative transfer model for a spherical planetary atmosphere: combined differential–integral approach involving the Picard iterative approximation", JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER, Volume: 69 Issue: 4 Pages: 491-512

161) Spietz, P., Gross U., Smalins E., Orphal J. and Burrows J. P., 2001, "Estimation of the Emission Temperature of an Electrodeless Discharge Lamp and Determination of the Oscillator Strength for the I(2P3/2) 183.038 nm Resonance Transition",

SPECTROCHIMICA ACTA PART B-ATOMIC SPECTROSCOPY Volume: 56 Issue: 12 Pages: 2465-2478 Published: DEC 10 2001

162) Velders G.J., Granier, C., Portmann, R. W., Pfeilsticker, K., Wenig, M., Wagner, T., Platt, U., Richter A. and Burrows J. P., 2001, "Global tropospheric NO_2 column distributions: Comparing 3-D model calculations with GOME measurements", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 69 Issue: 4 Pages: 491-512 Published: MAY 15 2001

163) Voigt, S, Orphal J., Bogumil K. and Burrows J.P., 2001,"The temperature dependence (203-293 K) of the absorption cross sections of O_3 in the 230-850 nm region measured by Fourier-Transform spectroscopy", Journal of Photochemistry and Photobiology A-Chemistry Volume: 143 Issue: 1 Pages: 1-9 Published: OCT 1 2001

*****2002*****

164) Aliwell S.R., van Roozendael M., Johnston P.V., Richter A., Wagner T., Arlander D.W., Burrows J.P., Fish D. J., Jones R. L., Tornkvist K. K., Lambert J.-C., Pfeilsticker K. and Pundt I., 2002, "Analysis for BrO in zenith-sky spectra, An intercomparison exercise for analysis improvement", Journal of Geophysical Research-Atmospheres Volume: 107 Issue: D14 Article Number: 4199 Published: 2002 doi:10.1029/2001JD000329, 2002.

165) Bovensmann H., Noël S., Monks P., Goede A.P.H. and Burrows J.P., 2001, "The Geostationary Scanning Imaging Absorption Spectrometer (GEOSCIA) Mission: Requirements and Capabilities", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research, Volume: 29 Issue: 11 Pages: 1849-1859 Published: 2002

166) Bramstedt K., Eichmann K.-U., Weber., M., Rozanov V. and Burrows J.P., 2002, "GOME ozone profiles: A global validation with HALOE measurements", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1637-1642 Published: 2002

167) Bremer H., von König M., Kleinböhl A., Küllmann H., Künzi K, Bramstedt K., Burrows J. P., Eichmann K.-U., Weber M., and Goede A. P. H., "Ozone depletion observed by ASUR during the Arctic Winter 1999/2000", Journal of Geophysical Research-Atmospheres Volume: 107 Issue: D20 Article Number: 8277 Published: SEP-OCT 2002

168) Ebinghaus R., Kock H. H., Temme C., Einax J. W., Löwe A. G., Richter A., Burrows J. P. and Schroeder W. H. 2002, "Antarctic Springtime Depletion of Atmospheric Mercury", Environ. Sci. Technol., 36 No. 6, 1238-1244 , 2002.

169) Eichmann K.-U., Weber M., Bramstedt K. and Burrows J. P., 2002 "Ozone depletion in Northern Hemisphere winter/spring 1999/2000 as measured by the Global Ozone Monitoring Experiment on ERS-2", JOURNAL OF GEOPHYSICS, 107(D20), 8280, 2002.

170) Heland, J., Schlager H., Richter A., and Burrows J. P., 2002, "First comparison of tropospheric NO_2 column densities retrieved from GOME measurements and in situ aircraft profile measurements", Geophysical Research Letters Volume: 29 Issue: 20 Article Number: 1983 Published: OCT 15 20022002GL015528

171) Hild, L., Richter, A., Rozanov, V., and Burrows J. P., 2002, "Air Mass Factor Calculations for GOME Measurements of lightning-produced NO_2", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1685-1690 Published: 200.

172) Kaiser J.W., Rozanov V. V., and Burrows J. P., 2002 "Theoretical precisions for SCIAMACHY limb retrieval, Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1837-1842 Published: 2002

173) Lauer, A., M. Dameris, A. Richter, and J. P. Burrows 2001 "Tropospheric NO_2 columns: a comparison between model and retrieved data from GOME measurements", Atmospheric Chemistry and Physics Discussions, Vol. 1, pp 411-438, 2001 and Atmospheric Chemistry and Physics, Vol. 2, pp 67-78, 19-4-2002.

174) Müller M. D., Kaifel A., Weber M., and Burrows J. P., 2002, "A new method for retrieving total ozone from GOME data", APPLIED OPTICS Volume: 41 Issue: 24 Pages: 5051-5058 Published: AUG 20 2002

175) Müller R.W., Bovensmann H., Kaiser J. W., Richter A., Rozanov A., Wittrock F., and Burrows J. P., 2002, "Consistent interpretations of ground based and GOME BrO slant column data", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND, Source: REMOTE SENSING OF TRACE CONSTITUENTS IN

THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1655-1660 Published: 2002

176) Müller M. D., Kaifel A., Weber M. Burrows, J.P., 2002, "Neural network scheme for the retrieval of total ozone from Global Ozone Monitoring Experiment data", APPLIED OPTICS, Volume: 41 Issue: 24 Pages: 5051-5058 Published: AUG 20 2002

177) Noël S., Bovensmann H., Wuttke M. W., Burrows J.P., Gottwald M., Krieg E., Goede A. P. H., and Muller C., "Nadir, limb, and occultation measurements with SCIAMACHY", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND, Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1819-1824 Published: 2002

178) Noël S., Buchwitz M., Bovensmann H. and Burrows J.P., "Retrieval of total water vapour column amounts from GOME/ERS-2 data", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND, Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1697-1702 Published: 2002

179) Orphal J., Bogumil K., Dehn A., Deters B., Dreher S., Fleischmann O. C., Hartmann M., Himmelmann S., Homann T., Kromminga H., Spietz P., Türk A., Vogel A., Voigt S. and J.P. Burrows, 2002, "Laboratory Spectroscopy in Support of UV-Visible Remote-Sensing of the Atmosphere", invited review, in Recent Research Developments in Physical Chemistry Vol. 6, Transworld Research Network, Trivandrum, 15–34, 2002.

180) Reichert L., Andrés Hernández M.D., Stöbener D., Burkert J. and J.P. Burrows, 2002, "Investigation of the effect of water complexes in the determination of peroxy radical ambient concentrations: implications for the atmosphere", Journal of Geophysical Research, 108, D1, pp 4017-4032.

181) Richter A. and Burrows J.P., 2002 "Tropospheric NO_2 from GOME Measurements", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND, Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1673-1683 Published: 2002

182) Richter, A., Wittrock F., Ladstätter-Weißenmayer A. and Burrows J.P., 2002, "GOME measurements of stratospheric and tropospheric BrO", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND
Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1667-1672 Published: 2002

183) van Roozendael M., Wagner T., Richter A, Pundt I., Arlander D. W., Burrows J. P., Chipperfield M., Fayt C., Johnston P. V., Lambert J. C., Kreher K., Pfeilsticker K., Platt U., Pommereau J.-P., Sinnhuber B. M., Toernkvist K. K., and Wittrock F., 2002, "Intercomparison of BrO Measurements from ERS-2 GOME, ground-based and Balloon Platforms", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND
Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1661-1666 Published: 2002

184) Rozanov, A., Rozanov, V. and Burrows, J. P., 2002, "Evaluation of the combined differential-integral approach for limb viewing geometry", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND
Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1843-1848 Published: 2002

185) Rozanov V.V., Buchwitz M., Eichmann K.-U., de Beek R., and Burrows J. P., 2002, "SCIATRAN - a new radiative transfer model for geophysical applications in the 240-2400 nm spectral region: The pseudo-spherical version", presented at COSPAR 2000, Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND, Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1831-1835 Published: 2002

186) Sinnhuber, B.-M., Arlander D. W., Bovensmann H., Burrows J.P., Chipperfield M. P., Enell C.-F., Frieß U., Hendrick F., Johnston P.V, Jones R. L., Kreher, K, Mohamed-Tahrin, N. Müller R. Pfeilsticker K., Platt U., Pommereau J. P., Pundt I., Richter A, South A. M., Toernkvist K. K., van Rozendael M, Wagner T., and Wittrock F., 2002

"On stratospheric bromine monoxide: Intercomparison of measured and modelled slant column densities from a near-global network", JOURNAL OF GEOPHYSICS doi:10.1029/2001JD000940.

187) Sinnhuber, B.-M., Arlander, D. W., Bovensmann, H., Burrows, J. P., Chipperfield, M. P., Enell, C.-F., Frieß, U., Hendrick, F., Johnston, P. V., Jones, R. L., Kreher, K., Mohamed-Tahrin, N., Müller, R., Pfeilsticker, K., Platt, U., Pommereau, J. P., Pundt, I., Richter, A., South, A. M., Tornkvist, K. K., Van Roozendael, M., Wagner, T., Wittrock, F., 2002, "Comparison of measurements and model calculations of stratospheric bromine monoxide", Journal of Geophysical Research-Atmospheres, Volume: 107 Issue: D19 Article Number: 4398 Published: SEP-OCT 2002

188) Tellmann S., Rozanov V. V., Weber M. and Burrows J. P., 2002, "GOME satellite detection of ozone over snow/ice covered surface in the presence of broken cloud, Proceedings of SPIE, 4539, Ed.: K. Schäfer et al., ISBN 0-8194-4263-X, 2002.

189) Voigt S., Orphal J., and Burrows J. P., 2002, "The Temperature and Pressure Dependence of the Absorption Cross-Sections of NO_2 in the 250–800 nm Region Measured by Fourier-Transform Spectroscopy", Journal of Photochemistry and Photobiology A-Chemistry Volume: 149 Issue: 1-3 Pages: 1-7 Published: JUN 28 2002

190) von Hoyningen-Huene W., Freitag M. and Burrows J. P., 2002, "Retrieval of spectral aerosol optical thickness from multi-wavelength space-born sensors", Conference Information: A1 2 Symposium of COSPAR Scientific Commission A held at the 33rd COSPAR Scientific Assembly, Date: JUL, 2000 WARSAW POLAND Source: REMOTE SENSING OF TRACE CONSTITUENTS IN THE LOWER STRATOSPHERE, TROPOSPHERE AND THE EARTH'S SURFACE: GLOBAL OBSERVATIONS, AIR POLLUTION AND THE ATMOSPHERIC CORRECTION Book Series: Advances in Space Research Volume: 29 Issue: 11 Pages: 1765-1770 Published: 2002

191) Wagner T., Wittrock F., Richter A., Wenig M., Burrows J. P., and Platt U., 2002, "Continuous monitoring of the high and persistent chlorine activation during the Arctic winter 1999/2000 by the GOME instrument on ERS-2", Journal of Geophysical Research-Atmospheres Volume: 107 Issue: D20 Article Number: 8267 Published: SEP-OCT 2002 doi:10.1029/2001JD000466.

192) Weber M., Eichmann K.-U., Wittrock F., Bramstedt K., Hild L., Richter A., Burrows J. P., and Müller R., 2002 "The cold Arctic winter 1995/96 as observed by the Global Ozone Monitoring experiment GOME and HALOE: Tropospheric wave activity and chemical ozone loss", QUARTERLY JOURNAL OF THE ROYAL METEOROLOGICAL SOCIETY Volume: 128 Issue: 582 Pages: 1293-1319 Published: 2002.

*****2003*****

193) Bogumil K., Orphal J., Homann T., Voigt S., Spietz P., Fleischmann O. C., Vogel A., Hartmann M., Bovensmann H., Frerick J., and Burrows J. P., "Measurements of

molecular absorption spectra with the SCIAMACHY pre-flight model: Instrument characterization and reference data for atmospheric remote-sensing in the 230-2380 nm region", Source: Journal of Photochemistry and Photobiology A-Chemistry Volume: 157 Issue: 2-3 Pages: 167-184 Published: MAY 5 2003

194) Borrell, P., Burrows, J. P., Platt, U., Richter A., and Wagner, T., 2003, "New directions: New developments in satellite capabilities for probing the chemistry of the troposphere", Source: Atmospheric EnvironmentVolume: 37 Issue: 18 Pages: 2567-2570 Published: JUN 2003

195) Bramstedt K., Gleason J., Loyola D., Thomas W., Bracher A., Weber M., Burrows J. P., 2003, "Comparison of total ozone from the satellite instruments GOME and TOMS with measurements from the Dobson network 1996-2000" Source: Atmospheric Chemistry and Physics Discussions, 2, 1131-1157, 2002, and Atmospheric Chemistry and Physics Volume: 3Pages: 1409-1419 Published: SEP 17 2003

196) Burkert J., Andrés Hernández M. D., Reichert L., Stöbener, D., Meyer- Arnek, J., Burrows, J. P., Mühle, J., Zahn, A., Carsey, T., Dickerson R.R., and Doddridge, B., 2003 "Trace gas and radical behaviour in the marine boundary layer during INDOEX 1999", Source: Journal of Geophysical Research-Atmospheres Volume: 108 Issue: D8 Article Number: 8000 Published: APR 17 2003doi:10,1029/2002JD002790, 2003.

197) Burrows, J.P. and Moortgat, G. K., 2003, "Guest editorial", Source: Journal of Photochemistry and Photobiology A-Chemistry Volume: 157Issue: 2-3Pages: 125-126Published: MAY 5 2003

198) Edwards, D.P., Lamarque J.-F., Attie J.-L., Emmons L. K., Richter A., Cammas J. P., Gille J. C., Francis G. L., Deeter M. N., Warner J., Ziskin D. C., Lyjak, L. V., Drummond J. R., and Burrows J. P.,2003 "Tropospheric ozone over the tropical Atlantic: A Satellite Perspective", Source: Journal of Geophysical Research-Atmospheres Volume: 108 Issue: D8 Article Number: 4237 Published: 2003 doi:10.1029/2002JD002927,

199) Fleischmann O.C., Burrows, J. P. and Orphal J. 2002, "Time-windowing Fourier transform absorption spectroscopy for flash photolysis investigations", Source: Journal of Photochemistry and Photobiology A-Chemistry Volume: 157 Issue: 2-3 Pages: 127-136 Published: MAY 5 2003

200) Gurlit W., Gerilowski K., Krause H. and Burrows J. P., 2003, "SCIAMACHY solar irradiance validation using radiometric calibration of balloon borne spectrometers", Editor(s): Warmbein B Source: 16TH ESA SYMPOSIUM ON EUROPEAN ROCKET AND BALLOON PROGRAMMES AND RELATED RESEARCH, PROCEEDINGS Book Series: ESA SPECIAL PUBLICATIONS Volume: 530Pages: 433-437Published: 2003Editor(s): Warmbein B Source: 16TH ESA SYMPOSIUM ON EUROPEAN ROCKET AND BALLOON PROGRAMMES AND RELATED RESEARCH, PROCEEDINGS Book Series: ESA SPECIAL PUBLICATIONS Volume: 530 Pages: 439-443 Published: 2003

201) Gurlit W., Gerilowski K., Giesemann C., Ebert V., Zimmermann R. and Burrows J. P., 2003, "Validation of SCIAMACHY water vapour and methane profiles by balloon-borne in-situ measurements with the "child" spectrometer on board triple", 16TH ESA SYMPOSIUM ON EUROPEAN ROCKET AND BALLOON PROGRAMMES AND RELATED RESEARCH, PROCEEDINGS, Book Series: ESA SPECIAL PUBLICATIONS, Volume: 530 Pages: 439-443, Published: 2003

202) Hansen G., Bramstedt K., Rozanov V. V., Weber M., and Burrows J. P., 2003, "Validation of GOME ozone profiles by means of the ALOMAR ozone LIDAR", Source: ANNALES GEOPHYSICAE Volume: 21Issue: 8Pages: 1879-1886Published: AUG 2003

203) Kaiser J. W. and Burrows J. P., 2003, "Fast weighting functions for retrievals from limb scattering measurements", Source: JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER, Volume: 77 Issue: 3 Pages: 273-283 Published: MAR 15 2003

204) Kokhanovsky A. A., von Hoyningen-Huene W., Rozanov V. V., Zege E. P., Bovensmann H., and Burrows J. P., 2003, "A cloud retrieval algorithm for SCIAMACHY", Editor(s): Werner C. Oppel, U.G., Source: 12TH INTERNATIONAL WORKSHOP ON LIDAR MULTIPLE SCATTERING EXPERIMENTS Book Series: PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS (SPIE)Volume: 5059Pages: 116-127Published: 2003

205) Kokhanovsky, A. A., Rozanov, V. V., Zege, E. P., Bovensmann, H., and Burrows J. P., 2003, "A semi analytical cloud retrieval algorithm using backscattered radiation in 0.4-2.4 um spectral region", Source: Journal of Geophysical Research-Atmospheres Volume: 108 Issue: D1 Article Number: 4008 Published: 2003

206) Krämer M., Müller Ri., Bovensmann H., Burrows J. P., Brinkmann J., Röth, E. P., Grooß, J.-U., Müller Ro., Woyke, T., Ruhnke R., Günther G., Hendricks J., Lippert E., Carslaw K. S., Peter T., Zieger A., Brühl C., Steil B., Lehmann R., and McKenna D. S., 2003, "Intercomparison of stratospheric chemistry models under polar vortex conditions", Source: JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 45 Issue: 1 Pages: 51-77 Published: 2003

207) Kromminga H., Orphal, J., Spietz, P., Voigt, S., and Burrows, J. P., 2003, "New measurements of OClO absorption cross sections in the 325-435 nm region and their temperature dependence between 213-293 K", Source: Journal of Photochemistry and Photobiology A-Chemistry Volume: 157 Issue: 2-3 Pages: 149-160 Published: MAY 5 2003

208) Ladstätter-Weißenmayer A., Herland J., Kormann, R., von Kuhlmann R., Lawrence M. G., Meyer-Arnek J., Richter A., Wittrock F., Ziereis H., and Burrows J. P., 2003, "Transport and build-up of tropospheric trace gases during the MINOS campaign: Comparison of GOME, in situ aircraft measurements and MATCH-MPIC-data", Atmospheric Chemistry and Physics Discussions, 3, 3051-3094, 2003, Source: Atmospheric Chemistry and Physics Volume: 3 Pages: 1887-1902 Published: 2003

209) Mueller M. D., Kaifel A. K, Weber M., Tellmann T., Burrows J. P., and Loyola D., 2003, "Ozone profile retrieval from Global Ozone Monitoring Experiment (GOME) data using a neural network approach (Neural Network Ozone Retrieval System (NNORSY))", Journal of Geophysical Research-Atmospheres Volume: 108 Issue: D16 Article Number: 4497 Published: AUG 20 2003doi:10.1029/2002JD002784, 2003

210) Noël S., Bovensmann H., Skupin J., Wuttke M. W., Burrows J. P., Gottwald M. and Krieg E., 2003, "The SCIAMACHY calibration/monitoring concept and first results", Editor(s): Tsuchiya K Source: CALIBRATION, CHARACTERIZATION OF SATELLITE SENSORS, PHYSICAL PARAMETERS DERIVED FROM SATELLITE DATA Book Series: Advances in Space Research Volume: 32Issue: 11Pages: 2123-2128Published: 2003

211) Noël S., Wuttke M. W., Skupin J., Bovensmann H., Burrows J. P., Gottwaldt M. and Krieg E., 2003, "The SCIAMACHY instrument on ENVISAT: First performance monitoring results", Source: IGARSS 2003: IEEE INTERNATIONAL GEOSCIENCE AND REMOTE SENSING SYMPOSIUM, VOLS I - VII, PROCEEDINGS - LEARNING FROM EARTH'S SHAPES AND SIZES Book Series: IEEE International Symposium on Geoscience and Remote Sensing (IGARSS)Pages: 3120-3122Published: 2003

212) Reichert, L., Andrés Hernández M. D, Stöbener D., Burkert J. and Burrows J. P., 2003 "Investigation of the effect of water complexes in the determination of peroxy radical ambient concentrations: implications for the atmosphere", Source: Journal of Geophysical Research-Atmospheres Volume: 108 Issue: D1 Article Number: 4017 Published: JAN 10 2003 doi:10.1029/2002JD002152

213) Skupin J., Noël S., Wuttke M. W., Bovensmann H., Burrows J. P., Hoogeveen R., Kleipool Q. and Lichtenberg G, 2003, "In-flight calibration of the SCIAMACHY solar irradiance spectrum", Editor(s): Tsuchiya K Source: CALIBRATION, CHARACTERIZATION OF SATELLITE SENSORS, PHYSICAL PARAMETERS DERIVED FROM SATELLITE DATA Book Series: Advances in Space Research Volume: 32Issue: 11Pages: 2129-2134Published: 2003

214) Stohl A., Huntrieser H., Richter A., Beirle S., Cooper O., Eckhardt S., Forster C., James P., Spichtinger N., Wenig M., Wagner T., Burrows J. P. and Platt, U., 2003 "Rapid intercontinental air pollution transport associated with a meteorological bomb", Source: Atmospheric Chemistry and Physics Discussions, 3, 2101-2141, 2003 and Atmospheric Chemistry and Physics Volume: 3 Pages: 969-985 Published: JUL 9 2003

215) Sinnhuber, B.-M., Weber M., Amankwah A. and Burrows J. P., 2003 "Total ozone during the unusual Antarctic winter of 2002", Source: Geophysical Research Letters Volume: 30 Issue: 11 Article Number: 1580 Published: JUN 10 2003 doi:10.1029/2002GL016798

216) Sinnhuber M., Burrows J. P., Chipperfield M. P., Jackman C. H., Kallenrode M. B. , Kunzi K. F., and Quack M. , 2003, "A model study of the impact of magnetic field

structure on atmospheric composition during solar proton events", Geophysical Research Letters Volume: 30 Issue: 15 Article Number: 1818 Published: AUG 13 2003

217) Trentmann J., Bovensmann H., Eyring V., Muller R. W. and Burrows J. P.,2003, "Impact of Accurate Photolysis Calculations on the Simulation of Stratospheric Chemistry", Source: JOURNAL OF ATMOSPHERIC CHEMISTRY Volume: 44 Issue: 3 Pages: 225-240 Published: MAR 2003

218) Vountas, M., Richter A., Wittrock F. and Burrows J. P., 2003 "Inelastic scattering in ocean water and its impact on trace gas retrievals from satellite data", Source: Atmospheric Chemistry and Physics Discussions, 3, 2931-2962, 2003 and Atmospheric Chemistry and Physics Volume: 3 Pages: 1365-1375 Published: SEP 15 2003

219) von Hoyningen-Huene, W., Freitag M. and Burrows J. P., 2003 "Retrieval of Aerosol Optical Thickness over Land Surfaces from Top-of-Atmosphere Radiances", Journal of Geophysical Research-Atmospheres Volume: 108 Issue: D9 Article Number: 4260 Published: MAY 2 2003

220) Wang P., Richter A., Bruns M., Burrows J. P., Heue K. P., Pundt I, Wagner T., and Platt U., 2003, "Amaxdoas measurements and first results for the euplex campaign", Editor(s): Warmbein B Conference Information: 16th ESA Symposium on European Rocket and Balloon Programmes and Related Research, Date: JUN 02-05, 2003 ST GALLEN SWITZERLAND, Source: 16TH ESA SYMPOSIUM ON EUROPEAN ROCKET AND BALLOON PROGRAMMES AND RELATED RESEARCH, PROCEEDINGS Volume: 530 Pages: 521-526 Published: 2003

221) Weber M., Dhomse S., Wittrock F., Richter A., Sinnhuber B. M., and Burrows J. P., 2003, "Dynamical control of NH and SH winter/spring total ozone from GOME observations in 1995-2002", Source: Geophysical Research Letters Volume: 30Issue: 11Article Number: 1583Published: JUN 10 2003

****2004****

222) Afe, O. T., Richter, A., Sierk, B., Wittrock, F., and Burrows, J. P., 2004, "BrO Emission from Volcanoes - a Survey using GOME and SCIAMACHY Measurements", Source: Geophysical Research Letters Volume: 31 Issue: 24 Article Number: L24113 Published: 2004 doi:10.1029/2004GL020994,

223) Aikin, A. C., Grebowsky, J. M. and Burrows J. P., 2004 "Satellite measurements of the atmospheric content of metallic ion and neutral species", Conference Information: 2nd World Space Congress/34th COSPAR Scientific Assembly, Date: OCT 10-19, 2002 HOUSTON TX Source: IMPACT OF MINOR BODIES OF OUR SOLAR SYSTEM ON PLANETS AND THEIR MIDDLE AND UPPER ATMOSPHERE Volume: 33 Issue: 9 Pages: 1481-1485 Published: 2004

224) Barrie L.A., Langen J., Borrell P., Boucher O., Burrows J. P., Camy-Peyret C., Fishman J., Goede A. P. H., Granier C., Hilsenrath E., Hinsman D., Kelder H., Mohnen V., Ogawa T., Peter T., Simon P., Whung P.-Y. and Volz-Thomas A., IGACO - The

Changing Atmosphere - An Integrated Global Atmospheric Chemistry Observation Theme for the IGOS Partnership, ESA SP-1282, Report GAW No. 159 (WMO TD No. 1235), Sept. 2004, reviewers: Akimoto H, Brasseur G., Chanin M. L., and Crutzen P. J., 2004.

225) Bovensmann H., Buchwitz M., Frerick J., Hoogeveen R., Kleipool Q., Lichtenberg G., Noël S., Richter A., Rozanov A., Rozanov V., Skupin J., von Savigny C., Wuttke MW. and Burrows J. P., 2004, "SCIAMACHY on ENVISAT: In-flight optical performance and first results", Editor(s): Schafer K.P., Comeron A., Carleer M.R., Picard R.H., Source: REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE VIII Book Series: PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS (SPIE)Volume: 5235Pages: 160-173Published: 2004

226) Bovensmann H., Eichmann K.-U., Noël S., Flaud J. M., Orphal J., Monks P. S., Corlett G. K., Goede A. P. H., von Clarmann T., Steck T., Rozanov V. V., and Burrows J. P., 2004, "The Geostationary scanning imaging absorption spectrometer (GeoSCIA) as part of the Geostationary pollution explorer (GeoTROPE) mission: requirements concepts and capabilities" Conference Information: 2nd World Space Congress/34th COSPAR Scientific Assembly, Date: OCT 10-19, 2002 HOUSTON TX, Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34 Issue: 4 Pages: 694-699 Published: 2004

227) Bracher A., Eichmann K.-U., von Savigny C., Weber M. and Burrows J.P., 2004, "Ozone distributions in the Arctic winter/spring 2002/2003 as measured by the Three atmospheric ENVISAT instruments GOMOS, MIPAS and SCIAMACHY", in: Zerefos C. S. (ed.) Proceedings of the 20th Quadrennial Ozone Symposium, KOS, Greece, pp. 57-58, 2004.

228) Bracher A., Weber M., Bramstedt K. , Tellmann S. and Burrows, J. P., 2004, "Long-term global measurements of ozone profiles by GOME validated with SAGE II considering atmospheric dynamics", Source: Journal of Geophysical Research-Atmospheres Volume: 109Issue: D20Article Number: D20308Published: OCT 29 2004

229) Bruns M., Bühler S., Burrows J. P. Heue K.-P., Platt U., Pundt I., Richter A., Rozanov A., Wagner T., and Wang P., 2004, "Retrieval of Profile Information from Airborne Multiaxis UV-visible Skylight Absorption Measurements, Source: APPLIED OPTICS Volume: 43Issue: 22Pages: 4415-4426Published: AUG 1 2004

230) Buchwitz M. and Burrows, J. P., 2004, "Retrieval of CH_4, CO, and CO_2 total column amounts from SCIAMACHY near-infrared nadir spectra: Retrieval algorithm and first results", Proceedings of SPIE 5235, Conference Information: Conference on Remote Sensing of Clouds and the Atmosphere VIII Barcelona, SPAIN, SEP 09-12, 2003, SPIE Editor(s): Schäfer K. P., Comeron A., Carleer M. R., Picard RH Source: REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE VIII Book Series: PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS (SPIE)Volume: 5235Pages: 375-388Published: 2004

231) Buchwitz M., de Beek R., Bramstedt K., Noël S., Bovensmann H. and Burrows J. P.,2004, "Global carbon monoxide as retrieved from SCIAMACHY by WFM-DOAS", Atmospheric Chemistry and Physics, 4, pp. 1954-1960, 2004.

232) Buchwitz M., de Beek R., Noël S., Bovensmann H. and Burrows J. P., 2004, "Retrieval of CO, H_2O, CH_4, CO_2, and N_2O columns from SCIAMACHY/ENVISAT by WFM-DOAS: Current status", Proceedings of ENVISAT Symposium 2004, 6.-10.9.2004, Salzburg, Austria, Special publication SP-572 (CD-ROM) from ESA publications division, 2004.

233) Buchwitz, M., Noël S., Bramstedt K., Rozanov V. V., Bovensmann H., Tsvetkova S., and Burrows J. P., 2004, "Retrieval of trace gas vertical columns from SCIAMACHY/ENVISAT near-infrared nadir spectra: First preliminary results", Conference Information: 2nd World Space Congress/34th COSPAR Scientific Assembly, Date: OCT 10-19, 2002 HOUSTON TX
Source: ADVANCES IN SPACE RESERCH, TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34 Issue: 4 Pages: 809-814 Published: 2004

234) Burrows J.P., Bovensmann H., Bergametti G., Flaud J. M., Orphal J., Noël S., Monks P. S., Corlett G. K., Goede A. P. H., von Clarmann T., Steck T., Fischer H., and Friedl-Vallon F., 2002, "The geostationary tropospheric pollution explorer (GeoTROPE) missions: objects, requirements and mission concept", Editor(s): Burrows J. P., Thompson A. M. Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34 Issue: 4 Special Issue: Sp. Iss. 2004 Pages: 682-687Published: 2004

235) Coldewey-Egbers M., Weber M., Buchwitz M. and Burrows, J. P., "Application of a modified DOAS method for total ozone retrieval from GOME data at high polar latitudes", Editor(s): Burrows J. P., Thompson A. M. Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34 Issue: 4 Special Issue: Sp. Iss. 2004 Pages: 749-753 Published: 2004

236) Crisp D., Atlas R. M., Breon F. M., Brown L. R., Burrows J. P., Ciais P., Connor B. J., Doney S. C., Fung I. Y., Jacob D. J., Miller C. E., O'Brien D., Pawson S., Randerson J. T., Rayner P., Salawitch R. J., Sander S. P., Sen B., Stephens G. L., Tans P. P., Toon G. C., Wennberg P. O., Wofsy S. C., Yung Y. L., Kuang Z. M., Chudasama B., Sprague G., Weiss B., Pollock R., Kenyon D. and Schroll S, 2004, "The orbiting carbon observatory (OCO) mission", Editor(s): Burrows J. P. , Thompson A. M. Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34 Issue: 4 Special Issue: Sp. Iss. 2004 Pages: 700-709 Published: 2004

237) de Beek R., Weber M., Rozanov V. V., Rozanov A., Richter A. and Burrows J. P., 2004, "Trace gas column retrieval - an error assessment study for GOME-2", Editor(s): Burrows J. P., Thompson A. M., Source: TRACE CONSTITUENTS IN THE

TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34Issue: 4Special Issue: Sp. Iss. 2004Pages: 727-733Published: 2004

238) de Beek R., Buchwitz M., Rozanov V. V. and Burrows J. P., 2004, "Trace gas column retrieval from IR nadir spectra - a model study for SCIAMACH", Editor(s): Burrows J. P., Thompson A.M., Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34Issue: 4Special Issue: Sp. Iss. 2004Pages: 734-738Published: 2004

239) Eichmann K.-U., Kaiser J. W., von Savigny C., Rozanov A., Rozanov V. V., Bovensmann, H., von Koenig, M., and Burrows, J. P., 2004, "SCIAMACHY Limb Measurements in the UV/Vis spectral region: First results", Editor(s): Burrows J. P., Thompson A. M., Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34Issue: 4Special Issue: Sp. Iss. 2004Pages: 775-779Published: 2004

240) Flaud J. M., Orphal J., Bergametti G., Deniel C., von Clarmann T., Friedl-Vallon F., Steck T., Fischer H., Bovensmann H., Burrows J. P., Carlotti M., Ridolfi M., and Palchetti L., 2004 "The geostationary Fourier Imaging Spectrometer (GeoFIS) as part of the geostationary tropospheric pollution explorer (GeoTroPE) mission: objectives and capabilities", Editor(s): Burrows JP, Thompson AM Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34Issue: 4Special Issue: Sp. Iss. 2004Pages: 688-693Published: 2004

241) Fleischmann O.C., Hartmann, M., Orphal, J., and Burrows, J. P., 2004, "New ultraviolet absorption cross-sections of BrO at atmospheric temperatures measured by time-windowing Fourier-transform spectroscopy," Source: Journal of Photochemistry and Photobiology A-Chemistry, Volume: 168 Issue: 1-2 Pages: 117-132, Published: NOV 1 2004

242) Gomez-Martin J.C., Spietz, P., Orphal, J. and Burrows, J. P., 2004, "Principal and independent components analysis of overlapping spectra in the context of multi-channel time-resolved absorption spectroscopy", Source: Spectrochim Acta A Mol Biomol Spectrosc Volume: 60Issue: 11Pages: 2673-93Published: 2004 Sep

243) Kaiser J. W., von Savigny C., Eichmann K.-U., Noël S., Bovensmann H., and Burrows J. P., 2004, "Satellite Pointing Retrieval from Atmospheric Limb Scattering of Solar UV-B Radiation", Source: CANADIAN JOURNAL OF PHYSICS Volume: 82 Issue: 12 Pages: 1041-1052 Published: DEC 2004

244) Kaiser J.W., Eichmann K.-U., Noël S., Wuttke M.W., Skupin, J., von Savigny C., Rozanov A.V., Rozanov V.V., Bovensmann H., and Burrows J.P., 2004, "SCIAMACHY limb spectra", Editor(s): Burrows JP, Thompson AM Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34Issue: 4Special Issue: Sp. Iss. 2004Pages: 715-720Published: 2004

245) Kaleschke L., Richter A., Burrows J. P., Afe O., Heygster G.,Notholt J., Rankin A. M, Roscoe H. K., Hollwedel J., Wagner T., and Jacobi, H. W., 2004, "Frost flowers on sea ice as a source of sea salt and their influence on tropospheric halogen chemistry", Source: Geophysical Research Letters Volume: 31 Issue: 16 Article Number: L16114 Published: AUG 25 2004

246) Kokhanovsky A. A., von Hoyningen-Huene W., and Burrows, J. P., 2004, "The determination of the aerosol optical thickness from space", Proc. of the International Symposium on the Atmospheric Radiation, St. Petersburg, Russia, June 22-25, p.97, 2004.

247) Kokhanovsky A. A.,Rozanov V. V., von Hoyningen-Huene W., Bovensmann H., Burrows J. P. and Baltink H. K., 2004, "The determination of cloud altitudes using SCIAMACHY onboard ENVISAT", IEEE Transactions on Geosciences and Remote Sensing, Vol.1/3, pp. 211-214, 2004.

248) Kokhanovsky A.A., von Hoyningen-Huene W., Bovensmann H. and Burrows J.P., 2004, "The determination of the atmospheric optical thickness over Western Europe using SeaWiFS imagery", IEEE Geoscience and Remote Sensing Society Volume: 42, Issue: 4, Pages: 824-832, 2004

249) Kunhikrishnan T., Lawrence M. G., von Kuhlmann R., Richter A., Ladstätter-Weißenmayer A. and Burrows, J. P., 2004, "Analysis of Tropospheric NOx Over Asia Using the Model of Atmospheric Transport and Chemistry (MATCH-MPIC) and GOME-Satellite Observations", Source: Atmospheric EnvironmentVolume: 38 Issue: 4 Pages: 581-596 Published: FEB 2004

250) Kunhikrishnan T., Lawrence M. G., von Kuhlmann R., Richter A., Ladstätter-Weißenmayer A. and Burrows J. P., 2004, "Semiannual NO_2 Plumes during the Monsoon Transition Periods over Central Indian Ocean", Source: Geophysical Research Letters Volume: 31 Issue: 8 Article Number: L08110 Published: APR 30 2004 doi: 10.1029/2003GL019269, 2004.

251) Ladstätter-Weißenmayer A., Meyer-Arnek J., Schlemm A., and Burrows J. P., 2004, "Influence of stratospheric airmasses on tropospheric vertical O_3 columns based on GOME (Global Ozone Monitoring Experiment) measurements and backtrajectory calculation over the Pacific", ATMOSPHERIC CHEMISTRY PHYSICSDISCUSSIONS, 4, 1773-1790, 2004 and ATMOSPHERIC CHEMISTRY AND PHYSICS, 4, pp. 903-909, 2004.

252) Lamsal L.N., Weber, M., Tellmann, S. and Burrows, J. P., 2004, "Ozone column classified climatology of ozone and temperature profiles based on ozonesonde and satellite data", Source: Journal of Geophysical Research-Atmospheres Volume: 109 Issue: D20 Article Number: D20304 Published: OCT 22 2004

253) Meyer J., Schlesier A. Rozanov A., Bovensmann H., and Burrows J. P., "Towards O_3 and NO_2 vertical profile retrieval from SCIAMACHY solar occultation measurements: first results", Editor(s): Burrows J. P., Thompson A. M., Source: TRACE

CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space Research Volume: 34Issue: 4Special Issue: Sp. Iss. 2004Pages: 744-748Published: 2004

254) Noël S., Buchwitz, M. and Burrows, J. P., 2004, "First retrieval of global water vapour column amounts from SCIAMACHY measurements", Atmospheric Chemistry and Physics Discussions, 3, 5659-5688,2003 and Atmospheric Chemistry and Physics, 4, 111-125, 2004.

255) Richter A., Eyring E., Burrows J. P., Bovensmann H., Lauer A., Sierk B. and Crutzen P. J., 2004, "Satellite Measurements of NO_2 from International Shipping Emissions," Source: Geophysical Research Letters Volume: 31 Issue: 23 Article Number: L23110 Published: DEC 10 2004 doi:10.1029/2004GL020822., 2004.

256) Rozanov V. V., Kokhanovsky A. A. and Burrows J. P., 2004, "The determination of cloud altitudes using GOME reflectance spectra: Multilayered cloud systems", Source: IEEE Transactions on Geosciences and Remote Sensing Volume: 42Issue: 5Pages: 1009-1017Published: MAY 2004

257) Savage N.H., Law K. S., Pyle J. A., Richter A., Nüß H. and Burrows J. P., 2004, "Using GOME NO_2 satellite data to examine regional differences in TOMCAT model performance", Atmospheric Chemistry and Physics Discussions, 4, pp. 1895-1912, 2004 and Atmospheric Chemistry and Physics Volume: 4 Pages: 1895-1912 Published: SEP 16 2004

258) Schaub D., Weiss A. K., Kaiser J. W., Petritoli A., Richter A., Buchmann B. and Burrows J. P., 2005, "A transboundary transport episode of nitrogen dioxide as observed from GOME and its impact in the Alpine region", Source: Atmospheric Chemistry and PhysicsDISCUSSIONS., Volume 4, pages5103-5134, 2004, Atmospheric Chemistry and Physics Volume: 5 Pages: 23-37 Published: JAN 12 2005

259) Sierk B., Bracher A., Richter A., Vountas M., Dinter T., and Burrows, J. P., 2004, "Determination of Phytoplankton Concentrations from Space-Borne Spectroscopic Measurements", Source: Gayana Volume: 68 Issue: 2 Pages: 532-538 Published: 2004 ISSN 0717-6538 2004.

260) Tellmann S., Rozanov V. V., Weber M. and Burrows, J. P., 2004, "Improvements in the tropical ozone profile retrieval from GOME UV/vis nadir spectra", Editor(s): Burrows J. P., Thompson A. M. Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space ResearchVolume: 34Issue: 4Special Issue: Sp. Iss. 2004Pages: 739-743Published: 2004

261) von Hoyningen-Huene W, Kokhanovsky A. A., Freitag M., and Burrows J. P., 2004, "Aerosol retrieval over land surfaces from multispectral nadir looking satellite measurements", Editor(s): Schafer K. P., Comeron A., Carleer M. R., Picard R. H. Source: REMOTE SENSING OF CLOUDS AND THE ATMOSPHERE VIII Book Series: PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL

INSTRUMENTATION ENGINEERS (SPIE)Volume: 5235 Pages: 366-374 Published: 2004

262) von Savigny C, Kokhanovsky, A. A., Bovensmann, H., Eichmann, K.-U., Kaiser J. W., Noël S., Rozanov A. V., Rozanov V. V., Skupin J. and Burrows J. P., "NLC detection and particle size determination: first results from SCIAMACHY on ENVISAT", Editor(s): Burrows JP, Thompson AM Source: TRACE CONSTITUENTS IN THE TROPOSPHERE AND LOWER STRATOSPHERE Book Series: Advances in Space ResearchVolume: 34Issue: 4Special Issue: Sp. Iss. 2004 Pages: 851-856 Published: 2004doi:10.1016/j.asr.2003.05.050, 2004

263) von Savigny C., Eichmann K.-U., Llewellyn E. J., Bovensmann H., Burrows J. P., Bittner M., Hoppner K., Offermann D., Taylor M.J., Zhao Y., Steinbrecht W., and Winkler P., 2004, "First near-global retrievals of OH rotational temperatures from satellite-based Meinel band emission measurements", Source: Geophysical Research LettersVolume: 31 Issue: 15 Article Number: L15111Published: AUG 12 2004

264) Wittrock F., Oetjen H., Richter A., Fietkau S., Medeke T., Rozanov A., and Burrows J. P., 2004, "MAX-DOAS measurements of atmospheric trace gases in Ny-Ålesund - Radiative transfer studies and their application", ATMOSPHERIC CHEMISTRY PHYSICS DISCUSSIONS., 3, 6109-6145, 2003 and Atmospheric Chemistry and Physics, 4, pp. 955-966, 2004.

265) Wuttke M. W., Noël S., Skupin J., Gerilowski K., Bovensmann H. and Burrows J. P., 2004, "SCIAMACHY on ENVISAT: instrument monitoring and calibration two years after launch", Editor(s): Meynart R., Neeck S. P., Shimoda H., Source: SENSORS, SYSTEMS, AND NEXT-GENERATION SATELLITES VIII Book Series: PROCEEDINGS OF THE SOCIETY OF PHOTO-OPTICAL INSTRUMENTATION ENGINEERS (SPIE)Volume: 5570Pages: 391-400Published: 2004

*****2005*****

266) Aikin A.C., Grebowsky J. M., Burrows J. P., Correira J. and Pesnell W. D., 2005, "Temporal evolution of the vertical content of metallic ion and neutral species", Source: JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICSVolume: 67Issue: 13Pages: 1238-1244Published: SEP 2005

267) Amekudzi L. K., Bracher A., Meyer J., Rozanov A., Bovensmann H. and Burrows J. P., 2005, "Lunar occultation with SCIAMACHY: First retrieval results", Editor(s): Burrows JP, Eichmann KU Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - I Book Series: Advances in Space ResearchVolume: 36Issue: 5Special Issue: Sp. Iss. 2005Pages: 906-914Published: 2005

268) Amekudzi L.K., Sinnhuber B. M., Sheode N. V., Meyer J. Rozanov A., Lamsal L. N., Bovensmann H., and Burrows J. P., 2005. "Retrieval of stratospheric NO_3 vertical profiles from SCIAMACHY lunar occultation measurement over the Antarctic", Source:

Journal of Geophysical Research-AtmospheresVolume: 110Issue: D20Article Number: D20304Published: OCT 26 2005 dio:10.1029/2004JD005748, 2005.

269) Bertram T. H., Heckel A., Richter A., Burrows J. P. and Cohen R. C., 2005, "Satellite measurements of daily variations in soil NOx emissions", Source: Geophysical Research LettersVolume: 32Issue: 24Article Number: L24812Published: DEC 24 2005

270) Bracher A., Bovensmann H., Bramstedt K., Burrows J. P., von Clarmann T., Eichmann K.-U., Fischer H., Funke B., Gil-Lopez S., Glatthor N., Grabowski U., Hopfner M., Kaufmann M., Kellmann S., Kiefer M., Koukouli M. E., Linden A., Lopez-Puertas M., Tsidu G. M., Milz M., NoëlS., Rohen G., Rozanov A., Rozanov V. V., von Savigny C., Sinnhuber M., Skupin J., Steck T., Stiller G. P., Wang D. Y., Weber M. and Wuttke M. W., 2005, "Cross comparisons of O_3 and NO_2 measured by the atmospheric ENVISAT instruments GOMOS, MIPAS, and SCIAMACHY", Editor(s): Burrows JP, Eichmann KU Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - I Book Series: Advances in Space ResearchVolume: 36Issue: 5Special Issue: Sp. Iss. 2005Pages: 855-867Published: 2005

271) Bracher A., Lamsal L. N., Weber M., Bramstedt K., Coldewey-Egbers M., Burrows J. P., 2005, "Global satellite validation of SCIAMACHY O_3 columns with GOME WF-DOAS", Atmospheric Chemistry and Physics Discussions, 5, 795-813, 2005and Atmospheric Chemistry and Physics, 5, 2357-2368, 2005.

272) Bracher A., Sinnhuber M., Rozanov A., and Burrows J.P., 2005, "Using a photochemical model for the validation of NO_2 satellite measurements at different solar zenith angles". Source: ATMOSPHERIC CHEMISTRY AND PHYSICS DISCUSSIONS 4: 5515-5548, 2004 and Atmospheric Chemistry and Physics Volume: 5 Pages: 393-408 Published: 2005

273) Buchwitz M., de Beek R., Burrows J. P., Bovensmann H., Warneke T., Notholt J., Meirink J. F., Goede A. P. H., Bergamaschi P., Korner S., Heimann M., and Schulz A., 2005, "Atmospheric methane and carbon dioxide from SCIAMACHY satellite data: Initial comparison with chemistry and transport models", Atmospheric Chemistry and Physics Discussions, 4, 7217-7279, 2004 and Atmospheric Chemistry and Physics, 5, 941-962, 2005.

274) Buchwitz M., de Beek R., NoëlS., Burrows J. P., Bovensmann H., Bremer H., Bergamaschi P., Korner S., Heimann M., 2005, "Carbon monoxide, methane and carbon dioxide columns retrieved from SCIAMACHY by WFM-DOAS: year 2003 initial data set", Atmospheric Chemistry and Physics Discussions, 5, 3313-3329, acp-5-3313_buchwitz_year2003.pdf, 2005. Source: Atmospheric Chemistry and Physics Volume: 5Pages: 3313-3329 Published: DEC 14 2005

275) Coldewey-Egbers M, Weber, M., Lamsal, L. N., de Beek, R., Buchwitz, M., and Burrows, J. P., 2005, "Total ozone retrieval from GOME UV spectral data using the weighting function DOAS approach", Atmospheric Chemistry and Physics Discussions,

4, 4915-4944, 2004 and Atmospheric Chemistry and Physics, 5, 1015-1025, 2005.

276) Fix A., Ehret G., Flentje H., Poberaj G., Gottwald M., Finkenzeller H., Bremer H., Bruns M., Burrows J. P., Kleinböhl, K., Küllmann H., Kuttippurath J., Richter A., Wang P., Heue K.-P., Platt U., and Wagner T., 2005, "SCIAMACHY validation by aircraft remote measurements: design, execution, and first results of the SCIA-VALUE mission", ATMOSPHERIC CHEMISTRY AND PHYSICS DISCUSSIONS, 4, 8381-8423, 2004 and ATMOSPHERIC CHEMISTRY AND PHYSICS 5, 1273-1290, 2005.

277) Fleischmann O.C., Meyer-Arnek J. and Burrows,J. P., 2005, "The visible absorption spectrum of OBrO, investigated by Fourier transform spectroscopy", Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 109 Issue: 23 Pages: 5093-5103 Published: JUN 16 2005 DOI: 10.1021/jp044911x

278) Gómez Martín, J.C., Spietz, P., Burrows, J.P. 2005, "Spectroscopic Studies of the I2/O_3 photochemistry Part 1: Determination of the absolute absorption cross sections of iodine oxides of atmospheric relevance", Source: Journal of Photochemistry and Photobiology A-Chemistry Volume: 176 Issue: 1-3 Pages: 15-38 Published: DEC 14 2005

279) Gurlit W., Zimmermann R., Giesemann C., Fernholz T., Ebert V., Wolfrum J., Platt U., and Burrows J. P., 2005, "Lightweight diode laser spectrometer CHILD (Compact High-altitude In-situ Laser Diode) for balloonborne measurements of water vapour and methane, Applied Optics, Volume 44, Issue 1,pp 91-102, 2005.

280) Gurlit W., Bösch H., Bovensmann H., Burrows J. P., Butz A., Camy-Peyret C., Dorf M., Gerilowski K., Lindner A., Noël S., Platt U., Weidner F., and Pfeilsticker K., 2005, "The UV-A and visible solar irradiance spectrum: inter-comparison of absolutely calibrated, spectrally medium resolution solar irradiance spectra from balloon- and satellite-borne measurements", Source: Source: Atmospheric Chemistry and Physics Discussions Volume, 4, Pages 8439-8469, 2004 and Atmospheric Chemistry and Physics Volume: 5 Pages: 1879-1890 Published: JUL 26 2005

281) Heckel A., Richter, A. Tarsu T., Wittrock, F., Hak C., Pundt I., Junkermann W. and Burrows J. P., 2005 "MAX-DOAS measurements of formaldehyde in Po-Valley," Source: Atmospheric Chemistry and Physics Discussions, 4, 1151-1180, 2004. Atmospheric Chemistry and Physics Volume: 5 Pages: 909-918 Published: MAR 21 2005

282) Heue K.-P., Richter A., Wagner T., Bruns M., Burrows J. P., von Friedeburg C., Lee W. D., Platt U., Pundt I., and Wang P., 2005, "Validation of SCIAMACHY tropospheric NO_2-columns with AMAXDOAS measurements", Source: Atmospheric Chemistry and Physics Discussions, 4, 7513-7540, 2004Atmospheric Chemistry and Physics, 5, 1039-1051, 2005.

283) Irie H., Sudo K., Akimoto H., Richter A., Burrows J. P., Wagner T., Wenig M., Beirle S., Kondo Y., Sinyakov V. P., and Goutail F., 2005, "Evaluation of long-term tropospheric NO_2 data obtained by GOME over East Asia in 1996–2002", Source:

Geophysical Research Letters Volume: 32 Issue: 11 Article Number: L11810 Published: JUN 14 2005 doi:10.1029/27 2005GL022770, 2005.

284) Kokhanovsky A. A., Rozanov V. V., Burrows J. P., Eichmann K.-U., Lotz W., and Vountas M., 2005, "The SCIAMACHY cloud products: algorithms and examples from ENVISAT", Editor(s): Burrows J. P., Eichmann K.-U., Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - I Book Series: Advances in Space ResearchVolume: 36Issue: 5Special Issue: Sp. Iss. 2005Pages: 789-799Published: 2005.

285) Konovalov I. B., Beekmann M., Vautard M. R., Burrows J. P., Richter A., Nüß H. and Elansky N., 2005, "Comparison and evaluation of modelled and GOME measurement derived tropospheric NO_2 columns over Western and Eastern Europe", Atmospheric Chemistry and Physics Discussions, 4, pp. 6503-6558, 2004 and Atmospheric Chemistry and Physics, 5, 169-190, 2005

286) Ladstätter-Weißenmayer A., Meyer-Arnek J., Richter A., Wittrock F., Burrows J. P., 2005 "Tropospheric O_3 over Indonesia during biomass burning events measured with GOME (Global Ozone Monitoring Experiment) and compared with trajectory analysis", Atmospheric Chemistry and Physics Discussions, 5, 3105-3130, 2005.

287) Meyer J., Bracher A., Rozanov A., Schlesier A., Bovensmann H. and Burrows J.P., "Solar occultation with SCIAMACHY: Algorithm description and first validation", Atmospheric Chemistry and Physics Discussions, 5, 17-66, 2005and Atmospheric Chemistry and Physics, 5, 1589-1604, 2005

288) Meyer-Arnek J., Ladstätter-Weißenmayer A. Richter A., Wittrock F., and Burrows J. P., "A study of the trace gas columns of O_3, NO_2 and HCHO over Africa in September 1997", Source: FARADAY DISCUSSIONS Volume: 130 Pages: 387-405 Published: 2005 DOI: 10.1039/b502106p

289) Noël S., Buchwitz M., Bovensmann H. and Burrows J. P., "Validation of SCIAMACHY AMC-DOAS water vapour columns", Atmospheric Chemistry and Physics Discussions, 5, 1925-1942, 2005 and Atmospheric Chemistry and Physics, 5, 1835-1841, 2005.

290) Palm M., von Savigny C., Warneke T., Velazco V., Notholt J., Künzi K., Burrows J. P. and Schrems O., 2005, "Intercomparison of O_3 profiles observed by SCIAMACHY and ground based microwave instruments", Atmospheric Chemistry and Physics Discussions, 5, 911-936, 2005 and Atmospheric Chemistry and Physics, 5, 2091-2098, 2005.

291) Richter A., Burrows, J. P., Nüß, H., Granier, C, and Niemeier, U., "Increase in tropospheric nitrogen dioxide over China observed from space", NATURE, 437, 129-132, doi: 10.1038/NATURE04092, 2005.

292) Richter A., Wittrock, F., Weber, M., Beirle, S., Kühl S., Platt U., Wagner T., Wilms-Grabe W. and Burrows, J. P., 2005, "GOME observations of stratospheric trace gas

distributions during the splitting vortex event in the Antarctic winter 2002 Part I: Measurements", Source: JOURNAL OF THE ATMOSPHERIC SCIENCES Volume: 62 Issue: 3 Pages: 778-785 Published: MAR 2005

293) Rohen G. J., von Savigny C., Sinnhuber M., Llewellyn E. J., Kaiser J. W., Jackman C. H., Kallenrode M.-B., Schroter J., Eichmann K.-U., Bovensmann H., andBurrows J. P., 2005 "Ozone depletion during the solar proton events of Oct./Nov. 2003 as seen by SCIAMACHY", JOURNAL OF GEOPHYSICS, Vol. 110, doi. 10.1029/2004JA010984, 2005.

294) Rozanov A., Bovensmann H., Bracher A., Hrechany S., Rozanov V., Sinnhuber M., Stroh F., and Burrows J., P., 2005, "NO_2 and BrO vertical profile retrieval from SCIAMACHY limb measurements: Sensitivity studies", . Conference Information: 35th COSPAR Scientific Assembly Paris, FRANCE, JUL 18-25, 2004 Comm Space Res Editor(s): Burrows J. P., Eichmann K.-U., Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - I Book Series: Advances in Space ResearchVolume: 36 Issue: 5 Special Issue: Sp. Iss. 2005 Pages: 846-854Published: 2005

295) Rozanov A., Rozanov V., Buchwitz M., Kokhanovsky A., and Burrows J. P., 2005, "SCIATRAN 2.0 - A new radiative transfer model for geophysical applications in the 175-2400 nm spectral region", Conference Information: 35th COSPAR Scientific Assembly Paris, FRANCE, JUL 18-25, 2004
Comm Space Res, Editor(s): Burrows J. P., Eichmann K. U... Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - I Book Series: Advances in Space Research Volume: 36Issue: 5Special Issue: Sp. Iss. 2005 Pages: 1015-1019 Published: 2005

296) Sinnhuber B.-M., Rozanov A., Sheode N., Afe O. T., Richter A., Sinnhuber, M., Wittrock, F. and Burrows, J. P., 2005, "Global observations of stratospheric bromine monoxide from SCIAMACHY", Source: Geophysical Research Letters Volume: 32 Issue: 20 Article Number: L20810 Published: OCT 22 2005 doi:10.1029/2005GL023839, 2005.

297) Skupin J., Noël , S., Wuttke, M. W., Gottwald, M.,Bovensmann, H.,Weber, M., andBurrows, J. P., 2005 "SCIAMACHY Solar Irradiance Observation in the Spectral Range from 240 to 2380 nm".Conference Information: 35th COSPAR Scientific Assembly Paris, FRANCE, JUL 18-25, 2004 Comm Space ResEditor(s): Lastovicka J, Source: INFLUENCE OF THE SUN'S RADIATION AND PARTICLES ON THE EARTH'S ATMOSPHERE AND CLIMATE Book Series: Advances in Space ResearchVolume: 35 Issue: 3 Pages: 370-375 Published: 2005

298) Solomon S. J., Custer T., Schade G., Soares Dias A. P., and Burrows J.P., 2005, "Atmospheric methanol measurement using selective catalytic methanol to formaldehyde conversion", Atmospheric Chemistry and Physics Discussions, 5, 3533-3559, 2005. Atmospheric Chemistry and Physics, 5, 2787-2796, 2005.

299) Spietz P., Gómez Martín J.C. and Burrows, J.P., 2005, "Spectroscopic Studies of the I_2/O_3 photochemistry Part 2: Improved Spectra of Iodine Oxides and Analysis of the IO Absorption Spectrum", J. Photochem. Photobiol. A: Chemistry Vol 176, pp. 50-67, doi:10.1016/j.jphotochem.2005.08.023, 2005.

300) Sussmann R., Stremme W., Burrows J. P., Richter A. Seiler W., M. and Rettinger M., 2005, „Stratospheric and tropospheric NO_2 variability on the diurnal and annual scale: a combined retrieval from ENVISAT/SCIAMACHY and solar FTIR at the Permanent Ground-Truthing Facility Zugspitze/Garmisch", Atmospheric Chemistry and Physics Discussions, 5, 2657-2677, 2005 and Atmospheric Chemistry and Physics Volume 5, 2005 Page(s) 2657-2677.

301) Volkamer R., Spietz, P., Burrows, J. P., and Platt, U., 2005, "High-resolution absorption cross of glyoxal in the UV-vis and IR spectral ranges, 2005", Source: Journal of Photochemistry and Photobiology A-Chemistry Volume: 172 Issue: 1 Pages: 35-46 Published: MAY 15 2005

302) von Savigny C., Ulasi E. P., Eichmann K.-U., Bovensmann H. and Burrows J. P.,2005, "Detection and Mapping of Polar Stratospheric Clouds using Limb Scattering Observations", Atmospheric Chemistry and Physics Discussions, 5, 7169-7190, 2005 and Atmospheric Chemistry and Physics, 5, 3071-3079, 2005

303) von Savigny C., Kaiser J. W., Bovensmann H., Burrows J. P., McDermid I. S. and Leblanc T., "Spatial and temporal Characterization of SCIAMACHY Limb Pointing Errors during the first three Years of the Mission", Atmospheric Chemistry and Physics Discussions, Volume 5, Pages:3701-3722, 2005, 5, 2593-2602, 2005. Atmospheric Chemistry and Physics Volume: 5 Pages: 2593-2602 Published: SEP 29 2005

304) von Savigny C., Petelina S. V., Llewellyn E. J., Degenstein D. A., Lloyd N. D., and Burrows J. P. 2005, "Vertical variation of NLC particle sizes retrieved from Odin/OSIRIS limb scattering observations", Geophysical Research Letters Volume: 32 Issue: 7 Article Number: L07806 Published: APR 7 2005 doi:10.1029/2004GL021982, 2005.

305) von Savigny C., Rozanov, A., Bovensmann, H., Eichmann, K.-U., Noël , S., Rozanov, V. V, Sinnhuber, B.-M. Weber, M., and Burrows, J. P., 2005 "The ozone hole break-up in September 2002 as seen by SCIAMACHY on ENVISAT",Source: JOURNAL OF THE ATMOSPHERIC SCIENCES Volume: 62 Issue: 3 Pages: 721-734 Published: MAR 2005

306) Wang P., Richter, A., Bruns, M., Rozanov, V. V., Burrows J. P., Heue, K.-P., Wagner, T.,Pundt, I., and Platt, U.,2005, "Measurements of tropospheric NO_2 with an airborne multi-axis DOAS instrument", Atmospheric Chemistry and Physics Discussions, 4, 7541-7559, 2004Atmospheric Chemistry and Physics, 5, 337-343, 2005.

307) Weber M., Lamsal L. N., Coldewey-Egbers M., Bramstedt K. and Burrows J. P., 2005, "Pole-to-pole validation of GOME WFDOAS total ozone with ground based data", Atmospheric Chemistry and Physics Discussions, 4, 6909-6941, 2004 and

Atmospheric Chemistry and Physics, 5, 1341-1355, 2005.

308) Weidner F., Bösch H., Bovensmann H., Burrows J. P., Butz A., Camy-Peyret C., Dorf M., Gerilowski K., Gurlit W., Platt U., von Friedeburg C., Wagner T., Pfeilsticker K, 2005, "Balloon-borne limb profiling of UV/vis skylight radiances, O_3, NO_2, and BrO: technical set-up and validation of the method, ATMOSPHERIC CHEMISTRY AND PHYSICS DISCUSSIONS., 4, 7631-7665, 2004 andATMOSPHERIC CHEMISTRY AND PHYSICS, Vol. 5, pp 1409-1422, 2005.

*****2006*****

309) Bösch H., Toon G. C., Sen B., Washenfelder R., Wennberg P. O., Buchwitz M., de Beek R., Burrows J. P., Crisp D., Christi M.,Connor B.,Natraj V., and Yung, Y.,"Space-based near-infrared CO_2 retrievals: Testing the OCO retrieval and validation concept using SCIAMACHY measurements over Park Falls, Wisconsin", Source: Journal of Geophysical Research-Atmospheres Volume: 111 Issue: D23 Article Number: D23302 Published: 2006 JOURNAL OF GEOPHYSICS 111, D23302, doi:10.1029/2006JD007080.

310) Buchwitz M., de Beek R., Noël S., Burrows J. P. and Bovensmann H. "Carbon monoxide, methane and carbon dioxide over China retrieved from SCIAMACHY/ENVISAT by WFM-DOAS", Conference Information: 2nd Dragon Symposium Santorini, GREECE, JUN 27-JUL 01, 2005Editor(s): Lacoste H., Source: Dragon Programme Mid-Term Results, Proceedings Book Series: ESA SPECIAL PUBLICATIONS Volume: 611 Pages: 159-165 Published: 2006

311) Buchwitz M., de Beek R., Noël S., Burrows J. P., Bovensmann H., Schneising O., Khlystova I., Bruns M., Bremer H., Bergamaschi P., Körner S. and Heimann M., 2006, "Atmospheric carbon gases retrieved from SCIAMACHY by WFM-DOAS: version 0.5 CO and CH_4 and impact of calibration improvements on CO_2 retrieval", Atmospheric Chemistry and Physics Discussions, 6, 363-399, 2006 Atmospheric Chemistry and Physics, 6, 2727-2751, 2006.

312) Bruns M., Buehler S. A., Burrows J. P., Richter A., Rozanov, A., Wang, P. Heue, K.–P., Platt, U., Pundt, I. and Wagner T.,2006, "NO_2 profile retrieval using airborne multi axis UV-visible skylight absorption measurements over central Europe", Atmospheric Chemistry and Physics Discussions, Volume 6, Pages493-517, 2006, Source: Atmospheric Chemistry and Physics Volume: 6 Pages: 3049-3058 Published: 2006

313) Cede, A., Herman, J., Richter, A., Krotkov, N. and Burrows, J. P., 2006,"Measurements of nitrogen dioxide total column amounts using a Brewer double spectrophotometer in direct Sun mode," Source: Journal of Geophysical Research-Atmospheres Volume: 111 Issue: D5 Article Number: D05304 Published: 2006, doi:10.1029/2005JD006585, 2006

314) Dhomse, Weber, M., Burrows, J. P., Wohltmann,I. and Rex, M.,2006, "On the possible causes of recent increases in northern hemispheric total ozone from a statistical analysis of satellite data from 1979 to 2003", Atmospheric Chemistry and Physics

Discussions, 5, 11331-11375, 2005 and Atmospheric Chemistry and Physics, 6, 1165-1180, 2006

315) Kim S.-W., Heckel A., McKeen S. A., Frost G. J., Hsie E.-Y., Trainer M. K., Richter A., Burrows J. P., Peckham S. E. and Grell G. A.,2006, "Satellite-observed US power plant NOx emission reductions and their impact on air quality", GEOPHYSICALRESEARCH. LETTERS, 33, L22812, doi:10.1029/2006GL027749.

316) Kokhanovsky A.A., von Hoyningen-Huene W., and Burrows J. P.,2006, "Atmospheric aerosol load as derived from space", Source: ATMOSPHERIC RESEARCH Volume: 81 Issue: 2 Pages: 176-185 Published: AUG 2006 .

317) Kokhanovsky A. A., Von Hoyningen-Huene, W., Rozanov, V. V., Noël, S., Gerilowski, K., Bovensmann, H., Bramstedt, K., Buchwitz, M., and Burrows, J. P., 2006, "The semianalytical cloud retrieval algorithm for SCIAMACHY II. The application to MERIS and SCIAMACHY data", SourceAtmospheric Chemistry and Physics Discussions, 6, 1813-1840, 2006 and Atmospheric Chemistry and PhysicsVolume: 6Pages: 4129-4136Published: SEP 18 2006

318) Kokhanovsky A. A., JourdanO., and Burrows J. P.2006, "The cloud phase discrimination from a satellite", IEEE GEOSCIENCE AND REMOTE SENSING LETTERS Volume: 3 Issue: 1 Pages: 103-106 Published: JAN 2006

319) Kokhanovsky A. A., Rozanov V. V., Nauss T., Reudenbach C., DanielJ. S., Miller H. L., andBurrows J. P., 2006, "The semi analytical cloud retrieval algorithm for SCIAMACHY I. The validation", Atmospheric Chemistry and Physics Discussions, 5, 1995-2015, 2005, Atmospheric Chemistry and Physics, 6, 1905-1911, 2006.

320) Konovalov, I. B., Beekmann, M., Richter, A., Burrows, J. P., 2006, "Inverse modelling of the spatial distribution of NOx emissions on a continental scale using satellite data", Atmospheric Chemistry and Physics Discussions, 5, 12641-12695, 2005Atmospheric Chemistry and Physics, 6, 1747-1770, 2006.

321) Kunhikrishnan T., Lawrence M. G., von Kuhlmann R., Wenig M. O., Asman W. A. H, Richter A., and Burrows J. P.,2006, "Regional NOx emission strength for the Indian subcontinent and the impact of emissions from India and neighbouring countries on regional O_3 chemistry", Source: Journal of Geophysical Research-Atmospheres Volume: 111 Issue: D15 Article Number: D15301 Published: AUG 2 2006 , doi:10.1029/2005JD006036

322) Jacobi H.-W., Kaleschke L., Richter A. Rozanov A. and Burrows, J. P. 2006, "Observation of a fast ozone loss in the marginal ice zone of the Arctic Ocean", Source: Journal of Geophysical Research-AtmospheresVolume: 111Issue: D15Article Number: D15309Published: AUG 12 2006 Times Cited:18

323) Ma J., Richter A., Burrows J. P., Nüß H. and van Aardenne J. A., 2006, "Comparison of model-simulated tropospheric NO_2 over China with GOME-satellite data", Source: Atmospheric EnvironmentVolume: 40 Issue: 4 Pages: 593-604 Published: 2006

324) Ordóñez C., Richter A., Steinbacher M., Zellweger C., Nüß H., Burrows J. P. and Prévôt A. S. H., 2006, "Comparison of 7 years of satellite-borne and ground-based tropospheric NO_2 measurements around Milan, Italy", Source: Journal of Geophysical Research-Atmospheres Volume: 111 Issue: D5 Article Number: D05310 Published: 2006, doi:10.1029/2005JD006305, 2006

325) Rohen G. J., von Savigny C., Llewellyn E. J.,Kaiser J. W., Eichmann K.-U., Bracher A., Bovensmann H. and Burrows J. P., 2006, "First results of ozone profiles between 35 and 65 km retrieved from SCIAMACHY limb spectra and observations of ozone depletion during the solar proton event in Oct./Nov. 2003", Conference Information: 35th COSPAR Scientific Assembly Paris, FRANCE, JUL 18-25, 2004 Comm Space Res Editor(s): Burrows JP, Eichmann KU, Llewellyn EJ Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - II Book Series: Advances in Space Research Volume: 37 Issue: 12 Pages: 2263-2268 Published: 2006

326) Rozanov V.V., Kokhanovsky A.A., Loyola D., Siddans R., Latter B., Stevens A. and Burrows J.P., 2006, "Intercomparison of cloud top altitudes as derived using GOME and ATSR-2 instruments onboard ERS-2", Source: Remote Sensing of Environment Volume: 102 Issue: 1-2 Pages: 186-193 Published: MAY 30 2006

327) Sander R., J. P. Burrows and L. Kaleschke, 2006, "Carbonate precipitation in brine – a potential trigger for tropospheric ozone depletion events", Atmospheric Chemistry and Physics Discussions, 6, 7075-7091, 2006and Atmospheric Chemistry and Physics, 6, 4653-4658, 2006.

328) Schreier M., Kokhanovsky A. A., Eyring V., Bugliaro L., Mannstein H., Mayer B., Bovensmann H. and Burrows J. P., 2006 "Impact of ship emissions on the microphysical, optical and radiative properties of marine stratus: a case study", Atmospheric Chemistry and Physics Discussions, 6, 1023-1071, 2006 SRef-ID: 1680-7375/acpd/2006-6-1023Atmospheric Chemistry and Physics Volume: 6 Pages: 4925-4942 Published: 2006

329) Sheode N., Sinnhuber B.-M., Rozanov A., and Burrows J. P., 2006 "Towards a climatology of stratospheric bromine monoxide from SCIAMACHY limb observations", Atmospheric Chemistry and Physics Discussions, 6, 6431-6466, 2006.

330) Sierk B., Richter A., Rozanov A., von Savigny C., Schmoltner A. M., Buchwitz M., Bovensmann, H., and Burrows, J. P., 2006 "Retrieval and monitoring of atmospheric trace gas concentrations in nadir and limb geometry using the space-borne SCIAMACHY instrument." Source: ENVIRONMENTAL MONITORING AND ASSESSMENTVolume: 120 Issue: 1-3 Pages: 65-77Published: SEP 2006 DOI: 10.1007/s10661-005-9049-9, 2006.

331) Skupin J., Weber M., Noël S., Bovensmann H. and Burrows J. P., 2006, "GOME and SCIAMACHY solar measurements: Solar spectral irradiance and Mg II solar activity proxy indicator". Conference Information: Conference on Solar Variability and Earth's

Climate, Date: JUN 27-JUL 01, 2005 Rome ITALY
Source: Solar Variability and Earth's Climate Volume: 76 Issue: 4 Pages: 1038-1041 Published: 2006

332) Spietz P. Gomez- Martin J. C. and Burrows, J.P., 2006," Quantitative treatment of coarsely binned low-resolution recordings in molecular absorption spectroscopy", Source: Spectrochimica Acta Part A Molecular and Biomolecular Spectroscopy Volume: 64 Issue: 3 Pages: 448-453 Published: JUN 2006

333) Spietz, P., Gómez Martín, J. C., and Burrows: J. P., 2006, "Effects of column density on I_2 spectroscopy and a determination of I_2 absorption cross section at 500 nm", Atmospheric Chemistry and Physics Discussions, 5, 5183-5221, 2005 Atmospheric Chemistry and Physics, 6, 2177-2191, 2006.

334) Toenges-Schuller N., Stein O., Rohrer F., Wahner A., Richter A., Burrows J. P., Beirle S., Wagner T., Platt U. and Elvidge, C. D., 2006, "Global distribution pattern of anthropogenic nitrogen oxide emissions: Correlation analysis of satellite measurements and model calculations", Source: Journal of Geophysical Research-Atmospheres Volume: 111 Issue: D5 Article Number: D05312 Published: 2006doi:10.1029/2005JD006068, 2006.

335) von Hoyningen-Huene W., Kokhanovsky A. A., Burrows J. P., Bruniquel-Pinel V., Regner P. and Baret F., 2005, " Simultaneous determination of aerosol- and surface characteristics from top-of-atmosphere reflectance using MERIS on board of ENVISAT", Conference Information: 35th COSPAR Scientific Assembly Paris, FRANCE, JUL 18-25, 2004 Comm Space Res,Editor(s): Burrows J.P., Eichmann K.-U., Llewellyn E. J., Source: ATMOSPHERIC REMOTE SENSING: EARTH'S SURFACE, TROPOSPHERE, STRATOSPHERE AND MESOSPHERE - II Book Series: Advances in Space ResearchVolume: 37Issue: 12Pages: 2172-2177Published: 2006 .

336) von Savigny, C., Rapp, M., and Burrows, J. P. 2007, "UV limb-scatter spectra of noctilucent clouds consistent with mono-modal particle size distribution", Geophysical Research Letters Volume: 34 Issue: 7 Article Number: L07802 Published: APR 4 2007

337) Wang, P., A. Richter, M. Bruns, J. P. Burrows, W. Junkermann, K.-P. Heue, T. Wagner, U. Platt, I. Pundt, 2006, "Airborne multi-axis DOAS measurements of tropospheric SO2 plumes in the Po-valley, Italy", Atmospheric Chemistry and Physics Discussions, 5, 2017-2045, 2005and Atmospheric Chemistry and Physics, 6, 329-338, 2006.

338) Wittrock F., Richter A., Oetjen H., Burrows J. P., Kanakidou M., Myriokefalitakis S., Volkamer R., Beirle S., Platt U. and Wagner T.,2006, "Simultaneous global observations of glyoxal and formaldehyde from space", GEOPHYSICALRESEARCH. LETTERS, 33, L16804, doi:10.1029/2006GL026310.

*****2007*****

339) Buchwitz M., Schneising, O., Burrows, J. P., Bovensmann H. and Notholt J., 2007, "First direct observation of the atmospheric CO_2 year-to-year increase from space". Atmospheric Chemistry and Physics Discussions, Volume 7, Page(s) 6719-6735 2007 and Atmospheric Chemistry and Physics,7, pages 4249-4256,2007.

340) Buchwitz M., Khlystova I, Bovensmann, H. and Burrows J P., 2007, "Three years of global carbon monoxide from SCIAMACHY: comparison with MOPITT and first results related to the detection of enhanced CO over cities",Atmopsheric Physics and Chemistry Discussions, Volume 7, Page(s) 405-428 2007. and Atmospheric Chemistry and Physics, Volume 7, Page(s) 2399-2411 2007.

341) Cook P.A., Savage N. H., Turquety S., Carver G. D., O'Connor F. M., Heckel A., Stewart D., Whalley L. K., Parker A. E., Schlager H., Singh H. B., Avery M.A., Sachse G. W., Brune W., Richter A., Burrows J. P., Purvis R., Lewis A. C., Reeves C. E., Monks P. S., Levine J. G., and. Pyle, J. A., "Forest fire plumes over the North Atlantic: p-TOMCAT model simulations with aircraft and satellite measurements from the ITOP/ICARTT campaign", Source: Journal of Geophysical Research-Atmospheres Volume: 112 Issue: D10 Article Number: D10S43 Published: 2007doi:10.1029/2006JD007563.

342) Doicu A., Hilgers S., von Bargen A., Rozanov A., Eichmann K.-U., von Savigny C. and Burrows J. P., 2007, "Information operator approach and iterative regularization methods for atmospheric remote sensing", Source: Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 103 Issue: 2 Pages: 340-350 Published: JAN 200.

343) Fietkau F., Medeke T., Richter A., Sheode N., Sinnhuber B.-M., Wittrock F., Theys N., van Roozendael M. and Burrows J. P.,2007, "Ground-based measurements of tropospheric and stratospheric bromine monoxide above Nairobi (1° S, 36° E)", Atmospheric Chemistry and Physics Discussions, Volume 7, Page(s) 6527-6555 2007.

344) Gomez Martin J. C., Spietz P. and Burrows J. P. 2007, "Kinetic and Mechanistic Studies of the I_2/O_3 Photochemistry", Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 111 Issue: 2 Pages: 306-320 Published: JAN 18 2007, DOI: 10.1021/jp061186c.

345) He Y., Uno I., Wang Z., Ohara T., Sugirnoto N., Shimizu A., Richter A., and Burrows J. P., 2007, "Variations of the increasing trend of tropospheric NO_2 over central east China during the past decade Source",ATMOSPHERIC ENVIRONMENTVolume: 41Issue: 23Pages: 4865-4876Published: JUL 2007

346) Jourdan O., Kokhanovsky, A. A. and Burrows J. P., 2007, "Calibration of SCIAMACHY using AATSR top-of-atmosphere reflectance over a hurricane", Source: IEEE GEOSCIENCE AND REMOTE SENSING LETTERS Volume: 4 Issue: 1 Pages: 8-12 Published: JAN 2007

347) Kokhanovsky A.A., Vountas M., Rozanov V.V., Lotz W., Bovensmann H., Burrows J.P., 2007, "Global cloud top height and thermodynamic phase distributions as obtained by SCIAMACHY an ENVISAT", Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 28 Pages: 4499-4507 Published: 2007.

348) Kokhanovsky A.A., Bramstedt, K.., von Hoyningen-Huene, W. and Burrows, J. P.,2007, "The intercomparison of top-of-atmosphere reflectivity measured by MERIS and SCIAMACHY in the spectral range of 443-865nm", Source: IEEE GEOSCIENCE AND REMOTE SENSING LETTERS Volume: 4 Issue: 2 Pages: 293-296 Published: APR 2007

349) Kokhanovsky A.A., Mayer B., Rozanov V. V, Wapler K., Lamsal L., Weber M., Burrows J.P. and Schumann U., 2007, "Satellite ozone retrieval under broken cloud conditions: an error analysis based on Monte-Carlo simulations", Source: IEEE Transactions on Geosciences and Remote Sensing Volume: 45 Issue: 1 Pages: 187-194 Published: 2007 .

350) Kokhanovsky A.A., Mayer B., Rozanov V.V., Wapler K., Burrows, J.P. and Schumann U., 2007, "The influence of broken cloudiness on cloud top height retrievals using nadir observations of backscattered solar radiation in the oxygen A-band", Source: Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 103 Issue: 3 Pages: 460-477 Published: 2007

351) Kokhanovsky A.A., Nauss T., Schreier M., von Hoyningen-Huene W. and Burrows, J. P.2007, "The inter-comparison of cloud parameters derived using multiple satellite instruments", Source: IEEE Transactions on Geosciences and Remote Sensing Volume: 45 Issue: 1 Pages: 195-200 Published: 2007

352) Kuttippurath J., Bremer H., Burrows J. P., Kleinböhl A., Küllmann H., Künzi K., Notholt J., Sinnhuber M., von Savigny C., Lautié N., Murtagh D., Urban J.,Milz M., Stiller G.,Petelina S.,de La Noë J., Le Flochmoën E., andRicaud P.,2007, "Intercomparison of ozone profile measurements from ASUR, SCIAMACHY, MIPAS, OSIRIS, and SMR," JOURNAL OF GEOPHYSICS, 112, D09311, doi:10.1029/2006JD007830.

353) Ladstätter-Weißenmayer A., Kanakidou, M., Meyer-Arnek J., Dermitzaki E. V., Richter A., Vrekoussis M., Wittrock F., and Burrows J. P. 2007, Pollution events over the East Mediterranean: Synergistic use of GOME, ground based and sonde observations and models, Atmospheric EnvironmentVolume: 41 Pages: 7262-7273 Published: 2007

354) Ladstätter-Weißenmayer, A., Altmeyer A. H, Bruns M., Richter A. Rozanov A., Rozanov V., Wittrock F. and Burrows J. P., 2006, "Measurements of O_3, NO_2 and BrO at the Kaashidhoo Climate Observatory (KCO) during the INDOEX (INDian Ocean EXperiment) Campaign using ground based DOAS (Differential Optical Absorption Spectroscopy) and satellite based GOME (Global Ozone Monitoring Experiment) data", Atmospheric Chemistry and Physics Discussions, 6, 9273-9296, 2006 and Atmospheric Chemistry and Physics, Volume 7, Page(s) 283-291 2007.

355) Lamsal L. N., Weber M., Labow G., and Burrows J. P., 2007, "Influence of ozone and temperature climatology on the accuracy of satellite total ozone retrieval", Source: Journal of Geophysical Research-Atmospheres Volume: 112 Issue: D2 Article Number: D02302 Published: 2007

356) Noël S., Mieruch S., Bovensmann H. and Burrows J. P., 2007/2008, "Preliminary results of GOME-2 water vapour retrievals and first applications in polar regions, Atmospheric Chemistry and Physics Discussions, 7, 11761-11796, 2007 and Atmospheric Physics and Chemistry, 8, 1519-1529, 2008.

357) Reichert L., Andres Hernandez M.D., Burrows J. P., Tikhomirov A.B., Firsov K.M., and Ptashnik I.V., 2007, "First CRDS-measurements of water vapour continuum in the 940 nm absorption band", Source: Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 105 Issue: 2 Pages: 303-311 Published: JUN 2007

358) Rozanov A., Eichmann, K-U., von Savigny, C., Bovensmann, H., Burrows, J. P., von Bargen, A., Doicu, A., Hilgers, S., Godin-Beekmann S., Leblanc T., and McDermid I. S.,2007, "Comparison of the inversion algorithms applied to the ozone vertical profile retrieval from SCIAMACHY limb measurements", ATMOSPHERICCHEMISTRY AND. PHYSICS DISCUSSIONS, Volume7, Page(s) 1969-1993 2007, ATMOSPHERICCHEMISTRY AND. PHYSICS, 7, 4763-4779, 2007.

359) Scharringhausen M, Aikin A. C., Burrows J. P. and Sinnhuber M.,2007/2008, "First space-borne measurements of the altitude distribution of mesospheric magnesium species", ATMOSPHERIC CHEMISTRY AND PHYSICS DISCUSSIONS, Volume 7, Page(s) 4597-4656, 2007, and Atmospheric Chemistry and Physics, Volume 8, 1963-1983,2008

360) Schoenhardt A., Richter A., Wittrock F. and Burrows J. P. "First observations of atmospheric iodine oxide columns from satellite, GEOPHYSICAL. RES. ABSTRACTS, 9, Poster 00592, 2007,

361) Simpson W. R., von Glasow R., Riedel K., Anderson P., Ariya P., Bottenheim J., Burrows J. P., Carpenter L., Frieß U., Goodsite M. E., Heard D., Hutterli M., Jacobi H. W., Kaleschke L., Neff B., Plane J., Platt U., Richter A., Roscoe H., Sander R., Shepson P., Sodeau J., Steffen A., Wagner T., and Wolff E., 2007, "Halogens and their role in polar boundary-layer ozone depletion",Atmospheric Chemistry and Physics Discussions, Volume 7, Page(s) 4285-4403, 2007.and Atmos. Chem. Phys, 7, 4375-4418, 2007

362) Stewart, L. Whalley, A. Parker, H. Schlager, H. Singh, M. Avery, G. Sachse, B. Brune, A. Richter, J. Burrows, R. Purvis, A. Lewis, C. Reeves, P. Monks, O. Wild, J. Levine and J. Pyle, " Forest fire plumes over the North Atlantic: p-TOMCAT model simulations with aircraft and satellite measurements from the ITOP/ICARTT campaign", Source: Journal of Geophysical Research-Atmospheres Volume: 112 Issue: D10 Article Number: D10S43 Published: 2007doi:10.1029/2006JD007563.

363) Uno I., He Y., Ohara T.,Yamaji K., Kurokawa J.-I., Katayama M., Wang Z., Noguchi K.,Hayashida S.,Richter A., andBurrows J. P.,2007, "Systematic analysis of interannual

and seasonal variations of model-simulated tropospheric NO_2 in Asia and comparison with GOME-satellite data“, Atmospheric Chemistry and PhysicsDISCUSSIONS, 6, 11181-11207, 2006 and Atmospheric Chemistry and Physics Volume 7, Page(s) 1671-1681, 2007.

364) von Hoyningen-Huene W., Kokhanovsky, A. A., Wuttke M. W., Buchwitz M., Noël S., Gerilowski, K., Burrows J. P., Latter B., Siddans R., and Kerridge B. J., 2006, “Validation of SCIAMACHY top-of-atmosphere reflectance for aerosol remote sensing using MERIS L1 data”, Atmospheric Chemistry and Physics Discussions, Volume 6, 673-699, 2006 and Atmospheric Chemistry and Physics Volume 7, 2007Page(s) 97-106 2007.

365) von Savigny, C., Burrows, J. P., “Latitudinal variation of NLC particle radii derived from northern hemisphere SCIAMACHY/Envisat limb measurements”, Source: Advances in Space ResearchVolume: 40 Issue: 6 Pages: 765-771 Published: 2007

366) von Savigny, C., Rapp, M. and Burrows, J. P. 2007, “UV limb-scatter spectra of noctilucent clouds consistent with mono-modal particle size distribution”, Source: Geophysical Research Letters Volume: 34 Issue: 7 Article Number: L07802 Published: APR 4 2007,Published: APR 4 2007 doi:10.1029/2006GL028846.

367) von Savigny C., Sinnhuber M., Bovensmann H., Burrows J. P., Kallenrode, M.-B. and Schwartz M., 2007, “On the disappearance of noctilucent clouds during the January 2005 solar proton events”, Source: Geophysical Research Letters Volume: 34 Issue: 2 Article Number: L02805 Published: 2007, doi:10.1029/2006GL028106.

368) Vountas M., Dinter T., Bracher A., Burrows J. P., and Sierk B., 2007, "Spectral studies of ocean water using DOAS", OCEAN SCIENCES DISCUSSIONS, 4, 459-489, 2007 and OCEAN SCIENSES., 3, 429-440, 2007

369) Wagner T., Burrows J. P., Deutschmann T., Dix B., von Friedeburg C., Frieß U., Hendrick F., Heue K. -P., Irie H., Iwabuchi H., Kanaya Y., Keller J., McLinden C. A., Oetjen H., Palazzi E., Petritoli A., Platt U., Postylyakov O., Pukite J., Richter A., van Roozendael M., Rozanov A., Rozanov V., Sinreich R., Sanghavi S. and Wittrock, F., 2006, "Comparison of Box-Air-Mass-Factors and Radiances for Multiple-Axis Differential Optical Absorption Spectroscopy (MAX-DOAS) Geometries calculated from different UV/visible Radiative Transfer Models", ATMOSPHERIC CHEMISTRY AND PHYSICS DISCUSSIONS, Vol. 6, pp 9823-9876, 6-10-2006 and Atmospheric Chemistry and Physics Volume 7, Page(s) 1809-1833 2007

*****2008*****

370) Amekudzi L.K., Bracher A., Bramstedt K., Rozanov A., Bovensmann H. and Burrows J. P.,2007, “Towards validation of SCIAMACHY lunar occultation NO_2 vertical profiles”,2008, Source: Advances in Space ResearchVolume: 41Issue: 11Pages: 1921-1932Published: 2008

371) Apel E. C., Brauers T, Koppmann R., Bandowe B., Bossmeyer J., Holzke C., Tillmann R., Wahner A., Wegener R., Brunner A., Jocher M., Ruuskanen T., Spirig C., Steigner D., Steinbrecher R., Alvarez E.G., Muller K. Burrows J. P., Schade G, Solomon S.J., Ladstatter-Weissenmayer A., Simmonds P., Young D., Hopkins J.R., Lewis A.C., Legreid G., Reimann S., HanselA., Wisthaler A., Blake R. S., Ellis A. M., Monks P. S.,and Wyche, KP, 2007, " Intercomparison of oxygenated volatile organic compound measurements at the SAPHIR atmosphere simulation chamber" , JOURNAL OF GEOPHYSICS-Atmos. PD OCT 21 PY 2008 VL 113 IS D20 AR D20307 DI 10.1029/2008JD009865

372) Correira J., Aikin, A. C., Grebowsky, J. M., Pesnell, W. D., Burrows, J. P., 2008, Seasonal variations of magnesium atoms in the mesosphere-thermosphere, GEOPHYSICALRESEARCH. LETTERS, 35, L06103, doi:10.1029/2007GL033047.

373) Dhomse, S., M. Weber, and J. P. Burrows, "The relationship between tropospheric wave forcing and tropical lower stratospheric water vapour", Atmospheric Chemistry and Physics Discussions, Volume 6, pp 9563-9581, 28-9-2006 and Atmospheric Chemistry and Physics, Volume 8, 471-480, 2008

374) Duruy E., Walker K. A., Kara J., Boone C. D., McElroy C. T., Breath P. F., Drummond J. R., Skelton R., McLeod S. D., Hughes R. C., Nolan C. R., Dolour D. G., Zoo J., Nichitiu F., Strong, K., Baron, P., Bevilacqua, R. M.. Blumenstock T., Bodeker G. E., Borsdorff T., Bourassa A. E., Bovensmann H., Boyd I. S., Bracher A., Brogniez C., Burrows J. P., Catoire V., Ceccherini S., Chabrillat S, Christensen T.,Coffey M. T., Cortesi U., Davies, J., De Clercq C., Degenstein D. A., De Maziere M., Demoulin P., Dodion J., Firanski B., Fischer H., Forbes G, Froidevaux L., Fussen D., Gerard P.,Godin-Beekmann S., Goutail F., Granville J., Griffith D., Haley C. S., Hannigan, J. W., Hoepfner M., Jin J. J., Jones A., Jones N. B., Jucks K, Kagawa A., Kasai Y., Kerzenmacher T. E., Kleinboehl A., Klekociuk A. R., Kramer I., Kuellmann H., Kuttippurath J, Kyroelae E., Lambert J. -C., Livesey N. J., Llewellyn E. J., Lloyd N. D., Mahieu E., Manney G. L, Marshall B. T., McConnell J. C., McCormick M. P., McDermid I. S., McHugh M., McLinden C. A., Mellqvist J., Mizutani K., Murayama Y., Murtagh D. P., Oelhaf H., Parrish A., Petelina S. V., Piccolo C., Pommereau J. –P., Randall C. E., Robert C. Roth, C., Schneider, M., Senten, C.., Steck, T., Strandberg, A., Strawbridge, K. B., Sussmann, R., Swart, D. P. J.., Tarasick, D. W., Taylor, J. R., Tetard, C., Thomason, L. W, Thompson, A. M., Tully, M. B., Urban, J, Vanhellemont, F., Vigouroux C., von Clarmann, T., von der Gathen P., von Savigny C., Waters J. W., Witte J. C.., Wolff, M.,. and Zawodny J. M.. 2008/2009, "Validation of ozone measurements from the Atmospheric Chemistry Experiment (ACE)", ATMOSPHERIC CHEMISTRY PHYSICS DISCUSSIONS., 8, 2513-2656, 2008 Atmospheric Chemistry and PhysicsVolume: 9Issue: 2Pages: 287-343Published: 2009

375) Fishman J., Bowman K. W., Burrows J. P., Richter, A., Chance K. V., Edwards D. P., Martin R. V., Morris G. A., Pierce R. B., Ziemke J. R., Al-Saadi J. A., Creilson J. K., Schaack T. K., Todd, K. and Thompson A. M., "Remote sensing of tropospheric pollution from space", Source: BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETYVolume: 89Issue: 6Pages: 805-821Published: JUN 2008

376) Fu, T.-M., Jacob, D. J., Wittrock, F., Burrows, J. P., Vrekoussis, M., and Henze, d. K.,2008, "Global budgets of atmospheric glyoxal and methylglyoxal, and implications for formation of secondary organic aerosols" Source: Journal of Geophysical Research-Atmospheres Volume: 113 Issue: D15 Article Number: D15303 Published: 2008, doi:10.1029/2007JD009505.

377) Kerzenmacher T., Wolff M. A., Strong K., Dupuy E., Walker K. A., Amekudzi L. K., Batchelor R. L., Bernath P. F., Berthet G., Blumenstock T., Boone C. D., Bramstedt K., Brogniez C., Brohede S., Burrows J. P., Catoire V., Dodion J., Drummond J. R., Dufour D. G., Funke B., Fussen D., Goutail F., Griffith D. W. T., Haley C. S.,Hendrick F., Hoepfner, M., Huret N.., Jones N.. Kar J., Kramer I., Llewellyn E. J., Lopez-Puertas M., Manney G., McElroy C. T., McLinden C. A., Melo S., Mikuteit S., Murtagh D., Nichitiu F.,NotholtJ., Nowlan C., Piccolo C,Pommereau J. P.,Randall C.,Raspollini P., Ridolfi M.,Richter A., Schneider M., Schrems, O., Silicani, M., Stiller G. P., Taylor J., Tetard C., Toohey M., Vanhellemont F., Warneke T., Zawodny J. M.., andZou J.,2008, " Validation of NO_2 and NO from the Atmospheric Chemistry Experiment (ACE)", Source:Atmospheric Chemistry and Physics Discussions , Volume 8, 3027-3142, 2008 andAtmospheric Chemistry and PhysicsVolume: 8Issue: 19Pages: 5801-5841Published: 2008

378) Kokhanovsky A., Burrows J. P., Bovensmann H., Buchwitz M., Ladstätter-Weißenmayer A., Noël S., Richter A., Rozanov V., von Hoyningen-Huene W., and Weber M., "Sounding the troposphere from space: a new erafor global atmospheric chemistry", Editor(s): Barnes I., Kharytonov M. M. Source: SIMULATION AND ASSESSMENT OF CHEMICAL PROCESSES IN A MULTIPHASE ENVIRONMENT Book Series: Nato Science for Peace and Security Series C - Environmental SecurityPages: 173-200Published: 2008

379) Konovalov, I. B., Beekmann, M., Burrows, J. P., and Richter, A., 2008" Satellite measurement based estimates of decadal changes in European nitrogen oxides emissions", Atmospheric Chemistry and Physics Discussions, 8, 2013-2059, 2008 and Atmospheric Chemistry and Physics, 8, 2623-26412008.

380) Lee, C., Richter, A., Lee, H., Kim, Y.J., Burrows, J.P., Lee, Y.G., and Choi, B.C., 2008, "Impact of transport of sulphur dioxide from the Asian continent on the air quality over Korea during May 2005", Source: Atmospheric Environment Volume: 42 Issue: 7 Pages: 1461-1475 Published: 2008

381) Lee C., Richter, A., Weber, M., and Burrows, J. P.,2008 "SO_2 Retrieval from SCIAMACHY using the Weighting Function DOAS (WFDOAS) technique: comparison with Standard DOAS retrieval", Atmospheric Chemistry and Physics Discussions, 8, 10817-10839, 2008 and Atmospheric Chemistry and Physics, 8, 6137-6145, 2008.

382) Mieruch S., Noël, S., Bovensmann, H., and Burrows, J. P, 2007/2008, "Analysis of global water vapour trends from satellite measurements in the visible spectral range", ATMOSPHERIC CHEMISTRY AND PHYSICS DISCUSSIONS, Volume 7, 11761-

11796, 2007 and ATMOSPHERIC CHEMISTRY AND. PHYSICS DISCUSSIONS, Volume 8, 491-504, 2008

383) Myriokefalitakis S., Vrekoussis M., Tsigaridis K., Wittrock F., Richter A., Brühl C., Volkamer, R., Burrows J. P., and Kanakidou M.,2008 , "The influence of natural and anthropogenic secondary sources on the glyoxal global distribution", Source: Atmopsheric Chemistry and Physics Discussions Volume 8, Pages: 1673-1708, 2008 and Atmospheric Chemistry and Physics Volume: 8 Issue: 16 Pages: 4965-4981 Published: 2008

384) Rohen G. J., von Savigny, C., Kaiser, J. W., Llewellyn, E. J, Froidevaux, L., López-Puertas, M., Steck, T., Palm, M., Winkler, H., Sinnhuber, M., Bovensmann, H., and Burrows, J. P., "Ozone profile retrieval from limb scatter measurements in the Hartley bands: further retrieval details and profile comparisons", Atmospheric Chemistry and Physics Discussions, 7, 12097-12143, 2007 andAtmospheric Chemistry and Physics, 8, 2509-2517, 2008

385) Savage N. H., Pyle J. A., Braesicke P. Wittrock F., Richter A. Nuess H., Burrows J. P., Schultz M. G., Pulles T., and van het Bolscher, M., 2008, "The sensitivity of Western European NO_2 columns to interannual variability of meteorology and emissions: a model - GOME study", Source: Atmospheric Sciences Letters Volume: 9 Issue: 4 Pages: 182-188 Published: 2008

386) Scharringhausen M., Aikin A. C., Burrows J. P., Sinnhuber M. , 2008 "Global column density retrievals of mesospheric and thermospheric MgI and MgII from SCIAMACHY limb and nadir radiance data", Source: Journal of Geophysical Research-Atmospheres Volume: 113Issue: D13 Article Number: D13303 Published: JUL 15 2008

387) Scharringhausen, M., Aikin, A. C., Burrows, J. P., and Sinnhuber, M., 2008, "Space-borne measurements of mesospheric magnesium species – a retrieval algorithm and preliminary profiles", Atmospheric Chemistry and Physics, 8, 1963-1983, doi:10.5194/acp-8-1963-2008, 2008.

388) Schneising O., Buchwitz M., Burrows J. P., Bovensmann H., Reuter M., Notholt J., Macatangay R., and Warneke T.,2008/2009 "Three years of greenhouse gas column-averaged dry air mole fractions retrieved from satellite – Part 1: Carbon dioxide", Atmospheric Chemistry and Physics Discussions, Volume 8, 5477-5536, 2008, Atmospheric Chemistry and Physics, 8, 3827-3853, 2008.

389) Schoenhardt, A, Richter, A., Wittrock, F., Kirk, H., and Burrows, J. P. 2007/2008, "Observations of iodine monoxide (IO) columns from satellite", ATMOSPHERIC CHEMISTRY AND PHYSICS DISCUSSIONS, VOLUME 712959-12999, 2007 and Atmospheric Chemistry and Physics, 8, 637-653, 2008

390) Solomon S. J., Schade GW., Kuttippurath J., Ladstaetter-Weissenmayer, A., and Burrows, J. P., 2008 "VOC concentrations in an indoor workplace environment of a university building", Source: INDOOR AND BUILT ENVIRONMENTVolume: 17Issue: 3Pages: 260-268Published: JUN 2008

391) von Hoyningen-Huene W., Kokhanovsky A., and Burrows J. P. "Retrieval of particulate matter from MERIS observations", Conference Information: 6th International Symposium on Advanced Environmental Monitoring Heidelberg, GERMANY, JUN 27-30, 2006, Editor(s): Kim YJ, Platt U. Source: ADVANCED ENVIRONMENTAL MONITORING Pages: 190-202Published: 2008

*****2009*****

392) Andrés-Hernández M. D., Karta D. , Reichert L. , Burrows J.P., Meyer Arnek J. , Lichtenstern M. , Stock P. , and Schlager H., 2009 "Peroxy radical observations over West Africa during AMMA 2006: photochemical activity in the outflow of convective systems", ATMOSPHERIC CHEMISTRY ANDPHYSICS DISCUSSIONS Volume , 9, Pages 18271-18313, 2009 Atmospheric Chemistry and Physics Volume: 9 Issue: 20 Pages: 8103-8104 Published: 2009

393) Bracher, A., Vountas, M., Dinter, T., Burrows, J. P., Röttgers, R., andPeeken,I.2009, "Quantitative observation of cyanobacteria and diatoms from space, using PhytoDOAS on SCIAMACHY data", Source: BIOGEOSCIENCES Volume: 6 Issue: 5 Pages: 751-764 Published: 2009.

394) Chai T.F., Carmichael G.R., Tang Y.H., Sandu A., Heckel A., Richter A., and Burrows J.P., 2009, "Regional NOx emission inversion through a four-dimensional variational approach using SCIAMACHY tropospheric NO_2 column observations", Atmospheric Environment43(32), 5046-5055, 2009.

395) Dinter T., von Hoyningen-Huene W., Burrows J. P., KokhanovskyA., Bierwirth E., Wendisch M., Mueller D., Kahn R. and Diouri M., 2009 "Retrieval of aerosol optical thickness for desert conditions using MERIS observations during the SAMUM campaign", Tellus Series B-Chemical and Physical Meteorology, 61 1 229-238 2009.

396) Dufour G. , Wittrock F., Camredon M., BeekmannM., Richter R., Aumont B., and Burrows J. P., 2009,"SCIAMACHY formaldehyde observations: constraint for isoprene emission estimates over Europe?",Atmospheric Chemistry and Physics Discussions, 8, 19273-19312, 2008 and Atmospheric Chemistry and Physics, 9, 1647-1664, 2009.

397) Dupuy E., Walker K. A., Kar J., Boone C. D, McElroy C. T., Bernath P. F., Drummond J. R., Skelton R., McLeod S. D.,Hughes R. C., Nowlan C. R., Dufour D. G., Zou J., Nichitiu F., Strong K., Baron P., Bevilacqua R. M., Blumenstock T., Bodeker G. E., Borsdorff T., Bourassa A. E., Bovensmann H., Boyd I. S., Bracher A., Brogniez C.,Burrows J. P., Catoire, V., Ceccherini, S, Chabrillat S., Christensen T., Coffey M. T., Cortesi U., Davies J., De Clercq, C., Degenstein D. A., De Maziere M., Demoulin, P., Dodion P., Firanski B., Fischer H., Forbes G., Froidevaux L., Fussen D., Gerard P., Godin-Beekmann S., Goutail F., Granville J., Granville J., Griffith D., Haley C. S., Hannigan J. W., Hoepfner M. Jin J. J., Jones A., Jones N. B., Jucks K., Kagawa A., Kasai Y., Kerzenmacher T. E., Kleinboehl A., Klekociuk A. R., Kramer I., Kuellmann H., Kuttippurath J., Kyroelae E, Lambert, J. -C., Livesey N. J., Llewellyn E. J., Lloyd N. D., Mahieu E, Manney G. L, Marshall B. T., McConnell J. C., McCormick M. P.,

McDermid I. S., McHugh M, McLinden C. A., Mellqvist J., Mizutani K., Murayama Y., Murtagh D. P., Oelhaf H, Parrish A., Petelina S. V., Piccolo C., Pommereau J. -P., Randall C. E, Robert C., Roth C., Schneider M, Senten C, Steck T., Strandberg A., Strawbridge K. B, Sussmann R., Swart D. P. J., Tarasick D. W., Taylor J. R., Tetard C., Thomason L. W., Thompson A. M., Tully M. B., Urban, J., Vanhellemont F., Vigouroux C, von Clarmann T., von der Gathen P., von Savigny C., Waters J. W., Witte J. C., Wolff M., and Zawodny J. M., 2008/2009, "Validation of ozone measurements from the Atmospheric Chemistry Experiment (ACE), Atmospheric Chemistry and Physics Discussions, 8, 2513-2656, 2008 and Atmospheric Chemistry and Physics, 9, 287-343, 2009.

398) Franke K., Richter A., Bovensmann H., Eyring V, Jockel P., Hoor P., Burrows J.P., 2008/ 2009, "Ship emitted NO_2 in the Indian Ocean: comparison of model results with satellite data" Source: Atmospheric Chemistry and Physics Discussions., Volume 8,Pages 15997-16025, 2008 and Atmospheric Chemistry and Physics 9(19), 7289-7301, 2009.

399) Han K. M., Song C. H., Ahn H. J., Park R. S., Woo J. H, Lee C. K, Richter A., Burrows J. P., Kim J. Y., and Hong J. H. 2008/2009, "Investigation of NO_x emissions and NO_x-related chemistry in East Asia using CMAQ-predicted and GOME-derived NO_2 columns", Source:Atmospheric Chemistry and Physics Discussions, 8, 17297-17341, 2008 and Atmospheric Chemistry and Physics, 9, 1017-1036, 2009

400) Hendrick F., Rozanov A., Johnston P. V., Bovensmann H., De Maziere M., Fayt C., Hermans C., Kreher K., Lotz W., Sinnhuber B. -M., Theys N., Thomas A., Burrows J. P., and Van Roozendael M., 2008/ 2009, "Multi-year comparison of stratospheric BrO vertical profiles retrieved from SCIAMACHY limb and ground-based UV-visible measurements", Source: Atmospheric Measurement Techniques Volume: 2 Issue: 1 Pages: 273-285 Published: 2009

401) Jones A., Urban J., Murtagh D.P., Eriksson P., Brohede S., Haley C., Degenstein D., Bourassa A., von Savigny C., Sonkaew T., Rozanov A., Bovensmann H., and Burrows, J. P., "Evolution of stratospheric ozone and water vapour time series studied with satellite measurements, Source", Atmospheric Chemistry and Physics Discussions., 9, 1157-1209, 2009 and Atmospheric Chemistry and Physics Volume: 9 Issue: 16 Pages: 6055-6075 Published: 2009 .

402) Lotz, W. A., Vountas, M. , Dinter, T. , and Burrows, J. P. 2008/2009, "Cloud and surface classification using SCIAMACHY polarization measurement devices", Atmospheric Chemistry and Physics Discussions, 8, 19273-19312, 2008 and Atmospheric Chemistry and Physics, 9, 1279-1288, 2009

403) Khlystova, I., Buchwitz, M., Burrows, J. P., Bovensmann, H., and Fowler, D., 2009 "Carbon monoxide spatial gradients over source regions as observed by SCIAMACHY: A case study for the United Kingdom", Source: Advances in Space ResearchVolume: 43Issue: 6Pages: 923-929Published: MAR 16 2009

404) Kim, S.-W., Heckel, A., Frost, G. J, Richter, A., Gleason, J., Burrows, J. P., McKeen, S., Hsie, E.-Y., Granier, C., and Trainer, M., 2009 " NO_2 columns in the western United States observed from space and simulated by a regional chemistry model and their implications for NOx emission", Source: Journal of Geophysical Research-Atmospheres Volume: 114 Article Number: D11301 Published: 2009

405) Kokhanovsky, A. A, von Hoyningen-Huene, W., and Burrows, J. P. 2009, "Determination of the cloud fraction in the SCIAMACHY ground scene using MERIS spectral measurements", Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 30 Issue: 23 Pages: 6151-6167 Published: 2009

406) Ladstaetter-Weissenmayer, A., Richter, A., Burrows, J.P., Kanakidou, M., Law, R.J., Wagner, T., and Borrell, P. 2009, "A Graduate-Level Online Module for Teaching Remote Sensing of Tropospheric NO_2 from Space", JOURNAL OF CHEMICAL EDUCATION 86(6), 750-756 (2009).

407) Leitao J., Heckel A., Richter A., Kokhanovsky A., and Burrows J.P., , 2009, "Sensitivity Study of the Airmass Factors used for Satellite Retrievals of tropospheric NO_2", Editor(s): Nakajima T., Yamasoe M. A. Source: CURRENT PROBLEMS IN ATMOSPHERIC RADIATION (IRS 2008) Book Series: AIP CONFERENCE PROCEEDINGS Volume: 1100Pages: 279-282Published: 2009

408) Marbach T., Beirle S., Platt U., Hoor P., Wittrock F., Richter A., Vrekoussis M., Grzegorski M., BurrowsJ. P., and Wagner T., 2009, "Satellite measurements of formaldehyde linked to shipping emissions", ATMOSPHERICCHEMISTRY AND. PHYSICS DISCUSSIONS9, 10487-10511, 2009 Atmospheric Chemistry and Physics, 9 (21): 8223-8234 2009.

409) Montoux N., Hauchecorne A., Pommereau J. P., Lefevre F., Durry G., Jones R.L., Rozanov A., Dhomse S., Burrows J.P., Morel B., and Bencherif, H., 2007/2009, "Evaluation of balloon and satellite water vapour measurements in the Southern tropical and subtropical UTLS during the HIBISCUS campaign", ATMOSPHERICCHEMISTRY AND. PHYSICS DISCUSSIONS , 7, 6037-6075, 2007 and Atmospheric Chemistry and Physics 9(14), 5299-5319 2009.

410) Pagaran J., Weber M., Burrows J. P.,2009, "SOLAR VARIABILITY FROM 240 TO 1750 nm IN TERMS OF FACULAE BRIGHTENING AND SUNSPOT DARKENING FROM SCIAMACHY", Source: ASTROPHYSICAL JOURNAL Volume: 700 Issue: 2 Pages: 1884-1895 Published: 2009

411) Robert C. E., von Savigny C., Burrows J. P. and Baumgarten G., 2009,"Climatology of noctilucent cloud radii and occurrence frequency using SCIAMACHY", Source: JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS Volume: 71 Issue: 3-4 Pages: 408-423 Published: 2009

412) Schneising, O., Buchwitz, M., Burrows,J. P., Bovensmann, H., Bergamaschi, P., and Peters W., 2009, "Three years of greenhouse gas column-averaged dry air mole fractions retrieved from satellite - Part 2: Methane", ATMOSPHERICCHEMISTRY

AND. PHYSICS DISCUSSIONS, 8, 8273-8326, 2008 and ATMOSPHERICCHEMISTRY AND. PHYSICS, 9, 443-465, 2009.

413) Stavrakou T., Muller J.F., De Smedt I., Van Roozendael M., Kanakidou M., Vrekoussis M., Wittrock F., Richter A., and Burrows J. P., 2009, "The continental source of glyoxal estimated by the synergistic use of space borne measurements and inverse modelling", Source Atmospheric Chemistry and Physics Discuss., 9, 13593-13628, 2009 and Atmospheric Chemistry and Physics Volume: 9 Issue: 21 Pages: 8431-8446 Published: 2009

414) Steinbrecht W., Claude H., Schonenborn F., McDermid I.S., Leblanc T., Godin-Beekmann S., Keckhut P., Hauchecorne A., Van Gijsel J.A.E., Swart D.P.J., Bodeker G.E., Parrish A., Boyd I.S., Kampfer N., Hocke K., Stolarski R.S., Frith S.M., Thomason L.W., Remsberg E.E., Von Savigny C., Rozanov A., and Burrows J.P. 2009, "Ozone and temperature trends in the upper stratosphere at five stations of the Network for the Detection of Atmospheric Composition Change", Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 30 Issue: 15-16 Pages: 3875-3886 Published: 2009

415) Tangborn A., Stajner I., Buchwitz M., Khlystova I., Pawson S. ,Burrows J. P., Hudman R, and Nedelec P., 2009, "Assimilation of SCIAMACHY total column CO observations: Global and regional analysis of data impact", Journal of Geophysical Research-Atmospheres, Volume: 114Article Number: D07307Published: APR 10 2009 APR 10 2009

416) von Hoyningen-Huene, W., Dinter, T. and Kokhanovsky, A. A. Burrows, J. P. and Wendisch, M. and Bierwirth, E. and Mueller, D. and Diouri, M. 2009, "Measurements of desert dust optical characteristics at Porte au Sahara during SAMUM", Tellus Series B-Chemical and Physical Meteorology, 61 1 206-215 2009.

417) von Savigny, C., Robert, C. E., Baumgarten, G., Bovensmann, H., Burrows, J. P. , 2009, "Comparison of NLC particle sizes derived from SCIAMACHY/Envisat observations with ground-based LIDAR measurements at ALOMAR (69 degrees N) Source: Atmospheric Measurement Techniques Volume: 2 Issue: 2 Pages: 523-531 Published: 2009

418) Sonkaew T., Rozanov V. V., von Savigny C., Rozanov A., Bovensmann, H., Burrows J. P., 2009, "Cloud sensitivity studies for stratospheric and lower mesospheric ozone profile retrievals from measurements of limb-scattered solar radiation". Source: Atmospheric Measurement Techniques Volume: 2 Issue: 2 Pages: 653-678 Published: 2009

419) Vrekoussis, M., Wittrock., F, Richter., A, Burrows, J. P., 2009, "Temporal and spatial variability of glyoxal as observed from space", Atmospheric Chemistry and Physics Discussions 9, 8993-9042, 2009 and Atmospheric Chemistry and Physics 9(13), 4485-4504 2009.

*****2010*****

420) Andrés-Hernández M.D., Stone D., Brookes D. M., Commane R., Reeves C. E., Huntrieser H., Heard D. E., Monks P. S.., Burrows J. P., Schlager H., Kartal D., Evans M. J., Floquet C. F.A., Ingham T., Methven J., and A. E. Parker A.E. 2010, " Peroxy radical partitioning during the AMMA radical intercomparison exercise., Source: Atmospheric Chemistry and Physics Discussions Volume: 10, Pages:8447-8486, 2010 andAtmospheric Chemistry and Physics Volume: 10 Issue: 21 Pages: 10621-10638 Published: 2010

421) Begoin, M., Richter, A., Weber, M., Kaleschke, L., Tian-Kunze, X:, Stohl, A.,Theys, N, and Burrows, J. P., 2010,"Satellite observations of long range transport of a large BrO plume in the Arctic," Source Atmospheric Chemistry and Physics Discussions Volume : 9, Pages:20407-20428, Published:2009 and Atmospheric Chemistry and PhysicsVolume: 10Issue: 14Pages: 6515-6526Published: 2010

422) Bovensmann H., Buchwitz M., Burrows J. P., Reuter M., Krings T., Gerilowski K., Schneising O., Heymann J., Tretner A., and Erzinger J., 2010 "A remote sensing technique for global monitoring of power plant CO_2 emissions from space and related applications" Atmospjheric Measurement Techniques Discussions, Volume 3, Pages 55-110, Published 2010 Atmospheric Measurments Techniques Volume: 3, Pages: 781-811, Published: 2010

423) Burrows J. P., "A brief introduction and some background to the article JQSRT 1998,60:1025-31 and its companion", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 111 Issue: 11 Pages: 1841-1844 Published: 2010

424) Burrows, J. P., Dehn, A., Deters, B., Himmelmann, S., Richter, A., Voigt, S., Orphal, J. ATMOSPHERIC REMOTE-SENSING REFERENCE DATA FROM GOME: PART 1. TEMPERATURE-DEPENDENT ABSORPTION CROSS-SECTIONS OF NO_2 IN THE 231-794 nm RANGE (Reprinted from volume 60, pages 1025-1031, 1998), Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 111 Issue: 11 Pages: 1845-1851 Published: 2010

425) Correira, J., Aikin, A. C., Grebowsky, J. M., and Burrows, J. P., "Metal concentrations in the upper atmosphere during meteor showers", Source: Atmospheric Chemistry and Physics. Discussions Volume, 9, Pages:18705-18726, Year of Publication2009 and Atmospheric Chemistry and Physics Volume: 10 Issue: 3 Pages: 909-917 Published: 2010

426) Dikty S., Weber M., von Savigny C., Sonkaew T., Rozanov A. and Burrows, J.P., 2010, "Modulations of the 27 day solar rotation signal in stratospheric ozone from Scanning Imaging Absorption Spectrometer for Atmospheric Cartography (SCIAMACHY) (2003-2008)", Journal of Geophysical Research-Atmospheres Volume: 115 Article Number: D00I15 Published: 2010

427) Istomina, L. G., von Hoyningen-Huene, W., Kokhanovsky, A. A., and Burrows, J. P., 2010, "The detection of cloud-free snow-covered areas using AATSR measurements",

Atmospheric Measurement Techniques, 3, 1005-1017, doi:10.5194/amt-3-1005-2010, 2010.

428) Kartal D., Andres-Hernandez M. D., Reichert L., Schlager H. and Burrows J. P. 2009/2010 , "Technical Note: Characterisation of a DUALER instrument for the airborne measurement of peroxy radicals during AMMA 2006", Source: Atmospheric Chemistry and Physics Discussions, Volume: 9, Pages: 18271-18313, Published: 2009, Atmospheric Chemistry and Physics Volume: 10 Issue: 6 Pages: 3047-3062 Published: 2010

429) Kiesewetter, G., Sinnhuber B. -M., Vountas M., Weber M., and Burrows J. P. 2010, "A long-term stratospheric ozone data set from assimilation of satellite observations: High-latitude ozone anomalies", Journal of Geophysical Research-Atmospheres Volume: 115 Article Number: D10307 Published: 2010.

430) Kiesewetter, G., Sinnhuber, B.-M., Weber, M., and Burrows, J. P., 2010, "Attribution of stratospheric ozone trends to chemistry and transport: a modelling study", Atmospheric Chemistry and Physics, 10, 12073-12089, doi:10.5194/acp-10-12073-2010, 2010.

431) Konovalov, I. B., Beekmann, M., Richter, A., Burrows, J. P., and Hilboll, A., 2010, "Multi-annual changes of NOx emissions in megacity regions: nonlinear trend analysis of satellite measurement based estimates", Atmospheric Chemistry and Physics, 10, 8481-8498, doi:10.5194/acp-10-8481-2010, 2010.

432) Kopacz M., Jacob D. J., Fisher J. A., Logan J. A., Zhang L., Megretskaia I. A., Yantosca R. M., Singh K., Henze D. K.., Burrows J. P., Buchwitz M., Khlystova I., McMillan W. W., Gille J. C., Edwards D. P., Eldering A., Thouret V. and Nedelec P. 2010, "Global estimates of CO sources with high resolution by adjoint inversion of multiple satellite datasets (MOPITT, AIRS, SCIAMACHY, TES)", Source: Atmospheric Chemistry and Physics Discussions, Volume: 9, Pages: 19967-20018, Published. 2009 Source: Atmospheric Chemistry and Physics Volume: 10 Issue: 3 Pages: 855-876 Published: 2010

433) Leitao J., Richter, A., Vrekoussis, M., Kokhanovsky, A., Zhang, Q. J., Beekmann, M., and Burrows, J. P., 2009/ 2010, "On the improvement of NO_2 satellite retrievals - aerosol impact on the airmass factors", Source: Atmospheric Measurement Techniques Volume: 3 Issue: 2 Pages: 475-493 Published: 2010

434) McLinden CA, Haley CS, Lloyd ND, et al, 2010 "Odin/OSIRIS observations of stratospheric BrO: Retrieval methodology, climatology, and inferred BrO", Source: Journal of Geophysical Research-Atmospheres Volume: 115 Article Number: D15308 Published: AUG 11 2010.

435) Mieruch, S., Noël, S., Bovensmann, H., Burrows, J. P., Freund, J. A. 2010, " Markov chain analysis of regional climates", Source: Nonlinear Processes in Geophysics Volume: 17 Issue: 6 Pages: 651-661 Published: 2010

436) Noël S., Bramstedt K., Rozanov A., Bovensmann H., and Burrows, J. P., 2010, "Water vapour profiles from SCIAMACHY solar occultation measurements derived with an onion peeling approach", Atmospheric Measurement Techniques Discussions, Volume 3,Pages 203-235,Published2010 Atmospheric Measurement Techniques Volume: 3 Issue: 2 Pages: 523-535 Published: 2010

437) Palm M., Melsheimer C., Noël S, Heise S., Notholt J., Burrows J. P., and Schrems O. 2010,Integrated water vapour above Ny Aalesund, Spitsbergen: a multi-sensor intercomparison, Atmospheric Chemistry and Physics Volume: 10 Issue: 3 Pages: 1215-1226 Published: 2010

438) Reuter, M., Buchwitz, M., Schneising, O., Heymann, J., Bovensmann, H., Burrows, J. P., 2009/ 2010, "A method for improved SCIAMACHY CO2 retrieval in the presence of optically thin clouds", Atmospheric Measurement Techniques Volume: 3 Issue: 1 Pages: 209-232 Published: 2010

439) Robert C. E., von Savigny C., Rahpoe N., Bovensmann H., Burrows J. P., DeLand M. T., and Schwartz M. J., 2010, "First evidence of a 27 day solar signature in noctilucent cloud occurrence frequency", Journal of Geophysical Research-Atmospheres Volume: 115 Article Number: D00I12 Published: 2010

440) Schreier M., Joxe L., Eyring V., Bovensmann H. and Burrows J. P., 2010, "Ship track characteristics derived from geostationary satellite observations on the west coast of southern Africa", Atmospheric Research Volume: 95 Issue: 1 Pages: 32-39 Published: 2010.

441) Sheel V, Lal S, Richter A, et al, 2010, "Comparison of satellite observed tropospheric NO_2 over India with model simulations", Source: Atmospheric Measurement Techniques; Volume: 4 Issue: 2Pages: 319-337Published: 2011 NMENT Volume: 44 Issue: 27 Pages: 3314-3321 Published: SEP 2010

442) Theys N., Van Roozendael M., Errera Q., Hendrick F., Daerden F. , Chabrillat S. , Dorf M., Pfeilsticker K., Rozanov A., Lotz W., Burrows J. P., Lambert J.-C., Goutail F., Roscoe H. K., and De Mazière M. 2008/2009, "A global stratospheric bromine monoxide climatology based on the BASCOE chemical transport model", ATMOSPHERIC CHEMISTRY AND. PHYSICS, 9, 831-848, 2009

443) Vrekoussis M. Wittrock F. Richter A., and Burrows J. P. 2010**, "** GOME-2 observations of oxygenated VOCs: what can we learn from the ratio glyoxal to formaldehyde on a global scale?" 10, 19031-19069, 2010
Source: Atmospheric Chemistry and Physics DiscussionsVolume: 10 Pages: 19031-19069, Published: 2010and Atmospheric Chemistry and Physics Volume: 10 Issue: 21 Pages: 10145-10160 Published: 2010.

*****2011*****

444) Georgoulias, A. K., Kourtidis, K. A., Buchwitz, M., Schneising, O., Burrows, J. P. 2011, "A case study on the application of SCIAMACHY satellite methane measurements for regional studies: the Greater Area of the Eastern Mediterranean" Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 32Issue: 3Pages: 787-813Published: 2011 .

445) Gerilowski K., Tretner A., Krings T., Buchwitz M., Bertagnolio P. P., Belemezov F., Erzinger J., Burrows J. P., and H. Bovensmann 2011, "MAMAP – a new spectrometer system for column-averaged methane and carbon dioxide observations from aircraft: instrument description and performance analysis", Source: Atmospheric Measurement Techniques Volume: 4 Issue: 2 Pages: 215-243 Published: 2011.

446) Heckel, A., Kim, S. -W., Frost, G. J., Richter, A., Trainer, M. and Burrows, J. P. 2010 "Influence of low spatial resolution a priori data on tropospheric NO_2 satellite retrievals", Source: Atmospheric Measurement Techniques Volume: 4 Issue: 9 Pages: 1805-1820 DOI: 10.5194/amt-4-1805-2011 Published: 2011

447) Istomina, L. G., von Hoyningen-Huene, W., Kokhanovsky, A. A., Schultz, E. and Burrows, J. P. 2011"Remote sensing of aerosols over snow using infrared AATSR observations", Source: Atmospheric Measurement Techniques Volume: 4 Issue: 6 Pages: 1133-1145 DOI: 10.5194/amt-4-1133-2011 Published: 2011

448) Kanakidou, M. Mihalopoulos, N., Kindap, T. Im, U., Vrekoussis, M. Gerasopoulos, E., Dermitzaki, E., Unal, A., Kocak, M., Markakis, K., Melas, D., Kouvarakis, G., Youssef, A., Richter, A., Hatzianastassiou, N., Hilboll, A., Ebojie F., Wittrock, F., von Savigny, C., Burrows, J. P., Ladstaetter-Weissenmayer, A., Moubasher, H., 2011," Megacities as hot spots of air pollution in the East Mediterranean", Source: ATMOSPHERIC ENVIRONMENTVolume: 45 Issue: 6 Pages: 1223-1235 Published: FEB 2011.

449) Kokhanovsky, A., Vountas, M., Burrows, J.P., 2011, "Global Distribution of Cloud Top Height as Retrieved from SCIAMACHY Onboard ENVISAT Spaceborne Observations", Remote Sens. 2011, 3, 836-844

450) Kim, S-W., McKeen, S. A.,Frost, G. J., Lee, S.-H.Trainer, M., Richter, A.,Angevine, W. M., Atlas, E., Bianco, L., Boersma, K. F., Brioude, J., Burrows, J. P., de Gouw, J., Fried, A., Gleason, J., Hilboll, A., Mellqvist, J., Peischl, J., Richter, D., Rivera, C., Ryerson, T., Hekkert, S. T. L., Walega, J., Warneke, C., Weibring, P. and Williams, E. 2011 "Evaluations of NOx and highly reactive VOC emission inventories in Texas and their implications for ozone plume simulations during the Texas Air Quality Study" 2006, Source: Atmospheric Chemistry and PhysicsVolume: 11 Issue: 22 Pages: 11361-11386 DOI: 10.5194/acp-11-11361-2011 Published: 2011

451) Krings, T., Gerilowski, K., Buchwitz, M., Reuter, M., Tretner, A., Erzinger, J., Heinze, D., Pflueger, U., Burrows, J. P., and Bovensmann, 2011, "MAMAP - a new spectrometer system for column-averaged methane and carbon dioxide observations from aircraft: retrieval algorithm and first inversions for point source emission rates" Source: Atmospheric Measurement Techniques Volume: 4 Issue: 9 Pages: 1735-1758 DOI: 10.5194/amt-4-1735-2011 Published: 2011

452) Mieruch, S., Noël, S., Reuter, M., Bovensmann, H., Burrows J. P. Schroeder, M., and Schulz, J., "A New Method for the Comparison of Trend Data with an Application to Water Vapor Source": JOURNAL OF CLIMATE Volume: 24 Issue: 12 Pages: 3124-3141DOI:10.1175/2011JCLI3669.1 Published: JUN 2011

453) Noguchi, K. Richter, A., Bovensmann, H., Hilboll, A., Burrows, J. P. ,Irie, H., Hayashida, S., and Morino, Y.2011, "A feasibility study for the detection of the diurnal variation of tropospheric NO_2 over Tokyo from a geostationary orbit, Source: Advances in Space ResearchVolume: 48 Issue: 9 Pages: 1551-1564 DOI: 10.1016/j.asr.2011.06.029 Published: NOV 1 2011

454) Noël S., Bramstedt K., Rozanov A., Bovensmann H. and Burrows J. P. 2011. "Stratospheric methane profiles from SCIAMACHY solar occultation measurements derived with onion peeling DOAS" Source: Atmospheric Measurement Techniques Volume: 4 Issue: 11 Pages: 2567-2577 DOI: 10.5194/amt-4-2567-2011 Published: 2011

455) Oetjen H., Wittrock F., Richter A., Chipperfield M. P., Medeke T., Sheode N., Sinnhuber B.-M., Sinnhuber M., andBurrows J. P., "Evaluation of stratospheric chlorine chemistry for the Arctic spring 2005 using modelled and measured OClO column densities", Atmos. Chem. Phys. Discuss., 9, , 2009 Source: Atmospheric Chemistry and Physics DiscussionsVolume: 9 Pages: 26539-26575 Published: 2009, Source: Atmospheric Chemistry and Physics Volume: 11 Issue: 2 Pages: 689-703 Published: 2011

456) Pagaran, J., Harder, J. W., Weber, M. Floyd, L. E., and Burrows, J. P. 2011, "Intercomparison of SCIAMACHY and SIM vis-IR irradiance over several solar rotational timescales", Source: ASTRONOMY & ASTROPHYSICS Volume: 528 Article Number: A67 Published: APR 2011.

457) Pagaran, J., Weber, M., DeLand, M. T., Floyd, L. E. and Burrows, J. P. 2011, "Solar Spectral Irradiance Variations in 240-1600 nm During the Recent Solar Cycles 21-23", SOLAR PHYSICSVolume: 272 Issue: 1 Pages: 159-188 DOI: 10.1007/s11207-011-9808-4 Published: AUG 2011

458) Rahpoe, N., von Savigny, C., Robert, C. E., DeLand, M. T. and Burrows, J. P.,2011 "Impact of solar proton events on noctilucent clouds", Source: JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICSVolume: 73 Issue: 14-15 Special Issue: SI Pages: 2073-2081 DOI: 10.1016/j.jastp.2010.07.017 Published: SEP 2011

459) Reuter, M., Bovensmann, H., Buchwitz, M., Burrows, J. P., Connor, B. J., Deutscher, N. M.,, Griffith, D. W. T.,, Heymann, J., Keppel-Aleks, G.,, Messerschmidt, J.,, Notholt, J., Petri, C, , Robinson, J., Schneising, O., Sherlock, V., Velazco, V., Warneke, T., Wennberg, P. O., Wunch, D.,2011, "Retrieval of atmospheric CO_2 with enhanced accuracy and precision from SCIAMACHY: Validation with FTS measurements and comparison with model results", Source: Journal of Geophysical Research-AtmospheresVolume: 116Article Number: D04301Published: FEB 23 2011

460) Richter, A., Richter, A., Begoin, M., Hilboll, A., and Burrows, J. P. 2011 "An improved NO_2 retrieval for the GOME-2 satellite instrument", Source: Atmospheric Measurement Techniques Volume: 4 Issue: 6 Pages: 1147-1159 DOI: 10.5194/amt-4-1147-2011 Published: 2011

461) Rinaldi, M., Decesari, S. Carbone, C., Finessi, E., Fuzzi, S., Ceburnis, D., O'Dowd, C. D., Sciare, J., Burrows, J. P., Vrekoussis, M., Ervens, B., Tsigaridis, K ., Facchini, M. C., 2011, "Evidence of a natural marine source of oxalic acid and a possible link to glyoxal", Source: Journal of Geophysical Research-AtmospheresVolume: 116 Article Number: D16204 DOI: 10.1029/2011JD015659 Published: AUG 26 2011

462) Rohen, G., von Hoyningen-Huene, W., Kokhanovsky, A., Dinter, T., Vountas, M., and Burrows, J. P., 2011, "Retrieval of aerosol mass load (PM10) from MERIS/Envisat top of atmosphere spectral reflectance measurements over Germany", 2010 Source: Atmospheric Measurement Techniques Volume: 4 Issue: 3 Pages: 523-534 Published: 2011

463) Rozanov A., Kühl S., Doicu A., McLinden C., Puķīte, J., Bovensmann H., Burrows J. P., Deutschmann T., Dorf M., Goutail F., Grunow K., Hendrick, F., von Hobe M., Hrechanyy S., Lichtenberg G., Pfeilsticker K., Pommereau J.-P., van Roozendael M., Stroh F. and Wagner T., 2011, "BrO vertical distributions from SCIAMACHY limb measurements: comparison of algorithms and retrieval results". Source: Atmospheric Measurement Techniques Volume: 4 Issue: 6 Pages: 1319-1359 DOI: 10.5194/amt-4-1319-2011Published: 2011

464) Rozanov A., Weigel K., Bovensmann H., Dhomse S., Eichmann K.-U., Kivi R., Rozanov V., Voemel H., Weber M., and Burrows, J. P., 2011,"Retrieval of water vapor vertical distributions in the upper troposphere and the lower stratosphere from SCIAMACHY limb measurements", Source: Atmospheric Measurement Techniques Volume: 4 Issue: 5 Pages: 933-954 DOI: 10.5194/amt-4-933-2011 Published: 2011

465) Schlundt C., Kokhanovsky A. A., von Hoyningen-Huene W., Dinter T., Istomina L., and Burrows J. P**.,** 2010, Synergetic cloud fraction determination for SCIAMACHY using MERIS Source: Atmospheric Measurement Techniques Volume: 4Issue: 2 Pages: 319-337 Published: 2011.

466) Schneising O., Buchwitz M., Reuter M., Heymann J., Bovensmann H., andBurrows J. P. 2011 "Long-term analysis of carbon dioxide and methane column-averaged mole fractions retrieved from SCIAMACHY", Source: Atmospheric Chemistry

and Physics Discussions Volume: 10 Pages: 27479-27522 Published: 2011Source: Atmospheric Chemistry and PhysicsVolume: 11Issue: 6Pages: 2863-2880Published: 2011 Atmos. Chem. Phys., 11, 2863-2880, 2011.

467) Sheel, V., Lal, S., Richter, A, Burrows, J. P.2011, "Comparison of satellite observed tropospheric NO_2 over India with model simulations", Source: ATMOSPHERIC ENVIRONMENTVolume: 44 Issue: 27 Pages: 3314-3321 DOI: 10.1016/j.atmosenv.2010.05.043 Published: SEP 2010

468) Steinbrecht, W., Koehler, U., Claude, H., Weber, M., Burrows, J. P., and van der A, R. J. 2011, "Very high ozone columns at northern mid-latitudes in 2010", Source: Geophysical Research LettersVolume: 38 Article Number: L06803Published: MAR 29 2011.

469) Velazco, V. A., Buchwitz, M., Bovensmann, H., Reuter, M., Schneising, O., Heymann, J., Krings, T., Gerilowski, K. and Burrows, J. P., 2011; Towards space based verification of CO_2 emissions from strong localized sources: fossil fuel power plant emissions as seen by a CarbonSat constellation; Atmospheric Measurement Techniques Volume: 4 Issue: 12 Pages: 2809-2822 DOI: 10.5194/amt-4-2809-2011 Published: 2011

470) von Hoyningen-Huene, W., Yoon, J., Vountas, M., Istomina, L. G., Rohen, G., Dinter, T., Kokhanovsky, A. A., Burrows, J. P., 2011,
"Retrieval of spectral aerosol optical thickness over land using ocean color sensors MERIS and SeaWiFS"
Source: Atmospheric Measurement Techniques DISCUSSIONS Volume: 3Pages: 3601-3642 Published: 2010Source: Atmospheric Measurement Techniques Volume: 4Issue: 2Pages: 151-171Published: 2011

471) Weber, M., Dikty, S., Burrows, J. P., Garny, H., Dameris, M., Kubin, A., Abalichin, J., and Langematz, U. 2011; The Brewer-Dobson circulation and total ozone from seasonal to decadal time scales;, Source: Atmospheric Chemistry and PhysicsVolume: 11 Issue: 21 Pages: 11221-11235 DOI: 10.5194/acp-11-11221-2011 Published: 2011

472) Yoon, J., von Hoyningen-Huene, W., , Vountas, M, Burrows, J. P. 2011," Analysis of linear long-term trend of aerosol optical thickness derived from SeaWiFS using BAER over Europe and South China"
Source: Atmospheric Chemistry and PhysicsVolume: 11 Issue: 23 Pages: 12149-12167 DOI: 10.5194/acp-11-12149-2011 Published: 2011

473) Zhang, X., Jiang, H., Wang Y., Han, Y., Buchwitz, M., Schneising, O., and Burrows, J. P., 2011" Spatial variations of atmospheric methane concentrations in China" Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 32Issue: 3Pages: 833-847 Published: 2011.

*****2012*****

474) Achberger, C., Ackerman, S. A.,Ahmed, F. H., Albanil-Encarnacion, A.,Alfaro, E.J., Alves, L.M., Allan, r.,Amador, J.A.,Ambenje, P., Antoine, M. D.,Antonov, J.Arevalo,

J.Arndt, D. S, Ashik, I.,Atheru, Z.,Baccini, A.,Baez, J.,Banzon, V. Baringer, M. O. , Barreira, S., Barriopedro, D. E., Bates, J. J.,Becker, A., Behrenfeld, M. J.,Bell, G. D. Benedetti, A.,Bernhard, G. Germar), Berrisford, P.,Berry, D. I. Beszczynska-Moeller, A .,Bhatt, U. S.,Bidegain, M. Bieniek, P. Birkett, C.,Bissolli, P.Blake, E. S.Blunden, J.,Boudet-Rouco, D.,Box, J. E.,Boyer, T., Braathen, G. O., Brackenridge, G. R., Brohan, P.,Bromwich, D. H.,Brown, L., Brown, R.,Bruhwiler, L., , Bulygina, O. N., B urrows, J., Calderon, B.Camargo, S. J., Cappellen, J., Carmack, E. Carrasco, G., Chambers, D. P., Christiansen, H. H., Christy, J. Chung, D., Ciais, P. Coehlo, C. A. S,Colwell, S.,Comiso, J.,Cretaux, J. F.,Crouch, J.,Cunningham, S. A.,De Jeu, R. A. M.,Demircan, M., Derksen, C.,Diamond, H. J., Dlugokencky, E. J.,Dohan, K.,Dolman, A. J.,Dorigo, W. A., , Drozdov, D. S., Duguay, C.,Dutton, E., Dutton, G. S.,Elkins, J. W., Epstein, H. E., Famiglietti, J. S. Fanton d'Andon, O. H., Feely, R. A., Fekete, B. M., Fenimore, C., Fernandez-Prieto, D., Fields, E., Fioletov, V., Fogt, R. L., Folland, C., Foster, M. J., Frajka-Williams, E., Franz, . A. ,Frey, K., Frith, S. H., Frolov, I., Frost, G. V., Ganter, C., Garzoli, S., Gitau, W., Gleason, K. L., Gobron, N., Goldenberg, S. B., Goni, G., Gonzalez-Garcia, I., Gonzalez-Rodriguez, N., Good, S. A. Goryl, P., Gottschalck, J., Gouveia, C. M., Gregg, M. C., Griffiths, G. M., Grigoryan, V., Grooss, J.-U., Guard, C., Guglielmin, M., Hall, B. D., Halpert, M. S.Heidinger, A. K., Heikkila, A., Heim, R. R., Hennon, P. A., Hidalgo, H. G., Hilburn, K., Ho, S. P., Hobbs, W. R., Holgate, S., Hook, S. J. Hovsepyan, A., Hu, Z. Z., Hugony, S., Hurst, D. F., Ingvaldsen, R., Itoh, M., Jaimes, E., Jeffries, M., Johns, W. E., Johnsen, B., Johnson, B., Johnson, G. C., Jones, L. T., Jumaux, G., Kabidi, K., Kaiser, J. W., Kang, K. K., Kanzow, T. O., Kao, H. –Y., Keller, L. M., Kendon, M., Kennedy, J. J., Kervankiran, S., Key, J., Khatiwala, S, Kholodov, A. L., Khoshkam, M., Kikuchi, T., Kimberlain, T. B., King, D., Knaff, J. A., Korshunova, N. N., Koskela, T., Kratz, D. P., Krishfield, R. Kruger, A., Kruk, M. C., Kumar, A., Lagerloef, G., Lakkala, K., Lammers, R. B., Lander, M. A., Landsea, C. W., Lankhorst, M., Lapinel-Pedroso, B., Lazzara, M. A., LeDuc, S., Lefale, P., Leon, G., Leon-Lee, A., Leuliette, E., Levitus, S., L'Heureux, M., Lin, I. I., Liu, H., Liu, Y. J., Liu, Y., Lobato-Sanchez, R., Locarnini, R.., Loeb, N. G., Loeng, H., Long, C. S., Lorrey, A. M., Lumpkin, R., Myhre, C. L., Luo, J. J., Lyman, J. M., MacCallum, S., ,Macdonald, A. M., Maddux, B. C., Manney, G., Marchenko, S. S., Marengo, J. A., Maritorena, S., Marotzke, J., Marra, J. J., Martinez-Sanchez, O., Maslanik, J., Massom, R. A., Mathis, J. T., McBride, C., McClain, C. R., McGrath, D., McGree, S. McLaughlin, F., McVicar, T. R., Mears, C., Meier, W., Meinen, C. S., Menendez, M., Merchant, C., Merrifield, M. A., Miller, L., Mitchum, G. T., Montzka, S. A., Moore, S., Mora, N. P., Morcrette, J. J., Mote, T., Muhle, J., Mullan, A. B., Muller, R.,Myhre, C.,Nash, E. R., Nerem, R. S., Newlin, M. L., Newman, P. A., Ngari, A., Nishino, S., Njau, L. N., Noetzli, J., Oberman, N. G., Obregon, A., Ogallo, L., Oludhe, C., Overland, J., Oyunjargal, L., Parinussa, R. M., Park, G. H., Parker, D. E., Pasch, R. J., Pascual-Ramirez, R., Pelto, M. S., Penalba, O., Perez-Suarez, R., Perovich, D.,, Pezza, A. B., Phillips, D., Pickart, R., Pinty, B. Pinzon, J., Pitts, M. C., Pour, H. K., Prior, J., Privette, J. L., Proshutinsky, A., Quegan, S., Quintana, J., Rabe, B., Rahimzadeh, F., Rajeevan, M., Rayner, D., Rayner, N. A., Raynolds, M. K., Razuvaev, V. N., Vyacheslav N., Reagan, J., Reid, P., Renwick, J. A., Revadekar, J., Rex, M.,Richter-Menge, J., Rivera, I. L., Robinson, D. A., Rodell, M., Roderick, M. L., Romanovsky, V. E., Ronchail, J., Rosenlof, K. H., Rudels, B., Sabine, C. L., Sanchez-Lugo, A. Santee, M. L., Sawaengphokhai, P., Sayouri, A., Scambos, T. A., Schauer, U., Schemm, J., Schmid, C., Schreck, C., Semiletov, I., Send, U., Sensoy, S., Shakhova, N., Sharp, M ., Shiklomanov, N. I., Shimada, K., Shin, J., Siegel, D. A.,

Simmons, A., Skansi, M., Smith, T. M., Sokolov, V. ,Spence, J., Srivastava, A. K., Stackhouse, P. W., Stammerjohn, S., Steele, M., Steffen, K., Steinbrecht, W., Stephenson, T., Stolarski, R. S., Sweet, W., Takahashi, T., Taylor, M. A., Tedesco, M., Thepaut, J. N., Thiaw, W. M,, Thompson, P., Thorne, P. W., Timmermans, M. L., Tobin, S., Toole, J., Trachte, K., Trewin, B. C., Trigo, R. M., Trotman, A., Tucker, C. J., Ulupinar, Y., van de Wal, R. S. W., van der Werf, G. R., Vautard, R., Votaw, G., Wagner, W. W., Wahr, J., Walker, D. A., Walsh, J., Wang, C. Z., Wang, J. H., Wang, L., Wang, M. H., Wang, S. H., Wanninkhof, R., Weaver, S., Weber, M., Weingartner, T., Weller, R. A., Wentz, F., Whitewood, R., Wilber, A. C., Willett, K. M., Williams, W., Willis, J. K., Wilson, R. C., Wolken, G., Wong, T. M., Woodgate, R., Wovrosh, A. J., Xue, Y., Yamada, R., Yamamoto-Kawai, M., Yoder, J. A., Yu, L. S., Yueh, S., Zhang, L. Y., Zhang, P. Q., Zhao, L., Zhou, X. J., Zimmermann, S., Zubair, L. 2012, "STATE OF THE CLIMATE IN 2011 Special Supplement to the Bulletin of the American Meteorological Society Vol. 93, No. 7, July 2012, Source: BULLETIN OF THE AMERICAN METEOROLOGICAL SOCIETYVolume: 93 Issue: 7 Supplement: S Pages: S1-+ Published: JUL 201

475) Amiridis, V., Zerefos, C., Kazadzis, S, Kazadzis, S., Gerasopoulos, E., Eleftheratos, K., Vrekoussis, M., Stohl, A., Mamouri, R. E., Kokkalis, P., Papayannis, A., Eleftheriadis, K., Diapouli, E., Keramitsoglou, I., Kontoes, C., Kotroni, V., Lagouvardos, K., Marinou, E., Giannakaki, E., Kostopoulou, E., Giannakopoulos, C., Richter, A., Burrows, J. P., Mihalopoulos, N. 2012, "Impact of the 2009 Attica wild fires on the air quality in urban Athens", Source: ATMOSPHERIC ENVIRONMENTVolume: 46 Pages: 536-544 DOI: 10.1016/j.atmosenv.2011.07.056 Published: JAN 2012

476) Azam F., Bramstedt K., Rozanov A., Weigel K., Bovensmann H., Stiller G. P. and Burrows J. P., 2012 "SCIAMACHY lunar occultation water vapor measurements: retrieval and validation results", Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 10 Pages: 2499-2513 DOI: 10.5194/amt-5-2499-2012 Published: 2012

477) Bauer R, Rozanov A, McLinden C.A., Gordley L. L., Lotz W., Russell J. M., III, Walker K. A., Zawodny J. M., Ladstaetter-Weissenmayer A., Bovensmann H. and Burrows, J. P., 2012, "Validation of SCIAMACHY limb NO_2 profiles using solar occultation measurements", Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 5 Pages: 1059-1084 DOI: 10.5194/amt-5-1059-2012 Published: 2012.

478) Blum M., Rozanov V. V., Burrows J. P., and Bracher A., " Coupled ocean-atmosphere radiative transfer model in the framework of software package SCIATRAN: Selected comparisons to model and satellite data", Source: Advances in Space ResearchVolume: 49 Issue: 12 Pages: 1728-1742 DOI: 10.1016/j.asr.2012.02.012 Published: JUN 15 2012

479) Bramstedt K., Noël S., Bovensmann H., Gottwald M., and Burrows J. P., 2012, "Precise pointing knowledge for SCIAMACHY solar occultation measurements", Atmospheric Measurement Techniques, 5, 2867-2880, doi:10.5194/amt-5-2867-2012, 2012.

480) Heymann J., Schneising O., Reuter M., Buchwitz M., Rozanov V. V., Velazco V. A., Bovensmann H., and Burrows J. P. 2012; SCIAMACHY WFM-DOAS XCO2: comparison with CarbonTracker XCO2 focusing on aerosols and thin clouds; Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 8 Pages: 1935-1952 DOI: 10.5194/amt-5-1935-2012 Published: 2012

481) Heymann J., Bovensmann H., Buchwitz M., Burrows, J. P., Deutscher N. M., Notholt J., Rettinger M., Reuter M., Schneising O., Sussmann R. and Warneke, T., 2012 SCIAMACHY WFM-DOAS XCO_2: reduction of scattering related errors; Atmospheric Measurement Techniques, 5, 2375-2390, doi:10.5194/amt-5-2375-2012, 2012.

482) Hodnebrog O., Solberg S., Stordal F., Svendby T. M., Simpson D., Gauss, M., Hilboll A., Pfister G. G., Turquety S., Richter A. and Burrows, J. P., van der Gon, H. A. C. D. 2012 "Impact of forest fires, biogenic emissions and high temperatures on the elevated Eastern Mediterranean ozone levels during the hot summer of 2007" Source: Atmospheric Chemistry and PhysicsVolume: 12 Issue: 18 Pages: 8727-8750 DOI: 10.5194/acp-12-8727-2012 Published: 2012

483) Horstjann M., Nenakhov V., and Burrows, J. P. 2011; Frequency stabilization of blue extended cavity diode lasers by external cavity optical feedback; Source: APPLIED PHYSICS B-LASERS AND OPTICS Volume: 106 Issue: 2 Pages: 261-266 DOI: 10.1007/s00340-011-4705-y Published: FEB 2012.

484) Lelli, L., Kokhanovsky A. A., Rozanov V. V., Vountas M., Sayer, A. M. and Burrows, J. P., 2012, "Seven years of global retrieval of cloud properties using space-borne data of GOME", Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 7 Pages: 1551-1570 DOI: 10.5194/amt-5-1551-2012 Published: 2012

485) Liu Z., Wang Y.H., Vrekoussis M., Richter A, Wittrock F., Burrows J.P., Shao M., Chang C. C., Liu, S. C., Wang H. L., Chen C.H., 2012, "Exploring the missing source of glyoxal (CHOCHO) over China", Source: Geophysical Research LettersVolume: 39 Article Number: L10812 DOI: 10.1029/2012GL051645 Published: MAY 31 2012.

486) Mieruch S., Weber M., von Savigny C., Rozanov A., Bovensmann H., Burrows J. P., Bernath P. F., Boone C. D., Froidevaux L., Gordley L. L., Mlynczak M. G., Russell J. M., III, Thomason L. W., Walker K. A., and Zawodny J. M., 2012, "Global and long-term comparison of SCIAMACHY limb ozone profiles with correlative satellite data (2002-2008)", Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 4 Pages: 771-788 DOI: 10.5194/amt-5-771-2012 Published: 2012

487) Nghiem S. V., Rigor I. G., Richter A., Burrows J. P., Shepson P. B., Bottenheim J., Barber D. G., Steffen A., Latonas J., Wang F. Y., Stern G., Clemente-Colon P., Martin S., Hall D. K., Kaleschke L., Tackett P., Neumann G. and Asplin M. G., 2011, "Field and satellite observations of the formation and distribution of Arctic atmospheric bromine above a rejuvenated sea ice cover", Source: Journal of Geophysical Research-AtmospheresVolume: 117 Article Number: D00S05 DOI: 10.1029/2011JD016268 Published: MAR 15 2012

488) Noël S., Bramstedt K., Bovensmann H., Gerilowski K., Burrows J. P., Standfuss C., Dufour E., Veihelmann B., 2012, " Quantification and mitigation of the impact of scene inhomogeneity on Sentinel-4 UVN UV-VIS retrievals", Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 6 Pages: 1319-1331 DOI: 10.5194/amt-5-1319-2012 Published: 2012

489) Peters E., Wittrock F., Großmann K., Frieß U., Richter A., and Burrows J. P., 2012, "Formaldehyde and nitrogen dioxide over the remote western Pacific Ocean: SCIAMACHY and GOME-2 validation using ship-based MAX-DOAS observations", Atmospheric Chemistry and Physics, 12, 11179-11197, doi:10.5194/acp-12-11179-2012, 2012.

490) Reuter M., Buchwitz M., Schneising O., Hase F., Heymann J., Guerlet S, Cogan A. J., Bovensmann H. and Burrows, J. P., 2012, "A simple empirical model estimating atmospheric CO_2 background concentrations" Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 6 Pages: 1349-1357 DOI: 10.5194/amt-5-1349-2012 Published: 2012

491) Reuter M., Bovensmann H., Buchwitz M., Burrows J. P., Deutscher N.., Heymann J., Rozanov A., Schneising O., Suto H., Toon G. C., and Warneke T., 2012, "On the potential of the 2041-2047 nm spectral region for remote sensing of atmospheric CO_2 isotopologues", Source: JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER Volume: 113 Issue: 16 Pages: 2009-2017 DOI: 10.1016/j.jqsrt.2012.07.013 Published: NOV 2012

492) Schneising O., Bergamaschi P., Bovensmann H., Buchwitz, M., Burrows J. P., Deutscher N. M., Griffith D. W. T., Heymann J., Macatangay, R., Messerschmidt J., Notholt J., Rettinger M., Reuter M., Sussmann R., Velazco V. A., Warneke T., Wennberg P, O. and Wunch, D., 2012, "Atmospheric greenhouse gases retrieved from SCIAMACHY: comparison to ground-based FTS measurements and model results", Source: Atmospheric Chemistry and PhysicsVolume: 12 Issue: 3 Pages: 1527-1540 DOI: 10.5194/acp-12-1527-2012 Published: 2012

493) Schoenhardt A., Begoin M., Richter A., Wittrock F., Kaleschke, L., Gomez Martin J. C. and Burrows, J. P., 2012, "Simultaneous satellite observations of IO and BrO over Antarctica", Source: Atmospheric Chemistry and PhysicsVolume: 12 Issue: 19 Pages: 9383-9385 DOI: 10.5194/acp-12-9383-2012 Published: 2012

494) von Savigny C., McDade I. C., Eichmann K. -U. and Burrows, J. P., 2012 "On the dependence of the OH* Meinel emission altitude on vibrational level: SCIAMACHY observations and model simulations", Source: Atmospheric Chemistry and Physics, Volume: 12 Issue: 18 Pages: 8813-8828 DOI: 10.5194/acp-12-8813-2012 Published: 2012

495) von Savigny C., Eichmann K.-U., Robert C. E., Burrows J.P., and Weber M., 2012, "Sensitivity of equatorial mesopause temperatures to the 27-day solar cycle" Source: Geophysical Research LettersVolume: 39 Article Number: L21804 DOI: 10.1029/2012GL053563 Published: NOV 2 2012

496) Winkler, H., von Savigny C., Burrows J. P., Wissing J. M., Schwartz M.J., Lambert, A. and Garcia-Comas, M., 2012, "Impacts of the January 2005 solar particle event on noctilucent clouds and water at the polar summer mesopause." Source: Atmospheric Chemistry and PhysicsVolume: 12 Issue: 12 Pages: 5633-5646 DOI: 10.5194/acp-12-5633-2012 Published: 2012

497) Yoon J., von Hoyningen-Huene W., Kokhanovsky A. A., Vountas M. and Burrows, J. P., 2012, "Trend analysis of aerosol optical thickness and Angstrom exponent derived from the global AERONET spectral observations", Source: Atmospheric Measurement TechniquesVolume: 5 Issue: 9 Pages: 2113-2113 DOI: 10.5194/amt-5-2113-2012 Published: 2012.

*****2013*****

498) Andres-Hernandez M.D., Kartal D., Crowley J. N., Sinha V., Regelin E., Martinez-Harder M. , Nenakhov V., Williams J., Harder H., Bozem H., Song W., Thieser J., Tang M. J., Beigi Z. H., and Burrows, J. P.; Diel peroxy radicals in a semi-industrial coastal area: nighttime formation of free radical; Source: Atmospheric Chemistry and PhysicsVolume: 13 Issue: 11 Pages: 5731-5749 DOI: 10.5194/acp-13-5731-2013 Published: 2013

499) Bender S., Sinnhuber M., Burrows J. P., Langowski M., Funke B. and Lopez-Puertas, M., 20013; Retrieval of nitric oxide in the mesosphere and lower thermosphere from SCIAMACHY limb spectra; Source: Atmospheric Measurement TechniquesVolume: 6 Issue: 9 Pages: 2521-2531 DOI: 10.5194/amt-6-2521-2013 Published: 2013

500) Buchwitz M., Reuter M., Bovensmann H., Pillai D., Heymann J., Schneising O., Rozanov V., Krings T., Burrows J. P., Boesch H., Gerbig C., Meijer Y., and Löscher, A., 2013, "Carbon Monitoring Satellite (CarbonSat): assessment of atmospheric CO_2 and CH_4 retrieval errors by error parameterization", Atmospheric Measurement Techniques, 6, 3477-3500, doi:10.5194/amt-6-3477-2013, 2013.

501) Chehade W., Guer B., Spietz P., Gorshelev V., Serdyuchenko A., Burrows J. P. and Weber, M., 2013, "Temperature dependent ozone absorption cross section spectra measured with the GOME-2 FM3 spectrometer and first application in satellite retrievals", Source: Atmospheric Measurement TechniquesVolume: 6 Issue: 7 Pages: 1623-1632 DOI: 10.5194/amt-6-1623-2013 Published: 2013

502) Chehade W., Gorshelev V., Serdyuchenko A., Burrows J. P., and Weber M., 2013, "Revised temperature-dependent ozone absorption cross-section spectra (Bogumil et al.) measured with the SCIAMACHY satellite spectrometer", Atmospheric Measurement Techniques, 6, 3055-3065, doi:10.5194/amt-6-3055-2013, 2013.

503) Hilboll A., Richter A., Rozanov A., Hodnebrog O., Heckel A., Solberg S., Stordal F., and Burrows, J. P., 2013, "Improvements to the retrieval of tropospheric NO_2 from satellite - stratospheric correction using SCIAMACHY limb/nadir matching and comparison to Oslo CTM2 simulations", Source: Atmospheric Measurement

TechniquesVolume: 6 Issue: 3 Pages: 565-584 DOI: 10.5194/amt-6-565-2013 Published: 2013

504) Hilboll A., Richter A., and Burrows J. P., "Long-term changes of tropospheric NO_2 over megacities derived from multiple satellite instruments", Source: Atmospheric Chemistry and PhysicsVolume: 13 Issue: 8 Pages: 4145-4169 DOI: 10.5194/acp-13-4145-2013 Published: 2013

505) Keywood M., Kanakidou M., Stohl A., Dentener F., Grassi G, Meyer C. P., Torseth K., Edwards D., Thompson A. M., Lohmann U, Burrows J, 2013, "Fire in the Air: Biomass Burning Impacts in a Changing Climate, Source": CRITICAL REVIEWS IN ENVIRONMENTAL SCIENCE AND TECHNOLOGY Volume: 43 Issue: 1 Pages: 40-83 DOI: 10.1080/10643389.2011.604248 Published: JAN 1 2013

506) Krings T., Gerilowski K., Buchwitz M., Hartmann J., Sachs T, Erzinger, J., Burrows J. P., and Bovensmann H., 2013, "Quantification of methane emission rates from coal mine ventilation shafts using airborne remote sensing data", Source: Atmospheric Measurement TechniquesVolume: 6 Issue: 1 Pages: 151-166 DOI: 10.5194/amt-6-151-2013 Published: 2013

507) Leifer I, Culling D., Schneising O., Farrell P., Buchwitz M., and Burrows, J. P., 2013, "Transcontinental methane measurements: Part 2. Mobile surface investigation of fossil fuel industrial fugitive emissions", Source: Atmospheric EnvironmentVolume: 74 Pages: 432-441 DOI: 10.1016/j.atmosenv.2013.03.018 Published: AUG 2013

508) Liebing P., Bramstedt K., Noël S., Rozanov V., Bovensmann H., and Burrows J. P., "Polarization data from SCIAMACHY limb backscatter observations compared to vector radiative transfer model simulations", Atmospheric Measurement TechniquesVolume: 6 Issue: 6 Pages: 1503-1520 DOI: 10.5194/amt-6-1503-2013 Published: 2013

509) Mei L., Xue Y., de Leeuw G., von Hoyningen-Huene W., Kokhanovsky A. A., Istomina L., Guang J., and Burrows, J. P., 2013, "Aerosol optical depth retrieval in the Arctic region using MODIS data over snow" Source: Remote Sensing of Environment Volume: 128 Pages: 234-245 DOI: 10.1016/j.rse.2012.10.009 Published: JAN 2013.

510) Mei L.L., Xue Y., Kokhanovsky A. A., von Hoyningen-Huene W., Istomina L., de Leeuw G., Burrows J.P., Guang J., and Jing Y.G., 2013, "Aerosol optical depth retrieval over snow using AATSR data" Source: INTERNATIONAL JOURNAL OF REMOTE SENSING Volume: 34 Issue: 14 Pages: 5030-5041 DOI: 10.1080/01431161.2013.786197 Published: JUL 20 2013

511) Rahpoe N., von Savigny C., Weber M., Rozanov A. V., Bovensmann H., and Burrows, J. P., 2013, "Error budget analysis of SCIAMACHY limb ozone profile retrievals using the SCIATRAN model" Atmospheric Measurement Techniques, 6, 2825-2837, doi:10.5194/amt-6-2825-2013, 2013.

512) Reuter M., Boesch H., Bovensmann H., Bril A., Buchwitz M., Butz A., Burrows J. P., O'Dell C. W., Guerlet S., Hasekamp O., Heymann J., Kikuchi N., Oshchepkov S., Parker R., Pfeifer S., Schneising O., Yokota T., and Yoshida Y., 2013 " A joint effort to deliver satellite retrieved atmospheric CO_2 concentrations for surface flux inversions: the ensemble median algorithm EMMA; Source: Atmospheric Chemistry and PhysicsVolume: 13 Issue: 4 Pages: 1771-1780 DOI: 10.5194/acp-13-1771-2013 Published: 2013.

513) Richter A., Weber M., Burrows J. P., Lambert J. C. and van Gijsel A., 2013, "Validation strategy for satellite observations of tropospheric reactive gases", Source: ANNALS OF GEOPHYSICS Volume: 56 DOI: 10.4401/AG-6335 Supplement: S Published: 2013

514) Schneising, O., Heymann, J., Buchwitz, M., Reuter, M., Bovensmann, H., Burrows, J. P., "Anthropogenic carbon dioxide source areas observed from space: assessment of regional enhancements and trends", Source: Atmospheric Chemistry and Physics Volume: 13 Issue: 5 Pages: 2445-2454 DOI: 10.5194/acp-13-2445-2013 Published: 2013.

515) Schlundt, C., Kokhanovsky, A.A., Rozanov, V. V., Burrows J. P., 2013, "Determination of Cloud Optical Thickness Over Snow Using Satellite Measurements in the Oxygen A-Band", Source: IEEE GEOSCIENCE AND REMOTE SENSING LETTERS Volume: 10 Issue: 5 Pages: 1162-1166 DOI: 10.1109/LGRS.2012.2234720 Published: SEP 2013

516) Schneising O., Heymann J., Buchwitz M., Reuter M., Bovensmann H. and Burrows, J. P., "Anthropogenic carbon dioxide source areas observed from space: assessment of regional enhancements and trends", Source: Atmospheric Chemistry and PhysicsVolume: 13 Issue: 5 Pages: 2445-2454 DOI: 10.5194/acp-13-2445-2013 Published: 2013.

517) Sonkaew T., von Savigny C., Eichmann K.-U., Weber M., Rozanov A., Bovensmann H., Burrows J. P., Grooss J.–U, 2013, "Chemical ozone losses in Arctic and Antarctic polar winter/spring season derived from SCIAMACHY limb measurements 2002-2009", Source: Atmospheric Chemistry and PhysicsVolume: 13 Issue: 4 Pages: 1809-1835 DOI: 10.5194/acp-13-1809-2013 Published: 2013.

518) Vrekoussis M., Richter A., Hilboll A., Burrows J. P., Gerasopoulos E., Lelieveld J., Barrie L., Zerefos C., Mihalopoulos, N. 2013, "Economic crisis detected from space: Air quality observations over Athens/Greece", Source: Geophysical Research LettersVolume: 40 Issue: 2 Pages: 458-463 DOI: 10.1002/grl.50118 Published: JAN 28 2013.

*****2014*****

519) Alvarado L. M. A., Richter A., Vrekoussis M., Wittrock F., Hilboll A., Schreier, S. F. and Burrows, J. P. 2014, "An improved glyoxal retrieval from OMI measurements" 2014, Atmospheric Measurement Techniques, Volume: 7Issue: 12Pages: 4133-4150 DOI: 10.5194/amt-7-4133-2014 Published: 2014

520) Aschmann J., Burrows, J. P., Gebhardt C., Rozanov A., Hommel R. , Weber M. and Thompson A. M. 2014,"On the hiatus in the acceleration of tropical upwelling since the beginning of the 21st century", Atmospheric Chemistry and Physics, Volume: 14Issue: 23Pages: 12803-12814, DOI: 10.5194/acp-14-12803-2014 Published: 2014Chehade, W., Weber, M., Burrows, J. P. 2014 "Total ozone trends and variability during 1979-2012 from merged data sets of various satellites", Atmospheric Chemistry and Physics Volume: 14Issue: 13Pages: 7059-7074DOI: 10.5194/acp-14-7059-2014 Published: 2014

521) Chehade W., Weber M., and Burrows J. P., 2014, "Total ozone trends and variability during 1979–2012 from merged data sets of various satellites", Atmospheric Chemistry Physics, 14, 7059-7074, doi:10.5194/acp-14-7059-2014, 2014.

522) Cuevas C. A., Notario A., Adame J. A., Hilboll A., Richter A., Burrows, J.P., and Saiz-Lopez A. 2014, "Evolution of NO_2 levels in Spain from 1996 to 2012" Nature SCIENTIFIC REPORTS, Volume: 4, Article Number: 5887 DOI: 10.1038/srep05887, Published: JUL 30 2014.

523) Dils B., Buchwitz M., Reuter M., Schneising O., Boesch H., Parker R., Guerlet S., Aben I., Blumenstock T., Burrows J. P., Butz A., Deutscher N. M., Frankenberg C., Hase F., Hasekamp O. P., Heymann J., De Maziere M., Notholt J., Sussmann R., Warneke T., Griffith D.W.T., Sherlock V. and Wunch, D., 2014, "The Greenhouse Gas Climate Change Initiative (GHG-CCI): comparative validation of GHG-CCI SCIAMACHY/ENVISAT and TANSO-FTS/GOSAT CO2 and CH4 retrieval algorithm products with measurements from the TCCON", Atmospheric Measurement Techniques Volume: 7 Issue: 6 Pages: 1723-1744 DOI: 10.5194/amt-7-1723-2014, Published: 2014

524) Ebojie F., von Savigny C., Ladstaetter-Weissenmayer A., Rozanov A., Weber, M., Eichmann K-U., Boetel S., Rahpoe N., Bovensmann H. and Burrows, J. P. 2014, "Tropospheric column amount of ozone retrieved from SCIAMACHY limb-nadir-matching observations", Atmospheric Measurement Techniques, Volume: 7Issue: 7Pages: 2073-2096. DOI: 10.5194/amt-7-2073-2014, Published: 2014

525) Gebhardt C., Rozanov A., Hommel R., Weber M., Bovensmann H., Burrows J. P., Degenstein D., Froidevaux L., and Thompson A. M., "Stratospheric ozone trends and variability as seen by SCIAMACHY from 2002 to 2012", Atmospheric Chemistry and Physics, Volume: 14Issue: 2Pages: 831-846, DOI: 10.5194/acp-14-831-2014 Published: 2014

526) Gorshelev V., Serdyuchenko A., Weber M., Chehade W. and Burrows, J. P., "High spectral resolution ozone absorption cross-sections - Part 1: Measurements, data analysis and comparison with previous measurements around 293 K", Atmospheric Measurement Techniques Volume: 7Issue: 2Pages: 609-624, DOI: 10.5194/amt-7-609-2014, Published: 2014

527) Hayman G. D., O'Connor E. M., Dalvi M., Clark D. B., Gedney N., Huntingford C., Prigent, C., Buchwitz M., Schneising O., Burrows J. P., Wilson C., Richards N., and Chipperfield M. 2014, "Comparison of the HadGEM2 climate-chemistry model against

in situ and SCIAMACHY atmospheric methane data", Atmospheric Chemistry and Physics, Volume: 14Issue: 23Pages: 13257-13280 DOI: 10.5194/acp-14-13257-2014 Published: 2014

528) Hommel R., Eichmann K. -U., Aschmann J., Bramstedt, K. Weber, M., von Savigny C., Richter A., Rozanov A., Wittrock F., Khosrawi F., Bauer, R. and Burrows, J. P., 2014, "Chemical ozone loss and ozone mini-hole event during the Arctic winter 2010/2011 as observed by SCIAMACHY and GOME-2", Atmospheric Chemistry and Physics, Volume: 14Issue: 7Pages: 3247-3276, DOI: 10.5194/acp-14-3247-2014, Published: 2014.

529) Horstjann M., Hernandez M. D. A., Nenakhov V., Chrobry A. and Burrows J. P., 2014, "Peroxy radical detection for airborne atmospheric measurements using absorption spectroscopy of NO_2", Atmospheric Measurement Techniques, Volume: 7 Issue: 5 Pages: 1245-1257, DOI: 10.5194/amt-7-1245-2014, Published: 2014

530) Im U., Daskalakis N., Markakis K., Vrekoussis M., Hjorth J., Myriokefalitakis S., Gerasopoulos E., Kouvarakis G., Richter A., Burrows J. P., Pozzoli L., Unal A., Kindap T. and Kanakidou, M., "Simulated air quality and pollutant budgets over Europe in 2008" SCIENCE OF THE TOTAL ENVIRONMENT Volume: 470 Pages: 270-281 DOI: 10.1016/j.scitotenv.2013.09.090 Published: FEB 1 2014.

531) Langowski M., Sinnhuber M., Aikin A. C., von Savigny C., Burrows J. P., 2014, "Retrieval algorithm for densities of mesospheric and lower thermospheric metal atom and ion species from satellite-borne limb emission signals", Atmospheric Measurement Techniques, Volume: 7Issue: 1Pages: 29-48, DOI: 10.5194/amt-7-29-2014, Published: 2014.

532) Lelli L., Kokhanovsky A. A., Rozanov V. V., Vountas M. and Burrows J. P., 2014, "Linear trends in cloud top height from passive observations in the oxygen A-band", Atmospheric Chemistry and Physics Volume: 14 Issue: 11 Pages: 5679-5692 DOI: 10.5194/acp-14-5679-2014, Published: 2014

533) Mahajan A. S., Prados-Roman C., Hay T. D., Lampel J., Pohler D., Grossmann K., Tschritter J., Platt U., Johnston P., Kreher K., Wittrock F., Burrows J. P., Plane J. M. C. and Saiz-Lopez, A., 2014, "Glyoxal observations in the global marine boundary layer", Journal of Geophysical Research-Atmospheres Volume: 119 Issue: 10 Pages: 6160-6169 DOI: 10.1002/2013JD021388 Published: MAY 27 2014

534) Mei L. L., Xue Y., Kokhanovsky A. A., von Hoyningen-Huene W., de Leeuw G. and Burrows J. P., 2014, "Retrieval of aerosol optical depth over land surfaces from AVHRR data", Atmospheric Measurement Techniques Volume: 7 Issue: 8 Pages: 2411-2420 DOI: 10.5194/amt-7-2411-2014 Published: 2014

535) Noguchi K., Richter A., Rozanov V., Rozanov A., Burrows J. P., Irie H and Kita K., 2014, "Effect of surface BRDF of various land cover types on geostationary observations of tropospheric NO_2", Atmospheric Measurement Techniques, Volume: 7 Issue: 10Pages: 3497-3508., DOI: 10.5194/amt-7-3497-2014Published: 2014

536) Peters E., Wittrock F., Richter A., Alvarado L. M. A., Rozanov, V. V. and Burrows J. P., 2014, "Liquid water absorption and scattering effects in DOAS retrievals over oceans", Atmospheric Measurement Techniques, Volume: 7Issue: 12Pages: 4203-4221, DOI: 10.5194/amt-7-4203-2014Published: 2014

537) Reisin E. R., Scheer J., Dyrland M. E., Sigernes F., Deehr C. S., Schmidt C., Hoeppner K., Bittner M., Ammosov P. P., Gavrilyeva G. A., Stegman J., Perminov V. I., Semenov A. I., Knieling P., Koppmann R., Shiokawa K., Lowe R. P., Lopez-Gonzalez M. J., Rodriguez E., Zhao Y., Taylor M. J., Buriti R. A., Espy P. J., French W. J. R., Eichmann K -U., Burrows, J. P. and von Savigny, C., 2014, "Traveling planetary wave activity from mesopause region airglow temperatures determined by the Network for the Detection of Mesospheric Change (NDMC)", JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS Volume: 119 Pages: 71-82 DOI: 10.1016/j.jastp.2014.07.002 Published: NOV 2014

538) Reuter M., Buchwitz M., Hilboll A., Richter A., Schneising O., Hilker, M., Heymann J., Bovensmann H., Burrows J. P. 2014 "Decreasing NOx relative to CO2 emissions in East Asia inferred from satellite observations", Nature Geoscience 7, 792-795 doi:10.1038/ngeo2257, Published: OCTOBER 2014.

539) Reuter M., Buchwitz M., Hilker M., Heymann J., Schneising O., Pillai D., Bovensmann H., Burrows J. P., Bösch H., Parker R., Butz A., Hasekamp O., O'Dell C.W., Yoshida Y., Gerbig C., Nehrkorn T., Deutscher N. M., Warneke T., Notholt J., Hase F., Kivi R., Sussmann R., Machida T., Matsueda H. and Y. Sawa, 2014, "Satellite-inferred European carbon sink larger than expected", Atmos. Chem. Phys., 14, 13739–13753, 2014 www.atmos-chem-phys.net/14/13739/2014/ doi:10.5194/acp-14-13739-2014, Published December 2014.

540) Rozanov V. V., Rozanov A. V., Kokhanovsky A. A. and Burrows J. P., 2014, "Radiative transfer through terrestrial atmosphere and ocean: Software package" SCIATRAN", Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 133Pages: 13-71 DOI: 10.1016/j.jqsrt.2013.07.004 Published: JAN 2014.

541) Schneising O., Reuter M., Buchwitz M., Heymann J., Bovensmann H and Burrows, J.P., 2014, "Terrestrial carbon sink observed from space: variation of growth rates and seasonal cycle amplitudes in response to interannual surface temperature variability", Atmospheric Chemistry and Physics, Volume: 14 Issue: 1 Pages: 133-141 DOI: 10.5194/acp-14-133-2014 Published: 2014

542) Schneising O., Burrows J. P., Dickerson R. R., Buchwitz M., Reuter M., and Bovensmann H., 2014, "Remote sensing of fugitive methane emissions from oil and gas production in North American tight geologic formations" EARTHS FUTURE, Volume: 2 Issue: 10 Pages: 548-558 DOI: 10.1002/2014EF000265, Published: OCT 2014.

543) Schreier S. F., Richter A., Kaiser J. W. and Burrows, J. P., 2014, "The empirical relationship between satellite-derived tropospheric NO_2 and fire radiative power and possible implications for fire emission rates of NOx", Atmospheric Chemistry and

Physics Volume: 14 Issue: 5 Pages: 2447-2466 DOI: 10.5194/acp-14-2447-2014 Published: 2014

544) Serdyuchenko A., Gorshelev V., Weber M., Chehade W. and Burrows, J. P., 2014, "High spectral resolution ozone absorption cross-sections - Part 2: Temperature dependence", Atmospheric Measurement Techniques, Volume: 7 Issue: 2 Pages: 625-636, DOI: 10.5194/amt-7-625-2014,Published: 2014.

545) Spolaor A., Vallelonga P., Gabrieli J., Martma T., Bjorkman M. P., Isaksson E., Cozzi G., Turetta C., Kjaer H. A., Curran M. A. J., Moy A. D., Schoenhardt A., Blechschmidt A.-M., Burrows J. P., Plane J. M. C. and Barbante C., 2014,"Seasonality of halogen deposition in polar snow and ice" Atmospheric Chemistry and Physics Volume: 14 Issue: 18 Pages: 9613-9622, DOI: 10.5194/acp-14-9613-2014, Published: 2014

546) Yoon J., Burrows J. P., Vountas M., von Hoyningen-Huene W., Chang D. Y., Richter A. and Hilboll A., 2014, "Changes in atmospheric aerosol loading retrieved from space-based measurements during the past decade" Atmospheric Chemistry and Physics Volume: 14 Issue: 13 Pages: 6881-6902 DOI: 10.5194/acp-14-6881-2014, Published: 2014

547) Zien A. W., Richter A., Hilboll A., Blechschmidt A.-M. and Burrows, J. P., 2014, "Systematic analysis of tropospheric NO_2 long-range transport events detected in GOME-2 satellite data", Atmospheric Chemistry and Physics Volume: 14Issue: 14Pages: 7367-7396 DOI: 10.5194/acp-14-7367-2014 Published: 2014 .

*****2015*****

548) Bender S., Sinnhuber M., von Clarmann T., Stiller G., Funke B., López-Puertas M., Urban J., Pérot K., Walker K. A. and Burrows, J. P., 2015, "Comparison of nitric oxide measurements in the mesosphere and lower thermosphere from ACE-FTS, MIPAS, SCIAMACHY, and SMR", Atmospheric Measurement Techniques, 8, 4171-4195, doi:10.5194/amt-8-4171-2015, 2015.

549) Brinkhoff L. A., von Savigny C., Randall C. E. andBurrows, J. P., 2015, "The fractal perimeter dimension of noctilucent clouds: Sensitivity analysis of the area-perimeter method and results on the seasonal and hemispheric dependence of the fractal dimension", JOURNAL OF ATMOSPHERIC AND SOLAR-TERRESTRIAL PHYSICS, Volume: 127 Pages: 66-72 Special Issue: SI DOI: 10.1016/j.jastp.2014.06.005 Published: MAY 2015.

550) Buchwitz M., Reuter M., Schneising O., Boesch H., Guerlet S., Dils B., Aben I., Armante R., Bergamaschi P., Blumenstock T., Bovensmann H., Brunner D., Buchmann B., Burrows J. P., Butz A., Chedin A., Chevallier F., Crevoisier C. D., Deutscher N. M., Frankenberg C., Hase F., Hasekamp O. P., Heymann J., Kaminski T., Laeng A., Lichtenberg G., De Maziere M., Noël S., Notholt J., Orphal J., Popp C., Parker R., Scholze M., Sussmann R., Stiller G. P., Warneke T., Zehner C., Bril A., Crisp D., Griffith D. W. T., Kuze A., O'Dell C., Oshchepkov S., Sherlock V., Suto H., Wennberg

P., Wunch D., Yokota T. and Yoshida, Y, 2015, "The Greenhouse Gas Climate Change Initiative (GHG-CCI): "Comparison and quality assessment of near-surface-sensitive satellite-derived CO2 and CH4 global data sets", Remote Sensing of Environment Volume: 162 Pages: 344-362, DOI: 10.1016/j.rse.2013.04.024,Published: JUN 1 2015.

551) Buchwitz M., Reuter M., Schneising O., Boesch H., Aben, I., Alexe M., Armante R., Bergamaschi P., Bovensmann H., Brunner D., Buchmann B., Burrows J. P., Butz A., Chevallier F., Chédin A., Crevoisier C. D., Gonzi S., De Mazière M., De Wachter E., Detmers R., Dils B., Frankenberg C., Hahne P., Hasekamp O. P., Hewson W., Heymann J., Houweling S., Hilker M., Kaminski T., Kuhlmann G., Laeng A., v. Leeuwen T. T., Lichtenberg G., Marshall J., Noël S., Notholt J., Palmer P., Parker R., Scholze M., Stiller G. P., Warneke T. and Zehner, C., 2015, "The greenhouse gas project of ESA's climate change initiative (GHG-CCI): overview, achievements and future plans", Int. Arch. Photogramm. Remote Sens. Spatial Inf. Sci., XL-7/W3, 165-172, doi:10.5194/isprsarchives-XL-7-W3-165-2015, 2015

552) Dinter T., Rozanov V. V., Burrows J. P. and Bracher A., 2015, "Retrieving the availability of light in the ocean utilising spectral signatures of vibrational Raman scattering in hyper-spectral satellite measurements", OCEAN SCIENCE, Volume: 11 Issue: 3 Pages: 373-389 DOI: 10.5194/os-11-373-2015 Published: 2015.

553) Gerilowski K., Krings T., Hartmann J., Buchwitz M., Sachs T., Erzinger J., and Burrows J. P., Heinrich Bovensmann 2015 "Atmospheric remote sensing constraints on direct sea-air methane flux from the 22/4b North Sea massive blowout bubble plume" Marine and Petroleum Geology Volume: 68 Pages 824-835 Part: B DOI: 10.1016/j.marpetgeo.2015.07.011Published: 2015/12/31

554) Heymann J., Reuter M., Hilker M. , Buchwitz M., Schneising O., Bovensmann H., Burrows J. P., Kuze A., Suto H., Deutscher N. M., Dubey M. K., Griffith D. W. T., Hase F., Kawakami S., Kivi R., Morino I., Petri C., Roehl C., Schneider M., Sherlock V., Sussmann R., Velazco V. A., Warneke T. and Wunch, D., 2015, "Consistent satellite XCO_2 retrievals from SCIAMACHY and GOSAT using the BESD algorithm", Atmospheric Measurement Techniques, Volume: 8 Issue: 7 Pages: 2961-2980, DOI: 10.5194/amt-8-2961-2015, Published: 2015.

555) Jia J., Rozanov A., Ladstaetter-Weissenmayer A. and Burrows J. P. 2015, "Global validation of SCIAMACHY limb ozone data (versions 2.9 and 3.0, IUP Bremen using ozonesonde measurements", Atmospheric Measurement Techniques Volume: 8 Issue: 8 Pages: 3369-3383 DOI: 10.5194/amt-8-3369-2015 Published: 2015.

556) Kattner L., Mathieu-Üffing B., Burrows J. P., Richter A., Schmolke S., Seyler A. and Wittrock, F., 2015, "Monitoring compliance with sulfur content regulations of shipping fuel by in situ measurements of ship emissions", Atmospheric Chemistry and Physics, 15, 10087-10092, doi:10.5194/acp-15-10087-2015, 2015.

557) Khosravi N., Vountas M., Rozanov V. V., Bracher A., Wolanin A. and Burrows J. P., 2015, "Retrieval of Terrestrial Plant Fluorescence Based on the In-Filling of Far-Red

Fraunhofer Lines Using SCIAMACHY Observations", Front. Environ. Sci., 17 December 2015 http://dx.doi.org/10.3389/fenvs.2015.00078

558) Langowski M. P., von Savigny C., Burrows J. P., Feng W., Plane J. M. C., Marsh D. R., Janches D., Sinnhuber M., Aikin A. C. and Liebing, P. 2015, "Global investigation of the Mg atom and ion layers using SCIAMACHY/Envisat observations between 70 and 150km altitude and WACCM-Mg model results", Atmospheric Chemistry and Physics Volume: 15 Issue: 1 Pages: 273-295 DOI: 10.5194/acp-15-273-2015 Published: 2015.

559) Rahpoe N., Weber M., Rozanov A. V., Weigel K., Bovensmann H., Burrows J. P., Laeng A., Stiller G., von Clarmann T., Kyrölä E., Sofieva V. F., Tamminen J., Walker K., Degenstein D., Bourassa A. E., Hargreaves R., Bernath P., Urban J. and Murtagh, D. P., 2015, "Relative drifts and biases between six ozone limb satellite measurements from the last decade", Atmospheric Measurement Techniques, 8, 4369-4381, doi:10.5194/amt-8-4369-2015, 2015.

560) Roscoe H. K., Jones A. E., Brough N., Weller R., Saiz-Lopez A., Mahajan A. S., Schoenhardt A,, Burrows J. P. and Fleming Z. L., 2015, "Particles and iodine compounds in coastal Antarctica", Journal of Geophysical Research-Atmospheres, Volume: 120 Issue: 14 Pages: 7144-7156DOI: 10.1002/2015JD023301 Published: JUL 27 2015

561) Schönhardt A., Altube P., Gerilowski K., Krautwurst S., Hartmann J., Meier A. C., Richter A., and Burrows J. P.,2015, "A wide field-of-view imaging DOAS instrument for two-dimensional trace gas mapping from aircraft", Atmospheric Measurement Techniques, 8, 5113-5131, doi:10.5194/amt-8-5113-2015, 2015

562) Schreier S. F., Peters E., Richter A., Lampel J., Wittrock, F. and Burrows, J. P., 2015, "Ship-based MAX-DOAS measurements of tropospheric NO_2 and SO_2 in the South China and Sulu Sea", Atmospheric EnvironmentVolume: 102 Pages: 331-343 DOI: 10.1016/j.atmosenv.2014.12.015 Published: FEB 2015.

563) Schreier S. F., Richter A., Schepaschenko D., Shvidenko A., Hilboll A. and Burrows, J. P., 2015, "Differences in satellite-derived NOx emission factors between Eurasian and North American boreal forest fires", ATMOSPHERIC ENVIRONMENT, Volume: 121 Special Issue: SI Pages: 55-65 DOI: 10.1016/j.atmosenv.2014.08.071 Published: NOV 2015

564) von Savigny C., Ernst F. , Rozanov A., Hommel R., Eichmann K.-U., Rozanov V., Burrows J. P. Thomason L. W., 2015, "Improved stratospheric aerosol extinction profiles from SCIAMACHY: validation and sample results" Atmospheric Measurement Techniques, Volume: 8 Issue: 12 Pages: 5223-5235 DOI: 10.5194/amt-8-5223-2015 Published: 2015

565) Wolanin A., Rozanov V. V., Dinter T., Noël S., Vountas M., Burrows J. P. and Bracher, A., 2015, "Global retrieval of marine and terrestrial chlorophyll fluorescence at its red peak using hyperspectral top of atmosphere radiance measurements: Feasibility study and first results", Remote Sensing of Environment Volume: 166 Pages: 243-261

DOI: 10.1016/j.rse.2015.05.0182015 Published: SEP 1 2015

*****2016*****

566) Blechschmidt A.-M., Richter A., Burrows J. P., Kaleschke L., Strong K., Theys N., Weber M., Zhao X., and Zien A., 2016, "An exemplary case of a bromine explosion event linked to cyclone development in the Arctic", Atmospheric Chemistry and Physics, 16, 1773-1788, doi:10.5194/acp-16-1773-2016, 2016.

567) Ebojie F., Burrows J. P., Gebhardt C., Ladstätter-Weißenmayer A., von Savigny C., Rozanov A., Weber M., Bovensmann H., "Global tropospheric ozone variations from 2003 to 2011 as seen by SCIAMACHY" Journal: Atmospheric Chemistry and Physics Volume: 16 Issue: 2 Pages 417-436 Published 2016/1/19.

568) Eichmann K.-U., Lelli L., von Savigny C., Sembhi H. and Burrows, J. P., 2016, "Global cloud top height retrieval using SCIAMACHY limb spectra: model studies and first results", Atmospheric Measurement Techniques: Volume: 9 Issue: 2 Pages: 793-815, DOI: 10.5194/amt-9-793-2016, Published: 2016

569) Gratsea M, Vrekoussis M., Richter A., Wittrock F., Schonhardt A., Burrows J. P., Kazadzis S, Mihalopoulos N., Gerasopoulos E., 2016, "Slant column MAX-DOAS measurements of nitrogen dioxide, formaldehyde, glyoxal and oxygen dimer in the urban environment of Athens", ATMOSPHERIC ENVIRONMENT: Volume: 135 Pages: 118-131 DOI: 10.1016/j.atmosenv.2016.03.048 Published: JUN 2016

570) Khosrawi F., Urban J., Lossow S., Stiller G.P., Weigel K., Braesicke P., Pitts M.C., Rozanov A, Burrows J. P., Murtagh D, 2016, "Sensitivity of polar stratospheric cloud formation to changes in water vapour and temperature", Journal: Atmospheric Chemistry and Physics Volume:16 Issue:1 Pages 101-121Published 2016/1/15

571) Langowski M. P., von Savigny C. , Burrows J. P., Rozanov V. V., Dunker T., Hoppe U. -P., Sinnhuber M. and Aikin A. C., 2016 "Retrieval of sodium number density profiles in the mesosphere and lower thermosphere from SCIAMACHY limb emission measurements": Atmospheric Measurement Techniques: Volume: 9 Issue: 1 Pages: 295-311, DOI: 10.5194/amt-9-295-2016, Published: 2016.

572) Leventidou E., Eichmann K.-U., Weber M., and Burrows J. P., 2016, "Tropical tropospheric ozone columns from nadir retrievals of GOME-1/ERS-2, SCIAMACHY/Envisat, and GOME-2/MetOp-A (1996–2012)", Atmospheric Measurement Techniques, 9, 3407-3427, doi:10.5194/amt-9-3407-2016, 2016.

573) Massart, S., Agustí-Panareda A., Heymann J., Buchwitz M., Chevallier F., Reuter M., Hilker M., Burrows J. P., Deutscher N. M., Feist D. G., Hase F., Sussmann R., Desmet F., Dubey M. K., Griffith D. W. T., Kivi R., Petri C., Schneider M., and Velazco V. A., 2016, "Ability of the 4-D-Var analysis of the GOSAT BESD XCO2 retrievals to characterize atmospheric CO_2 at large and synoptic scales", Atmospheric Chemistry and Physics, 16, 1653-1671, doi:10.5194/acp-16-1653-2016, 2016.

574) Noël S., Bramstedt K., Hilker M., Liebing P., Plieninger J, Reuter M., Rozanov A., Sioris C. E., Bovensmann H. and Burrows, J. P. 2016, "Stratospheric CH_4 and CO_2 profiles derived from SCIAMACHY solar occultation measurements", Atmospheric Measurement Techniques: Volume: 9 Issue: 4 Pages: 1485-1503, DOI: 10.5194/amt-9-1485-2016, Published: 2016

575) Pillai D., Buchwitz M., Gerbig C., Koch T., Reuter M., Bovensmann H., Marshall J. and Burrows, J. P., 2016, "Tracking city CO_2 emissions from space using a high-resolution inverse modelling approach: a case study for Berlin, Germany", Atmospheric Chemistry and Physics, Volume: 16 Issue: 15 Pages: 9591-9610, DOI: 10.5194/acp-16-9591-2016, Published: AUG 2 2016

576) Schreier S. F., Richter A., Wittrock F. and Burrows J. P., 2016, "Estimates of free-tropospheric NO_2 and HCHO mixing ratios derived from high-altitude mountain MAX-DOAS observations at midlatitudes and in the tropics", Atmospheric Chemistry and Physics, Volume: 16 Issue: 5 Pages: 2803-2817, DOI: 10.5194/acp-16-2803-2016 Published: 2016

577) Schönhardt A., Richter A. and Burrows J. P., 2016, "TIBAGS: Tropospheric Iodine Monoxide and Its Coupling to Biospheric and Atmospheric Variables - a Global Satellite Study", Book: Remote Sensing Advances for Earth System Science Pages 15-34 Publisher: Springer International Publishing Published 2016/1

578) Sheese P.E., Walker K. A., Boone C. D., McLinden C. A., Bernath P. F., Bourassa A. E., Burrows J. P., Degenstein D. A., Funke B., Fussen D., Manney G. L., McElroy C. T., Murtagh D., Randall C. E., Raspollini P., Rozanov A., Russell J. M., Suzuki M., Shiotani M., Urban J., von Clarmann, T. and Zawodny, J. M., 2016, "Validation of ACE-FTS version 3.5 NOy species profiles using correlative satellite measurements", Atmospheric Measurement Techniques, Volume: 9 Issue: 12 Pages: 5781-5810, DOI: 10.5194/amt-9-5781-2016, Published: DEC 5 2016

579) Sinnhuber M., Friederich F., Bender S. and Burrows J. P. 2016, "The response of mesospheric NO to geomagnetic forcing in 2002-2012 as seen by SCIAMACHY", Journal of Geophysical Research Atmospheres, Volume: 121 Issue: 4 Pages: 3603-3620, DOI: 10.1002/2015JA022284, Published: APR 2016

580) von Savigny C., Langowski M. P., Zilker B., Burrows J. P., Fussen D. and Sofieva V. F., 2016, "First mesopause Na retrievals from satellite Na D-line nightglow observations", Geophysical Research Letters, Volume: 43 Issue: 24 Pages: 12651-12658, DOI: 10.1002/2016GL071313, Published: DEC 28 2016

581) Weigel K., Rozanov A., Azam F., Bramstedt K., Damadeo R., Eichmann, C Gebhardt K-U, Hurst D., Kraemer M., Lossow S., Read W., Spelten N., Stiller G.P., Walker K. A., Weber M., Bovensmann H. and Burrows J. P. 2016, "UTLS water vapour from SCIAMACHY limb measurementsV3.01 (2002–2012)", Journal: Atmospheric Measurement Techniques, Volume: 9 Issue: 1 Pages: 133-158, Published 2016/1/18

*****2017*****

582) Bender S., Sinnhuber M., Langowski M., and Burrows, JP., 2017, "Retrieval of nitric oxide in the mesosphere from SCIAMACHY nominal limb spectra", Atmospheric Measurement Techniques, Volume: 10 Issue: 1 Pages: 209-220, DOI: 10.5194/amt-10-209-2017, Published: JAN 17 2017.

583) Bramstedt, K.; Stone, T.C.; Gottwald, M.; Noel, S.; Bovensmann, H.; Burrows, J.P. 2017; Improved pointing information for SCIAMACHY from in-flight measurements of the viewing directions towards sun and moon; Atmospheric Measurement Techniques; Volume: 10 Issue: 7 Pages: 2413-2423; DOI: 10.5194/amt-10-2413-2017; Published: JUL 5 2017.

584) Buchwitz, M.; Schneising, O.; Reuter, M.; Heymann, J.; Krautwurst, S.; Bovensmann, H.; Burrows, J. P.; Boesch, H.; Parker, R.J.; Somkuti, P.; Detmers, R.G.; Hasekamp, O.P.; Aben, I.; Butz, A.; Frankenberg, C.; Turner, A.J. 2018; Satellite-derived methane hotspot emission estimates using a fast data-driven method; Atmospheric Chemistry and Physics Volume: 17 Issue: 9 Pages: 5751-5774 DOI: 10.5194/acp-17-5751-2017; Published: MAY 9 2017

585) Buchwitz, M.; Reuter, M.; Schneising, O.; Hewson, W. ; Detmers, R. G.; Boesch, H.; Hasekamp, O. P. ; Aben, I.; Bovensmann, H.; Burrows, J. P. ; Butz, A.; Chevallier, F.; Dils, B.; Frankenberg, C.; Heymann, J.; Lichtenberg, G.; De Maziere, M.; Notholt, J.; Parker, R.; Warneke, T. ; Zehner, C. ; Griffith, D. W. T.; Deutscher, N. M.; Kuze, A.; Suto, H.; Wunch, D. Global satellite observations of column-averaged carbon dioxide and methane: The GHG-CCI XCO2 and XCH4 CRDP3 data set; Remote Sensing of Environment Volume: 203 Pages: 276-295; DOI: 10.1016/j.rse.2016.12.027; Published: DEC 15 2017.

586) Ehret, G.; Bousquet, P.; Pierangelo, C.; Alpers, M.; Millet, B.; Abshire, J.B.; Bovensmann, H.; Burrows, J.P.; Chevallier, F.; Ciais, P.; Crevoisier, C.; Fix, A.; Flamant, P.; Frankenberg, C.; Gibert, F.; Heim, B.; Heimann, M.; Houweling, S.; Hubberten, H.W.; Jockel, P.; Law, K.; Low, A.; Marshall, J. ; Agusti-Panareda, A.; Payan, S.; Prigent, C.; Rairoux, P.; Sachs, T.; Scholze, M.; Wirth, M. 2017; MERLIN: A French-German Space Lidar Mission Dedicated to Atmospheric Methane; REMOTE SENSING Volume: 9 Issue: 10; Article Number: 1052; DOI: 10.3390/rs9101052; Published: OCT 2017

587) Heymann J., Reuter M., Buchwitz M., Schneising O., Bovensmann H., Burrows J. P., Massart S., Kaiser J. W., Crisp D., 2017, "CO_2 emission of Indonesian fires in 2015 estimated from satellite-derived atmospheric CO_2 concentrations", Geophysical Research Letters; Volume: 44 Issue: 3 Pages: 1537-1544, DOI: 10.1002/2016GL072042 Published: FEB 16 2017.

588) Jia, J.; Ladstatter-Weissenmayer, A.; Hou, X.W.; Rozanov, A.; Burrows, J.P. 2017; Tropospheric ozone maxima observed over the Arabian Sea during the pre-monsoon; Atmospheric Chemistry and Physics; Volume: 17 Issue: 8; DOI: 10.5194/acp-17-4915-2017; Published: APR 18 2017

589) Krautwurst, S.; Gerilowski, K.; Jonsson, H.H.; Thompson, D.R.; Kolyer, R.W.; Iraci, L.T.; Thorpe, A.K.; Horstjann, M.; Eastwood, M.; Leifer, I.; Vigil, S.A.; Krings, T.; Borchardt, J.; Buchwitz, M.; Fladeland, M.M.; Burrows, J.P.; Bovensmann, H. 2017; Atmospheric Measurement Techniques; Volume: 10 Issue: 9 Pages: 3429-3452; DOI: 10.5194/amt-10-3429-2017; Published: SEP 20 2017.

590) Krings, T.; Leifer, I.; Krautwurst, S.; Gerilowski, K.; Horstjann, M.; Bovensmann, H.; Buchwitz, M.; Burrows, J.P.; Kolyer, R.W; Jonsson, H.H.; Fladeland, M.M. 2017; Reduced Methane Emissions from Santa Barbara Marine Seeps 2017; REMOTE SENSING Volume: 9 Issue: 11 Article Number: 1162, DOI: 10.3390/rs9111162 Published: NOV 2017.

591) Langowski, M.P.; von Savigny, C.; Burrows, J.P.; Fussen, D.; Dawkins, E.C.M.; Feng, W.H.; Plane, J.M.C.; Marsh, D.R. 207; Comparison of global datasets of sodium densities in the mesosphere and lower thermosphere from GOMOS, SCIAMACHY and OSIRIS measurements and WACCM model simulations from 2008 to 2012; Atmospheric Measurement Techniques; Volume: 10 Issue: 8 Pages: 2989-3006; DOI: 10.5194/amt-10-2989-2017; Published: AUG 21 2017

592) Lelli, L.; Rozanov, V.V.; Vountas, M.; Burrows, J.P. 2017 Polarized radiative transfer through terrestrial atmosphere accounting for rotational Raman scattering; Journal of Quantitattive Spectroscopy and Radiative TransferVolume: 200 Pages: 70-89; DOI: 10.1016/j.jqsrt.2017.05.027; Published: OCT 2017.

593) Lossow S., Khosrawi F., Nedoluha G. E., Azam F., Bramstedt K., Burrows J. P., Dinelli B. M, Eriksson P., Espy P. J., Garcia-Comas M., Gille J. C., Kiefer M., Noël S., Raspollini P., Read W. G., Rosenlof K. H., Rozanov A., Sioris C. E. Stiller G. P., Walker K. A. and Weigel K., 2017, "The SPARC water vapour assessment II: comparison of annual, semi-annual and quasi-biennial variations in stratospheric and lower mesospheric water vapour observed from satellites", Atmospheric Measurement Techniques, Volume: 10 Issue: 3 Pages: 1111-1137, DOI: 10.5194/amt-10-1111-2017, Published: MAR 16 2017.

594) Mei, L.-L.; Rozanov, V. ; Vountas, M.; Burrows, J.P.; Levy, R.C.; Lotz, W. 2017; Retrieval of aerosol optical properties using MERIS observations: Algorithm and some first results; Remote Sensing of Environment; Volume: 197 Pages: 125-140; DOI: 10.1016/j.rse.2016.11.015; Published: AUG 2017.

595) Mei, L.-L. ; Vountas, M.; Gomez-Chova, L.; Rozanov, V.; Jager, M.; Lotz, W.; Burrows, J.P.; Hollmann, R. 2017; A Cloud masking algorithm for the XBAER aerosol retrieval using MERIS data; Remote Sensing of Environment; Volume: 197 Pages: 141-160; DOI: 10.1016/j.rse.2016.11.016; Published: AUG 2017.

596) Meier, A. C., Schonhardt, A., Bosch, T., Richter, A., Seyler, A., Ruhtz, T., Constantin, D. D., Shaiganfar, R., Wagner, T., Merlaud, A., Van Roozendael, M., Belegante, L., Nicolae, D., Georgescu, L. and Burrows, JP , 2017" High-resolution airborne imaging DOAS measurements of NO2 above Bucharest during AROMAT"

Atmospheric Measurement Techniques: Volume: 10 Issue: 5 Pages: 1831-1857; DOI: 10.5194/amt-10-1831-2017; Published: MAY 22 2017.

597) Peters, E., Pinardi G., Seyler A., Richter A., Wittrock F., Bosch T., Van Roozendael M., Hendrick F., Drosoglou T., Bais A. F., Kanaya Y., Zhao X. Y, Strong K., Lampel J., Volkamer R., Koenig T., Ortega I., Puentedura O., Navarro-Comas M., Gomez, L., Gonzalez M. Y., Piters A., Remmers J., Wang Y., Wagner T., Wang S. S., Saiz-Lopez A., Garcia-Nieto D., Cuevas C. A., Benavent N., Querel R., Johnston P. H., Postylyakov O., Borovski A., Elokhov A., Bruchkouski I., Liu H. R., Liu C., Hong Q. Q., Rivera C., Grutter M., Stremme W., Khokhar M. F., Khayyam,J. and Burrows, J. P., 2017, "Investigating differences in DOAS retrieval codes using MAD-CAT campaign data" Atmospheric Measurement Techniques, Volume: 10 Issue: 3 Pages: 955-978, DOI: 10.5194/amt-10-955-2017, Published: MAR 10 2017.

598) Reuter, M.; Buchwitz, M.; Schneising, O.; Noel, S.; Rozanov, V.; Bovensmann, H.; Burrows, J.P. 2017; Atmospheric Trace Gas Retrieval for Hyperspectral Instruments Approximating Multiple Scattering Part 1: Radiative Transfer and a Potential OCO-2 XCO2 Retrieval Setup; REMOTE SENSING Volume: 9 Issue: 11; Article Number: 1159; DOI: 10.3390/rs9111159 Published: NOV 2017.

599) Reuter, M.; Buchwitz, M.; Schneising, O.; Noel, S.; Bovensmann, H.; Burrows, J.P. 2017; A Fast Atmospheric Trace Gas Retrieval for Hyperspectral Instruments Approximating Multiple Scattering Part 2: Application to XCO2 Retrievals from OCO-2; REMOTE SENSING Volume: 9 Issue: 11; Article Number: 1102; DOI: 10.3390/rs9111102; Published: NOV 2017

600) Rozanov V. V., Dinter, T., Rozanov A. V., Wolanin A., Bracher A. and Burrows J. P., 2017, "Radiative transfer modeling through terrestrial atmosphere and ocean accounting for inelastic processes: Software package SCIATRAN" JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER, Volume: 194 Pages: 65-85, DOI: 10.1016/j.jqsrt.2017.03.009 Published: JUN 2017.

601) Schonhardt, A.; Richter, A.; Theys, N.; Burrows, J.P. 2017; Space-based observation of volcanic iodine monoxide; Atmospheric Chemistry and Physics; Volume: 17 Issue: 7 Pages: 4857-4870; DOI: 10.5194/acp-17-4857-2017 Published: APR 13 2017.

602) Seyler, A ; Wittrock, F.; Kattner, L.; Mathieu-Uffing, B.; Peters, E.; Richter, A.; Schmolke, S.; Burrows, J.P. 2017; Monitoring shipping emissions in the German Bight using MAX-DOAS measurements; Atmospheric Chemistry and Physics; Volume: 17 Issue: 18 Pages: 10997-11023; DOI: 10.5194/acp-17-10997-2017; Published: SEP 15 2017

603) Zhang RX., Wang Y. H., He Q. S., Chen L. G., Zhang Y. Z., Qu H., Smeltzer C., Li J. F., Alvarado L. M. A., Vrekoussis M., Richter A., Wittroc, F. and Burrows, J. P., 2017, "Enhanced trans-Himalaya pollution transport to the Tibetan Plateau by cut-off low systems", Atmospheric Chemistry and Physics, Volume: 17 Issue: 4 Pages: 3083-3095, DOI: 10.5194/acp-17-3083-2017, Published: FEB 28 2017

*****2018*****

604) Arosio, C; Rozanov; Malinina, E.; Eichmann, K.-U. ; von Clarmann, T.; Burrows, J. P. 2018 ; Atmospheric Measurement Techniques Volume: 11 Issue: 4 Pages: 2135-2149 DOI: 10.5194/amt-11-2135-2018 Published: APR 13 2018.

605) Bosch, T.; Rozanov, V. V.; Richter, A.; Peters, E.; Rozanov, A.; Wittrock, F.; Merlaud, A.; Lampel, J.; Schmitt, S.; de Haij, M.; Berkhout, S.; Henzing, B. ; Apituley, A.; den Hoed, M.; Vonk, J.; Tiefengraber, M.; Muller, M.; Burrows, J. P. 2019; a new MAX-DOAS profile retrieval algorithm for aerosols and trace gases ATMOSPHERIC MEASUREMENT TECHNIQUES Volume: 11 Issue: 12 Pages: 6833-6859 DOI: 10.5194/amt-11-6833-2018 Published: DEC 21 2018

606) Behrens, L. K.; Hilboll, A.; Richter, A.; Peters, E.; Eskes, H (Eskes, Henk)[3] ; Burrows, J.P. 2018 GOME-2A retrievals of tropospheric NO2 in different spectral ranges - influence of penetration depth; Atmospheric Measurement Techniques; Volume: 11 Issue: 5 Pages: 2769-2795; DOI: 10.5194/amt-11-2769-2018.

607) Buchwitz, M.; Reuter, M.; Schneising, O.; Noel, S.; Gier, B. ; Bovensmann, H.; Burrows, J.P.; Boesch, H. ; Anand, J.; Parker, R. J. ; Somkuti, P.; Detmers, R. G.; Hasekamp, O. P.; Aben, I.; Butz, A.; Kuze, A.; Suto, H.; Yoshida, Y.; Crisp, D.; O'Dell, C 2018; Computation and analysis of atmospheric carbon dioxide annual mean growth rates from satellite observations during 2003-2016 Atmospheric Physics and Chemistry Volume: 18 Issue: 23 DOI: 10.5194/acp-18-17355-2018 Published: DEC 7 2018

608) Chipperfield, M. P.; Dhomse, S. ; Hossaini, R.; Feng, W.H. ;Santee, M. L.; Weber, M.; Burrows, J. P.; Wild, J.D.; Coldewey-Egbers, M. 2018 On the Cause of Recent Variations in Lower Stratospheric Ozone; Geophysical Research Letters: Volume: 45 Issue: 11 Pages: 5718-5726 DOI: 10.1029/2018GL078071 Published: JUN 16 2018.

609) Galytska, E.; Danylevsky, V.; Hommel, R.; Burrows, J.P. 2018; Increased aerosol content in the atmosphere over Ukraine during summer 2010; Atmospheric Measurement Techniques; Volume: 11 Issue: 4 Pages: 2101-2118; DOI: 10.5194/amt-11-2101-2018; Published:APR 12 2018

610) Gaudel, A.; Cooper; Cooper, O. R.; Ancellet, G.; Barret, B.; Boynard, A.; Burrows, J. P.; Clerbaux, C.; Coheur, P. -F.; Cuesta, J.; Cuevas, E.; Doniki, S.; Dufour, G.; Ebojie, F.; Foret, G.; Garcia, O.; Granados-Munoz, M.J.; Hannigan, J.W.; Hase, F.; Hassler, B.; Huang, G.; Hurtmans, D.; Jaffe, D.; Jones, N. ; Kalabokas, P. ; Kerridge, B.; Kulawik, S.; Latter, B.; Leblanc, T.; Le Flochmoen, E.; Lin, W.; Liu, J.; Liu, X.; Mahieu, E.; McClure-Begley, A.; Neu, J.L.; Osman, M.; Palm, M.; Petetin, H.; Petropavlovskikh, I.; Querel, R.; Rahpoe, N.; Rozanov, A.; Schultz, M.G.; Schwab, J.; Siddans, R.; Smale, D.; Steinbacher, M.; Tanimoto, H.; Tarasick, D. W.; Thouret, V.; Thompson, A. M.; Trickl, T.; Weatherhead, E.; Wespes, C.; Worden, H. M.; Vigouroux, C.; Xu, X; Zeng, G.; Ziemke, J. 2018; Elementa-Science of the Anthropocene Volume: 6 Article Number: 39 DOI: 10.1525/elementa.291 Published: MAY 10 2018.

611) George, M.; Hernandez, M.D.A.; Nenakhov, V.; Liu, Y.Z.R.; Burrows, J.P. 2020; Airborne measurement of peroxy radicals using chemical amplification coupled with cavity ring-down spectroscopy: the PeRCEAS instrument; Atmospheric Measurments Techniques Volume: 13 Issue: 5 Pages: 2577-2600 DOI: 10.5194/amt-13-2577-2020 Published: MAY 20 2020

612) Hilbig, T.; Weber, M.; Bramstedt, K.; Noel, S.; Burrows, J. P.; Krijger, J. M.; Snel, R.; Meftah, M.; Dame, L.; Bekki, S.; Bolsee, D.; Pereira, N.; Sluse, D. 2018; The New SCIAMACHY Reference Solar Spectral Irradiance and Its Validation; SOLAR PHYSICS; Volume: 293 Issue: 8 Article Number: 121; DOI: 10.1007/s11207-018-1339-9; Published:AUG 2018.

613) Khosrawi, F.; Lossow, S.; Stiller, G.P.; Rosenlof, K.H.; Urban, J.; Burrows, J.P. ; Damadeo, R.P.; Eriksson, P.; Garcia-Comas, M.; Gille, J.C.; Kasai, Y.; Kiefer, M.; Nedoluha, G.E.; Noel, S.; Raspollini, P.; Read, W.G.; Rozanov, A.; Sioris, C.E.; Walker, K.A.; Weigel, K. 2018; The SPARC water vapour assessment II: comparison of stratospheric and lower mesospheric water vapour time series observed from satellites; Atmospheric Measurement Techniques; Volume: 11 Issue: 7 Pages: 4435-4463; DOI: 10.5194/amt-11-4435-2018; Published: JUL 25 2018

614) Krings, T.; Neininger, B.; Gerilowski, K.; Krautwurst, S.; Buchwitz, M.; Burrows, J.P.; Lindemann, C.; Ruhtz, T.; Schuttemeyer, D.; Bovensmann, H. 2018; Airborne remote sensing and in situ measurements of atmospheric CO2 to quantify point source emissions; Atmospheric Measurement Techniques Volume: 11 Issue: 2 Pages: 721-739 DOI: 10.5194/amt-11-721-2018; Published: FEB 7 2018

615) Leventidou, E.; Weber, M.; Eichmann, K.-U.; Burrows, J.-P.; Heue, K.-P.; Thompson, A.M.; Johnson, B.J. 2018; Harmonisation and trends of 20-year tropical tropospheric ozone data; Atmospheric Chemistry and Physics; Volume: 18 Issue: 13 Pages: 9189-9205; DOI: 10.5194/acp-18-9189-2018; Published: JUL 3 2018

616) Liebing, P; Krijger, M; Snel, R.; Bramstedt, K.; Noel, S.; Bovensmann, H.; Burrows, J.P. 2018; In-flight calibration of SCIAMACHY's polarization sensitivity; Atmospheric Measurement Techniques; Volume: 11 Issue: 1 Pages: 265-289; DOI: 10.5194/amt-11-265-2018 Published: JAN 15 2018.

617) Li, JL; Zhang, MG; Tang, GQ; Wu, FK; Alvarado, LMA; Vrekoussis; Richter, A; Burrows, JP; Investigating missing sources of glyoxal over China using a regional air quality model (RAMS-CMAQ); JOURNAL OF ENVIRONMENTAL SCIENCES Volume: 71 Pages: 108-118 DOI: 10.1016/j.jes.2018.04.021 Published: SEP 2018

618) Malinina, E.; Rozanov, A.; Rozanov, V.; Liebing, P,; Bovensmann, H.; Burrows, J. P. 2018 Aerosol particle size distribution in the stratosphere retrieved from SCIAMACHY limb measurements; Atmospheric Measurement Techniques; Volume: 11 Issue: 4 Pages: 2085-2100 DOI: 10.5194/amt-11-2085-2018 Published:APR 12 2018.

619) Mei, L-L.; Rozanov, V.V.; Vountas, M.; Burrows, J.P.; Richter, A 2018; XBAER-derived aerosol optical thickness from OLCI/Sentinel-3 observation; Atmospheric

Chemistry and Physics Volume: 18 Issue: 4 Pages: 2511-2523 DOI: 10.5194/acp-18-2511-2018; Published: FEB 20 2018.

620) Mei, L-L.; Vandenbussche, S.; Rozanov, V.; Proestakis, E.; Amiridis, V.; Callewaert, S.; Vountas, M.; Burrows, J. P. 2020; On the retrieval of aerosol optical depth over cryosphere using passive remote sensing; Remots Sensing of Environment. Volume: 241 Article Number: 111731 DOI: 10.1016/j.rse.2020.111731 Published: MAY 2020

621) Mei, L-L; Rozanov, V. V.; Vountas, M.; Burrows, J.P. 2018; The retrieval of ice cloud parameters from multi-spectral satellite observations of reflectance using a modified XBAER algorithm; Remote Sensing of Environment; Volume: 215 Pages: 128-144 DOI: 10.1016/j.rse.2018.06.007; Published: SEP 15 2018.

622) Noel, S.; Weigel, K.; Bramstedt, K.; Rozanov, A.; Weber, M.; Bovensmann, H.; Burrows, J.P. 2018; Water vapour and methane coupling in the stratosphere observed using SCIAMACHY solar occultation measurements; Atmospheric Chemistry and Physics; Volume: 18 Issue: 7 Pages: 4463-4476; DOI: 10.5194/acp-18-4463-2018.

623) Rieger, L.A.; Malinina, E.P.; Rozanov, A.V.; Burrows, J.P.; Bourassa, A.E.; Degenstein, D.A. 2018; A study of the approaches used to retrieve aerosol extinction, as applied to limb observations made by OSIRIS and SCIAMACHY Atmospheric Measurement Techniques; Volume: 11 Issue: 6 Pages: 3433-3445; DOI: 10.5194/amt-11-3433-2018; Published: JUN 15 2018.

624) Weber, M.; Coldewey-Egbers, M.; Fioletov, V.E.; Frith, S.M.; Wild, J.D.; Burrows, J.P.; Long, C.S.; Loyola, D. 2018 Total ozone trends from 1979 to 2016 derived from five merged observational datasets - the emergence into ozone recovery; Atmospheric Chemistry and Physics; Volume: 18 Issue: 3 Pages: 2097-2117; DOI: 10.5194/acp-18-2097-2018; Published: FEB 14 2018.

625) Zarboo, A.: ; Bender, S: ; Burrows, J.P.; Orphal, J.; Sinnhuber, M. 2018 Retrieval of $O_2(1\Sigma)$ and $O_2(1\Delta)$ volume emission rates in the mesosphere and lower thermosphere using SCIAMACHY MLT limb scans; Atmospheric Measurement Techniques Volume: 11 Issue: 1 Pages: 473-487 DOI: 10.5194/amt-11-473-2018 Published: JAN 23 2018.

*****2019*****

626) Arosio, C.; Rozanov, A.; Malinina, E.; Weber, M.; Burrows, J. P. 2019; Merging of ozone profiles from SCIAMACHY, OMPS and SAGE II observations to study stratospheric ozone changes; ATMOSPHERIC MEASUREMENT TECHNIQUES Volume: 12 Issue: 4 Pages: 2423-2444 DOI: 10.5194/amt-12-2423-2019 Published: APR 17 2019.

627) Behrens, LK (Behrens, Lisa K.)[1] ; Hilboll, A (Hilboll, Andreas)[1,2] ; Richter, A. ; Peters, E.; Alvarado, L. M. A. ; Hedegaard, A. B. K. ; Wittrock, F.; Burrows, J. P.; Vrekoussis, M. 2019; Detection of outflow of formaldehyde and glyoxal from the African continent to the Atlantic Ocean with a MAX-DOAS instrument; ATMOSPHERIC CHEMISTRY AND PHYSICS Volume: 19 Issue: 15 Pages: 10257-10278 DOI: 10.5194/acp-19-10257-2019 Published: AUG 13 2019

628) Bender, S.; Sinnhuber, M.; Espy, P. J.; Burrows, J. P. 2019; Mesospheric nitric oxide model from SCIAMACHY data; ATMOSPHERIC CHEMISTRY AND PHYSICS Volume: 19 Issue: 4 Pages: 2135-2147 DOI: 10.5194/acp-19-2135-2019 Published: FEB 18 2019

629) Chutia, L ; Ojha, N.; Girach, I. A.; Sahu, L. K.; Alvarado, L. M A.; Burrows, JP; Pathak, B.; Bhuyan, P. K. 2019 Distribution of volatile organic compounds over Indian subcontinent during winter: WRF-chem simulation versus observations; ENVIRONMENTAL POLLUTION Volume: 252 Pages: 256-269 Part: A DOI: 10.1016/j.envpol.2019.05.097 Published: SEP 2019

630) Fernandez, R. P.; Carmona-Balea, A.; Cuevas, C. A.; Barrera, J. A.; Kinnison, D.E.; Lamarque, J. F.; Blaszczak-Boxe, C.; Kim, K.; Choi, W.; Hay, T.; Blechschmidt, A. M.; Schonhardt, A.; Burrows, J. P.; Saiz-Lopez, A. 2019; JOURNAL OF ADVANCES IN MODELING EARTH SYSTEMS Volume: 11 Issue: 7 Pages: 2259-2289 DOI: 10.1029/2019MS001655 Published: AUG 2019

631) Fujinawa, T.; Noguchi, K.; Kuze, A.; Richter, A.; Burrows, J. P.; Meier, A. C.; Sato, T. O.; Kuroda, T.; Yoshida, N.; Kasai, Y. 2019 Concept of small satellite UV/visible imaging spectrometer optimized for tropospheric NO2 measurements in air quality monitoring; ACTA ASTRONAUTICA Volume: 160 Pages: 421-432 DOI: 10.1016/j.actaastro.2019.03.081; Published: JUL 2019

632) Galytska, E.; Rozanov, A.; Chipperfield, M. P.; Dhomse, S. S.; Weber, M.; Arosio, C.; Feng, W. H.; Burrows, J. P. 2019; Dynamically controlled ozone decline in the tropical mid-stratosphere observed by SCIAMACHY; ATMOSPHERIC CHEMISTRY AND PHYSICS Volume: 19 Issue: 2 Pages: 767-783 DOI: 10.5194/acp-19-767-2019; Published: JAN 22 2019

633) Kwon, H. A.; Park, R. J.; Abad, G.G.; Chance, K.; Kim, J.; De Smedt, I.; Van Roozendael, M.; Peters, E; Burrows, J. P. 2019; ATMOSPHERIC MEASUREMENT TECHNIQUES Volume: 12 Issue: 7 Pages: 3551-3571 DOI: 10.5194/amt-12-3551-2019 Published: JUL 4 2019

634) Jafariserajehlou, S.; Mei, LL; Vountas, M.; Rozanov, V, V.; Burrows, J. P.] ; Hollmann, R. 2019 A cloud identification algorithm over the Arctic for use with AATSR-SLSTR measurements ATMOSPHERIC MEASUREMENT TECHNIQUES Volume: 12 Issue: 2 Pages: 1059-1076 DOI: 10.5194/amt-12-1059-2019 Published: FEB 18 2019.

635) Chutia, L.; Ojha, N.; Girach, I.A.; Sahu, L.K.; Alvarado, L.M.A.; Burrows, J.P.; Pathak, B.; Bhuyan, PK 2019; Distribution of volatile organic compounds over Indian subcontinent during winter: WRF-chem simulation versus observations; ENVIRONMENTAL POLLUTION Volume: 252 Pages: 256-269 Part: A DOI: 10.1016/j.envpol.2019.05.097 Published: SEP 2019.

636) Lossow, S.; Khosrawi, F.; Kiefer, M.; Walker, K. A.; Bertaux, J. L.; Blanot, L.; Russell, J. M.; Remsberg, E. E.; Gille, J. C. ; Sugita, T.; Sioris, C. E.; Dinelli, B. M.; Papandrea, E.; Raspollini, P.; Garcia-Comas, M. ; Stiller, G. P.; von Clarmann, T.; Dudhia, A.; Read, W. G.; Nedoluha, G. E.; Damadeo, R. P.; Zawodny, J. M.; Weigel, K.; Rozanov, A.; Azam, F.; Bramstedt, K.; Noel, S.; Burrows, J. P.; Sagawa, H.; Kasai, Y.; Urban, J.; Eriksson, P.; Murtagh, D. P.; Hervig, M. E.; Hogberg, C.; Hurst, D.F.; Rosenlof, K. H. The SPARC water vapour assessment II: profile-to-profile comparisons of stratospheric and lower mesospheric water vapour data sets obtained from satellites; ATMOSPHERIC MEASUREMENT TECHNIQUES Volume: 12 Issue: 5 Pages: 2693-2732 DOI: 10.5194/amt-12-2693-2019 Published: MAY 10 2019.

637) Mei, LL; Strandgren, J.; Rozanov, V.; Vountas, M.; Burrows, J. P.; Wang, Y. J. 2019; A study of the impact of spatial resolution on the estimation of particle matter concentration from the aerosol optical depth retrieved from satellite observations; International Journal of Remote Sensing Volume: 40 Issue: 18 Pages: 7084-7112 DOI: 10.1080/01431161.2019.1601279 Published: SEP 17 2019

638) Mei, LL.; Rozanov, V. ; Meyer, K. G.; Lelli, L.; Vountas, M.; Burrows, J. P. 2019; Extending XBAER Algorithm to Aerosol and Cloud Condition; IEEE TRANSACTIONS ON GEOSCIENCE AND REMOTE SENSING; Volume: 57 Issue: 10 Pages: 8262-8275 DOI: 10.1109/TGRS.2019.2919910 Published: OCT 2019

639) Mei, LL.; Zhao, CX; de Leeuw, G.; Che, H.-Z.; Che, Y.H.; Rozanov, V.; Vountas, M.; Burrows, J.P. 2019; Understanding MODIS dark-target collection 5 and 6 aerosol data over China: Effect of surface type, aerosol loading and aerosol absorption; ATMOSPHERIC RESEARCH Volume: 228 Pages: 161-175 DOI: 10.1016/j.atmosres.2019.05.023 Published: NOV 1 2019

640) Mei, LL.; Zhao, CX.; de Leeuw, G.; Burrows, J.P.; Rozanov, V.; Che, HZ.; Vountas, M.; Ladstatter-Weissenmayer, A.; Zhang, XY 2019; A Critical Evaluation of Deep Blue Algorithm Derived AVHRR Aerosol Product Over China; Journal of Geophysical Research – Atmospheres DOI: 10.1029/2018JD029929

641) Oelker, J.; Richter, A.; Dinter, T.; Rozanov, V. V.; Burrows, J. P.; Bracher, A. 2019; Global diffuse attenuation derived from vibrational Raman scattering detected in hyperspectral backscattered satellite spectra; OPTICS EXPRESS Volume: 27 Issue: 12 Pages: A829-A855 DOI: 10.1364/OE.27.00A829 Published: JUN 10 2019

642) Peters, E.; Ostendorf, M.; Bosch, T.; Seyler, A.; Schonhardt, A.; Schreier, S. F.; Henzing, J. S.; Wittrock, F.; Richter, A.; Vrekoussis, M.; Burrows J. P. 2019; More Full-azimuthal imaging-DOAS observations of NO2 and O-4 during CINDI-2; ATMOSPHERIC MEASUREMENT TECHNIQUES Volume: 12 Issue: 8 Pages: 4171-4190 DOI: 10.5194/amt-12-4171-2019 Published: AUG 2 2019.

643) Reuter, M.; Buchwitz, M.; Schneising, O.; Krautwurst, S.; O'Dell, C.; Richter, A.; Bovensmann, H.; Burrows, J. P. 2019; Towards monitoring localized CO2 emissions from space: co-located regional CO2 and NO2 enhancements observed by the OCO-2

and S5P satellites; ATMOSPHERIC CHEMISTRY AND PHYSICS Volume: 19 Issue: 14 Pages: 9371-9383 DOI: 10.5194/acp-19-9371-2019 Published: JUL 22 2019.

644) Schneising, O.; Buchwitz, M.; Reuter, M.; Bovensmann, H.; Burrows, J.P.; Borsdorff, T.; Deutscher, N.M.; Feist, D.G.; Griffith, D.W.T.; Hase, F.; Hermans, C.; Iraci, L.T.; Kivi, R.; Landgraf, J.; Morino, I.; Notholt, J.; Petri, C.; Pollard, D.F.; Roche, S.; Shiomi, K.; Strong, K.; Sussmann, R.; Velazco, V.A.; Warneke, T. 2019; A scientific algorithm to simultaneously retrieve carbon monoxide and methane from TROPOMI onboard Sentinel-5 Precursor; ATMOSPHERIC MEASUREMENT TECHNIQUES Volume: 12 Issue: 12 Pages: 6771-6802 DOI: 10.5194/amt-12-677

645) Schreier, S. F.; Richter, A.; Burrows, J. P. 2019; Near-surface and path-averaged mixing ratios of NO2 derived from car DOAS zenith-sky and tower DOAS off-axis measurements in Vienna: a case study; ATMOSPHERIC CHEMISTRY AND PHYSICS Volume: 19 Issue: 9 Pages: 5853-5879 DOI: 10.5194/acp-19-5853-2019 Published: MAY 3 2019

646) Seo, S.; Richter, A.; Blechschmidt, A. M.; Bougoudis, I.; Burrows, J. P. 2019 First high-resolution BrO column retrievals from TROPOMI; Atmopsheric Measurments Techniques Volume: 12 Issue: 5 Pages: 2913-2932 DOI: 10.5194/amt-12-2913-2019 Published: MAY 28 2019.

647) Seyler, A.; Meier, A.C.; Wittrock, F.; Kattner, L.; Mathieu-Uffing, B.; Peters, E.; Richter, A.; Ruhtz, T.; Schonhardt, A.; Schmolke, S.; Burrows, J.P. 2019; Studies of the horizontal inhomogeneities in NO2 concentrations above a shipping lane using ground-based multi-axis differential optical absorption spectroscopy (MAX-DOAS) measurements and validation with airborne imaging DOAS measurements; Atmospheric Measurments Techniques Volume: 12 Issue: 11 Pages: 5959-5977 DOI: 10.5194/amt-12-5959-2019 Published: NOV 18 2019.

648) Weaver, D.; Strong, K.; Walker, K. A.; Sioris, C.; Schneider, M.; McElroy, C. T.; Vomel, H.; Sommer, M.; Weigel, K.; Rozanov, A.; Burrows, J. P.; Read, W. G. ; Fishbein, E.; Stiller, G. 2019; Comparison of ground-based and satellite measurements of water vapour vertical profiles over Ellesmere Island, Nunavut; Atmospheric Measurement Techniques; Volume: 12 Issue: 7 Pages: 4039-4063 DOI: 10.5194/amt-12-4039-2019; Published: JUL 23 2019

*****2020*****

649) Alvarado, L. M. A; Richter, A.; Vrekoussis, M.; Hilboll, A.; Hedegaard, A. B. K.; Schneising, O.; Burrows, J. P.; Unexpected long-range transport of glyoxal and formaldehyde observed from the Copernicus Sentinel-5 Precursor satellite during the 2018 Canadian wildfires; Atmospheric Chemistry and Physics; Volume: 20 Issue: 4 Pages: 2057-2072; DOI: 10.5194/acp-20-2057-2020 Published: FEB 25 2020.

650) Blechschmidt, A. M.; Arteta, J.; Coman, A.; Curiee, L.; Eskes, H.; Foret, G.; Gielen, C.; Hendrick, F.; Marecal, V.; Meleux, F.; Parmentier, J.; Peters, E.; Pinardi, G.; Piters, A.J.M. ; Plu, M.; Richter, A.; Segers, A.; Sofiev, M.; Valdebenito, A. M.; Van

Roozendael, M.; Vira, J.; Vlemmix, T.; Burrows, J. P. 2020; Comparison of tropospheric NO_2 columns from MAX-DOAS retrievals and regional air quality model simulations; Atmospheric Chemistry and Physics; Volume: 20 Issue: 5 Pages: 2795-2823 DOI: 10.5194/acp-20-2795-2020; Published: MAR 6 2020.

651) Bougoudis, I.; Blechschmidt, A.M.; Richter A.; Seo, S.; Burrows, J.P.; Theys, N.; Rinke, A. 2020; Long-term time series of Arctic tropospheric BrO derived from UV-VIS satellite remote sensing and its relation to first-year sea ice; Atmospheric Physics and Chemistry Volume: 20 Issue: 20 Pages: 11869-11892 DOI: 10.5194/acp-20-11869-2020 Published: OCT 22 2020

652) Compernolle, S.; Verhoelst, T.; Pinardi, G.; Granville, J.; Hubert, D.; Keppens, A.; Niemeijer, S.; Rino, B.; Bais, A.; Beirle, S.; Boersma, F.; Burrows, JP (Burrows, John P.)[6] ; De Smedt, I.; Eskes, H.; Goutail, F.; Hendrick, F.; Lorente, A.; Pazmino, A.; Piters, A.; Peters, E.; Pommereau, J.P. ; Remmers, J. ; Richter, A.; van Geffen, J. ; Van Roozendael, M.; Wagner, T.; Lambert, J.C. 2020; Validation of Aura-OMI QA4ECV NO2 climate data records with ground-based DOAS networks: the role of measurement and comparison uncertainties; Atmopsheric Chemistry and Physics; Volume: 20 Issue: 13 Pages: 8017-8045; DOI: 10.5194/acp-20-8017-2020 Published: JUL 10 2020

653) Fowler, D.; Brimblecombe, P.; Burrows, J. P. ; Heal, M. R. ; Grennfelt, P; Stevenson, DS; Jowett, A.; Nemitz, E.; Coyle, M.; Lui, XJ; Chang, YH; Fuller, GW; Sutton, M.A.; Klimont, Z.; Unsworth, MH; Vieno, Mm 2020; Philosophical Transactions of the Royal Society A-Matehmetical, Physical and Engineering Sciences Volume: 378 Issue: 2183 Article Number: 20190314 DOI: 10.1098/rsta.2019.0314 Published: OCT 30 2020

654) George, M.; Andres Hernandez, M.D.; Nenakhov, V.; Liu, Y.Z.R.; Burrows, J.P. 2020; Airborne measurement of peroxy radicals using chemical amplification coupled with cavity ring-down spectroscopy: the PeRCEAS instrument; Atmopsheric Measurement Techniques Volume: 13 Issue: 5 Pages: 2577-2600 DOI: 10.5194/amt-13-2577-2020 Published: MAY 20 2020.

655) Hilbig, T.; Bramstedt, K.; Weber, M.; Burrows, J.P.; Krijger, M. 2020; Optimised degradation correction for SCIAMACHY satellite solar measurements from 330 to 1600 nm by using the internal white light source; Atmopsheric Measurement Techniques Volume: 13 Issue: 7 Pages: 3893-3907 DOI: 10.5194/amt-13-3893-2020 Published: JUL 20 2020

656) Mei, Linlu; Rozanov, V.; Burrows, J. P 2020; A fast and accurate radiative transfer model for aerosol remote sensing; Journal of Quantitative Spectroscopy & Radiative Transfer Volume:256 Pages:107270 DOI:10.1016/j.jqsrt.2020.107270 Published: 2020-Nov (Epub 2020 Aug 27)

657) Mei, L.-L. ; Vandenbussche, S.; Rozanov, V.V. ; Proestakis, E.; Amiridis, V.; Callewaert, S.; Vountas, M. ; Burrows, J.P. 2202 "On the retrieval of aerosol optical depth over cryosphere using passive remote sensing", Remote Sensing of Environment;

Volume: 241, Article Number: 111731 DOI: 10.1016/j.rse.2020.111731; Published: MAY 2020.

658) Mei, L.-L.; Rozanov, V.; Ritter, C.; Heinold, B. Jiao, ZT.; Vountas, M.; Burrows J.P. Retrieval of Aerosol Optical Thickness in the Arctic Snow-Covered Regions Using Passive Remote Sensing: Impact of Aerosol Typing and Surface Reflection Model IEEE Transactions on Geoscience and Remote Sensing; Volume: 58 Issue: 7 Pages: 5117-5131 DOI: 10.1109/TGRS.2020.2972339 Published: JUL 2020.

659) Noel, S.; Bramstedt, K; Rozanov, A.; Malinina, E.; Bovensmann, H; Burrows, JP 2020; Stratospheric aerosol extinction profiles from SCIAMACHY solar occultation; Atmospheric Measurements Techniques; Volume: 13 Issue: 10 Pages: 5643-5666 DOI: 10.5194/amt-13-5643-2020 Published: OCT 22 2020

660) Ohyama, H.; Morino, I.; Velazco, V.A.; Klausner, T.; Bagtasa, G.; Kiel, M.; Frey, M.; Hori, A.; Uchino, O.; Matsunaga, T.; Deutscher, N.M.; DiGangi, J.P.; Choi, Y.; Diskin, G.S.; Pusede, S.E.; Fiehn, A.; Roiger, A.; Lichtenstern, M.; Schlager, H.; Wang, P.K.; Chou, C.C.K.; Andres-Hernandez, M.D.; Burrows, JP 2020; Validation of XCO2 and XCH4 retrieved from a portable Fourier transform spectrometer with those from in situ profiles from aircraft-borne instruments; Atmospheric Physics and Chemistry Volume: 13 Issue: 10 Pages: 5149-5163 DOI: 10.5194/amt-13-5149-2020 Published: SEP 30 2020

661) Reuter, M.; Buchwitz, M.; Schneising, O.; Noel, S. ; Bovensmann, H.; Burrows, J.P.; Boesch, H.; Di Noia, A.; Anand, J. ; Parker, R.J.; Somkuti, P.; Wu, L.H.; Hasekamp, O. P.; Aben, I.; Kuze, A.; Suto, H.; Shiomi, K.; Yoshida, Y.; Morino, I. ; Crisp, D.; O'Dell, C.W.; Notholt, J. ; Petri, C.; Warneke, T.; Velazco, V.A. ; Deutscher, N.M.; Griffith, D.W.T.; Kivi, R.; Pollard, D. F.; Hase, F.; Sussmann, R.; Te, Y. V.; Strong, K.; Roche, S.; Sha, M. K. ; De Maziere, M. ; Feist, D.G.; Iraci, L. T.; Roehl, C. M.; Retscher, C.; Schepers, D. 2020; Ensemble-based satellite-derived carbon dioxide and methane column-averaged dry-air mole fraction data sets (2003-2018) for carbon and climate applications; Atmospheric Measurement Techniques Volume: 13 Issue: 2 Pages: 789-819 DOI: 10.5194/amt-13-789-2020; Published: FEB 19 2020.

662) Schneising, O.; Buchwitz, M.; Reuter, M.; Bovensmann, H.; Burrows, J.P, 2020; Severe Californian wildfires in November 2018 observed from space: the carbon monoxide perspective; Atmopsheric Physics and Chemistry Volume: 20; Issue: 6; Pages: 3317-3332; DOI: 10.5194/acp-20-3317-2020; Published: MAR 20 2020.

663) Schreier, S. F.; Richter, A.; Peters, E.; Ostendorf, M.; Schmalwieser, A. W.; Weihs, P,; Burrows, J. P. 2020; Dual ground-based MAX-DOAS observations in Vienna, Austria: Evaluation of horizontal and temporal NO2, HCHO, and CHOCHO distributions and comparison with independent data sets; Atmospheric Environment –X; Volume: 5 Article Number: UNSP 100059; DOI: 10.1016/j.aeaoa.2019.100059; Published: JAN 2020.

664) Seo, S; Richter; Blechschmidt, AM; Bougoudis, I; Burrows, JP 2020; Spatial distribution of enhanced BrO and its relation to meteorological parameters in Arctic and

Antarctic sea ice regions Spatial distribution of enhanced BrO and its relation to meteorological parameters in Arctic and Antarctic sea ice regions; Atmospherics and Chemistry Volume: 20 Issue: 20 Pages: 12285-12312 DOI: 10.5194/acp-20-12285-2020; Published: OCT 29 2020

665) von Savigny, C. ; Timmreck, C.; Buehler, S. A.; Burrows, J. P. ; Giorgetta, M.; Hegerl, G.; Horvath, A.; Hoshyaripour, G. A.; Hoose, C.; Quaas, J.; Malinina, E.; Rozanov, A.; Schmidt, H.; Thomason L.; Toohey, M.; Vogel, B. 2020; The Research Unit VolImpact: Revisiting the volcanic impact on atmosphere and climate - preparations for the next big volcanic eruption; Metereologosche Zeitschrift Volume: 29 Issue: 1 Pages: 3-18 DOI: 10.1127/metz/2019/0999; Published: 2020.

666) Vountas, M.; Belinska, K.; Rozanov, V. V. ; Lelli, L. ; Mei, L.L.; Jafariserajehlou, S.; Burrows, J. P. 2020 ; Retrieval of aerosol optical thickness and surface parameters based on multi-spectral and multi-viewing space-borne measurements; Journal of Quantitative Spectroscopy and Radiative Transfer, Volume 256, Article Number 107311; DOI10.1016/j.jqsrt.2020.107311; Published NOV 2020.

*****2021*****

667) Borchardt, J. ; Gerilowski, K.; Krautwurst, S.; Bovensmann, H. ; Thorpe, A. K. ; Thompson, D. R.; Frankenberg, C.; Miller, C. E.; Duren, R. M.; Burrows, J. P. 2021; Detection and quantification of CH4 plumes using the WFM-DOAS retrieval on AVIRIS-NG hyperspectral data; Atmospheric Measurement Techniques, Volume 14, Issue 2, Page1267-1291; DOI10.5194/amt-14-1267-2021; Published FEB 18 2021.

668) Buchwitz, M.; Reuter, M. ; Noel, S.; Bramstedt, K. ; Schneising, O.; Hilker, M.; Andrade, B. F. Bovensmann, H. ; Burrows, J. P.; Di Noia, A.; Boesch, H. ; Wu, L. H. ; Landgraf, J. ; Aben, I.; Retscher, C. ; O'Dell, C. W.; Crisp, D. 2021 ; Can a regional-scale reduction of atmospheric CO_2 during the COVID-19 pandemic be detected from space? A case study for East China using satellite XCO2 retrievals; Atmospheric Measurement Techniques, Volume 14, Issue3, Page 2141-2166; DOI10.5194/amt-14-2141-2021; Published MAR 18 2021.

669) Feng, W. H.; Dhomse, S.S. ; Arosio, C. ; Weber, M. ; Burrows, J. P.; Santee, M. L. ; Chipperfield, M. P. 2021; Arctic Ozone Depletion in 2019/20: Roles of Chemistry, Dynamics and the Montreal Protocol; Geophysical Research Letters, Volume 48, Issue4; Article Number 2020GL091911; DOI10.1029/2020GL091911; Published FEB 28 2021.

670) Jafariserajehlou, S. ; Rozanov, V. V. ; Vountas, M.; Gatebe, C. K. ; Burrows, J. P. 2021; Simulated reflectance above snow constrained by airborne measurements of solar radiation: implications for the snow grain morphology in the Arctic; Atmospheric Measurement Techniques, Volume 14, Issue1, Page 369-389; DOI10.5194/amt-14-369-2021; Published JAN 18 2021.

671) Krause, K.; Wittrock, F.; Richter, A.; Schmitt, S.; Pohler, D.; Weigelt, A.; Burrows, J. P. 2022; Estimation of ship emission rates at a major shipping lane by long-path DOAS

measurements; Atmospheric Measurement Techniques, Volume 14, Issue 8, Page 5791-5807, DOI10.5194/amt-14-5791-2021; Published AUG 24 2021

672) Krautwurst, S. ; Gerilowski, K.; Borchardt, J. ; Wildmann, N.; Galkowski, M.; Swolkien, J.; Marshall, J.; Fiehn, A.; Roiger, A. ; Ruhtz, T.; Gerbig, C.; Necki, J. ; Burrows, J. P. ; Fix, A.; Bovensmann, H. 2022; Quantification of CH_4 coal mining emissions in Upper Silesia by passive airborne remote sensing observations with the Methane Airborne MAPper (MAMAP) instrument during the CO_2 and Methane (CoMet) campaign; Atmospheric Chemistry and Physics, Volume 21, Issue 2, Page 17345-17371, DOI10.5194/acp-21-17345-2021; Published DEC 1 2021.

673) Malinina, E.; Rozanov, A.; Niemeier, U.; Wallis, S.; Arosio, C. ; Wrana, F.; Timmreck, C.; von Savigny, C.; Burrows, J. P. 2021; Changes in stratospheric aerosol extinction coefficient after the 2018 Ambae eruption as seen by OMPS-LP and MAECHAM5-HAM; Atmospheric Chemistry and Physics, Volume 21, Issue 19, Page14871-14891; DOI10.5194/acp-21-14871-2021; Published OCT 7 2021.

674) Mei, L. L.; Rozanov, V. ; Pohl, C.; Vountas, M.; Burrows, J. P. 2022; The retrieval of snow properties from SLSTR Sentinel-3-Part 1: Method description and sensitivity study; Cryosphere, Volume 15, Issue 6, Page2757-2780; DOI10.5194/tc-15-2757-2021; Published JUN 18 2021.

675) Mettig, N.; Weber, M.; Rozanov, A.; Arosio, C.; Burrows, J. P.; Veefkind, P.; Thompson, A. M.; Querel, R.; Leblanc, T.; Godin-Beekmann, S.; Kivi, R.; Tully, M. B. 2021; Ozone profile retrieval from nadir TROPOMI measurements in the UV range; Atmospheric Chemistry and Physics, Volume 14, Issue 9, Page 6057-6082; DOI10.5194/amt-14-6057-2021; Published SEP 16 2021.

676) Noel, S.; Reuter, M.; Buchwitz, M. ; Borchardt, J.; Hilker, M. ; Bovensmann, H.; Burrows, J. P. ; Di Noia, A. ; Suto, H.; Yoshida, Y. ; Buschmann, M.; Deutscher, N. M. ; Feist, D. G. ; Griffith, D. W. T. ; Hase, F. ; Kivi, R. ; Morino, I. ; Notholt, J. ; Ohyama, H. ; Petri, C.; Podolske, J. R.; Pollard, D. F. ; Sha, M. K. ; Shiomi, K. ; Sussmann, R.; Te, Y. ; Velazco, V. A.; Warneke, T 2021; XCO2 retrieval for GOSAT and GOSAT-2 based on the FOCAL algorithm; Atmospheric Measurement Techniques, Volume 14, Issue 5, Page 3837-3869, DOI10.5194/amt-14-3837-2021; Published MAY 26 2021.

677) Orfanoz-Cheuquelaf, A. ; Rozanov, A.; Weber, M.; Arosio, C.; Ladstatter-Weissenmayer, A.; Burrows, J. P.; Total ozone column from Ozone Mapping and Profiler Suite Nadir Mapper (OMPS-NM) measurements using the broadband weighting function fitting approach (WFFA); Atmospheric Measurements Techniques, Volume 14, Issue 8, Page5771-5789; DOI10.5194/amt-14-5771-2021; Published AUG 23 2021.

678) Reuter, M.; Bovensmann, H. ; Buchwitz, M. ; Borchardt, J. ; Krautwurst, S. ; Gerilowski, K. ; Lindauer, M. ; Kubistin, D. ; Burrows, J. P. 2021; Development of a small unmanned aircraft system to derive CO2 emissions of anthropogenic point sources Atmospheric Measurments Techniques; Volume 14, Issue 1, Page153-172; DOI10.5194/amt-14-153-2021; Published JAN 11 2021

679) Rozanov, A. V.; Rozanov, V. V.; Burrows, J. P. 2021; Modeling of inelastically scattered radiation: Rotational Raman scattering in the spherical Earth's atmosphere; Journal of Quantative Spectroscopy and Radiative Transfer, Volume 268, Article Number107611; DOI10.1016/j.jqsrt.2021.107611; Published JUL 2021.

680) Sofieva, VF (Sofieva, Viktoria F.) [1] ; Szelag, M.; Tamminen, J. ; Kyrola, E. ; Degenstein, D. ; Roth, C. ; Zawada, D. ; Rozanov, A. ; Arosio, C.; Burrows, J. P.; Weber, M. ; Laeng, A.; Stiller, G. P.; von Clarmann, T.; Froidevaux, L. ; Livesey, N.; van Roozendael, M.; Retscher, C. 2021; Measurement report: regional trends of stratospheric ozone evaluated using the MErged GRIdded Dataset of Ozone Profiles (MEGRIDOP); Atmospheric Chemistry and Physics, Volume 21, Issue 9, Page 6707-6720, DOI10.5194/acp-21-6707-2021; Published MAY 4 2021.

681) Zawada, D.; Franssens, G.; Loughman, R.; Mikkonen, A.; Rozanov, A.; Emde, C.; Bourassa, A.; Dueck, S.; Lindqvist, H.; Ramon, D.; Rozanov, V.; Dekemper, E.; Kyrola, E.; Burrows, J. P.; Fussen, D.; Degenstein, D. 2021; Systematic comparison of vectorial spherical radiative transfer models in limb scattering geometry; Atmospheric Measurement Techniques, Volume 14, Issue 5, Page3953-3972; DOI10.5194/amt-14-3953-2021; Published MAY 28 2021.

682) Zhang, L. N.; Solomon, S.; Stone, K. A.; Shanklin, J. D.; Eveson, J. D.; Colwell, S.; Burrows, J. P.; Weber, M.; Levelt, P. F.; Kramarova, N. A.; Haffner, D. P.; On the use of satellite observations to fill gaps in the Halley station total ozone record; Atmospheric Physics and Chemistry, Volume 21, Issue 12, Page 9829-9838; DOI10.5194/acp-21-9829-2021; Published JUN 30 2021.

*****2022*****

683) Andres Hernandez, M. D.; Hilboll, A.; Ziereis, H.; Forster, E.; Krueger, O. O.; Kaiser, K.; Schneider, J.; Barnaba, F.; Vrekoussis, M.; Schmidt, J.; Huntrieser, H.; Blechschmidt, A.M.; George, M.; Nenakhov, V.; Harlass, T.; Holanda, B. A.; Wolf, J.; Eirenschmalz, L.; Krebsbach, M.; Pohlker, M. L.; Hedegaard, A. B. K.; Mei, L. L.; Pfeilsticker, K.; Liu, Y.; Koppmann, R.; Schlager, H.; Bohn, B.; Schumann, U.; Richter, A.; Schreiner, B.; Sauer, D.; Baumann, R.; Mertens, M.; Jockel, P.; Kilian, M.; Stratmann, G.; Pohlker, C.; Campanelli, M.; Pandolfi, M.; Sicard, M.; Gomez-Amo, J. L.; Pujadas, M.; Bigge, K.; Kluge, F.; Schwarz, A.; Daskalakis, N.; Walter, D.; Zahn, A.; Poschl, U.; Bonisch, H.; Borrmann, S.; Platt, U.; Burrows, J. P. 2022; Overview: On the transport and transformation of pollutants in the outflow of major population centres - observational data from the EMeRGe European intensive operational period in summer 2017; Atmospheric Chemistry and Physics; Volume 22, Issue, 9 Page 5877-5924 DOI10.5194/acp-22-5877-2022; Published MAY 5 2022

684) Arosio, Carlo; Rozanov, A.; Rozanov, Alexei; Gorshelev, Victor; Laeng, Alexandra; Burrows, John P.; Assessment of the error budget for stratospheric ozone profiles retrieved from OMPS limb scatter measurements; Atmospheric Measurement Techniques, Volume15, Issue 20, Page 5949-5967 DOI10.5194/amt-15-5949-2022; Published OCT 20 2022

685) Bougoudis, I; Blechschmidt, A. M.; Richter, A.; Seo, S.; Burrows, J. P. 2022; Simulating tropospheric BrO in the Arctic using an artificial neural network; Atmospheric Environment, Volume 276, Article Number119032, DOI10.1016/j.atmosenv.2022.119032; Published MAY 1 2022

686) Hachmeister, J.; Schneising, O.; Buchwitz, M; Lorente, A.; Borsdorff, T.; Burrows, J. P.; Notholt, J.; Buschmann, M (Buschmann, Matthias) 2022; On the influence of underlying elevation data on Sentinel-5 Precursor TROPOMI satellite methane retrievals over Greenland; Atmospheric Measurement Techniques Volume15, Issue1, Page 4063-4074 DOI10.5194/amt-15-4063-2022; Published JUL 8 2022

687) Kuchler, T.; Noel, S.; Bovensmann, H.; Burrows, J. P.; Wagner, T.; Borger, C.; Borsdorff, T.; Schneider, A, 2022; Total water vapour columns derived from Sentinel 5P using the AMC-DOAS method; Atmospheric Measurement Techniques; Volume 15, Issue 2, Page 297-320, DOI10.5194/amt-15-297-2022, Published JAN 20 2022

688) Kruger, O.O.; Holanda, B.A.; Chowdhury, S.; Pozzer, A.; Walter, D.; Pohlker, C.; Andres Hernandez, M.D.; Burrows, J.P.; Voigt, C.; Lelieveld, J.; Quaas, J.; Poschl, U.; Pohlker, M.L. 2022; Black carbon aerosol reductions during COVID-19 confinement quantified by aircraft measurements over Europe. Atmospheric Chemistry and Physics; Volume22, Issue 13, Page8683-8699 DOI10.5194/acp-22-8683-2022; Published JUL 6 2022.

689) Lange, Kezia; Richter, Andreas; Burrows, John P. 2022; Variability of nitrogen oxide emission fluxes and lifetimes estimated from Sentinel-5P TROPOMI observations; Atmospheric Chemistry and Physics, Volume 22, Issue 4, Page 2745-2767, DOI10.5194/acp-22-2745-2022; Published MAR 1 2022.

690) Latsch, Miriam; Richter, Andreas; Eskes, Henk; Sneep, Maarten; Wang, Ping; Veefkind, Pepijn; Lutz, Ronny; Loyola, Diego; Argyrouli, Athina; Valks, Pieter; Wagner, Thomas; Sihler, Holger; van Roozendael, Michel; Theys, Nicolas; Yu, Huan; Siddans, Richard; Burrows, John P. 2022; Intercomparison of Sentinel-5P TROPOMI cloud products for tropospheric trace gas retrievals: Atmospheric Measurement Techniques Volume15 Issue21 Page 6257-6283 DOI10.5194/amt-15-6257-2022; Published NOV 1 2022

691) Mei, L.L.; Rozanov, V.; Jiao, Z. T.; Burrows, J. P. 2022
A new snow bidirectional reflectance distribution function model in spectral regions from UV to SWIR: Model development and application to ground-based, aircraft and satellite observations; ISPRS Journal of Photogrammetry and Remote Sensing, Volume 188, Page269-285 DOI10.1016/j.isprsjprs.2022.04.010; Published JUN 2022

692) Mettig, N.; Weber, M.; Rozanov, A.; Burrows, J. P.; Veefkind, P.; Thompson, A. M.; Stauffer, R. M.; Leblanc, T.; Ancellet, G.; Newchurch, M. J.; Kuang, S.; Kivi, R; Tully, M. B.; Van Malderen, R.; Piters, A.; Kois, B. ; Stubi, R.; Skrivankova, P. 2022; Combined UV and IR ozone profile retrieval from TROPOMI and CrIS measurements; Atmospheric Measurments Techniques; Volume15, Issue9, Page 2955-2978, DOI10.5194/amt-15-2955-2022, Published MAY 12 2022

693) Noel, S.; Reuter, M.; Buchwitz, M.; Borchardt, J.; Hilker, M.; Schneising, O.; Bovensmann, H. ; Burrows, J. P. ; Di Noia, A. ; Parker, R. J.; Suto, H.; Yoshida, Y.; Buschmann, M.; Deutscher, N. M.; Feist, D. G.; Griffith, D. W. T.; Hase, F. ; Kivi, R. ; Liu, C.; Morino, I.; Notholt, J.; Oh, Y. S.; Ohyama, H.; Petri, C.; Pollard, D.F.; Rettinger, M.; Roehl, C. ; Rousogenous, C.; Sha, M. K.; Shiomi, K.; Strong, K.; Sussmann, R.; Te, Y.; Velazco, VA; Vrekoussis, M; Warneke, T.; Retrieval of greenhouse gases from GOSAT and GOSAT-2 using the FOCAL algorithm; Atmospheric Measurments Techniques; Volume 15, Issue11, DOI10.5194/amt-15-3401-2022; Published JUN 9 2022

694) Read, W.G.; Stiller, G.; Lossow, S.; Kiefer, M.; Khosrawi, F.; Hurst, D.; Vomel, H. ; Rosenlof K.; Dinelli, B. M.; Raspollini, P.; Nedoluha, G. E.; Gille, J.C.; Kasai, Y.; Eriksson, P.; Sioris, C. E.; Walker, K. A.; Weigel, K.; Burrows, J. P.; Rozanov, A.; The SPARC Water Vapor Assessment II: assessment of satellite measurements of upper tropospheric humidity; Atmospheric Measurements Techniques Volume15, Issue11 Page 3377-3400; DOI10.5194/amt-15-3377-2022; Published JUN 9 2022

695) Weber, M.; Arosio, C.; Coldewey-Egbers, M.; Fioletov, V. E.; Frith, S. M.; Wild, J. D.; Tourpali, K.; Burrows, J. P.; Loyola, D. 2022; Global total ozone recovery trends attributed to ozone-depleting substance (ODS) changes derived from five merged ozone datasets; Atmospheric Physics and Chemistry, Volume 22, Issue10, Page6843-6859 DOI10.5194/acp-22-6843-2022 Published MAY 25 2022

*****2023*****

696) Fishman, Jack; Birks, John W.; Graedel, Thomas E.; Steffen, Will ; Burrows, John P. ; Howard, Carleton J.; Wayne, Richard P.; A Tribute to Paul Crutzen (1933-2021): The Pioneering Atmospheric Chemist Who Provided New Insight into the Concept of Climate Change; Bulletin of the American Meteorological Society Volume 104 Issue Page E77-E95; DOI10.1175/BAMS-D-21-0311.1; Published JAN 2023.

697) Lange, Kezia; Richter, Andreas; Schoenhardt, Anja ; Meier, Andreas C.; Boesch, Tim; Seyler, Andre; Krause, Kai; Behrens, Lisa K.; Wittrock, Folkard; Merlaud, Alexis; Tack, Frederik; Fayt, Caroline; Friedrich, Martina M. ; Dimitropoulou, Ermioni; Van Roozendael, Michel; Kumar, Vinod; Donner, Sebastian; Doerner, Steffen; Lauster, Bianca; Razi, Maria; Borger, Christian; Uhlmannsiek, Katharina; Wagner, Thomas; Ruhtz, Thomas ; Eskes, Henk ; Bohn, Birger; Diaz, Daniel Santana; Abuhassan, Nader; Schuttemeyer, Dirk ; Burrows, John P. 2023; Validation of Sentinel-5P TROPOMI tropospheric NO2 products by comparison with NO2 measurements from airborne imaging DOAS, ground-based stationary DOAS, and mobile car DOAS measurements during the S5P-VAL-DE-Ruhr campaign; Atmospheric Measurement Techniques Volume16 Issue 5 Page1357-1389 DOI10.5194/amt-16-1357-2023; Published MAR 14 2023.

698) Lelli, Luca; Vountas, Marco; Khosravi, Narges; Burrows, John Philip 2023; Satellite remote sensing of regional and seasonal Arctic coolingshowing a multi-decadal trend

towards brighter and more liquid clouds; Atmospheric Chemistry and Physics Volume 23 Issue 4 Page 2579-2611; DOI10.5194/acp-23-2579-2023; Published FEB 23 2023

699) Lin, Chuan-Yao ; Chen, Wan-Chin; Chien, Yi-Yun; Chou, Charles C. K.; Liu, Chian-Yi ; Ziereis, Helmut; Schlager, Hans ; Forster, Eric; Obersteiner, Florian; Kruger, Ovid O.; Holanda, Bruna A; Poehlker, Mira L.; Kaiser, Katharina; Schneider, Johannes; Bohn, Birger; Pfeilsticker, Klaus; Weyland, Benjamin; Andres Hernandez, Maria Dolores; Burrows, John P. 2023; Effects of transport on a biomass burning plume from Indochina during EMeRGe-Asia identified by WRF-Chem; Atmospheric Chemistry and Physics, Volume 23, Issue4 Page2627-2647, DOI10.5194/acp-23-2627-2023; Published FEB 24 2023.

700) Liu, Yangzhuoran; Hernandez; Hernandez, Maria Dolores Andres; George, Midhun; Burrows, John Philip; Experimental determination of Rayleigh scattering cross-sections at 408 nm; Applied Physics B - Lasers and Optics; Volume129 Issue6 Article Number 82; DOI10.1007/s00340-023-08025-8 Published JUN 2023

701) Mei, Linlu; Rozanov, Vladimir; Rozanov, Alexei; Burrows, John P. 2023; SCIATRAN software package (V4.6): update and further development of aerosol, clouds, surface reflectance databases and models; Geoscientific Model Development Volume16 Issue5 Page1511-1536; DOI10.5194/gmd-16-1511-2023; Published MAR 14 2023.

702) Schneising, Oliver; Buchwitz, Michael; Hachmeister, Jonas; Vanselow, Steffen; Reuter, Maximilian; Buschmann, Matthias; Bovensmann, Heinrich; Burrows, John P. 2023; Advances in retrieving XCH4 and XCO from Sentinel-5 Precursor: improvements in the scientific TROPOMI/WFMD algorithm; Atmospheric Measurement Techniques, Volume16, Issue3, Page 669-694 DOI10.5194/amt-16-669-2023; Published FEB 3 2023.

703) Wendisch, M.; Brueckner, M.; Crewell, S.; Ehrlich, A.; Notholt, J.; Luepkes, C.; Macke, A.; Burrows, J. P.; Rinke, A.; Quaas, J.; Maturilli, M.; Schemann, V.; Shupe, M. D.; Akansu, E. F.; Barrientos-Velasco, C.; Baerfuss, K.; Blechschmidt, A.M.; Block, K.; Bougoudis, I.; Bozem, H.; Boeckmann, C.; Bracher, A.; Bresson, H.; Bretschneider, L.; Buschmann, M.; Chechin, D. G.; Chylik, J.; Dahlke, S.; Deneke, H.; Dethloff, K.; Donth, T.; Dorn, W.; Dupuy, R.; Ebell, K.; Egerer, U.; Engelmann, R.; Eppers, O.; Gerdes, R.; Gierens, R.; Gorodetskaya, I. V.; Gottschalk, M.; Griesche, H.; Gryanik, V. M.; Handorf, D.; Harm-Altstaedter, B.; Hartmann, J.; Hartmann, M.; Heinold, B.; Herber, A.; Herrmann, H.; Heygster, G.; Hoeschel, I.; Hofmann, Z.; Hoelemann, J.; Huenerbein, A.; Jafariserajehlou, S.; Jakel, E.; Jacobi, C .; Janout, M. ; Jansen, F.; Jourdan, O.; Juranyi, Z.; Kalesse-Los, H.; Kanzow, T.; Kaethner, R.; Kliesch, L. L.; (Klingebiel, M.; Knudsen, E. M.; Kovacs, T.; Koertke, W.; Krampe, D.; Kretzschmar, J.; Kreyling, D.; Kulla, B.; Kunkel, D.; Lampert, A.; Lauer, M.; Lelli, L.; von Lerber, A.; Linke, O.; Loehnert, U.; Lonardi, M.; Losa, S. N.; Losch, M.; Maahn, M.; Mech, M.; Mei, L. ; Mertes, S.; Metzner, E.; Mewes, D.; Michaelis, J.; Mioche, G. ; Moser, M.; Nakoudi, K.; Neggers, R.; Neuber, R.; Nomokonova, T.; Oelker, J.; Papakonstantinou-Presvelou, I.; Paetzold, F.; Pefanis, V.; Pohl, C.; van Pinxteren, M.; Radovan, A.; (Rhein, M.; (Rex, M.; Richter, A.; Risse, N.; Ritter, C.; Rostosky, P. ; Rozanov, V. V.;

Donoso, E. Ruiz ; Saavedra Garfias, P.; Salzmann, M.; Schacht, J.; Schaefer, M.; Schneider, J. ; Schnierstein, N.; Seifert, P.; Seo, S.; Siebert, H.; Soppa, M. A.; (Spreen, G.; Stachlewska, I. S.; Stapf, J.; Stratmann, F.; Tegen, I.; Viceto, C.; Voigt, C.; Vountas, M.; Walbroel, A.; Walter, M.; Wehner, B.; Wex, H. ; Willmes, S.; Zanatta, M.; Zeppenfeld, S. 2023; Atmospheric and Surface Processes, and Feedback Mechanisms Determining Arctic Amplification: A Review of First Results and Prospects of the (AC)(3) Project; Bulletin of the American Meteorological Society, Volume 104 Issue 1 PageE208-E242 DOI10.1175/BAMS-D-21-0218.1 Published JAN 2023

4. CONFERENCE CONTRIBUTIONS – J. P. BURROWS

1) P. B. Davies, J. P. Burrows, G. W. Harris and B. A. Thrush 1977, "Pressure broadening of OH laser magnetic resonance lines."*, 5th International Symposium on Gas Kinetics, Manchester, UK, July 1977,*

2) J. P. Burrows, G. W. Harris and B. A. Thrush 1977 "Laser magnetic resonance studies of the hydroperoxyl radical."*, NATO Workshop Conference on Atmospheric Chemistry, Arraba, Italy April 1977.*

3) J. P. Burrows, G. W. Harris and B. A. Thrush. 1977, "Rate of reaction of HO_2 and NO studied by LMR." *13th International Symposium on Free Radicals, Southampton, UK, September 1977.*

4) J. P. Burrows 1980, "Gas phase studies of peroxy radicals using molecular modulation spectroscopy." *6th International Symposium on Gas Kinetics, Southampton, UK, July 1980.*

5) J. P. Burrows 1983, "Some studies of $ClONO_2$, N_2O_5 and NO_3."*, 16th International Symposium on Free Radicals, Louvain-la-Neuve, Belgium, October 1983.*

6) J. P. Burrows, G. S. Tyndall and G. K. Moortgat 1984, "A study of N_2O_5 and NO_3 chemistry."*, 8th International Symposium on Gas Kinetics, Nottingham, UK, July 1984.*

7) J. P. Burrows, G. S. Tyndall, and G. K. Moortgat 1984, "The photolysis of $ClONO_2$."*, 8th International Symposium on Gas Kinetics, Nottingham, UK, July 1984,*

8) J. P. Burrows, G. S. Tyndall and G. K. Moortgat 1984, "Photolysis products of $ClONO_2$ and N_2O_5: equilibrium constant for N_2O_5."*, 16th Informal Conference on Photochemistry, Harvard University, August 1984*

9) D. W. T. Griffith, J. P. Burrows, G. S. Tyndall and G. K. Moortgat 1985, "Matrix isolation FTIR studies on the formation and photolysis of chlorine nitrate." *14th Australian Spectroscopy Conference, Canberra, January 1985,*

10) J. P. Burrows, G. S. Tyndall, W. Schneider, H. Bingemer, G. K. Moortgat and D. W. T. Griffith 1985, "Atmospheric reactions of NO_3." *17th International Symposium on Free Radicals, Granby CO August 1985,*

11) G. K. Moortgat, J. P. Burrows, G. S. Tyndall, W. Schneider, R. A. Cox, and B. Veyret 1986, "The reaction of HO_2 with aldehydes." *Second French-German Workshop on the study of chemical reactions of tropospheric interest. St. Hughes de Bevier 11-13 March 1986.*

12) J. P. Burrows, G. S. Tyndall, W. Schneider and G. K. Moortgat 1986, "Aspects of the tropospheric oxidation of DMS." *Second French-German Workshop on the study of chemical reactions of tropospheric interest. St. Hughes de Bevier 11-13 March 1986.*

13) G. S. Tyndall, G. K. Moortgat and J. P. Burrows 1986, "Tropospheric oxidation of Dimethyl Sulphide." *Second International Symposium on Biosphere-Atmosphere Exchange. 16-21 March, 1986 Mainz F. R. G.,*

14) J. P Burrows, G. S. Tyndall, W. Schneider, G. K. Moortgat, G. Poulet and G. Le Bras 1986, "Photolysis of HNO_3 mixtures at 254 nm: NO_3 reactions with OH and HO_2." *17th Informal Conference on Photochemistry, June 22-26 Boulder CO 1986,*

15) G. S. Tyndall, J. P. Schneider and G. K. Moortgat 1986, "A kinetic and Mechanistic study of the reaction between NO_3 and dimethyl sulphide."*, 17th Informal Conference on Photochemistry, June 22-26 Boulder CO 1986,*

16) G. K. Moortgat, J. P. Burrows, W. Schneider, G. S. Tyndall and R. A. Cox, "A study of the photo-oxidation of Acetaldehyde: Determination of end products and intermediate radicals."*, 17th Informal Conference on Photochemistry, June 22-26 Boulder CO 1986.*

17) J. P. Burrows, G. W. Harris, D. Klemp and T. Zenker 1987, "Atmospheric monitoring by diode laser spectroscopy.*", 18th International Symposium on Free Radicals, Oxford U. K. September 1987,*

18) R. J. Singer, J. P. Burrows, G. K. Moortgat 1987,"Measurement of the U. V. absorption spectrum of peroxynitric acid and its temperature dependence.", *18th International Symposium on Free Radicals, Oxford U. K. September 1987.*

19) R. Singer and J. P. Burrows 1987, "Measurement of the UV- absorption cross section of HO_2NO_2 at 298 K." *Third French-German Workshop on Tropospheric Chemistry by laboratory studies, Leinsweiler Landau F. R. G. 6-8 October 1987*

20) J. P. Burrows, G. W. Harris, D. Klemp, G. Lamely, D. Perner, V. Wolf, and T. Zenker 1987, "Spectroscopic field measurements of tropospheric trace constituents." *Third French-German Workshop on Tropospheric Chemistry by laboratory studies, Leinsweiler Landau F. R. G. 6-8 October 1987.*

21) R. Singer, G. Poulet, G. LeBras, G. K. Moortgat and J. P. Burrows 1988, "Kinetic study of the reactions of NO_3 radicals with Br, BrO and HBr."*, Tenth International Symposium on Gas Kinetics, University College of Swansea 1988.*

22) J. P. Burrows 1989, "Tropospheric Chemistry and Global Change", *European Geophysical Society, XIV General Assembly Barcelona 13-17th March 1989.*

23) J. P. Burrows, F. G. Simon, W. Schneider, and G. K. Moortgat1990, "Studies of the ClO Absorption Cross section between 240 and 310 nm, the ClO Self-reaction and the ClO reaction with CH_3O_2 at 300 K.", *First European Workshop: Polar Stratospheric Ozone 3-5 October 1990 Schliersee, Bavaria Germany.*

24) J. P. Burrows, W. Schneider and K. V. Chance 1990, "GOME and SCIAMACHY: Remote Sensing of stratospheric and Tropospheric Trace Gases.", *First European Workshop: Polar Stratospheric Ozone, 3-5 October 1990 Schliersee, Bavaria Germany*

25) D. R. Hastie, M. Weißenmayer, J. P. Burrows and G. W. Harris 1991, "A calibrated chemical amplifier for atmospheric RO_x.", *Paper A21B-4 AGU - Spring Meeting 1991 28-31.05.1991 Baltimore U.S.A.*

26) "Atmospheric Chemistry.", J. P. Burrows 1991, *The ESA Earth Observation User Consultation Meeting, 29-31.03.1991 at ESTEC Noordwijk, The Netherlands 1991*

27) J. P. Burrows and K. V. Chance 1992, "GOME and SCIAMACHY: the scientific objectives"*, Optical methods in Atmospheric Chemistry Europto Berlin 1992*

28) J. P. Burrows, V. V. Rozanov, Yu. M. Timofeyev, A. V. Polyakov, R. J. D. Spurr and K. V. Chance 1992, "A study of the accuracy of atmospheric trace gas vertical profile retrieval from satellite based occultation measurements." *International Radiation Symposium Tallin Estonia* 1992

29) V. V. Rozanov, Yu. M. Timofeyev, M. S. Biryulina, J. P. Burrows, R. J. D. Spurr and D. Diebel 1992, "Accuracy of atmospheric constituent retrieval from multichannel remote sensing instruments.", *International Radiation Symposium Tallin Estonia* 1992

30) J. P. Burrows 1992, "Fernerkundung vom Satelliten und vom Boden aus." *DPG-Schule für Physik 1992 - Kurs I Physik und Chemie der Umwelt - 28.09.1992 bis 01.10.1992 Physikzentrum Bad Honef*

31) D. Diebel, J. P. Burrows, R. J. D. Spurr and V. V. Rozanov 1993 "The satellite Project GOME: Potential Precision of trace gas retrieval under ozone hole conditions." *Optical Remote Sensing of the Atmosphere Technical Digest March 1993*

32) J. P. Burrows 1993, "Trace gas measurements in the marine Boundary layer from 40^{o}N to the Equator at 30^{o}W.", *Sixth European Symposium Physico-Chemical behaviour of Atmospheric Pollutants Varese 18-22 October 1993*

33) J. P. Burrows 1993 "GOME and SCIAMACHY" *International Workshop on Global Environment and Earth Observing Satellite Sensors Tokyo 8-9.12.1993*

34) J. P. Burrows 1994 "Measurements from GOME" ODIN Workshop on the scientific goals of the ODIN Mission" *13-17.06.1994, Onsala Space Observatory Sweden*

35) J. P. Burrows 1994 "Choosing ground based atmospheric observations for modelling atmospheric chemical regional processes" *COSPARPSRDC Meeting July 16-19 1994 Hamburg Germany.*

36) J. P. Burrows 1995 "The GOME instrument and its mission" *IGARSS 95 July 10-14 1995 Congress Centre Florence Italy.*

37) J. P. Burrows "Pollution and the atmosphere: observation from space" *EURISY Colloquium May 23-25 1996 St. Petersburg Russia.*

38) J. P. Burrows 1997 "Global Ozone Monitoring Experiment (GOME): Instrument Concept, Mission and first Results" *ESA Third ERS Symposium Florence Italy March 18-21 1997.*

39) J. P. Burrows "Global Ozone Monitoring Experiment: Instrument Concept and First Measurements*", IGAC - SPARC - GAW Conference on GlobalMeasurement Systems for Atmospheric Composition Toronto Canada 20-22nd May 1997.*

40) J. P. Burrows "GOME and SCIAMACHY: Remote Sensing of the Atmosphere", *Gordon Conference on Atmospheric ChemistryNewport R.I. 15-20 June 1997.*

41) J. P. Burrows "GOME: Total O_3 and NO_2 during 1996 and 1997in the Arctic and Antarctic", *The 4th European Symposium on Stratospheric Ozone 22-26th September 1997.*

42) J. P. Burrows "Spurengasmessungen im arktischen Winter/Frühjahr: GOME Beobachtungen 1996-1998", *8 Statusseminar des OFP am 23/24 Juni 1998 DFG Bonn.*

43) J. P. Burrows "GOME und SCIAMACHY: Fernerkundung von Weltraum aus", *Deutsche Physikalsiche Gesellschaft – Frühjahrstagung – Symposium Physik für die Umwelt, Regensberg, 24. März 1998.*

44) J. P. Burrows "Measurement of minor atmospheric constituents from the global ozone monitoring experiment (GOME) 1995-1998", *32nd COSPAR Scientific Assembly 12-19th July 1998, Nagoya Japan*

45) J. P. Burrows "Remote sensing of the atmosphere using GOME", *Joint International Symposium on Global Atmospheric Chemistry Fifth Scientific Conference of the International Global Atmospheric Chemistry Project (IGAC) and Ninth Symposium of the IAMAS Commission on Atmospheric Chemistry and Global Pollution (CACGP)IGAC 19-25th August 1998.*

46) J. P. Burrows "Remote Sensing of atmospheric constituents using UV visible and NIR spectroscopy", *Distinguished Scientist Invited Lecture September 1997 German American Distinguished Scientist Exchange Programme 1st September 1998 University of Maryland USA.*

47) J. P. Burrows "Satellite Sensing of Emissions from Indonesian Forest Fires", *Distinguished Scientist Invited Lecture September 1997 German American Distinguished Scientist Exchange Programme 3rd September 1998 University of Maryland USA*

48) J. P. Burrows "Remote Sensing of atmospheric constituents", *Distinguished Scientist Invited Lecture September 1997 German American Distinguished Scientist Exchange Programme 1st September*

49) J. P. Burrows "Spectrometers for Atmospheric Chemistry", *32nd ESLAB Symposium 17th September 1998.*

50) J. P. Burrows "Einige Ergebnisse des Global Ozone Monitoring Experiment und Ausblick auf SCIAMCHY", *DGPF/DLR/DFD gemeinsame Tagung 14 Oktober 1998.*

51) J. P. Burrows "Passive remote sensing of the atmosphere from space", *60th Birthday Colloquium, Professor R. P. Wayne, University of Oxford 7th January 1999.*

52) J. P. Burrows "SCIAMACHY: Mission objectives", *European Symposium on Atmospheric Measurements from Space 18-22nd January 1999.*

53) J. P. Burrows, "Satellite observations of ozone*" NATO ADVANCED STUDY INSTITUTE "Chemistry and Radiation Changes in the Ozone Layer" 15 - 24 May 1999, Crete*, Greece.

54) J. P. Burrows, "Satellites observations of chemical compounds in the atmosphere", *EC Advanced study course 1999 under the Environment and Climate Programme, ASTAIRE 1999 "Atmospheric effects of aircraft emissions in the upper troposphere and lower stratosphere" 22 - 31 August 1999, Bergen, Norway*

55) J. P. Burrows, GOME: "Stratospheric and tropospheric observations of trace constituents from space." *Atmospheric Chemistry Workshop – Telluride Colorado August 2000.*

56) J. P. Burrows, "Atmospheric Remote Sensing from Space", *NOAA AL Seminar August 2000*

57) J. P. Burrows, "GOME and SCIAMACHY", *IAMAS 2001 Innsbruck July 2001*.

58) J. P. Burrows "Remote Sensing of the Troposphere", *DACH – German Austrian and Swiss Meteorological Society Meeting in Vienna September 2001*

59) J. P. Burrows, "ENVISAT / SCIAMACHY"*, Stand und Perspektiven der Atmosphärenforschung in Deutschland vor dem Hintergrund internationaler Entwicklungen 2. Nationaler SPARC Workshop, Johann Wolfgang Goethe Universität, Frankfurt am Main, 8. – 9. April 2002*

60) J. P. Burrows, "New satellite observations/Chemical data assimilation and remote sensing". *Session ST6 EGS 2002, 22-26th April 2002, Nice, France*.

61) J. P. Burrows, "Observations of the Chemical Environment from Space", *Royal Meteorological Society 15th of May, 2002.*

62) J. P. Burrows, Limb Observations of the Atmosphere using SCIAMACHY: Retrieval of vertical profiles of atmospheric constituents "" *AGU Washington2002 Spring Meeting*
Washington Convention Center, Washington, DC, 28 - 31 May 2002

63) J. P, Burrows, "Observations of the Chemical Environment from Space", *Telluride Atmospheric Chemistry Workshop August 4-9, 2002*.

64) J. P. Burrows, "GOME, SCIAMACHY and GeoTROPE: the Remote Sensing of the Atmosphere from Space an update", *12th August 2002 - Atmospheric Chemistry Division, National Center (Centre) for Atmospheric Chemistry, Boulder CO, USA.*

65) J. P. Burrows, "Remote sensing of atmospheric composition from space: GOME and SCIAMACHY", 13th September 2002, Met Office, Bracknell UK

66) J. P. Burrows "The Determination of Tropospheric Trace Constituents from Space: GOME, SCIAMACHY and GeoTROPE(GeoSCIA+GeoFiS)*10th Symposium of CACGP/7th Scientific Conference of IGAC, 18-25th September 2002, Creta Maris, Hersonissos, Heraklion, Crete, Greece*.

67) J. P. Burrows, "Passive Remote Sensing of Aerosols (and Cloud) from Space: an incomplete overview", *the Joint SPARC-IGAC workshop on Climate-Chemistry Interactions, Giens, France from April 2-6 2003*.

68) J. P. Burrows, "SCIAMACHY in Orbit: an Overview of its objectives, the first year and some results", *.IGARSS 2003, Centre de Congrès, Toulouse, France21-25 th July 2003*

69) J. P. Burrows, "Remote Sensing of Atmospheric Constituents from Space", *Royal Meteorological Society Conference 2003, UEA Norwich, UK 3rd September 2003.*

70) J. P. Burrows, "A View from the Top: Atmospheric Chemistry using space-borne Instruments: GOME and SCIAMACHY from LEO, and the potential from GEO*"*, *Gordon Research Conference on Atmospheric Chemistry, Big Sky, U.S.A. 10th September 2003.*

71) J. P. Burrows, "Viewing the Earth's Environment from Space: the Challenges, the Progress and the Future" Royal Society of Chemistry Environmental Chemistry Group: Distinguished Guest Lecture and Symposium – 3rd March 2004.

72) J. P. Burrows, "Remote sensing of atmospheric trace constituents from Space: Results from GOME and SCIAMACHY. Ozone Quadrenniel Symposium Kos Greece, 30.05-10.6.2004

73) J. P. Burrows, International Summer School on Atmospheric and Oceanic Sciences - ISSAOS 2004 Observing systems for Atmospheric Composition, 20-24 September 2004 University of L'Aquila, Italy.

74) J. P. Burrows, Overview of the Session Extra tropical UT/LS, SPARC (Stratospheric Processes and their Role in Climate) general Assembly Victoria British Columbia 1-6th August 2004.

75) J. P. Burrows GOME, SCIAMACHY and GeoSCIA: Remote sensing of Atmospheric Constituents from Space, 13th EPS 2005, 12th July, Bern, Switzerland.

76) J. P. Burrows, ISSI Solar Observations using SCIAMACHY and related climate gas observations, Workshop on Solar Variability and Planetary Climates, ISSI, Bern, Switzerland June 6-10, 2005.

77) J. P. Burrows, Scientific Highlights from SCIAMACHY 2002 to 2006. Atmospheric Chemistry Conference 8-12th of May 2006.

78) J. P. Burrows, IGAC Science Conference 17-22nd September 2006 5 Posters and talk at the CACGP business meeting.

79) J. P. Burrows Remote Sensing of Trace Atmospheric Constituents using GOME and SCIAMACHY: Focus on some tropospheric chemistry issues, Georgia Tech – 6th October 2006.

80) J. P. Burrows, British Council Erforschung der Atmosphäre vom Weltraumaus: Luftverschmutzung, Stratosphärisches Ozon und Klimaänderung, Umwelt Tage Bremen 2006 - ÖkoStadt Bremen e.V., Eröffenung der Ausstellung North South East West vom British Council.

81) J. P. Burrows, Remote Sensing of Atmospheric Constituents and Surface Properties from Space using GOME and SCIAMACHY: Focus on some tropospheric chemistry issues, Zentrum für Marine und Atmosphärenwissenschaften, Universität Hamburg, 11 January 2007.

82) J. P. Burrows, Remote Sensing of Atmospheric Constituents and Surface Properties from Space using GOME and SCIAMACHY: Focus on some tropospheric chemistry issues, Department of Physics & Atmospheric Science, Dalhousie University, 2nd April 2007.

83) J. P. Burrows "Advances in Atmospheric Science resulting from the Envisat/ERS-2 Missions" ESA ENVISAT Symposium, Montreux Switzerland 23rd-27th April 2007.

84) J. P. Burrows Measurements of Air Quality and Climate Gases from Space, IUGG (International Union of Geodesy and Geophysics) Symposium Perugia Italy Session JMS003 on the 2nd – 5th July 2007.

85) J. P. Burrows, Changing Atmospheric Composition:
Fact or Fiction (as observed from space), IUGG Symposium Perugia Italy Session MS019 on the 2nd - 5th July 2007.

86) J. P. Burrows – ARCNESS 1st Winter School and Lecture 12-25th August 2007.

87) J. P. Burrows – ACCENT ESF Summer School and ACCENT Summer School, 14th September 2007,Ile d'Oléron, France.

88) Session A11F – AGU Fall Meeting, San Francisco 10th December 2007 "The retrieval of dry columns of Greenhouse Gases using SCIAMACHY".

89) J. P. Burrows University of California, School of Chemistry and Department Earth and Planetary Atmospheres 2007 – 2008 Harold S. Johnston Lecturer - 4th March 2008. 2 two hours lectures:

i) Exploring Atmospheric Chemistry from Space: The Challenges and the Potential

ii) Global Observations of Greenhouse Gases and related air pollutants using SCIAMACHY

90) J. P. Burrows Exploring Atmospheric Chemistry from Space: Contributions from SCIAMACHY and GOME4th DOAS International Workshop, Hefei China 30th March - 3rd April 2008

91) J. P. Burrows, EGU Session AS 3.12 Vienna Conference Center, 14th April 2008 Satellite Remote Sensing of Trace Gases and Air Pollution using SCIAMACHY on board ENVISAT,

92) J.P. Burrows EPS/SPF Conference Energy : a challenge for the 21st century physics, EPS /SPF Conference, École de Physique, Les Houches 02-05.06.2008, Observations of Climate.

93) J. P. Burrows *4th SPARC General Assembly, 31st August- 5th September2008Bologna, Italy ,* Observation of the Upper Atmosphere from Satellite Platforms: *Sensing and Sensibility* .

94) J. P. Burrows IGAC 08 Conference Annecy France,8-12th September 2008 Measurements of Relevance for Air Pollution and Greenhouse Gases from Space using GOME, SCIAMACHY and GOME-2 from 1995 to present

95) J.P. Burrows MOCA-09, 19th-29th July 2009 Montreal Canada -Joint Assembly of IAMAS (The International Association of Meteorology and Atmospheric Sciences) , IAPSO (and International Association for the Physical Sciences of the Oceans) and IACS (International Association of Cryospheric Sciences). J13 Biogeochemistry and Climate, Invited Talk: Carbon Dioxide and Methane Column averaged mixing ratios from SCIAMACHY: Work in Progress

96) J. P. Burrows Earth Observation: Sensing & Sensibility, NERC Directors Meeting 15th December 2009 University of Reading UK.

97) J. P. Burrows WMO – BIPM Meeting Measurement Challenges for Global Observation Systems for Climate Change Monitoring: Traceability, Stability

and Uncertainty, 29th March to 1st April 2010, Invited talk Global observations of Greenhouse Gases using SCIAMACHY

98) J. P. Burrows SPARC/IGAC SSG meeting -Regional and Local Workshop - 25-26th October 2009 Kyoto Japan : Tropospheric remote sensing of trace gases and aerosols

99) J.P. Burrows SPARC SSG 26th-31st October Kyoto Japan, " Report on the 5th International Atmospheric Limb Conference and Workshop, Helsinki, November 16 - 19, 2009".

100) C. von Savigny and J. P. Burrows SCOSTEP Symposium, 11-16th July 2010, Berlin, Germany: Measurements of solar and atmospheric phenomena using SCIAMACHY on board Envisat 2002 – present

101) J. P. Burrows Session A11 COSPAR 38 in Bremen Germany, "SCIAMACHY on board Envisat: an update of stratospheric and mesospheric results 2002 – 2010", August 2010.

102) J. P. Burrows, Global Mapping of Methane and Carbon Dioxide: From SCIAMACHY to CarbonSat, ESA-iLEAPS-EGU – Earth Observation for Land-Atmosphere Interaction Science 3-5 Nov 2010, ESRIN, Frascati, Italy.

103) J. P. Burrows EGU Passive Satellite Remote Sensing Methane and Carbon Dioxide: From SCIAMACHY towards CarbonSat and CarbonSat Constellation GU Vienna, 06.04.2011.

104) J. P. Burrows Session JA03 Stratospheric and Tropospheric trends/changes of key trace gases and cloud and aerosol parameters retrieved from GOME SCIAMACHY and GOME-Session M02 Changing stratospheric composition: Fact or Fiction? Trace constituents retrieved from SCIAMACHY and GOME.
Session M10 - Short and long lived tropospheric constituents observed from space: transport and transformation of air pollution, biogeochemistry and climate change.
IUGG Earth on the Edge: science for a sustainable planet, 28.06-07.07.2011 Melbourne Australia.

105) J. P. Burrows Tropospheric Halogen Oxides retrieved from the ESA and EUMESAT early morning platforms: GOME SCIAMACHY and GOME-2, Telluride Science Research Center: Ocean-Atmosphere-Sea Ice-Snowpack Interactions in Polar Regions 06/20/2011 - 06/24/2011 Telluride, Colorado U.S.A.

106) J. P. Burrows From SCIAMACHY and MaMap to a CarbonSat Constellation: Current and Future measurements of carbon dioxide and methane from airborne and space based platforms.
ACCENT Plus Urbino Symposium 13th – 16th September 2011

Invited talk given by A. Richter, as I was not able to attend as a result of a death in the family.

107) J. P. Burrows Royal Society Meeting 4-6th December 2011 London U.K., Invited talk: Remote Sensing of Tropospheric Nitrogen Dioxide from Space.

108) J. P. Burrows Royal Society Sponsored Planet under Pressure meeting 26-29th March 2012,
J.P. Burrows, M. Reuter, O. Schneising, J. Heymann, M. Buchwitz, and H. Bovensmann SCIAMACHY: a decade of methane measurements from space M. Vountas, J. Yoon*, W. von Hoyningen Huene, and J.P. Burrows, Refined Long-Term Analysis of Aerosol Optical Thickness from Satellite Retrievals over Megacities.

109) J. P. Burrows European Geosciences Union, 22-27th April 2012 Vienna, Austria, Invited talk: The use of satellite remote sensing of traces gases and aerosols to study megacities and urban areas within CITYZEN:GOME, SCIAMACHY and GOME2 – NO_2 Seawifs and MERIS – Aerosol

110) J. P. Burrows ESA Atmospheric Science Conference 2012 18 - 22 June 2012, Brugge, Belgium, Invited talk: The first decade of SCIAMACHY, coupled with GOME and GOME-2 : Trace gas Measurements

111) J. P. Burrows COSPAR 2010 39th Scientific Assembly of COSPAR Bremen 14th to 22th July 2012 Mysore India, Scientific Programme Committee for Session A11, Invited talk: The Challenge for air pollution and climate change: high spatial and temporal sampling of key species from space.

112) J. P. Burrows Quadrennial Ozone Symposium 2012 Toronto, August 27-31, Invited talk: Measurements of Ozone and related Constituents retrieved from SCIAMACHY

113) J. P. Burrows 12th IGAC Conference Atmospheric Chemistry in the anthropocene 17-21st September 2012, Invited Talk: Global Remote Sensing of Tropospheric Trace Gases: GOME, SCIAMACHY, and GOME-2,

114) J. P. Burrows ESA: Atmospheric Composition Validation and Evolution Workshop ESRIN, Frascati, 13-15th March 2013, Invited talk: Spectroscopy Calibration and Validation,

115) J. P. Burrows 6th International DOAS Workshop12-14 Aug 2013 in Boulder, CO USA, Invited Talk Trace atmospheric gases, retrieved from the measurements of GOME, SCIAMACHY and GOME-2 flying on sun synchronised early morning low earth orbit platforms.

116) J. P. Burrows Observing the Anthropocene from Space:
Past Achievements and Challenges (from SCIAMACHY to GeoSCIA/ Copernicus S4 S5CarbonSat and SCIA-ISS) Dechema Frankfurt 06 02 2014

117) J. P. Burrows EGU Session AS3.7 Megacities: Air Quality and Climate Impacts from Local to Global Scales 29th April 2014 Invited talk: Observing the Anthropocene from Space: Some selected Megacities and urban conglomerations

118) J.. P. Burrows EGU 01 May 2014 "Face of the Earth Keynote Lecture: Atmosphere of the Earth", Convener: Günther Blöschl Room R1

119) J. P. Burrows Cambridge University NERC Methane Meeting, invited speaker

120) J. P. Burrows Observing the Anthropocene from Space COSPAR 2014 03 08 Moscow 03 08 2014.

121) J. P. Burrows, "Observing the Anthropocene from Space, joint 13th iCACGP Quadrennial Symposium 13th IGAC Science Conference 24 09.2014. Introductory Talk on behalf of iCACGP as part of the opening of the conference. Science talk

122) J P. Burrows, "Remote Sensing of Greenhouse Gases from space based and airborne platforms: From SCIAMACHY and MaMap to CarbonSat (and CarbonSat Constellation) EGU 13 04.2015

123) J. P. Burrows, "Model-Based Evaluation Of SCIAMACHY Limb Observations Of Aerosol Extinction Coefficients In The Lower Stratosphere Within ROMIC-ROSA", EGU ROMIC Pico session 15.04.2015

124) J. P. Burrows, "Towards an improved aerosol product from SCIAMACHY limb measurements" EGU ROMIC Pico session 15.04.2015

125) J. P. Burrows key note introductory talk EU Nereus Conference 21.04.2015 Bremen Germany

126) J. P. Burrows Keynote talk ESA ATMOS 07 June 2015

127) J. P. Burrows DFG Research Group SHARP-11 3rd Annual Meeting 13-15th July 2015 Introductory talk "Introduction and Welcome" and Science Talk "SHARP OCF-II Achievements and Goals, SHARP-II-OCF Project 2 How is the evolution of stratospheric ozone affected by climate change, and how strong is the feedback?"

128) J. P. Burrows University of Maryland, Department of "Advances in remote sensing of the composition of the atmosphere" Friday 31st July 2015.

129) J. P. Burrows Gordon Conference invited speaker "Observing the Anthropocene from Instrumentation on Aircraft and Satellites: From SCIAMACHY to CarbonSat and SCIA-ISS New Hampshire USA 05.08 2015

130) J. P. Burrows NASA Branch Lunch seminar "Observing the anthropocene from space: recent results" 20.08.2015

131) J. Burrows EU PANDA Summer School University of Bremen 24th August 2015, Global Environmental Change and Climate Change: an introduction and motivation for remote sensing measurements.

132) J. P. Burrows „Atmospheric Ozone, Air Pollution and Climate Problems", ICTP – ESSE Conference, Trieste, Italy, 03.11.2015

133) J. P. Burrows „Beobachtung des Anthropozäns aus dem Weltall", ROMIC-ROSA Meeting, 10.11.2015

134) J. P. Burrows "Observing the Anthropocene from Instrumentation on Aircraft and Satellites: From SCIAMACHY to CarbonSat and SCIA-ISS" iCACGP Mario J. Molina Symposium at AMS Houston USA January 2016

135) J. P. Burrows "Observing the Anthropocene from space: challenges", DLR climate Change Conference, 06.04.2016

136) J. P. Burrows "Observing Atmospheric Constituents from Space", ESA Living Planet Symposium, Prag, 09.05.2016

137) J. P. Burrows "Recent observations of stratospheric O_3, NO_2, BrO, OCIO and aerosol retrieved from GOME, SCIAMACHY and GOME-2", Quadrennial Ozone Symposium, Edinburgh, 05.09.2016.

138) J. P. Burrows gave a talk on atmospheric science needs for the preparation of the United Nations Space Science for global development Report on the United Nations Office for Outer Space Affairs and Committee on Space Research coordination meeting in support of the preparations for UNISPACE+50, Vienna, Austria, 22-23 May 2017

139) J. P. Burrows EMeRGe and PROAct^3 Workshop Academia Sinica, Taipei, Taiwan 07.03.2018.

140) J. P. Burrows Observing the changing Anthropocene from satellites and aircraft: SCIAMACHY and EMeRGe International Workshop for EMeRGe Science Team NIER and Yonsei University, Seoul 09-10.04.2018

141) J. P. Burrows COSPAR 2018 A0.4-0001-18 Observing the Changing Anthropocene rom space: some results, challenges and needs. 16th July 2018

142) J.P. Burrows Observing the Changing Anthropocene: the Needs, the Evolving Observing System and Opportunities for New Space (Passive Remote Sensing); ESA ATMOS Conference 26-28 November 2018 Salzberg, Austria.

143) J. P. Burrows Session M025 invited speaker
The Changing Atmospheric Pollution and Chemistry, observed from Space in the Anthropocene: Sensing and Sensibility.
The 27th IUGG General Assembly will be held July 8-18, 2019 at the Palais des Congrès in Montréal, Québec, Canada

144) J. P. Burrows Keynote talk: The Remote Sensing of Tropospheric Constituents from space: Progress and Challenges in the evolving Anthropocene. 10th GEMS Science Team Meeting November 19 – 21 2019, Souel South Korea.

145) J. P. Burrows Invited talk Observing the changing Atmospheric Composition in the Anthropocene from space and from aircraft.
The 2019 Asian Chemical Congress, Taipei Taiwan December 08-12 2019.

146) J.P. Burrows Invited talk EGU 2020 Online session Impacts of emissions from major population centres on tropospheric chemistry and composition Convener: Maria Dolores Andrés Hernández | Co-conveners: Matthias Beekmann, Charles Chou, Helmut Ziereis

147) J.P. Burrows Invited Talk on Arctic Amplification
SIOS's Online Conference-2020 4-5th June 2020 Arctic Amplification SIOS Svalbad Integrated Arctic Observing System Online Workshop

5. INTERNATIONAL AND NATIONAL CONFERENCE AND WORKSHOP ORGANISATION

1) Optical Methods in Atmospheric Chemistry - Programme Committee 1992

2) Conference on Lasers and Electro-Optics/International Quantum Electronics Conference CLEO/IQEC - Programme Committee 1993, 1994

3) European Symposium on Atmospheric Measurements from Space 18-22nd January 1998, Conference Committee.

4) GOME and SCIAMACHY Scientific Workshops 1989-present

5) EUROTRAC TROPOSAT Workshops 2000- present

6) COSPAR 32 1998 Session A1.2. Remote Sensing of Trace Constituents in the Lower Stratosphere, Troposphere and the Earth's Surface: Global Observations, Air Pollution and the Atmospheric Correction: MSO: Hilsenrath E., DO: Takeuchi, N., Editor: Burrows J.P., Kawata T., Takeuchi, Nagoa N., Japan 12-19th July 1998.

7) COSPAR 33 2000 Session A1.2. Remote Sensing of Trace Constituents in the Lower Stratosphere, Troposphere and the Earth's Surface: Global Observations, Air Pollution and the Atmospheric Correction: MSO: Burrows, J.P., DO: Takeuchi, N., Editor: Burrows, J.P., Kawata, T., Takeuchi, N. Warsaw Poland 16th -23rd July 2000.

8) COSPAR 34 2002 Session A1.2. Remote Sensing of Trace Constituents in the Lower Stratosphere and Troposphere and the Earth's Surface: MSO: Burrows, J.P., DO: J Remedios, Editor: Burrows, J.P. 10-19th October 2002

9) COSPAR 35 2004 Session A1.1 Atmospheric Remote Sensing: Earth's Surface, Troposphere, Stratosphere and Mesosphere, MSO: J. P. Burrows 18-25th July 2004, Paris, France.

10) SPARC (Stratospheric Processes and their Role in Climate) general Assembly Victoria British Columbia 1-6th August 2004.

11) 1st ACCENT Symposium 2005, 12th- 16th September 2005 University of Urbino, Italy.

12) COSPAR 36, 2006 Session **A1.1** Atmospheric Remote Sensing: Surface Layer, Troposphere, Stratosphere and Mesosphere, DO: J. P. Burrows 16-23th July 2006 Paris, France.

13) 2nd ACCENT Symposium 2007, 21st- 28th July 2007 University of Urbino, Italy.

14) ACCENT Emission Workshop Remote Sensing and Inventories of Anthropogenic Emissions IIASA , Laxenburg Austria, 4-5th December 2007

15) 4th DOAS International Workshop, Hefei China 30th March - 3rd April 2008

16) COSPAR 37, 2006 Session **A1.1** Atmospheric Remote Sensing: Surface Layer, Troposphere, Stratosphere and Mesosphere, DO: J. P. Burrows 12-20th July 2008 Montreal, Canada.

17) IGBP-IGAC 10th IGAC 2008 Conference Bridging the Scales in Atmospheric Chemistry: Local to Global 7th to 12th September 2008 in Annecy-le-Vieux, France, Member of the Scientific Programme Committee for the Symposium.

18) WCRP-SPARC SPARC 4th GENERAL ASSEMBLYSEPTEMBER 1-5, 2008 Bologna, Italy CNR Congress Centre

19) MOCA-09, 19th-29th July 2009 Montreal Canada -http://www.moca-09.org/e/documents/Fast-facs-sheet-for-web-ENGLISH_head_000.pdf
Joint Assembly of IAMAS (The International Association of Meteorology and Atmospheric Sciences), IAPSO (and International Association for the Physical Sciences of the Oceans) IACS (International Association of Cryospheric Sciences), their Joint Assembly, held in Montréal, Québec, Canada. Convener of Session J13 Biogeochemistry and Climate
Convener of Session M15 Atmospheric Composition Change: Air Pollution in the Global Environment.

20) 12th Symposium of the International Commission on Atmospheric Chemistry and Global Pollution (CACGP) 11th Science Conference of the International Global

Atmosphere Chemistry (IGAC) Project Atmospheric Chemistry: Challenging the future, Halifax, Canada, July 11-16, 2010 Scientific Programme Committee

21) COSPAR 2010 38th Scientific Assembly of COSPAR Bremen 18th to 25th July Bremen, Germany, DSO and Scientific Programme Committee for Session A11

22) The International Union of Geodesy and Geophysics (IUGG) Symposium Melbourne Australia 28th June -7th July 2011co-organiser session M02 and M10

23) Accent Plus Air Quality and Climate Change: Interactions and Feedbacks ACCENT-Plus Symposium, Urbino 13 -16 September 2011September 2011- organising committee.

24) COSPAR 2012 39th Scientific Assembly of COSPAR Bremen 14th to 22th July 2012 Mysore India, Scientific Programme Committee for Session A11

25) DACA 2013 Davos Atmosphere and Cryosphere Assembly – IAMAS and IACO Conferences – convenor of the session B7 8-16 8-14th July 2013.

26) Cambridge University NERC Methane Meeting, invited speaker
Observing the Anthropocene from Space: Methane" 5th June 2014

27) 13th ICACGP Quadrennial Symposium/ 13th IGAC Science Conference, 22-28.09.2014, Natal, Brazil. President of ICACGP formal lead with iCACGP and IGAC Officers of the symposium.

28) COSPAR 2016 Session A0.4 Observing the Anthropocene form Space, MSO COSPAR unfortunately cancelled as a result of coup in Turkey.

29) 2017 Joint IAPSO-IAMAS-IAGA Assembly in Cape Town, South Africa, 27th August to 1st September 2017 at the Cape Town International Convention Centre (CTICC). Sessions M1 and M10 15th and 16th July 2018.

30) COSPAR 42 2018
MSO Session A0.4 Observing the Anthropocene from Space and DO Session A1.1 Space–based and Sub–orbital Observations of Atmospheric Physics and Chemistry 17th to the 22nd July 2018.

31) 2018 joint 14th iCACGP Quadrennial Symposium/15th IGAC Science Conference 25th to 29th of September 2018 Sunport Takamatsu Convention Center, 2-1 Sunport, Takamatsu, Kagawa, 760-0019 Japan, http://icacgp-igac2018.org/
As President of iCACGP, I played a key role aspect of the organisation of this conference e.g. the selection of the hosting Local Organisation Committee, LOC, the Science Programme Committee and related. I led the opening and closing of the meeting.

32) COSPAR 43 43rd COSPAR Scientific Assembly 2021 Sydney, Australia, 28 January - 4 February 2021
MSO Session A0.3 Observing the Anthropocene from Space
Scientific organising committee for session A1.1: Space-based and Sub-orbital Observations of Atmospheric Physics and Chemistry

33) The 9th International DOAS Workshop held from 13 to 15 July 2020 as a virtual meeting via Webex. Member of the scientific steering committee.

6 EXTERNAL RESEARCH CONTRACTS

Throughout my career in research, I have been involved in Contract research of different types. My department within the Institute of Environmental Physics has a total budget of 4-5 M€ per annum of which 70-80% is from external funders.