

## I. General information

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Born in Turnhout (Belgium) on 03-10-1971

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### Short presentation

I am a physical chemist, “Doctor in Sciences from the Université Libre de Bruxelles –ULB–” and “Doctor Communitatis Europae” (1999) following an international mobility programme during the PhD (University of Brighton and Max Born Institute in Berlin). My main fields of expertise, acquired during 5 years as postdoctoral researcher, at ULB with stays at Université Paris VI and NCAR (Boulder, USA) are on molecular spectroscopy, radiative transfer, satellite remote sensing and environmental chemistry. I have authored or coauthored more than 210 peer-reviewed publications in these fields (*h factor* of 54 - January 2022), including several high impact and featured papers.

I am leading the atmospheric spectroscopy and chemistry group at ULB for over 15 years, successively as Research Associate (2005-2013) and Senior Research Associate (2013-2015) with the F.R.S.-FNRS; then as Professor at ULB from 2015. I am co-director of the SQUARES laboratory (formerly Quantum Chemistry and Photophysics) since October 2016 and Head of the Chemistry Department at ULB since 2020. At ULB I teach environmental chemistry, molecular spectroscopy, spectrophysics, atmospheric chemistry and environmental remote sensing.

I am PI or col of various international projects and satellite mission teams; in particular chairman of the IASI sounder science working group (CNES, EUMETSAT) and Lead Scientist of the Nitrosat Earth Explorer candidate mission (ESA). I am also a member of the local scientific committees of the Solvay Institutes and act as expert in several selection and review committees.

## II. Academic degrees:

- PhD in Sciences, ULB 1999 with a thesis entitled “Spectroscopie électronique de fullerènes”
- Master in Chemistry, ULB, 1994
- "Agrégation de l'Enseignement Secondaire Supérieur", ULB, 1994

## III. Scientific career:

### 3.1 Academic and scientific positions

- 2017- : Professor at ULB
- 2015-2017: Associate Professor (Chargé de cours) at ULB
- 2013-2015: Senior Research Associate (Maître de Recherches) at FRS-FNRS
- 2005-2013: Research Associate (Chercheur Qualifié) at FRS-FNRS
- 2005-2015: Senior Lecturer « Maître de conférence et d'enseignement » at ULB and 2009-2011 : Supply Professor UMH (Mons-Hainaut University)
- 2004-2005: Postdoctoral Researcher, Belspo/Prodex, ULB
- 2001-2004: Postdoctoral Researcher (Chargé de Recherches), FNRS
- 1999-2001: Postdoctoral Researcher, Belspo, ULB
- 1994-1998 : IRSIA/FRIA fellow (PhD bursary), ULB

### 3.2 Visiting scientist

- July-August 2008, 5 weeks at the National Center for Atmospheric Research, Boulder, U.S.A.
- May 2004, 1 month at the National Center for Atmospheric Research, Boulder, U.S.A.
- 2002-2003, 8 months at the Service d'Aéronomie, Université de Paris-6, Paris, France
- 1995-1996, 3 months at the University of Sussex, Falmer-Brighton, UK (Prof. Sir H.W. Kroto),
- 1997-1998, 3 months at the Max Born Institute, Berlin, Germany (Prof. E.E.B. Campbell)

## IV. Teaching career

### 4.1 Lectures and practical work at ULB

#### As Professor or Associate Professor

##### Since 2019

- "Spectrophysique" (PHYS-F-304, 5 ECTS, shared with S. Van Eck)

##### Since 2015

- "Spectroscopies Moléculaires" (CHIM-F-325, 5 ECTS, shared with J. Vander Auwera)
- "Chimie de l'environnement et risques chimiques" (ENVI-F-474, 5 ECTS, shared with L. Rongy)
- "Sciences de l'atmosphère et changements climatiques" (ENVI-F-526, 5 ECTS, with C. Clerbaux)
- "Environmental remote sensing and radiative transfer" (ENVI-F-451, 5 ECTS)

##### 2011-2015 ; as Lecturer ("Maître de Conférences")

- "Photophysique dans les atmosphères planétaires et le milieu interstellaire" (CHIM-F-405, 4 ECTS, shared with N. Vaeck)
- "Sciences de l'atmosphère et changements climatiques" (ENVI-F-526, 5 ECTS, with C. Clerbaux)
- "Atmospheric radiation and satellite remote sensing" (ENVI-F-451, 2 ECTS).

##### Before 2011

- "Spectroscopie Atmosphérique et Télédétection Spatiale" (CHIM-F-454, 2 ECTS). *Lecture 2007-2011*
- "Chimie de l'Atmosphère" (CHIM-F-405, 2 ECTS). *Lecture 2005-2011*
- "Structures et Spectroscopies Moléculaires". *Practical Work 2006-2010*
- "Chimie Physique Moléculaire". *Practical Work 2004-2010*

### 4.2 Invited lectures

- "Remote sensing of atmospheric composition in the infrared" **University of Gent, March 2021**
- The Maïdo Observatory Summer School with lectures on "*Radiation, spectroscopy and radiative transfer*" and "*Global atmospheric composition measurements from sounders on satellites*" **St-Gilles de La Réunion, December 2016**
- The International Summer School on the "Spectroscopy and Physico-Chemistry of Planetary Atmospheres" with a lecture on "*Satellite missions to sound the Earth atmosphere*" **Fréjus, France, June 2015**
- The first Summer school "Partnership with China on Space data", with a lecture on "*Satellite remote sensing: infrared observations of the troposphere*" **Bremen, Germany, August 2015**

### 4.3 Supervision of PhD theses and Master theses

#### Supervision of PhD theses

- Beata Opacka *Sciences (Chemistry), co-supervision with BIRA-IASB, 2021-ongoing*
- Hélène De Longueville ; *Sciences (Chemistry), 2019-ongoing*
- Gilles Lecomte; *Sciences (Chemistry), 2018-ongoing*
- Ermioni Dimitropoulou; *Sciences (Chemistry), co-supervision with BIRA-IASB, December 2021*
- Jimmy Bouche; *Sciences (Chemistry), November 2021*
- Stamatia Doniki; *Sciences (Chemistry), August 2019*
- Gaétane Ronsmans; *Sciences (Chemistry), November 2018*

- Veerle De Bock; *Sciences (Chemistry)*, co-supervision with KMI-IRM **October 2018**
- Simon Whitburn; *Bioengineering sciences*, **December 2017**
- Enrico Dammers, *Environmental Sciences*, co-supervision with VU Amsterdam **September 2017**
- Sophie Bauduin; *Sciences (Chemistry)*, **October 2016**
- Yannick Willame; *Sciences (Physics)*, co-supervision with BIRA-IASB **November 2015**
- Martin Van Damme; *Bioengineering sciences*, joint supervision with VU Amsterdam **May 2015**
- Jean-Lionel Lacour; *Sciences (Geology)*, **January 2015**
- Yasmina R'honi; *Sciences (Chemistry)*, **June 2014**
- Robin Campion; *Sciences (Geology)*, co-supervision with A. Bernard ULB, **2011**
- Catherine Wespes; *Sciences (Chemistry)*, **February 2010**

#### **Supervision of MA theses**

A. Gniewczynska, *Master in Chemistry* **2021**; L. Francotte, *Master in Chemistry* **2021**; F. Hajji, *Master in Chemistry* **2021**; P. Willame, *Master in Chemistry* **2021**; Joana Pinto, *Master in Chemistry* **2019**, H. De Longueville, **2019**, G. Lecomte, *Master in Chemistry* **2018**; L. Dingeon, *Master in Chemistry* **2018**; S. Ibrahim, *Master in Bioengineering* **2016**; P. Delaunoy, *Master in Environmental Science* **2015**; N. Martinez, *Master in Chemistry* **2014**; Y. Vranx, *Master in Chemistry* **2013**; J. Roty, *Master in Environmental Science* **2013**; G. Herremans, *Master in Environmental Science* **2013**; S. Bauduin, *Master in Chemistry* **2012**; G. Chaumont, *Master in Bioengineering* **2012**; B. Santos, *Master in Physics* **2010**; M. Van Damme, *Master in Bioengineering* **2009**; Y. Willame, *Master in Physics* **2007**; C. Polart, *Master in Bioengineering* **2006**; N. Rahal, *Master in Chemistry* **2006**

#### 4.4 *Committees of PhD theses and habilitation theses*

##### **Committee of PhD theses** (Italic when outside ULB)

J. Tisaun, ULB, **2021**; Y. Forget, ULB (as President of jury), **2020** ; A. Gibbons, **2019**, S. Berger, ULB, **2017**; S. Collette, ULB, **2017**; G. Rea, *Ecole Polytechnique Palaiseau* , France, **2015** ; S. Safieddine, *UPMC Sorbonne Universités*, France, **2015** ; T. Thonat, *Ecole Polytechnique Palaiseau*, France, **2014** ; O. Carrière, ULB, **2011** ; V. Kanawade, *Leicester University*, United-Kingdom, **2010**

##### **Committee of habilitation theses**

- S. Turquety, *Laboratoire de Météorologie Dynamique*, France, **2017**
- H. Herbin, *Université de Lille 1*, France, **2014**

## V. Publications and principal scientific activities

### 5.1 Publications

Detailed publication list is provided in appendix (from Di-fusion ULB. Last updated January 2022)

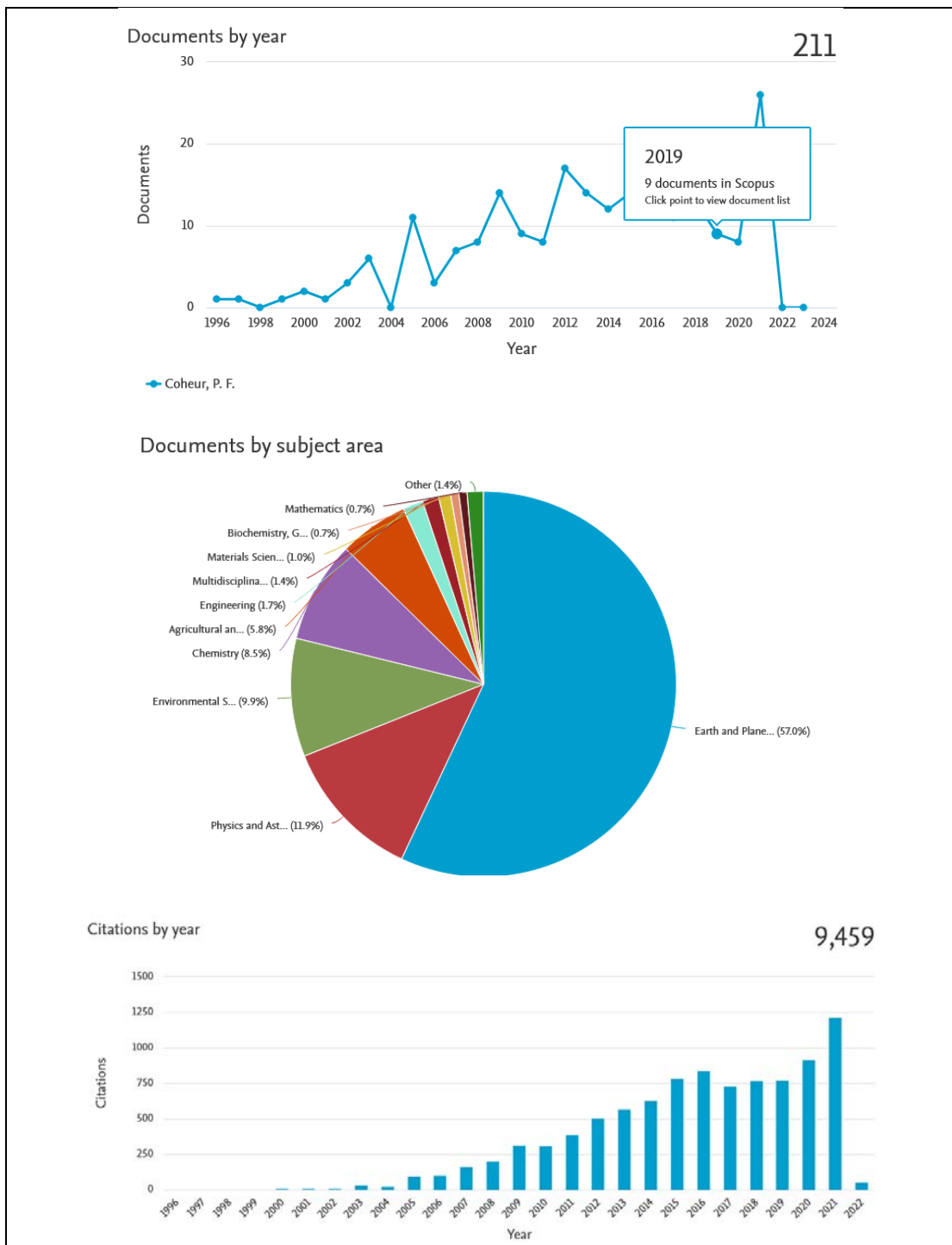
#### Book chapters

Co-author contribution to 4 chapters of collective works

Guest Editor for a Special Issue of Molecular Spectroscopy on “molecular spectroscopy, atmospheric composition and climate change”

#### Peer-reviewed publications in international journals (from Scopus; Last updated January, 2022)

211 journal articles; 9459 citations; h index of 54



## 5.2 *Scientific activities*

### 5.2.1 *Short stays abroad*

- Regular short stays/visits at LATMOS IPSL / CNRS, Paris, France, **2003-2010**
- Regular meetings for the EU-FP7 ECLAIRE, QA4ECV, PANDA projects, the ESA O<sub>3</sub> CCI initiative and the EUMESTAT O3MSAF projects. **2010-now**
- Regular meetings for ESA CAMELOT and OnTRAQ projects. **2006-2009**
- ACCENT Barnsdale Expert Workshop. **27-29 October 2008**
- Measurement campaigns (ground-based FTIR) at La Réunion. **2 × 2 weeks in 2002 and 2004**
- Measurement campaign at GSMA, Reims, France. **3 weeks in 2001-2002**
- "Laboratoire des Matériaux et Procédés Membranaires", Montpellier, France. **1 week in 1996**

### 5.2.2 *Personal contributions to international conferences*

#### **Invited oral presentations**

*Excluding invited seminars/conferences, which are provided in sections 5.2.3 and 5.5.*

- "EE-11 candidate Nitrosat : A Satellite Mission Concept For Mapping Reactive Nitrogen At The Landscape Scale" **ESA ATMOS Conference (virtual), November 2021**
- "Atmospheric composition applications with IASI and next-generation hyperspectral IR sounders IASI-NG and IRS" **International Geoscience and Remote Sensing Symposium (virtual), July 2021**
- "Sounding atmospheric composition in the infrared – highlights from IASI mission", **GTEO webinar on Air and Atmosphere, November 2020**
- "Atmospheric Chemistry products and applications" **EUMETSAT webinar on Next-Generation hyperspectral infrared sounders, October 2020**
- "IASI observations of pollutants after 10 years in orbit" **EUMETSAT Conference, Tallin (Estonia), September 2018**
- "Stratospheric chemistry with IASI and possible synergies with ALTIUS" **First ALTIUS international Symposium, 2-3 May 2017**
- "New insights on sources and distributions of reactive nitrogen revealed from the global monitoring of atmospheric ammonia" **European Geophysical Union General Assembly, Vienna, Austria, 28 April-2 May 2014**
- "Satellite remote sensing of the reactive lower atmosphere using medium resolution infrared measurements: Highlights from IASI mission" **International Symposium on Molecular Spectroscopy, Columbus University, USA, 17-21 June 2013**
- "Advances in nadir infrared spectrometry from satellites for atmospheric composition", **GMES-PURE workshop, Rutherford Appleton Laboratory, UK, 11-12 June 2013**
- "Atmospheric composition measurements with the IASI hyperspectral sounder: local to global", **High-resolution Molecular Spectroscopy Symposium, Dijon, France, September 2011**
- "Observing the troposphere with IASI: Emission, chemistry and transport", **AURA Science meeting, Leiden, The Netherlands, 14-17 September 2009**
- "Tropospheric Composition Measurements with IASI: Emission, transport, chemistry and climate", **ACCENT-AT2 meeting, Mainz, Germany, 22-23 June 2009**
- "Tropospheric Composition Measurements with IASI", **European Geophysical Union General Assembly, Vienna, Austria, 20-24 April 2009**
- "IASI measurements of short-lived species", **4th Hyperspectral sounder Meeting, Darmstadt, Germany, 15-16 September 2008**
- "Infrared atmospheric sounding from space: Highlights from IASI/MetOp and future perspectives", **Quadriennial Ozone Symposium (QOS), Tromsø, Norway, 30 June 2008**
- "Mesures de la composition de l'atmosphère terrestre par spectroscopie infrarouge depuis l'espace", **Journées de Spectroscopie Moléculaire, Lyon, France, 18-20 May 2005**

### **Regular oral presentations**

- “Nitrosat Mapping reactive nitrogen at the landscape scale” **European Geophysical Union General Assembly, Vienna, Austria, April 2021.**
- “Mapping NH<sub>3</sub> with IASI” **EUMETSAT Meteorological satellite conference, Boston, U.S.A September-October 2019.**
- “Global distributions and 5-years time series in the concentrations of reactive species retrieved from IASI/MetOp”, **EUMETSAT-AMS Conference, Vienna, Austria, September 2013**
- “Atmospheric chemistry with hyperspectral infrared sounders : illustration from IASI Mission” **Space days, Liège, Belgium, September 2012**
- “Global multi-sensor satellite monitoring of volcanic SO<sub>2</sub> and ash emissions in support to aviation control”, **AGU Chapman Conference, Selfoss, Iceland, June 2012**
- “Observation of fire emission products and chemistry with IASI”, **Eumetsat Conference, Cordoba, Spain, September 2010**
- “Global to local observations of atmospheric ammonia with IASI”, **2<sup>d</sup> IASI Conference, Sévrier, France, January 2010**
- “IASI measurements of VOCs”, **EUMETSAT Conference, Bath, UK, September 2009**
- “IASI measurements of biomass burning and volcanic plumes”, **EUMETSAT Conference, Darmstadt, Germany, September 2008**
- “Tropospheric chemistry using IASI / MetOP: overview of initial results”, **2d ACCENT symposium, Urbino, Italy, July 2007**
- “Tropospheric NO<sub>y</sub> and organic species (ACE-FTS / IMG)”, **ACCENT AT-2 Workshop, Créteil, France, December 2006**
- “Retrieval, validation and characterization of O<sub>3</sub>, CO and HNO<sub>3</sub> vertical profiles from the IMG nadir spectra”, **12th ASSFTS meeting, Québec, Canada, April 2005**
- “Retrievals of ozone vertical distributions from IMG/ADEOS spectra”, **35<sup>th</sup> COSPAR, Paris, France, July 2004**
- “Fourier transform absorption spectroscopy of water vapour in the visible and near-infrared spectral regions”, **35<sup>th</sup> EGAS conference, Brussels, Belgium, July 2003**
- “Absolute intensities of water vapor lines in the near ultraviolet and visible regions”, **EOS- SPIE Conference, Remote Sensing of Clouds and the Atmosphere V, Barcelone Spain, September 2000**
- “Photophysical properties of some C<sub>60</sub> and C<sub>70</sub> derivatives”, **Workshop on the “Formation, Stability and Photophysics of Fullerenes”, Göteborg, Sweden, September 1998**
- “Optical emission and reflectron time of flight studies of laser generated carbon clusters”, **Workshop on the “Formation, Stability and Photophysics of Fullerenes”, Exeter (UK), April 1996**

### **Poster presentations**

- “Detecting and Assessing Trends of CFCs and Substitutes from IASI Measurements” **EUMETSAT Meteorological satellite conference, Boston, U.S.A 30 September- 4 October 2019.**
- “Near-real-time processing of IASI radiance spectra for applications in atmospheric chemistry and physics”. **The 2009 Eumetsat Conference, Bath, UK, 20-24 September 2009**
- “Retrieval of trace gas concentrations from the IASI nadir radiance spectra”, **12<sup>th</sup> “Atmospheric Spectroscopy from Space using Fourier Transform Spectroscopy” meeting, Quebec, Canada, 18-20 May 2005.**
- “Atmosphit: a new tool for simulating and inverting atmospheric spectra”, **12<sup>th</sup> Atmospheric Spectroscopy from Space using Fourier Transform Spectroscopy meeting, Quebec, Canada, 18-20 May 2005**
- “Potential use of IASI for volcanic clouds detection and monitoring”, **35<sup>th</sup> COSPAR, Paris, France, 18-25 July 2004**
- “Retrievals of trace gases from IMG/ADEOS spectra for chemistry and climate applications”, **11<sup>th</sup> “Atmospheric Spectroscopy from Space using Fourier Transform Spectroscopy” (ASSFTS), Bad Wildbad, Germany, 8-10 October 2003**
- “Fourier transform absorption spectroscopy of water vapour in the visible and near-infrared spectral regions”, **Eighteenth Colloquium on High Resolution Molecular Spectroscopy, Dijon, France, 8-12 September 2003**
- “Ground-based solar absorption FTIR spectroscopy at the Reunion Island”. **The 2003 Fourier Transform Spectroscopy and Optical Remote Sensing Topical Meeting, Quebec, Canada, 01 – 09 February 2003**
- “Absorption spectra of gas phase C<sub>60</sub> and C<sub>70</sub> in the visible and UV”, **The Second International Interdisciplinary Colloquium on the Science and Technology of the Fullerenes, Oxford, UK, 7-10 July 1996**

### 5.2.3. *Invited Seminars/Conferences*

- “La composition et la chimie de l’atmosphère terrestre vues depuis l’espace: Les résultats exceptionnels de la mission IASI”. **Conference at the “Institut de Physique de Rennes”, Rennes, France, October 2013**
- “La composition et la chimie de l’atmosphère terrestre vues depuis l’espace”, **Annual meeting of the “Société Royale de Chimie”, Louvain-la-Neuve. October 2012**
- “Monitoring our changing atmosphere; highlights from IASI mission”, **Sino-Belgian Workshop on Biodiversity and Climate change, Shanghai, China, October 2010**
- “Measurements of atmospheric pollution on global and local scales using infrared spectroscopy from space”, **Groupe de contact F.N.R.S. “photophysique et photochimie moléculaires”, UCL, Belgium. September 2006**
- “L’observation spatiale pour l’étude de la chimie atmosphérique et du climat”, **Ecole Doctorale Photomat, Parentville, Belgium. September 2005**
- “Spectroscopie électronique de fullerènes”, **Institute for Studies in Interface Sciences, FUNDP, Belgium. December 1999**
- “Propriétés photophysiques de C<sub>60</sub>, C<sub>70</sub> et de leurs dérivés”, **Service de Chimie des Matériaux Nouveaux, Université de Mons Hainaut, Belgium. November 1997**

### 5.2.4. *Membership of science committees and institutions*

- Chairman of the Nitrosat Mission Advisory Group. **2021-now**
- Chairman of the IASI Sounder Science Working Group (EUMETSAT-CNES). From **2019 (member from 2009)**
- Member of the IRS-MTG Mission Advisory Group (EUMETSAT). **2018-now**
- Lead Investigator of the Nitrosat Earth Explorer candidate mission (ESA). **2010, 2016, 2018 and 2020**
- Member of the Local Committee for Chemistry of the Solvay Institutes. **2013-now**
- Member of the Science Committee of the FRS-FNRS Doctoral School “Sciences de l’Univers, de l’Espace, de la Terre et du Climat (UNITER)”. **2005-2010 ; 2015-now**
- Member of the scientific committee of the international IASI Conference series. **2006-now**
- Member of the Collège des Alumni” from the Belgian Royal Academy. **2005-now**
- Member of the ACE Science Team. **2004-now**
- President of the FRS-FNRS Doctoral School “Sciences de l’Univers, de l’Espace, de la Terre et du Climat (UNITER)”. **2010-2015**
- Member of the ESA Category-1 Advisory Group. **2007**

#### **FRS-FNRS committees**

- Member of the FRIA PE10-jury. **2016-2018 and 2021-present**
- Member of the SEN4 scientific commission of FRS-FNRS. **2016-2018**
- Member of the SEN1 scientific commission of FRS-FNRS. **2012-2014**
- Member of the FRIA scientific commission 16. **2013-2015**
- Member of the scientific commission for the attribution of the Boel-Sofina fellowships. **2018**

#### **Academic recruitment and promotion committees** (italic when outside ULB)

- *Member for promotion at SW3 and SW4 levels at the Belgian Institute for Space Aeronomy. 2020*
- Member of the scientific commission for the recruitment of an Assistant Professor in Physical Chemistry, ULB. **2016**
- *Member of the scientific commission for the recruitment of Professor in Physical Chemistry, Université de Lille 1, France. 2015*
- *Member for a promotion at SW4 level at the Belgian Institute for Space Aeronomy. 2013*
- Member of the scientific commission for the recruitment of an Assistant Professor in Analytical Chemistry, ULB. **2012**
- Member of the scientific commission for the recruitment of an Assistant Professor in Organic Chemistry, ULB. **2011**

### 5.2.5. Referee for international Journals

**Regular referee** for "Journal of Geophysical Research"; "Geophysical Research Letters"; "Atmospheric Chemistry and Physics"; "Atmospheric Environment"; "Journal of Quantitative Spectroscopy and Radiative Transfer"

**Occasional referee for** "Atmosphere"; "Remote sensing letters"; "Journal of Atmospheric and Oceanic Technology"

### 5.2.6. External reviewer and Follow up committees

**Reviewer for national or international agencies**, the "Swedish National Space Agency" (2019); the "Centre National d'Etudes Spatiales" (CNES, France); the "National Institute of Space Research" (SRON, The Netherlands), the "Nederlandse Organisatie voor Wetenschappelijk Onderzoek" (NWO, The Netherlands), the "Fonds National de la Recherche Scientifique" (FRS-FNRS, Belgium), the "European Space Agency" (ESA)

**Follow-up committee of Belpo projects** "SynergistiC study Of the atmOsphere of terrestrial Planets (SCOOP)" 2014-2016; "Belgian Urban NO<sub>2</sub> Monitoring Based on APEX hyperspectral data (BUMBA)" 2014-2016; "Atmospheric research from ground (AGACC-II)" 2010-2014

### 5.2.7 Principal active collaborations

- Laboratoire Atmosphères, Milieux, Observations Spatiales, Paris, France (Dr. C. Clerbaux).
- Atmospheric Chemistry Division, National Center for Atmospheric Center, Boulder, CO, U.S.A. (D. Edwards, H. Worden)
- Koninklijk Nederlands Meteorologisch Instituut, The Netherlands (P. Levelt and coworkers)
- The European Organization for the Exploitation of Meteorological Satellites (T. August, D. Coppens)
- Laboratoire de Météorologie Dynamique, Ecole Polytechnique, Palaiseau, France (S. Turquety, C. Crevoisier)
- Atmospheric Composition Analysis Group, D<sup>pt</sup> of Physics and Atmospheric Science, Dalhousie University, Halifax, Canada, (R. Martin)
- Université de La Réunion, France (V. Dufлот, H. Bencherif)
- University of Waterloo, Canada; University of Old Dominion, MA, U.S.A. (P. Bernath)
- Finnish Meteorological Institute, Helsinki, Finland (J. Tamminen, S. Hasinnen)
- Belgian Institute for Space Aeronomy (BIRA/IASB), Brussels, Belgium (M. De Mazière, M. Van Roozendael, J. Stavrakou, J.F. Müller, AC Vandaele)
- NERC Centre for Ecology and Hydrology, UK (M. Sutton, S. Reis)
- VU University Amsterdam, Faculty of Earth and Life Sciences, Hydrology and Geo-environmental Sciences, The Netherlands (J.W. Erisman, G. Van der Werf)
- Atmospheric Chemistry and Composition Modeling, Massachusetts Institute of Technology, U.S.A. (C. Heald)
- Atmospheric Chemistry Group, Princeton University, U.S.A. (M. Zondlo)
- Institute for Space Astrophysics and Planetology, Rome, Italy (M. Giurana)
- Dep. Geophysics, Graduate School of Science, Tohoku University, Japan (Y. Kasaba)

### 5.3 Awards

- Supported Researcher for the Fondation air Liquide 2021-now
- Researcher of the "Fondation de l'Université". 2010-now
- FNRS Mandat d'Impulsion Scientifique F.R.S.-FNRS. 2008-2010
- A.Sc.Br (Association des Agrégés, Docteurs et Licenciés de la Faculté des Sciences de l'ULB) award for the best Master thesis in Sciences, 1994
- Stas Award of the Royal academy of Sciences for the PhD Thesis, 1999

### 5.4 Activities in relation to cooperation and development-----



## 5.5 Outreach

### Articles

- S. Whitburn, C. Clerbaux, P. Coheur "Climat : ce que révèle le sondeur atmosphérique IASI et ses 45 milliards d'observations", 2021.
- P. Coheur, C. Clerbaux, "Des satellites pour surveiller l'environnement et l'atmosphère , L'artichaut, 2020.
- C. Clerbaux, P. Coheur. Où sont passées les 400 millions de tonnes de CO<sub>2</sub> rejetées par les incendies australiens ? *The Conversation*, 2020
- T. Phulpin, Camy-Peyret, C.; Taylor, J.; Clerbaux, C.; Coheur, P.; Crevoisier, C.; Edwards, D.; Gambacorta, A.; Guidard, V.; Hilton, F.; Jacquinet, N.; Knuteson, R.; Lavanant, L.; McNally, T.; Matricardi, M.; Revercomb, H.; Serio, C.; Strow, L.; Schlüssel, P.; Klaes, D.; Larigauderie, C "Les résultats exceptionnels de IASI, sondeur atmosphérique hyperspectral de Metop". *La Météorologie*, issue n°72, 2011
- C. Clerbaux, M. George, J. Hadji-Lazaro, L. Clarisse , D. Hurtmans and P. Coheur "Mesure du SO<sub>2</sub> et des cendres volcaniques avec IASI", *La Météorologie*, issue n°74, 2011.
- Clerbaux, C. and P.F. Coheur, "Suivi de la pollution depuis l'espace à partir de sondeurs infrarouge". *Ciel et Terre*, 122(3): p. 66-72, 2006.
- P.F. Coheur : "Fullerènes et Spectroscopie", A.Sc.Br (Association des Agrégés, Docteurs et Licenciés de la Faculté des Sciences de l'ULB), 1995.

### Conferences

- Des satellites pour surveiller l'environnement et l'atmosphère. **Cepulb. 2021**
- Des satellites pour surveiller l'environnement et l'atmosphère. **Cepulb. 2020**
- La composition et la chimie de l'atmosphère terrestre vues depuis l'espace. **Congrès des Sciences. August 2013**
- Notre atmosphère : état des lieux, évolution future et solutions (with C. Clerbaux and G. Brasseur) : L'atmosphère terrestre vue du ciel. **The Royal Academy of Science, Letters and Fine Arts of Belgium. 16 May 2013**
- "L'Univers plein gaz", **Café Scientifique, Dijon, September 2011**
- « les couleurs des étoiles et des planètes et des couleurs pour surveiller l'environnement » **Scientothèque asbl, 2009**
- "La Chimie et les Jeunes" **Walchim/Bruchim/Fedichem Conferences in schools 1998-2000**

### Group supervision

- Supervision of a school class for a project on atmospheric pollution, during the event " Bruxelles 2000 : la Science et la Ville". **2000**
- Scientific workshops in primary schools. **2000**

### Medias

#### *Science highlights communicated on*

- Several youtube movies on IASI
- TV (Journal télévisé RTBF, 2011, 2014, 2016 ; Journal télévisé RTL 2016)
- Radio (RTBF via live shows or podcasts, 2012, 2015; Radio Campus 2011, 2014)
- Newspaper (Le Soir, 2011, 2014 and several others)

## VI. Administrative responsibilities

### 6.1. Research and teaching

#### 6.1.1. As Principal, co-investigator of research projects (amounts given projects starting from 2010)

- 2022-2027: Co-I for the EUMETSAT “Satellite Application Facility on Atmospheric Composition Monitoring (ACSAF)” 4<sup>th</sup> phase. **7.2 M€ entire project; 569 k€ ULB.**
- 2022-2023: co-I of the “Nitrosat Scientific study” in Phase 0. **600 k€ total; 175 k€ ULB.**
- 2021-2023: PI for ESA/Prodex project “Hyperspectral atmospheric IR sounding missions” (HIRS). **1.7 M€ entire project; 1.0 M€ ULB.**
- 2021-2023: PI of the project “Tracking Ammonia Pollution from IR satellite observations (TAPIR)” for the Fondation Air Liquide. **149 k€**
- 2020-2021: PI for EUMETSAT study on “Utilization of PCA for atmospheric composition applications”. **60 k€**
- 2019-2022: co-I of the ESA “O3 Climate Change Initiative O3-CCI+”
- 2017-2022: Co-I for the EUMETSAT “Satellite Application Facility on Atmospheric Composition Monitoring (ACSAF)”. **6.9 M€ entire project; 498 k€ ULB.**
- 2018-2019: PI for ESA/Prodex project “Infrared Atmospheric Sounding with IASI and Follow-on missions” (IASI.Flow) – phase II. **1.6 M€ entire project; 0.7 M€ ULB.**
- 2017-2020: Co-PI for the Belspo-BRAIN project “Oxygenated organic Compounds in the Tropical Atmosphere: Variability and atmosphere-biosphere Exchanges (OCTAVE)”. **0.7 M€ entire project; 208 k€ ULB.**
- 2016-2020: PI for F.R.S.-FNRS project “CaRbon species in the Atmosphere of Mars from Infrared Composition sounders” (CRAMIC). **433 k€ entire project; 217 k€ ULB.**
- 2014-2018: PI or ESA/Prodex project “Infrared Atmospheric Sounding with IASI and Follow-on missions” (IASI.Flow) – phase II. **1.6 M€ entire project; 1.2 M€ ULB.**
- 2014-2017: co-I for EU-FP7 project “Quality Assurance for Essential Climate Variables” (QA4ECV); **5.0 M€ entire project; 100 k€ ULB.**
- 2014-2016: co-I for EU-FP7 project “Partnership with China on Space Data” (PANDA). **2.0 M€ entire project; 150 k€ ULB.**
- 2014-2016: co-I for ESA project “Climate Change Initiative for ozone” (O3CCI). **2.2 M€ entire project; 120 k€ ULB.**
- 2012-2017: Co-I for the EUMETSAT “Satellite Application Facility on Ozone and Atmospheric Chemistry Monitoring (O3MSAF)”. **6.3 M€ entire project; 300 k€ ULB.**
- 2012-2013 : co-I for ESA project “SIROCCO: The synergetic SWIR and IR retrievals of near-surface concentrations of CH<sub>4</sub> and CO for Earth and Planetary atmospheres”. **250 k€ entire project; 20 k€ ULB.**
- 2012-2013 : co-I for ESA project “SACS2 : Support to aviation Control Service”. **300 k€ entire project; 75 k€ ULB.**
- 2011-2015 : co-I for EU-FP7 project : “Effects of Climate Change on Air Pollution and Response Strategies for European Ecosystems (ECLAIRE)”. **7.0 M€ entire project; 40 k€ ULB.**
- 2010-2013 : co-PI for ESA/Prodex project A3C : “Atmospheric Composition, Chemistry and Climate”. **3.6 M€ entire project; 868 k€ ULB.**
- 2009-2012 : co-I for ESA project “SACS+ : Support to aviation Control Service”.
- 2009-2011 : co-I for EU-FP7 project : “European Volcano Observatory Space Services (EVOSS)”
- 2008-2010 : co-PI for ESA/Prodex project SECPEA : “Space based exploration of the Chemistry and Physics of the Earth’s Atmosphere”.
- 2008-2009: co-PI for ESA project “ON-TRAQ : Original and New Tropospheric Chemistry and Air Quality”.
- 2008-2009: co-PI for CNES project: “Etude de l’impact du contraste thermique sur l’inversion de l’ozone dans la couche limite”.

- 2008-2009: co-PI for EUMETSAT project: "potential of MTG-IRS to detect high pollution events at urban and regional scales" (EUM/CO/07/4600000447/SAT)
- 2005-2006: co-PI for EUMETSAT project 'Capabilities of IRS-MTG to sound ozone, carbon monoxide and methane using ESA pre-phase A specifications' (EUM/CO/05/1484/SAT)
- 2005-2007: Co-PI of ESA/Prodex project 'Atmospheric Chemistry Experiment' (Prodex Arrangement No. 90115)
- 2005-2007: PI of ESA/Prodex project 'Tropospheric Chemistry using IASI (Prodex Arrangement No. 90220)
- 2004-2007 : Co-PI of FRFC project 'Détection de constituants minoritaires de l'atmosphère par spectroscopie IR-UV-Vis et détermination des paramètres spectroscopiques nécessaires' (Convention No. 2.4536.01)
- 2004 : PI of EUMETSAT project 'CO retrieval from MTG IRS and UVS missions' (EUM/CO/04/1296/SAT)
- 2002-2005 : co-PI of ESA/Prodex 'ACE-IASI' proposal (Arrangement No. 90115)

#### 6.1.2. *Organization of Erasmus, Socrates...programs*

- Erasmus+ travel grant to Université de La Réunion (teaching mobility). **November 2017**

#### 6.1.3. *Organization of conferences, workshops etc.*

- Scientific and Organizing Committee of the Solvay Workshop on "New Frontiers in Atomic, Nuclear, Plasma and Astrophysics, **Bruxelles, Belgium, 2019**
- Science committee of the IASI international Conferences; **2007**, Anglet, France; **2010**, Sévrier, France; **2013**, Hyères, France; **2016**, Juan-les-pins, France; **2021**, Evian, France.
- Member of the Science Committee for the Solvay Workshop "Molecular Complexes in our Atmosphere and Beyond", **Bruxelles, Belgium, 2010**
- Member of the local organizing committee of the workshop "Formation, Stability and Photophysics of Fullerenes", **Bruges, 17-21 September 1997**.
- Member of the local organizing of the "ACE Science Team Meeting ", **ULB, 16-17 October 2001**

#### 6.2. *Contribution to the ULB administration*

##### 6.2.1. *Central*

- Member of the Research Council **2021-**
- Member of the Commission on Ethics and Integrity in Research **2021-**

##### 6.2.2. *Chemistry Department*

- Head of Department **2021-** (vice-president in 2020)
- Member of the Department Board, **2020-now** and **2007-2015**
- Member of the Nomination Committee, **2020-now** (as president in 2021 and 2022) and **2010-2015**
- Member of the Commission for Quality in Teaching **2016-now** (as president in 2021 and 2022)
- President of the Doctoral Committee, **2014-2020** (secretary since 2021 and 2010-2014)
- Responsible of the library, **2010-now**
- Secretary of the Department, **2007-2009**

##### 6.2.3. *Other*

- Contribution to the Mentoring program **2019-2020** (Mentor of H. Valckenier)

## VII. **Additional information**

### **VIII. Summary of research activities**

The work carried out in my group consists in sounding the chemical composition of the low atmosphere from space. Molecular spectroscopy and atmospheric radiative transfer are at the heart of our research, which opens to the study of atmospheric and environmental processes. Specifically, we exploit the measurements of infrared satellite sounders to retrieve and analyze local-to-global concentration distributions of reactive trace gases in the Earth's atmosphere. This allows tackling some of the important questions in relation to stratospheric ozone destruction and the ozone hole, air pollution and local air quality; long-range transport of air pollution; climate change and chemistry-climate interactions; biogeochemical cycles. In the last years we have started extending our activities to the sounding of other planetary atmospheres.

Brussels, February 2022

Pierre Coheur

## **Appendix: Bibliography**

Complete bibliography; Generated from the Institutional repository  
of the Université libre de Bruxelles *Di-Fusion*

*January 17, 2022*

## List of publications of Pierre Coheur

### 5.1.2. - Books published or edited in collaboration

2018

1. **Coheur, P.**, Boudon, V., & Sears, T. (2018). *Journal of Molecular Spectroscopy: Special Issue of Molecular Spectroscopy, Atmospheric Composition and Climate Change*.

### 5.1.3. - Contributions to collective works

2017

1. Clerbaux, C., Bauduin, S., Boynard, A., Clarisse, L., **Coheur, P.**, George, M., Hadji-Lazaro, J., Hurtmans, D., Safieddine, S., Van Damme, M., & Whitburn, S. (2017). Air Pollution in Eastern China: An integrated perspective. In *Observation of air pollution over China using the IASI thermal infrared space sensor*. Springer. (ISSI Scientific Report Series, 16).

2014

2. Turquety, S., Messina, P., Stromatas, S., Anav, A., Menut, L., Bessagnet, B., Péré, J., Drobinski, P., **Coheur, P.**, Rhoni, Y., Clerbaux, C., & Tanre, D. (2014). Impact of Fire Emissions on Air Quality in the Euro-Mediterranean Region. In D. Steyn, P. Buitjes, & R. Timmermans (Eds.), *Air Pollution Modeling and its Application XXII*. Springer Netherlands. (NATO Science for Peace and Security Series C: Environmental Security).

2006

3. Clerbaux, C., Cunnold, D., & **Coheur, P.** (2006). Long-lived compounds. In *Scientific Assessment of Ozone Depletion: 2006*. WMO/UNEP.

2003

4. Vandaele, A. C., De Mazière, M., Hermans, C., Carleer, M., Clerbaux, C., **Coheur, P.**, Colin, R., Fally, S., Coquart, B., Jenouvrier, A., & Merienne, M. F. (2003). UV, visible and near-IR spectroscopy of atmospheric species. In S. G. Pandalai (Ed.), *Recent Research Developments in Chemical Physics* (pp. 325-344). Trivandrum: Transworld Research Network. (Chemistry series).

### 5.1.4. and 5.1.5. - Peer-reviewed journal articles

2021

1. Whitburn, S., Clarisse, L., Bouillon, M. M., Safieddine, S., George, M. A. R. M., Dewitte, S., De Longueville, H., **Coheur, P.**, & Clerbaux, C. (2021). Trends in spectrally resolved outgoing longwave radiation from 10 years of satellite measurements. *npj Climate and Atmospheric Science*, 4(1), 48. doi:10.1038/s41612-021-00205-7
2. Hickman, J. E., Andela, N., Dammers, E., Clarisse, L., **Coheur, P.**, Van Damme, M., Di Vittorio, C., Ossouhou, M., Galy-Lacaux, C., Tsigaridis, K., & Bauer, S. (2021). Changes in biomass burning, wetland extent, or agriculture drive atmospheric NH<sub>3</sub> trends in select

- African regions. *Atmospheric chemistry and physics*, 21(21), 16277-16291. doi:10.5194/acp-21-16277-2021
3. Abeed, R., Clerbaux, C., Clarisse, L., Van Damme, M., **Coheur, P.**, & Safieddine, S. (2021). A space view of agricultural and industrial changes during the Syrian civil war. *Elementa: Science of the Anthropocene*, 9(1). doi:10.1525/elementa.2021.000041
  4. Mahieu, E., Fischer, E. V., Franco, B., Palm, M., Wizenberg, T., Smale, D., Clarisse, L., Clerbaux, C., **Coheur, P.**, Hannigan, J. W., Lutsch, E., Notholt, J., Cantos, I. P., Prignon, M., Servais, C., & Strong, K. (2021). First retrievals of peroxyacetyl nitrate (PAN) from ground-based FTIR solar spectra recorded at remote sites, comparison with model and satellite data. *Elementa (Washington, D.C.)*, 9(1), 1. doi:10.1525/elementa.2021.00027
  5. Marais, E. E., Pandey, A. A., Van Damme, M., Clarisse, L., **Coheur, P.**, Shephard, M. W., Cady-Pereira, K., Misselbrook, T., Zhu, L., Luo, G., & Yu, F. (2021). UK Ammonia Emissions Estimated With Satellite Observations and GEOS-Chem. *Journal of Geophysical Research: Atmospheres*, 126(18), e2021JD035237. doi:10.1029/2021JD035237
  6. Bègue, N., Benchérif, H., Jégou, F., Vèrèmes, H., Khaykin, S., Krysztofiak, G., Portafaix, T., Duflot, V., Baron, A., Berthet, G., Kloss, C., Payen, G., Keckhut, P., **Coheur, P.**, Clerbaux, C., Smale, D., Robinson, J. P., Querel, R., & Smale, P. (2021). Transport and variability of tropospheric ozone over oceania and southern pacific during the 2019–20 australian bushfires. *Remote Sensing*, 13(16), 3092. doi:10.3390/rs13163092
  7. Stavrakou, T., Muller, J. F., Bauwens, M., Doumbia, T., Elguindi, N., Darras, S., Granier, C., De Smedt, I., Lerot, C., Van Roozendaal, M., Franco, B., Clarisse, L., Clerbaux, C., **Coheur, P.**, Liu, Y., Wang, T., Shi, X., Gaubert, B., Tilmes, S., & Brasseur, G. (2021). Atmospheric impacts of COVID-19 on NO<sub>x</sub> and VOC levels over China based on TROPOMI and IASI satellite data and modeling. *Atmosphere*, 12(8), 946. doi:10.3390/atmos12080946
  8. Rosanka, S., Franco, B., Clarisse, L., **Coheur, P.**, Pozzer, A., Wahner, A., & Taraborrelli, D. (2021). The impact of organic pollutants from Indonesian peatland fires on the tropospheric and lower stratospheric composition. *Atmospheric chemistry and physics*, 21(14), 11257-11288. doi:10.5194/acp-21-11257-2021
  9. Clarisse, L., Van Damme, M., Hurtmans, D., Franco, B., Clerbaux, C., & **Coheur, P.** (2021). The Diel Cycle of NH<sub>3</sub> Observed From the FY-4A Geostationary Interferometric Infrared Sounder (GIIRS). *Geophysical research letters*, 48(14), e2021GL093010. doi:10.1029/2021GL093010
  10. Guo, X., Wang, R., Pan, D., Zondlo, M. A., Clarisse, L., Van Damme, M., Whitburn, S., **Coheur, P.**, Clerbaux, C., Franco, B., Golston, L., Wendt, L., Sun, K., Tao, L., Miller, D., Mikoviny, T., Müller, M., Wisthaler, A., Tevlin, A., Murphy, J. G., Nowak, J. B., Roscioli, J. R., Volkamer, R. M., Kille, N., Neuman, J. A., Eilerman, S. J., Crawford, J. H., Yacovitch, T. I., Barrick, J., & Scarino, A. J. (2021). Validation of IASI Satellite Ammonia Observations at the Pixel Scale Using In Situ Vertical Profiles. *Journal of Geophysical Research: Atmospheres*, 126(9). doi:10.1029/2020JD033475
  11. Van Damme, M., Clarisse, L., Franco, B., Sutton, M. A., Erisman, J. W., Wichink Kruit, R., Zanten, M. V., Whitburn, S., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.**

- P. (2021). Global, regional and national trends of atmospheric ammonia derived from a decadal (2008textendash2018) satellite record. *Environmental Research Letters*, 16(5), 055017. doi:10.1088/1748-9326/abd5e0
12. Franco, B., Blumenstock, T., Cho, C., Clarisse, L., Clerbaux, C., **Coheur, P.**, De Mazière, M., De Smedt, I., Dorn, H. P., Emmerichs, T., Fuchs, H., Gkatzelis, G., Griffith, D. D., Gromov, S. S., Hannigan, J. W., Hase, F., Hohaus, T., Jones, N., Kerkweg, A., Kiendler-Scharr, A., Lutsch, E., Mahieu, E., Novelli, A., Ortega, I., Paton-Walsh, C., Pommier, M., Pozzer, A., Reimer, D., Rosanka, S., Sander, R., Schneider, M., Strong, K., Tillmann, R., Van Roozendael, M., Vereecken, L., Vigouroux, C., Wahner, A., & Taraborrelli, D. (2021). Ubiquitous atmospheric production of organic acids mediated by cloud droplets. *Nature (London)*, 593(7858), 233-237. doi:10.1038/s41586-021-03462-x
  13. Buchholz, R., Worden, H. H., Park, M., Francis, G. G., Deeter, M., Edwards, D. D., Emmons, L., Gaubert, B., Gille, J., Martínez-Alonso, S., Tang, W., Kumar, R., Drummond, J., Clerbaux, C., George, M. A. R. M., **Coheur, P.**, Hurtmans, D., Bowman, K., Luo, M., Payne, V. V., Worden, J., Chin, M., Levy, R. R., Warner, J., Wei, Z., & Kulawik, S. S. (2021). Air pollution trends measured from Terra: CO and AOD over industrial, fire-prone, and background regions. *Remote sensing of environment*, 256, 112275. doi:10.1016/j.rse.2020.112275
  14. Pawar, P., Ghude, S. D., Jena, C., Moring, A., Sutton, M. A., Kulkarni, S., Lal, D. M., Surendran, D., Van Damme, M., Clarisse, L., **Coheur, P.**, Liu, X., Govardhan, G., Xu, W., Jiang, J., & Adhya, T. K. (2021). Analysis of atmospheric ammonia over South and East Asia based on the MOZART-4 model and its comparison with satellite and surface observations. *Atmospheric chemistry and physics*, 21(8), 6389-6409. doi:10.5194/acp-21-6389-2021
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  18. Wang, R., Guo, X., Pan, D., Kelly, J. J., Bash, J., Sun, K., Paulot, F., Clarisse, L., Van Damme, M., Whitburn, S., **Coheur, P.**, Clerbaux, C., & Zondlo, M. A. (2021). Monthly Patterns of Ammonia Over the Contiguous United States at 2-km Resolution. *Geophysical research letters*, 48(5), e2020GL090579. doi:10.1029/2020GL090579
  19. Evangeliou, N., Balkanski, Y., Eckhardt, S., Cozic, A., Van Damme, M., **Coheur, P.**, Clarisse, L., Shephard, M. W., Cady-Pereira, K., & Hauglustaine, D. (2021). 10-year satellite-constrained fluxes of ammonia improve performance of chemistry



transport models. *Atmospheric chemistry and physics*, 21(6), 4431-4451. doi:10.5194/acp-21-4431-2021

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22. Chen, Y., Shen, H., Kaiser, J., Hu, Y., Capps, S. S., Zhao, S., Hakami, A., Shih, J. S., Pavur, G. G., Turner, M. M., Henze, D. D., Resler, J., Nenes, A., Napelenok, S. S., Bash, J., Fahey, K. K., Carmichael, G. G., Chai, T., Clarisse, L., **Coheur, P.**, Van Damme, M., & Russell, A. A. (2021). High-resolution hybrid inversion of IASI ammonia columns to constrain US ammonia emissions using the CMAQ adjoint model. *Atmospheric chemistry and physics*, 21(3), 2067-2082. doi:10.5194/acp-21-2067-2021
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27. Fortems-Cheiney, A., Dufour, G., Dufossé, K., Couvidat, F., Gilliot, J. M., Siour, G., Beekmann, M., Foret, G., Meleux, F., Clarisse, L., **Coheur, P.**, Van Damme, M., Clerbaux, C., & Générumont, S. (2020). Do alternative inventories converge on the spatiotemporal representation of spring ammonia emissions in France. *Atmospheric chemistry and physics*, 20(21), 13481-13495. doi:10.5194/acp-20-13481-2020
28. Benchérif, H., Bègue, N., Pinheiro, D. K., Du Preez, D. J., Cadet, J. M., Lopes, F. J. D. S. F., Shikwambana, L., Landulfo, E., Vescovini, T., Labuschagne, C., Silva, J. J., Anabor, V., **Coheur, P.**, Mbatha, N., Hadji-Lazaro, J., Sivakumar, V., & Clerbaux, C. (2020). Investigating the long-range transport of aerosol plumes following the amazon

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### 2003

12. Jacquinet-Husson, N., Scott, N., Garceran, K., Armante, R., Chédin, A., Barbe, A., Claveau, C., Daumont, L., Debacker-Barilly, M., Hamdouni, A., Régalia-Jarlot, L., Tyuterev, V. G., Chance, K., Mikhailenko, S., Tashkun, S., Chursin, A., Brown, L., Toth, R. A., Flaud, J. M., Kleiner, I., Dana, V., Jacquemart, D., Mandin, J. Y., Teffo, J. L., Rublev, A. N., Schult, L., Clerbaux, C., **Coheur, P.**, Fally, S., Vander Auwera, J., Goldman, A., Birk, M., Schreier, F., Wagner, G., Newnham, D., Smith, K., Nemtchinov, V., Varanasi, P., Hurley, M. D., Hess, M., Köpke, K., & Massie, S. (2003). The 2003 edition of GEISA. *Proceedings of the 13th International TOVS Study Conference* (pp. 4205-4254) International TIROS Operational Vertical Sounder Study Conference.(13).
13. Carleer, M., Kiseleva, M. B., Fally, S., **Coheur, P.**, Clerbaux, C., Colin, R., Daumont, L., Jenouvrier, A., Merienne, M.-F., Hermans, C., & Vandaele, A. C. (2003). Laboratory Fourier transform spectroscopy of the water absorption continuum from 2500 to 22500 cm<sup>-1</sup>. In C. Camy-Peyret & A. Vigasin (Eds.), *Weakly interacting molecular pairs: unconventional absorbers of radiation in the atmosphere* (pp. 213-221). (NATO science series., Series IV, Earth and environmental sciences, 27). Dordrecht ; Boston: Kluwer Academic Publishers.

### 2001

14. Chugreev, A., Razbirin, B. S., Starukhin, A., Zgoda, A., Smirnov, V., Grushko, Y., Kolesnik, S., Eletsii, A. V., Bezmelnitsyn, V. N., Sokolov, V. B., Ryzhkov, A. V., **Coheur, P.**, Liévin, J., & Colin, R. (2001). Optical spectroscopy of matrix-isolated halogenated fullerenes. In H. Kuzmany, K. Atkinson, M. Mehring, & S. Roth (Eds.), *Electronic properties of molecular nanostructures : XV International Winterschool/Euroconference*. (AIP conference proceedings, 591). Melville, N.Y.: American Institute of Physics.
15. **Coheur, P.**, Fally, S., Vandaele, A. C., Hermans, C., Jenouvrier, A., Carleer, M., Merienne, M. F., Clerbaux, C., & Colin, R. (2001). Absolute intensities of water vapour lines in the near ultraviolet and visible regions. *Proceedings of SPIE - The International Society for Optical Engineering*. Vol. 4168 (pp. 97-105).

### 1999

16. Jorissen, A., **Coheur, P.**, Alvarez, R., & Groenewegen, M. A. T. (1999). Mass loss along the giant branch of the globular cluster 47 Tuc. In P. Cox & M. F. Kessler (Eds.), *The Universe as seen by ISO* (pp. 341-344). (ESA-SP, 427). Noordwijk (Netherlands): European Space Agency.

### 1998

17. **Coheur, P.**, Cornil, J., Dos Santos, D. A., Birkett, P. R., Liévin, J., Brédas, J.-L., Janot, J. M., Seta, P., Leach, S., Walton, D. R. M., Taylor, R., Kroto, H. W., & Colin, R. (1998). Photophysical properties of some hexa-functionalized C<sub>60</sub> derivatives. In *Recent*

*Advances in the Chemistry and Physics of Fullerenes and Related Materials: Vol. 6* (pp. 1156-1172). (Proceedings (Electrochemical Society), 98-8). Pennington, NJ: Electrochemical Society.

### 5.1.8. - Research reports, reading notes, book reviews, letters to the editor, working papers

#### 2011

1. De Mazière, M., De Backer, H., Carleer, M., Mahieu, E., Clément, K., Dils, B., Kruglanski, M., Hendrick, F., Hermans, C., Van Roozendaal, M., Vigouroux, C., Cheymol, A., De Bock, V., Mangold, A., Van Malderen, R., **Coheur, P.**, Fally, S., Vander Auwera, J., Lacour, J. L., Duchatelet, P., & Demoulin, P. (2011). *Advanced exploitation of Ground-Based measurements for Atmospheric Chemistry and Climate Applications "AGACC"*.

#### 2006

2. **Coheur, P.**, Barret, B., Hurtmans, D., Hadji-Lazaro, J., Clerbaux, C., & O'Brien, D. (2006). *CO retrievals from MTG IRS and UVS mission*.
3. Clerbaux, C., **Coheur, P.**, Hurtmans, D., Hadji-Lazaro, J., Turquety, S., & Van Oss, R. (2006). *Capabilities of IRS-MTG to sound ozone, carbon monoxide and methane using ESA pre-phase A specifications*.

#### 2005

4. **Coheur, P.**, Barret, B., Clerbaux, C., Hadji-Lazaro, J., Kruglanski, M., Vandaele, A. C., & O'Brien, D. (2005). *CO measurements from MTG IRS and UVS missions*.

#### 2003

5. Clerbaux, C., **Coheur, P.**, Turquety, S., & Hadji-Lazaro, J. (2003). *Capabilities of infrared sounder observations for monitoring atmospheric composition and chemistry applications*.

#### 1997

6. Firth, S., **Coheur, P.**, Mitzner, R., Carleer, M., Campbell, E. E. B., Colin, R., & Kroto, H. W. (1997). The dispersed laser-induced fluorescence spectrum of gas-phase C<sub>60</sub> at 308 nm. *Journal of Physics. B, Atomic Molecular and Optical Physics*, 30(11), 393-400. doi:10.1088/0953-4075/30/11/003

### 5.2.2. - Active participation in international conferences and symposiums

#### 2021

1. Muller, J. F., Stavrou, T., Bauwens, M., Amelynck, C., Schoon, N., Vigouroux, C., Franco, B., Clarisse, L., **Coheur, P.**, Clerbaux, C., Strong, K., & Makarova, M. (2021). *Top-down global methanol budget: the view from IASI, FTIR and in situ measurements*. Poster session presented at AGU Fall Meeting 2021 (13-17 December 2021: New Orleans, LA, USA).



2. Franco, B., Clarisse, L., Van Damme, M., Hadji-Lazaro, J., Clerbaux, C., & **Coheur, P.** (2021). *First Space Detection of Anthropogenic Point Sources of Ethylene (C<sub>2</sub>H<sub>4</sub>)*. Paper session presented at IASI 2021 Conference (06-10 December 2021: Evian, France).
3. Clarisse, L., Clerbaux, C., Franco, B., Hadji-Lazaro, J., Whitburn, S., Kopp, A., Hurtmans, D., & **Coheur, P.** (2021). *A Decadal Data Set of Global Atmospheric Dust Retrieved from IASI Satellite Measurements*. Poster session presented at IASI 2021 Conference (06-10 December 2021: Evian, France).
4. Abeer, R., Clerbaux, C., Clarisse, L., Van Damme, M., **Coheur, P.**, & Safieddine, S. (2021). *A space view of agricultural and industrial changes during the Syrian civil war*. Paper session presented at IASI 2021.
5. Viatte, C., Petit, J. E., Yamanouchi, S., Van Damme, M., Doucerain, C., Germain-Piaulenne, E., Gros, V., Favez, O., Clarisse, L., **Coheur, P.**, Strong, K., & Clerbaux, C. (2021). *Ammonia and PM<sub>2.5</sub> Air Pollution in Paris during the 2020 COVID Lockdown*. Paper session presented at IASI 2021.
6. Noppen, L., Clarisse, L., Tack, F., Ruhtz, T., Merlaud, A., Van Damme, M., Schuettmeyer, D., **Coheur, P.**, & Van Roozendaal, M. (2021). *Aircraft observations of NO<sub>2</sub> and NH<sub>3</sub> over selected locations in Germany*. Poster session presented at IASI 2021.
7. De Longueville, H., Clarisse, L., Hurtmans, D., Franco, B., **Coheur, P.**, Clerbaux, C., Boynard, A., Coppens, D., August, T., & Hultberg, T. (2021). *Use and impact of PCA reconstructed radiances for atmospheric composition applications*. Poster session presented at IASI 2021 Conference (Evian, France).
8. Lecomte, G., Clarisse, L., Bauduin, S., Franco, B., Hurtmans, D., Clerbaux, C., Turquety, S., & **Coheur, P.** (2021). *Retrieval of fire plume heights from IR satellite measurements*. Poster session presented at IASI 2021 Conference (06-10 December 2021: Evian, France).
9. Van Damme, M., Clarisse, L., Guo, X., Wang, R., Wang, W., Dammers, E., Franco, B., Whitburn, S., Erisman, J., Clerbaux, C., Zondlo, M. A., & **Coheur, P.** (2021). *Validation of IASI-NH<sub>3</sub> measurements*. Poster session presented at IASI 2021 Conference.
10. Franco, B., Clarisse, L., Stavrakou, T., Muller, J. F., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2021). *Decadal Datasets of Major Oxygenated Volatile Organic Compounds Retrieved from IASI Satellite Measurements*. Poster session presented at IASI 2021 Conference (06-10 December 2021: Evian, France).
11. Van Damme, M., Clarisse, L., Franco, B., Whitburn, S., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2021). *Satellite monitoring of ammonia: from point sources to long-term trends*. Paper session presented at IASI 2021.
12. Guendouz, N., Viatte, C., Van Damme, M., Clarisse, L., **Coheur, P.**, Cailteau-Fischbach, C., & Clerbaux, C. (2021). *Evaluation of ammonia concentrations derived from IASI using a ground-based instrument (mini-DOAS) over two different areas (urban and rural) in France*. Poster session presented at IASI 2021.

13. De Longueville, H., Clarisse, L., Franco, B., Whitburn, S., Clerbaux, C., Camy-Peyret, C., & **Coheur, P.** (2021). *Detecting and assessing trends of CFCs and substitutes from IASI measurements*. Paper session presented at IASI 2021 Conference (06-10 December 2021: Evian, France).
14. Whitburn, S., Clarisse, L., Delcloo, A., Dewitte, S., Bouillon, M. M., George, M., Safieddine, S., **Coheur, P.**, & Clerbaux, C. (2021). *Trends in spectrally resolved OLR from 10 years of IASI measurements*. Paper session presented at IASI 2021 Conference (06-10 December 2021: Evian, France).
15. Boynard, A., Boone, C., Hadji-Lazaro, J., Clerbaux, C., George, M., Clarisse, L., Van Damme, M., Whitburn, S., Hurtmans, D., **Coheur, P.**, Capelle, V., Crevoisier, C., Cuesta, J. A., & Stubenrauch, C. (2021). *The IASI/AERIS portal: dissemination of atmospheric data in open access*. Poster session presented at 2021 IASI conference.
16. De Longueville, H., Clarisse, L., Franco, B., Whitburn, S., Clerbaux, C., Camy-Peyret, C., & **Coheur, P.** (2021). *Detecting and assessing trends of CFCs and substitutes from IASI measurements*. Paper session presented at EUMETSAT Meteorological Satellite conference 2021 (20-24 September 2021: Bucharest, Romania).
17. De Longueville, H., Clarisse, L., Hurtmans, D., Franco, B., **Coheur, P.**, Boynard, A., Clerbaux, C., Hultberg, T., August, T., & Coppens, D. (2021). *Use and impact of PCA-reconstructed radiances for atmospheric composition applications*. Poster session presented at EUMETSAT Meteorological Satellite conference 2021 (20-24 September 2021: Bucharest, Romania).
18. Taraborrelli, D., Franco, B., Blumenstock, T., Cho, C., Clarisse, L., Clerbaux, C., **Coheur, P.**, De Mazière, M., De Smedt, I., Dorn, H. P., Emmerichs, T., Fuchs, H., Griffith, D. W. T., Gromov, S. S., Hannigan, J. W., Hase, F., Hohaus, T., Jones, N., Kerkweg, A., Lutsch, E., Mahieu, E., Novelli, A., Reimer, D., Rosanka, S., Ortega, I., Paton-Walsh, C., Pommier, M., Pozzer, A., Sander, R., Schneider, M., Strong, K., Tillmann, R., Van Roozendael, M., Vereecken, L., Vigouroux, C., Wahner, A., & Kiendler-Scharr, A. (2021). *A large source of formic acid from cloud droplets*. Paper session presented at 16th IGAC Scientific Conference (12-17 September 2021: Manchester, UK).
19. Vohra, K., Marais, E. A., Bloss, W. J., McDuffie, E. E., Van Damme, M., Clarisse, L., & **Coheur, P.** (2021). *Long-term air quality trends in fast-growing future megacities in the tropics*. Paper session presented at 16th IGAC Scientific Conference.
20. Clarisse, L., Van Damme, M., Hurtmans, D., Franco, B., Whitburn, S., Clerbaux, C., & **Coheur, P.** (2021). *Temporal variations of atmospheric NH<sub>3</sub> revealed from space: from intraday cycles to long-term global trends*. Poster session presented at 16th IGAC Scientific Conference.
21. Marais, E. A., Pandey, A. A., Van Damme, M., Clarisse, L., **Coheur, P.**, Shephard, M. W., Cady-Pereira, K., Misselbrook, T., Zhu, L., Luo, G., & Yu, F. (2021). *Agricultural emissions of ammonia estimated with satellite observations and GEOS-Chem*. Paper session presented at 16th IGAC Scientific Conference.
22. Stavrakou, T., Muller, J. F., Bauwens, M., Doumbia, T., Elguindi, N., Darras, S., Granier, C., De Smedt, I., Lerot, C., Van Roozendael, M., Franco, B., Clarisse, L., Clerbaux, C., **Coheur, P.**, Liu, Y., Wang, T., Bouarar, I., Shi, X., Gaubert, B., Tilmes, S., & Brasseur, G.

- (2021). *Impact of COVID-19 on NO<sub>x</sub> and VOC levels over China based on multi-species satellite data and modeling*. Poster session presented at 16th IGAC Scientific Conference (12-17 September 2021: Manchester, UK).
23. Franco, B., Clarisse, L., Van Damme, M., Hadji-Lazaro, J., Clerbaux, C., & **Coheur, P.** (2021). *Anthropogenic point sources of ethylene revealed from space*. Poster session presented at 16th IGAC Scientific Conference (12-17 September 2021: Manchester, UK).
  24. De Longueville, H., Clarisse, L., Franco, B., Whitburn, S., Clerbaux, C., Camy-Peyret, C., & **Coheur, P.** (2021). *Identification de gaz traces à court et à long temps de vie atmosphérique à partir de mesures du sondeur IASI/Metop-A*. Poster session presented at Journées de Spectroscopie Moléculaire 2021 (28-30 June 2021: Rennes, France).
  25. Clarisse, L., Tack, F., Ruhtz, T., Merlaud, A., Noppen, L., Van Damme, M., Schuettmeyer, D., **Coheur, P.**, & Van Roozendael, M. (2021). *Aircraft observations of NO<sub>2</sub> and NH<sub>3</sub> over selected locations in Germany*. Paper session presented at EGU General Assembly.
  26. Whitburn, S., Clarisse, L., Delcloo, A., Dewitte, S., Bouillon, M. M., George, M., Safieddine, S., **Coheur, P.**, & Clerbaux, C. (2021). *Trends in spectrally resolved OLR from 10 years of IASI measurements*. Paper session presented at vEGU2 (19-30 April 2021: Vienne (remote)).
  27. Abeer, R., Safieddine, S., Clarisse, L., Van Damme, M., **Coheur, P.**, & Clerbaux, C. (2021). *The effects of the Syrian civil war on atmospheric NH<sub>3</sub> as seen from IASI*. Paper session presented at EGU General Assembly.
  28. **Coheur, P.**, Levelt, P., Clarisse, L., Van Damme, M., Eskes, H., Veeffkind, P. J., Clerbaux, C., Dentener, F., Erisman, J. W., Schaap, M., Sutton, M. A., & Van Roozendael, M. (2021). *Nitrosat, a satellite mission concept for mapping reactive nitrogen at the landscape scale*. Paper session presented at EGU General Assembly.
  29. Van Damme, M., Clarisse, L., Franco, B., Sutton, M. A., Erisman, J. W., Wichink Kruit, R., Zanten, M. V., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2021). *Temporal variations of atmospheric ammonia (NH<sub>3</sub>) derived from over a decade of IASI satellite measurements*. Paper session presented at EGU General Assembly.
  30. Franco, B., Clarisse, L., Clerbaux, C., & **Coheur, P.** (2021). *Analysis of space-based observations of peroxyacetyl nitrate (PAN) and its relation to other atmospheric tracers*. Paper session presented at EGU General Assembly 2021 (19-30 April 2021: Vienna). doi:10.5194/egusphere-egu21-9224
  31. De Longueville, H., Clarisse, L., Franco, B., Whitburn, S., Clerbaux, C., Camy-Peyret, C., & **Coheur, P.** (2021). *Detecting and assessing trends of CFCs and substitutes from IASI measurements*. Paper session presented at EGU General Assembly 2021 (19-30 April 2021: Vienna, Austria). doi:10.5194/egusphere-egu21-10660
  32. Stavrakou, T., Muller, J. F., Bauwens, M., Doumbia, T., Elguindi, N., Darras, S., Granier, C., Liu, Y., Shi, X., Bouarar, I., Basseur, G., Wang, T., Eskes, H., De Smedt, I., Clarisse, L., **Coheur, P.**, & Franco, B. (2021). *Covid-19-related air composition changes over China based on TROPOMI and IASI observations, in situ data and model simulations*. Paper

session presented at EGU General Assembly 2021 (19-30 April 2021: Vienna, Austria).  
doi:10.5194/egusphere-egu21-12942

33. Rosanka, S., Franco, B., Clarisse, L., **Coheur, P.**, Wahner, A., & Taraborrelli, D. (2021). *Organic pollutants from Indonesian peatland fires: regional influences and its impact on lower the stratospheric composition*. Paper session presented at EGU General Assembly 2021 (19-30 April 2021: Vienne, Austria). doi:10.5194/egusphere-egu21-10203

## 2020

34. Wang, R., Guo, X., Pan, D., Sun, K., Clarisse, L., Van Damme, M., Shephard, M., Cady-Pereira, K., Whitburn, S., Clerbaux, C., **Coheur, P.**, & Zondlo, M. A. (2020). *Atmospheric Ammonia Emissions from Nitrogen Fertilizer Application: Impacts on Air Quality at Daily Scales*. Paper session presented at AGU Fall Meeting.
35. Franco, B., Clarisse, L., Hadji-Lazaro, J., Hurtmans, D., Lecomte, G., Turquety, S., Clerbaux, C., & **Coheur, P.** (2020). *Large VOC enhancements in recent massive wildfires observed from space*. Paper session presented at EGU General Assembly (2020).
36. Abeer, R., Safieddine, S., Clarisse, L., Van Damme, M., **Coheur, P.**, & Clerbaux, C. (2020). *Ammonia-biosphere interaction from IASI and ERA5*. Paper session presented at EGU General Assembly.
37. Yamanouchi, S., Viatte, C., Strong, K., Jones, D. B. A., Clerbaux, C., Van Damme, M., Clarisse, L., & **Coheur, P.** (2020). *Multiscale observations of NH<sub>3</sub> around Toronto, Canada*. Paper session presented at EGU General Assembly.
38. Clarisse, L., Van Damme, M., Franco, B., Whitburn, S., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2020). *Satellite monitoring of ammonia: from point sources to long-term trends*. Paper session presented at EGU General Assembly.
39. Whitburn, S., Clarisse, L., Bauduin, S., Dewitte, S., George, M., Safieddine, S., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2020). *Spectrally resolved OLR from IASI measurements*. Paper session presented at EGU General Assembly (2020).
40. Clarisse, L., Deguine, A., Hultberg, T., Theys, N., Carn, S., Fontijn, K., Decoster, L., Hadji-Lazaro, J., Hurtmans, D., Camy-Peyret, C., Clerbaux, C., & **Coheur, P.** (2020). *Measurements of HCl in the volcanic plumes of Calbuco (2015) and Raikoke (2019) (invited talk)*. Paper session presented at EGU General Assembly (2020). doi:10.5194/egusphere-egu2020-10651
41. Vohra, K., Marais, E., Kramer, L., Bloss, W., Porter, P., Van Damme, M., Clarisse, L., & **Coheur, P.** (2020). *A space-based perspective of trends in air quality in major cities in the UK and India*. Paper session presented at EGU General Assembly.
- 2019
42. Stavrakou, T., Muller, J. F., Franco, B., Bauwens, M., Clarisse, L., **Coheur, P.**, & Clerbaux, C. (2019). *Improved evaluation of the global methanol budget thanks to novel multi-platform observations*. Paper session presented at AGU Fall Meeting 2019 (9-13 December 2019: San Francisco, USA).

43. Franco, B., Clarisse, L., Stavrou, T., Muller, J. F., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2019). *Over 10 years of five major oxygenated volatile organic compounds retrieved in biomass burning plumes from IASI satellite measurements*. Poster session presented at AGU Fall Meeting 2019 (9-13 December 2019: San Francisco, USA).
44. Wang, R., Guo, X., Pan, D., Clarisse, L., Van Damme, M., Whitburn, S., **Coheur, P.**, Zondlo, M. A., & Sun, K. (2019). *Bridging the Gaps: Synthesizing the Ammonia Monitoring Network with Satellite Ammonia Measurements*. Paper session presented at AGU Fall Meeting.
45. Guo, X., Wang, R., Clarisse, L., Van Damme, M., Whitburn, S., **Coheur, P.**, & Zondlo, M. A. (2019). *Validation of IASI satellite ammonia observations using in-situ profiles*. Poster session presented at AGU Fall Meeting.
46. Crapeau, M., August, T., Hultberg, T., Stapelberg, S., Burini, A., O'Carroll, A., Clerbaux, C., **Coheur, P.**, Hurtmans, D., Clarisse, L., & Coppens, D. (2019). *A First View on the Metop-C IASI Level 2 Performances*. Paper session presented at EUMETSAT/AMS/NOAA Conference (2019).
47. **Coheur, P.**, De Longueville, H., Clarisse, L., Franco, B., Whitburn, S., Clerbaux, C., & Camy-Peyret, C. (2019). *Detecting and Assessing Trends of CFCs and Substitutes from IASI Measurements*. Poster session presented at EUMETSAT/AMS/NOAA Conference 2019.
48. **Coheur, P.**, Clarisse, L., Van Damme, M., Pinto Seixas, J., Velghe, M., & Clerbaux, C. (2019). *Mapping NH<sub>3</sub> with IASI*. Paper session presented at Joint EUMETSAT/AMS/NOAA Conference.
49. Bauduin, S., Giuranna, M., Wolkenberg, P., Vandaele, A. C., Aoki, S., Robert, S., Bouche, J., & **Coheur, P.** (2019). *Can night-time PFS observations contribute to the measurements of Martian CO?* Paper session presented at EPSC-DPS joint meeting (Geneva).
50. Van Damme, M., Clarisse, L., Franco, B., Whitburn, S., Hadji-Lazaro, J., Hurtmans, D., Pinto Seixas, J., Velghe, M., Zondlo, M. A., Guo, X., Wang, R., Dammers, E., Clerbaux, C., & **Coheur, P.** (2019). *Satellite Monitoring of Ammonia: From Point Sources to Long-Term Trends*. Paper session presented at Gordon Research Conference: Atmospheric Chemistry.
51. Whitburn, S., Clarisse, L., George, M., Safieddine, S., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2019). *Spectrally resolved OLR from IASI measurements: Retrieval algorithm for clear-sky measurements*. Paper session presented at Living Planet Symposium 2019 (May 2019: Milan).
52. Kanakidou, M., Daskalakis, N., Hilboll, A., Richter, A., Myriokefalitakis, S., Sfakianaki, M., Vrekoussis, M., Burrows, J., Clarisse, L., Van Damme, M., **Coheur, P.**, & Clerbaux, C. (2019). *Atmospheric Deposition of Reactive Nitrogen Derived from Global Model Simulations and from Satellite Observations*. Poster session presented at ESA Living Planet Symposium.



53. Lachatre, M., Fortems-Cheiney, A., Foret, G., Siour, G., Dufour, G., Clarisse, L., Clerbaux, C., **Coheur, P.**, Van Damme, M., & Beekmann, M. (2019). *The unexpected effect of SO<sub>2</sub> and NO<sub>2</sub> emission reductions over China: strong and rapid increase of atmospheric ammonia levels*. Paper session presented at EGU General Assembly.
54. Stavrakou, T., Muller, J. F., Franco, B., Clarisse, L., Bauwens, M., **Coheur, P.**, & Clerbaux, C. (2019). *Improved understanding of global methanol sources and sinks using novel atmospheric constraints*. Paper session presented at EGU General Assembly 2019 (7-12 April 2019: Vienna, Austria).
55. Franco, B., Clarisse, L., Stavrakou, T., Muller, J. F., Hadji-Lazaro, J., Hurtmans, D., Taraborrelli, D., Clerbaux, C., & **Coheur, P.** (2019). *Ratios of atmospheric formic acid and acetic acid seen from space*. Paper session presented at EGU General Assembly 2019 (7-12 April 2019: Vienna, Austria).
56. Franco, B., Clarisse, L., Stavrakou, T., Muller, J. F., Hadji-Lazaro, J., Hurtmans, D., Taraborrelli, D., Van Damme, M., Whitburn, S., & **Coheur, P.** (2019). *Global distributions of five major OVOCs retrieved from IASI measurements*. Paper session presented at EGU General Assembly 2019 (7-12 April 2019: Vienna, Austria).

#### 2018

57. Wang, R., Sun, K., Guo, X., Pan, D., Clarisse, L., Van Damme, M., Whitburn, S., **Coheur, P.**, & Zondlo, M. A. (2018). *Identifying the Spatiotemporal Variability of NH<sub>3</sub> Across the Contiguous U.S.* Poster session presented at AGU Fall meeting 2018 (Washington, D.C.).
58. Lutsch, E., Strong, K., Jones, D. B. A., Ortega, I., Hannigan, J. W., Dammers, E. D. E., Shephard, M. W., Morris, E. R., Murphy, K., Evans, M., Parrington, M., Whitburn, S., Van Damme, M., Clarisse, L., **Coheur, P.**, Clerbaux, C., Croft, B., Martin, R., Wentworth, G., Zhu, L., & Fisher, J. A. (2018). *Unprecedented NH<sub>3</sub> emissions detected in the high-Arctic from the 2017 Canadian wildfires*. Paper session presented at AGU Fall Meeting 2018 (Washington, D.C.).
59. Safieddine, S., Clerbaux, C., Boynard, A., George, M., Hadji-Lazaro, J., Viatte, C., Clarisse, L., Van Damme, M., & **Coheur, P.** (2018). *IASI satellite observations: best-of 2017-2018*. Paper session presented at Light, Energy and the Environment Congress (Resort World Sentosa, Singapore).
60. Van Damme, M., Clarisse, L., Whitburn, S., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2018). *Ammonia revealed from space: from industrial and agricultural point sources to global trends*. Paper session presented at 2018 joint 14th iCACGP Symposium and 15th IGAC Science Conference.
61. **Coheur, P.**, Astoreca, R., Clarisse, L., Doniki, S., Franco, B., Hurtmans, D., Ronsmans, G., Van Damme, M., Wespes, C., Whitburn, S., Boynard, A., Clerbaux, C., George, M., Hadji-Lazaro, J., Safieddine, S., Viatte, C., Coppens, D., & August, T. (2018). *IASI observations of pollutants –best of–: Ammonia point sources and 10-year data record + new trace gases and dust products*. Paper session presented at Eumetsat Meteorological satellite conference 2018 (Tallinn, Estonia).
62. Strong, K., Lutsch, E., Conway, S., Drummond, J., Hannigan, J. W., Ortega, I., Blumenstock, T., Mahieu, E., Makarova, M., Notholt, J., Palm, M., Sussmann, R., Kasai, Y., Fisher, J., Jones, D., Clarisse, L., Clerbaux, C., **Coheur, P.**, Dammers, E., Evans, M.,

- Morris, E., Parrington, M., Shephard, M. W., Van Damme, M., & Whitburn, S. (2018). *The Influence of Biomass Burning on the Arctic: Pan-Arctic FTIR Observations and Model Results*. Poster session presented at 2018 joint 14th iCACGP Symposium and 15th IGAC Science Conference (Japan).
63. Bouche, J., Giuranna, M., **Coheur, P.**, Robert, S., Aoki, S., Vandaele, A. C., Erwin, J. T., Daerden, F., & Bauduin, S. (2018). *Retrieval and characterization of carbon monoxide (CO) vertical profiles in the Martian atmosphere from observations of PFS/MEX*. Paper session presented at European Planetary Science Congress 2018 (Berlin).
64. Bauduin, S., Clarisse, L., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2018). *Surveillance de la pollution de l'air par les observations spatiales infrarouges de l'instrument IASI*. Paper session presented at Journées de Spectroscopies Moléculaires 2018 (Lyon).
65. Lutsch, E., Dammers, E., Strong, K., Jones, D., Van der Werf, G., Ortega, I., Hannigan, J. W., Shephard, M., Whitburn, S., Van Damme, M., Clarisse, L., & **Coheur, P.** (2018). *Exceptional emissions of NH<sub>3</sub>, CO, HCN and C<sub>2</sub>H<sub>6</sub> from the 2017 North American wildfires detected in the high-Arctic*. Paper session presented at European Geosciences Union General Assembly (2018).
66. Franco, B., Clarisse, L., **Coheur, P.**, Clerbaux, C., Hurtmans, D., Stavrakou, T., & Muller, J. F. (2018). *Quasi-global view of methanol, formic acid and PAN distributions obtained from IASI with neural networks*. Poster session presented at EGU General Assembly 2018 (2018-04-08 2018-04-13: Vienna).
67. Van Damme, M., Clarisse, L., Whitburn, S., Hadji-Lazaro, J., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2018). *Industrial and agricultural ammonia point sources unveiled from space*. Paper session presented at European Geosciences Union General Assembly (2018).
68. Viatte, C., Shephard, M., Meleux, F., Van Damme, M., Clarisse, L., Whitburn, S., **Coheur, P.**, & Clerbaux, C. (2018). *Observations of ammonia in the Ile-de-France region using IASI and CrIS*. Paper session presented at European Geosciences Union General Assembly (2018).
69. Fortems-Cheiney, A., Dufour, G., Beekmann, M., Genermont, S., Meleux, F., Clerbaux, C., **Coheur, P.**, Van Damme, M., & Clarisse, L. (2018). *Ammonia agricultural emissions over Europe as seen by IASI and impact on PM<sub>2.5</sub> concentrations*. Poster session presented at European Geosciences Union General Assembly (2018).
70. Stavrakou, T., Muller, J. F., Bauwens, M., Franco, B., **Coheur, P.**, Clarisse, L., Clerbaux, C., Verreyken, B., Brioude, J., Tulet, P., Amelynck, C., Schoon, N., Vigouroux, C., Hermans, C., & De Mazière, M. (2018). *Oxygenated Compounds in the Tropical Atmosphere (OCTAVE) : estimation of top-down methanol and formic acid fluxes based on IASI data*. Poster session presented at EGU General Assembly 2018 (Vienna).
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71. Clerbaux, C., Boynard, A., George, M., Hadji-Lazaro, J., Safieddine, S., Viatte, C., Clarisse, L., **Coheur, P.**, Hurtmans, D., Van Damme, M., Wespes, C., & Whitburn, S.



- (2017). *IASI Satellite Observation and Forecast of Pollutants*. Paper session presented at AGU Fall Meeting (2017).
72. Clarisse, L., Clerbaux, C., Hadji-Lazaro, J., Kopp, A., Hurtmans, D., & **Coheur, P.** (2017). *Dust optical depth measured with IASI*. Poster session presented at Aerosat 5 (Helsinki, Finland).
  73. George, M., Clerbaux, C., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., Clarisse, L., Astoreca, R., August, T., & Crapeau, M. (2017). *CO and SO<sub>2</sub>: two IASI products operationally distributed by EUMETCAST*. Paper session presented at Eumetsat 2017 Meteorological Satellite Conference (Rome, Italy).
  74. Clerbaux, C., Boynard, A., George, M., Hadji-Lazaro, J., Bauduin, S., Clarisse, L., **Coheur, P.**, Hurtmans, D., Van Damme, M., Wespes, C., & Whitburn, S. (2017). *IASI satellite observation of pollutants over China during 10 years*. Paper session presented at Eumetsat Meteorological Satellite Conference 2017 (Rome, Italy).
  75. Fortems-Cheiney, A., Dufour, G., Hamaoui-Laguel, L., Foret, G., Siour, G., Van Damme, M., Meleux, F., **Coheur, P.**, Clerbaux, C., Clarisse, L., Wallasch, M., & Beekmann, M. (2017). *Unaccounted variability in NH<sub>3</sub> agricultural sources detected by IASI contributing to European spring haze episode*. Paper session presented at European Geosciences Union General Assembly 2017 (Vienna, Austria).
  76. Bauduin, S., **Coheur, P.**, Van Geel, T., Aoki, S., Giuranna, M., Robert, S., & Vandaele, A. C. (2017). *Retrieval and characterization of carbon monoxide (CO) vertical profiles in the Martian atmosphere from observations of PFS/MEX*. Paper session presented at SCOOP workshop - Mars, from the ground to the upper atmosphere (21-23 June 2017: Brussels).
  77. Boynard, A., Clerbaux, C., Bauduin, S., Prunet, P., Tournier, B., Hadji-Lazaro, J., Hurtmans, D., & **Coheur, P.** (2017). *Air quality monitoring with current (IASI/Metop) and future (IASI-NG/Metop-SG, IRS/MTG) space-borne thermal infrared sounders*. Paper session presented at EGU General Assembly 2017.
- 2016**
78. George, M., Clerbaux, C., Hadji-Lazaro, J., Boynard, A., Bouarar, I., Hurtmans, D., Wespes, C., Bauduin, S., Van Damme, M., Whitburn, S., **Coheur, P.**, Edwards, D., Deeter, M., Worden, H., & Inness, A. (2016). *What can be seen by IASI during pollution events in East Asia?* Paper session presented at AGU Fall Meeting (2016).
  79. Dammers, E., Palm, M., Van Damme, M., Shephard, M. W., Clarisse, L., Cady-Pereira, K., Whitburn, S., **Coheur, P.**, Schaap, M., & Erisman, J. W. (2016). *Validation of ammonia satellite retrievals with ground-based FTIR*. Paper session presented at 7th International Nitrogen Initiative Conference (04-08 December 2016: Melbourne, Australia).
  80. Clarisse, L., **Coheur, P.**, Hadji-Lazaro, J., & Clerbaux, C. (2016). *A 2007-2015 record of global atmospheric dust seen from space*. Paper session presented at European Geosciences Union General Assembly 2016.
  81. Clerbaux, C., George, M., Bauduin, S., Boynard, A., **Coheur, P.**, Clarisse, L., Crevoisier, C., Doniki, S., Hadji-Lazaro, J., Hurtmans, D., Lacour, J. L., Ronsmans, G., Safieddine, S.,

- Van Damme, M., Wespes, C., & Whitburn, S. (2016). *IASI is turning ten!* Paper session presented at European Geosciences Union General Assembly 2016.
82. Zondlo, M. A., Clarisse, L., Van Damme, M., Whitburn, S., Clerbaux, C., & **Coheur, P.** (2016). *Validation of IASI NH<sub>3</sub> columns at the single pixel scale from airborne and ground-based measurements.* Paper session presented at IASI 4th International conference. (Antibes, Juan-les-Pins, France).
  83. Ronsmans, G., Langerock, B., Wespes, C., De Mazière, M., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2016). *Spatial and temporal variability of stratospheric HNO<sub>3</sub> from IASI global measurements.* Paper session presented at IASI International Conference (4: April 11 to 15, 2016: Antibes Juan-Les-Pins).
  84. Clarisse, L., **Coheur, P.**, Hadji-Lazaro, J., & Clerbaux, C. (2016). *Measuring volcanic ash and windblown sand with IASI.* Paper session presented at IASI 2016 conference.
  85. Clerbaux, C., George, M., Bauduin, S., Boynard, A., **Coheur, P.**, Clarisse, L., Crevoisier, C., Doniki, S., Hadji-Lazaro, J., Hurtmans, D., Lacour, J. L., Ronsmans, G., Safieddine, S., Van Damme, M., Wespes, C., & Whitburn, S. (2016). *IASI is turning ten!* Paper session presented at IASI 2016 conference.
  86. Dammers, E., Palm, M., Van Damme, M., Shephard, M. W., Clarisse, L., Whitburn, S., Cady-Pereira, K., Kapps, S., **Coheur, P.**, & Erisman, J. W. (2016). *Validation of NH<sub>3</sub> satellite observations by ground-based FTIR measurements.* Paper session presented at EGU General Assembly (Vienna, Austria).
  87. Whitburn, S., Van Damme, M., Kaiser, J., Van der Werf, G. R., Turquety, S., Clarisse, L., Clerbaux, C., & **Coheur, P.** (2016). *Ammonia emissions in biomass burning regions: estimation from satellite-derived measurements and comparison with bottom-up inventories.* Poster session presented at 4th IASI International Conference, Antibes, France, 11-15 April 2016.
  88. Ronsmans, G., Langerock, B., Wespes, C., De Mazière, M., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2016). *Spatial and temporal variability of stratospheric HNO<sub>3</sub> and O<sub>3</sub> from IASI global measurements.* Paper session presented at SPARC Workshop "Stratospheric Change and its Role for Climate Prediction (SHARP)" (16-19 February 2016: Berlin).
  89. Ronsmans, G., Langerock, B., Wespes, C., De Mazière, M., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2016). *Concentrations of nitric acid and ozone in the stratosphere through satellite observations.* Paper session presented at Uniter PhD Day (26 février 2016: Palais des Académies, Bruxelles).
  90. Wespes, C., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2016). *O<sub>3</sub> variability in the troposphere and the stratosphere as observed by IASI over 2008-2016: Contribution of atmospheric chemistry and dynamics.* *Ozone Quadrennial Symposium* Abstract session presented at (September 2016: Edinburgh, UK)
  91. Wespes, C., Hurtmans, D., Boynard, A., Clerbaux, C., & **Coheur, P.** (2016). *O<sub>3</sub> variability in the troposphere and the stratosphere as observed by IASI over 2008-2016: Contribution*

of atmospheric chemistry and dynamics. *EUMETSAT Meteorological Conference* Abstract session presented at (September 2016: Darmstadt)

92. George, M., Clerbaux, C., Hadji-Lazaro, J., Hurtmans, D., Bauduin, S., Whitburn, S., Bouarar, I., Edwards, D., Worden, H., Deeter, M., Inness, A., Krol, M., & **Coheur, P.** (2016). CO monitoring with IASI: global and local variability. *4th International IASI Conference* Abstract session presented at (11-15 April 2015: Antibes, France)
93. Safieddine, S., Boynard, A., Hao, N., Huang, F., Wang, L., Ji, D., Barret, B., Ghude, S. S., **Coheur, P.**, Hurtmans, D., & Clerbaux, C. (2016). Tropospheric Ozone Variability during the East Asian Summer Monsoon as Observed by Satellite (IASI), Aircraft (MOZAIC) and Ground Stations. *4th International IASI Conference* Abstract session presented at (11-15 April 2015: Antibes, France)
94. Astoreca, R., Wespes, C., Clarisse, L., Hurtmans, D., Ronsmans, G., Doniki, S., George, M., Hadji-Lazaro, J., Boynard, A., Clerbaux, C., & **Coheur, P.** (2016). *10 years of IASI trace gas retrievals*. Poster session presented at EUMETSAT Meteorological Conference (September 2016: Darmstadt, Germany).
95. Wespes, C., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2016). *O3 variability in the troposphere and the stratosphere from IASI observations in 2008-2015*. Poster session presented at 4th International IASI Conference (11-15 April 2016: Antibes, France).
96. Fortems-Cheiney, A., Dufour, G., Hamaoui-Laguel, L., Foret, G., Siour, G., Van Damme, M., Meleux, F., **Coheur, P.**, Clerbaux, C., Clarisse, L., Wallasch, M., & Beekmann, M. (2016). *Unaccounted variability in NH3 agricultural sources detected by IASI contributing to European spring haze episode*. Paper session presented at 4th International IASI Conference (11-15 April 2016: Antibes, France).
97. Van Damme, M., Whitburn, S., Clarisse, L., Clerbaux, C., & **Coheur, P.** (2016). *Worldwide spatial and temporal ammonia (NH3) variability revealed by IASI*. Paper session presented at 4th IASI International Conference (11-15 April 2016: Antibes, France).
98. Doniki, S., Hurtmans, D., Clarisse, L., Clerbaux, C., **Coheur, P.**, Worden, H., Bowman, K., Lamarque, J., Conley, A., Shindell, D., & Faluvegi, G. (2016). *Ozone instantaneous longwave radiative effect from IASI and TES observations*. Paper session presented at International Radiation Symposium (April 2016: Auckland, New-Zealand).
99. Doniki, S., Hurtmans, D., Clarisse, L., Clerbaux, C., **Coheur, P.**, Worden, H., Bowman, K., Lamarque, J., Conley, A., Shindell, D., & Faluvegi, G. (2016). *Ozone instantaneous longwave radiative effect from IASI and TES observations*. Paper session presented at 4th International IASI Conference (11-15 April 2016: Antibes, France).
100. Hadji-Lazaro, J., Boone, C., Clerbaux, C., George, M., Clarisse, L., Van Damme, M., Whitburn, S., Hurtmans, D., **Coheur, P.**, August, T., Hultberg, T., & Crapeau, M. (2016). *Monitoring of atmospheric composition with IASI/METOP sounders: ULB/LATMOS data in open access via ETHER website*. Paper session presented at 4th International IASI Conference (11-15 April 2016: Antibes, France).

101. Bauduin, S., Clarisse, L., Clerbaux, C., & **Coheur, P.** (2016). *Measuring air pollution from thermal infrared satellite observations: when, where and how?* Paper session presented at 4th IASI International Conference (11-15 April 2016: Antibes, France).
102. Whitburn, S., Van Damme, M., Clarisse, L., Heald, C. L., Clerbaux, C., Bauduin, S., Hurtmans, D., & **Coheur, P.** (2016). *A flexible and robust IASI-NH3 retrieval algorithm.* Poster session presented at IASI 2016 Conference.

## 2015

103. Schiferl, L., Heald, C. L., **Coheur, P.**, Clerbaux, C., & Van Damme, M. (2015). Interannual Variability of Ammonia Concentrations over the United States: Sources and Implications for Inorganic Particulate Matter. *AGU Fall meeting* Abstract session presented at AGU Fall meeting(14-18.12.2015: San Francisco)
104. Lacour, J. L., Clerbaux, C., **Coheur, P.**, Risi, C., & Flamant, C. (2015). Hydrological processes as seen with high resolution distributions of  $\delta D$  derived from IASI/MetOp. *AGU Fall meeting* Abstract session presented at AGU Fall meeting(14-18.12.2015: San Francisco)
105. Tratt, D. M., Leifer, I., Buckland, K., Johnson, P., Van Damme, M., **Coheur, P.**, & Clarisse, L. (2015). *Airborne Trace Gas Mapping During the GOSAT-COMEX Experiment.* Poster session presented at AGU Fall Meeting (14-18 December 2015: San Francisco).
106. Worden, H., Bowman, K., Kuai, L., Conley, A., Lamarque, J., Shindell, D., Faluvegi, G., Clerbaux, C., **Coheur, P.**, Doniki, S., & Massie, S. (2015). Benchmarking climate model top-of-atmosphere radiance in the 9.6 micron ozone band compared to TES and IASI observations. *CCM/AeroCom Workshop* Abstract session presented at (5-9.10.2015: Rome, Italy)
107. Keppens, A., Lambert, J.-C., Granville, J., Hubert, D., Verhoelst, T., Compernelle, S., **Coheur, P.**, Clerbaux, C., Miles, G., Siddans, R., Van Peet, J., & Van der A, R. (2015). Versatile QA / Validation system for the evaluation of Copernicus Sentinel-4/5(p) ozone profiling algorithms and data: Demonstration on GOME-2 and IASI. *2015 EUMETSAT Conference* Abstract session presented at (21-25.09.2015: Toulouse)
108. Ronsmans, G., Langerock, B., Wespes, C., Kerzenmacher, T., De Mazière, M., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2015). *Spatial and temporal variability of stratospheric HNO<sub>3</sub> from IASI global measurements.* Poster session presented at 2015 EUMETSAT Conference (21-25.09.2015: Toulouse).
109. Clarisse, L., **Coheur, P.**, Hadji-Lazaro, J., & Clerbaux, C. (2015). *Retrieving Mineral Dust with IASI a neural network approach.* Paper session presented at 2015 EUMETSAT conference (Toulouse: 21-25.09.2015).
110. Whitburn, S., Van Damme, M., Kaiser, J., Van der Werf, G. R., Turquety, S., Hurtmans, D., Clarisse, L., Clerbaux, C., & **Coheur, P.** (2015). *Ammonia emissions in tropical biomass burning regions: Comparison between satellite-derived emissions and bottom-up fire inventories.* Paper session presented at EUMETSAT conference (21-25.09.2015: Toulouse).

111. Clarisse, L., **Coheur, P.**, Clerbaux, C., Prata, F., Hurtmans, D., Bauduin, S., Hadji-Lazaro, J., & Theys, N. (2015). *Measuring volcanic ash with IASI: What can and what cannot be achieved in the IR*. Paper session presented at Meeting on the Intercomparison of Satellite-based Volcanic Ash Retrieval Algorithms within WMO SCOPE#Nowcasting (29 June - 2 July 2015: University of Wisconsin, Madison).
112. Theys, N., Brenot, H., Clarisse, L., Gent, J. V., Van Der A, R., Van Roozendael, M., **Coheur, P.**, Hurtmans, D., Clerbaux, C., Stebel, K., Prata, F., & Zehner, C. (2015). *The Support to Aviation Control Service (SACS): an overview and recent developments*. Paper session presented at Meeting on the Intercomparison of Satellite-based Volcanic Ash Retrieval Algorithms within WMO SCOPE#Nowcasting (29 June - 2 July 2015: University of Wisconsin, Madison).
113. Pommier, M., Clerbaux, C., Clarisse, L., **Coheur, P.**, Mahieu, E., Murphy, C., & Vigouroux, C. (2015). *Improvement of the HCOOH retrieval from IASI measurements: Comparison with ground-based measurements*. Paper session presented at ESA 2015 ATMOS Conference (Heraklion, Crete).
114. Boynard, A., Safieddine, S., **Coheur, P.**, Hurtmans, D., Quennehen, B., Thomas, J., Raut, J.-C. C., Law, K. K., & Clerbaux, C. (2015). *East Asian Monsoon and tropospheric ozone from IASI/MetOp*. Poster session presented at ESA 2015 ATMOS Conference (Heraklion, Crete).
115. Bauduin, S., Clarisse, L., Clerbaux, C., & **Coheur, P.** (2015). *Monitoring air pollution at global scale using the IASI thermal infrared instrument*. Paper session presented at ESA ATMOS 2015 Conference (Heraklion, Crete).
116. Doniki, S., Hurtmans, D., Clarisse, L., Clerbaux, C., **Coheur, P.**, Worden, H., & Bowman, K. (2015). *Distribution and time evolution of the ozone instantaneous longwave radiative effect from IASI and TES observations: Towards a new climate-relevant record*. Paper session presented at ESA 2015 ATMOS Conference (Heraklion, Crete).
117. Clerbaux, C., Safieddine, S., Boynard, A., Hadji-Lazaro, J., George, M., Clarisse, L., Van Damme, M., Hurtmans, D., & **Coheur, P.** (2015). *What can be seen by the IASI infrared satellite-borne instruments in the Asian monsoon region?* Paper session presented at Second Workshop on Atmospheric Composition and the Asian Monsoon (ACAM) (8-10 June 2015: Bangkok, Thailand).
118. Bauduin, S., Clarisse, L., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2015). *Retrieval of near-surface sulfur dioxide (SO<sub>2</sub>) concentrations at a global scale using IASI satellite observations*. Paper session presented at EGU 2015 General Assembly (Vienna, Austria).
119. Whitburn, S., Van Damme, M., Kaiser, J., Van Der Werf, G. R., Turquety, S., Hurtmans, D., Clarisse, L., Clerbaux, C., & **Coheur, P.** (2015). *Ammonia emissions in tropical biomass burning regions: Comparison between satellite-derived emissions and bottom-up fire inventories*. Paper session presented at EGU General Assembly 2015 (13-17 April: Vienna, Austria).



120. Ronsmans, G., Wespes, C., Kerzenmacher, T., De Mazière, M., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2015). *Spatial and temporal variability of stratospheric HNO<sub>3</sub> from IASI global measurements*. Poster session presented at EGU 2015 general assembly.
121. Kuai, L., Worden, H., Bowman, K., **Coheur, P.**, Doniki, S., Neu, J., Kulawik, S., Shindell, D., Conley, A., Lamarque, J., & Faluvegi, G. (2015). Benchmarking Climate Model Top-of-atmosphere Radiance in the 9.6 Micron Ozone Band Using TES and IASI Observations. *AGU Fall meeting Abstract session* presented at AGU Fall meeting(14-18.12.2015: San Francisco)

#### 2014

122. Brenot, H., Theys, N., Clarisse, L., Van Geffen, J., Gent, J. V., Van Roozendael, M., Van der A, R., Hurtmans, D., **Coheur, P.**, Clerbaux, C., Valks, P., Hedelt, P., Prata, F., Rason, O., Sievers, K., & Zehner, C. (2014). *Multi-sensor satellite monitoring of ash and SO<sub>2</sub> volcanic plume in support to aviation control*. Poster session presented at EGU General Assembly (27 April - 02 May 2014: Vienna, Austria).
123. Pommier, M., Lacour, J. L., Risi, C., Bréon, F.-M., Clerbaux, C., **Coheur, P.**, Gribanov, K., Hurtmans, D., Jouzel, J., & Zakharov, V. (2014). *Observation of tropospheric #D by IASI and comparison with LMDZiso over the Western Siberia*. Poster session presented at European Geosciences Union, General Assembly 2014 (27 April - 2 May 2014: Vienne, Autriche).
124. Lacour, J. L., Clarisse, L., Hurtmans, D., Clerbaux, C., Worden, J., Schneider, M., Risi, C., & **Coheur, P.** (2014). *Distributions of #D observations from IASI/MetOp across the globe and intercomparison with other instruments/measurements*. Paper session presented at European Geosciences Union General Assembly 2014 (27 April - 2 May 2014: Vienne, Austria).
125. Boynard, A., Clerbaux, C., Clarisse, L., Safieddine, S., Pommier, M., Van Damme, M., Bauduin, S., Oudot, C., Hadji-Lazaro, J., Hurtmans, D., & **Coheur, P.** (2014). *First simultaneous space measurements of atmospheric pollutants in the boundary layer from IASI: A case study in the North China Plain*. Paper session presented at MACC-II Open Science Conference.
126. **Coheur, P.**, Van Damme, M., Ngadi, Y., Whitburn, S., Clarisse, L., Clerbaux, C., Erisman, J. W., Dammers, E., Schaap, M., Wichink Kruit, R., Dolman, H., Valks, P., Loyola, D., Reis, S., & Sutton, M. A. (2014). *New insights on sources and distributions of reactive nitrogen revealed from the global monitoring of atmospheric ammonia*. Paper session presented at EGU General Assembly 2014 (27 April-02 May 2014: Vienna).
127. Theys, N., Brenot, H., Clarisse, L., Van Gent, J., Van der A, R., Van Roozendael, M., **Coheur, P.**, Hurtmans, D., Clerbaux, C., & Zehner, C. (2014). *The Support to Aviation Control Service, an overview and recent developments*. Paper session presented at MACC-II Open Science Conference (27 – 30 January 2014: Brussels).
128. Boynard, A., Clerbaux, C., Clarisse, L., Safieddine, S., Pommier, M., Van Damme, M., Bauduin, S., Oudot, C., Hadji-Lazaro, J., Hurtmans, D., & **Coheur, P.** (2014). *First simultaneous space measurements of atmospheric pollutants in the boundary layer from IASI: a case study in the North China Plain*. Paper session presented at EGU 2014 conference (27 April – 02 May 2014: Vienna, Austria).

129. Safieddine, S., Boynard, A., **Coheur, P.**, Hurtmans, D., Pfister, G., Quennehen, B., Thomas, J., Raut, J.-C. C., Law, K. K., Klimont, Z., Hadji-Lazaro, J., George, M., & Clerbaux, C. (2014). *Summertime tropospheric ozone assessment over the Mediterranean region using the thermal infrared IASI/MetOp sounder and the WRF-Chem model*. Paper session presented at EGU 2014 Conference (27 April – 02 May 2014: Vienna, Austria).
130. Safieddine, S., Boynard, A., Hadji-Lazaro, J., George, M., Wespes, C., **Coheur, P.**, Hurtmans, D., Quennehen, B., Thomas, J., Raut, J.-C. C., Law, K. K., Loyola, D., Valks, P., Hao, N., Pfister, G., & Clerbaux, C. (2014). *Tropospheric ozone from the thermal infrared IASI/MetOp sounder: Global and local assessment*. Paper session presented at EUMETSAT 2014 Conference (22-26 September 2014: Geneva, Switzerland).
131. Bauduin, S., Clarisse, L., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2014). *Global monitoring of near-surface sulfur dioxide (SO<sub>2</sub>) from IASI satellite observations: Method and first results*. Paper session presented at EUMETSAT 2014 Conference (22-26 September 2014: Geneva, Switzerland).
132. Safieddine, S., Boynard, A., **Coheur, P.**, Hurtmans, D., Pfister, G., Quennehen, B., Thomas, J., Raut, J.-C. C., Law, K. K., Klimont, Z., Hadji-Lazaro, J., George, M., & Clerbaux, C. (2014). *Summertime tropospheric ozone assessment over the Mediterranean region using the thermal infrared IASI/MetOp sounder and the WRF-Chem model*. Paper session presented at MOZAIC-IAGOS Scientific symposium on atmospheric composition observation by commercial aircraft (12-14 May 2014: Toulouse, France).
133. Wespes, C., **Coheur, P.**, Emmons, L., Hurtmans, D., Safieddine, S., Edwards, D., & Clerbaux, C. (2014). *Ozone variability in the troposphere and the stratosphere from 6 years of IASI observations (2008-2013)*. Paper session presented at AGU 2014 Fall meeting (15-19 December 2014: San Francisco, USA).
134. Whitburn, S., Van Damme, M., Clarisse, L., Hurtmans, D., **Coheur, P.**, Clerbaux, C., Turquety, S., Loyola, D., & Valks, P. (2014). *Simultaneous MetOp Satellite Measurements of NH<sub>3</sub> and NO<sub>2</sub> emitted by fires*. Poster session presented at 2014 EUMETSAT Conference (22-26 September 2014: Geneva, Switzerland).
135. Doniki, S., Hurtmans, D., Clarisse, L., Clerbaux, C., **Coheur, P.**, Worden, H. H., & Bowman, K. (2014). *Longwave radiative effect due to ozone (O<sub>3</sub>) estimated from IASI observations*. Poster session presented at 2014 EUMETSAT conference (22-26 September 2014: Geneva, Switzerland).
136. Wespes, C., **Coheur, P.**, Emmons, L., Hurtmans, D., Safieddine, S., Edwards, D., & Clerbaux, C. (2014). *O<sub>3</sub> variability in the troposphere and the stratosphere from IASI in 2008-2013*. Poster session presented at 2014 IGAC Conference (22-26 September 2014: Natal, Brazil).
137. Ngadi, Y., **Coheur, P.**, Van Damme, M., Clarisse, L., Hurtmans, D., Duflot, V., & Clerbaux, C. (2014). *Neural network approach to identify NH<sub>3</sub> emissions from biomass burning*. Poster session presented at 2014 IGAC Conference (22-26 September 2014: Natal, Brazil).



138. Pommier, M., Clerbaux, C., Clarisse, L., **Coheur, P.**, Hurtmans, D., Muller, J. F., & Stavrou, T. (2014). *Global monitoring of HCOOH and CH<sub>3</sub>OH by IASI*. Poster session presented at 2014 IGAC Conference (22-26 September 2014: Natal, Brazil).
139. George, M., Clerbaux, C., Hadji-Lazaro, J., Boynard, A., Bouarar, I., Hurtmans, D., **Coheur, P.**, Edwards, D., Deeter, M., Worden, H. H., & Mao, D. (2014). *Atmospheric composition monitoring with IASI and MOPITT: CO, a tracer of pollution*. Poster session presented at 2014 IGAC conference (22-26 September 2014: Natal, Brazil).
140. George, M., Clerbaux, C., Bouarar, I., **Coheur, P.**, Deeter, M., Edwards, D., Hadji-Lazaro, J., Hurtmans, D., Inness, A., Gille, J., Mao, D., & Worden, H. H. (2014). *Atmospheric composition monitoring with IASI and MOPITT: CO, a tracer of pollution*. Poster session presented at AGU Fall Meeting (San Francisco, USA 15-19 December 2014).
141. Cady-Pereira, K., Shephard, M. W., Henze, D., Millet, D. D., Gombos, D., Van Damme, M., Clarisse, L., **Coheur, P.**, Pommier, M., & Clerbaux, C. (2014). *A comparison of minor trace gas retrievals from the Tropospheric Emission Spectrometer (TES) and the Infrared Atmospheric Sounding Interferometer (IASI)*. Poster session presented at AGU Fall Meeting (15-19 December 2014: San Francisco, USA).
142. Worden, H. H., Bowman, K., Conley, A., Lamarque, J., Shindell, D., Clerbaux, C., **Coheur, P.**, & Doniki, S. (2014). *Benchmarking climate model top-of-atmosphere radiance in the 9.6 micron ozone band compared to TES and IASI observations*. Poster session presented at AGU Fall Meeting (15-19 December 2014: San Francisco, USA).
143. Leifer, I., Buckland, K., Clarisse, L., Clerbaux, C., **Coheur, P.**, Frash, J., Iraci, L., Jonsson, H., Johnson, P. R. V., Koyler, R., Leen, B., Melton, C., Tratt, D. M., Van Damme, M., Vigil, S., & Yates, E. (2014). *Trace gas emissions from a dairy complex measured by mobile in situ and airborne and space-based remote sensing: A COMEX campaign focus*. Poster session presented at AGU Fall Meeting (15-19 December 2014: San Francisco, USA).
144. Boynard, A., Clerbaux, C., Clarisse, L., Safieddine, S., Pommier, M., Van Damme, M., Bauduin, S., Oudot, C., Hadji-Lazaro, J., Hurtmans, D., & **Coheur, P.** (2014). *First simultaneous space measurements of atmospheric pollutants in the boundary layer from IASI: a case study in the North China Plain*. Poster session presented at MOZAIK - IAGOS Scientific symposium on atmospheric composition observation by commercial aircraft (12-15 May 2014).
- 2013**
145. Schiferl, L., Heald, C. L., Van Damme, M., Clerbaux, C., & **Coheur, P.** (2013). *Regional Variation and Trends in IASI-Observed Atmospheric Ammonia Concentrations over the United States*. Paper session presented at AGU Fall Meeting (2013).
146. Boichu, M., Menut, L., Khvorostyanov, D., Clarisse, L., Clerbaux, C., Turquety, S., & **Coheur, P.** (2013). *Inverting for hourly volcanic SO<sub>2</sub> flux using plume satellite imagery and chemistry-transport modelling: application to the 2010 Eyjafjallajökull eruption*. Paper session presented at 2nd IUGG-WMO workshop on Ash dispersal forecast and civil aviation World Meteorological Organization (18-20 November 2013: Geneva).
147. Lacour, J. L., **Coheur, P.**, Clarisse, L., Clerbaux, C., Hurtmans, D., & Risi, C. (2013). *delta D observations from IASI/MetOp: retrieval methodology, results across the globe and comparisons with other measurements/instruments*. Paper session presented at

First International Workshop on Advances in Observations, Models and Measurement Techniques of Atmospheric Water Vapor Isotopes (September 2013: Gif-sur-Yvette, France).

148. Lacour, J. L., Clarisse, L., Hurtmans, D., **Coheur, P.**, Clerbaux, C., & Risi, C. (2013). *HDO/H<sub>2</sub>16O observations from IASI to investigate hidden humidity tropospheric processes*. Paper session presented at The 3rd IASI Conference (4-8 February 2013: Hyères, France).
149. Clarisse, L., Theys, N., Brenot, H., Van Gent, J., Van der A, R., Van Roozendael, M., **Coheur, P.**, Hurtmans, D., & Clerbaux, C. (2013). *Invited talk: The Support to Aviation Control Service, an overview and recent developments*. Paper session presented at 2nd IUGG-WMO workshop on Ash dispersal forecast and civil aviation World Meteorological Organization (19 November 2013: Geneva).
150. Clarisse, L., **Coheur, P.**, Prata, F., Hadji-Lazaro, J., Hurtmans, D., & Clerbaux, C. (2013). *A unified method for aerosol detection and type speciation*. Paper session presented at The third IASI conference (2013: Hyères).
151. Clarisse, L., **Coheur, P.**, Prata, F., Theys, N., Brenot, H., Hadji-Lazaro, J., Hurtmans, D., & Clerbaux, C. (2013). *Invited talk: A unified method for detection of volcanic aerosols using hyperspectral infrared sounders and analysis of 5 years IASI and AIRS data*. Paper session presented at ESA/EUMETSAT volcanic ash and aviation User Workshop (5 March 2013: Dublin).
152. Theys, N., Clarisse, L., Brenot, H., Van Gent, J., Campion, R., Van der A, R., Valks, P., Corradini, S., Merucci, L., Van Roozendael, M., **Coheur, P.**, Hurtmans, D., Clerbaux, C., Tait, S., & Ferrucci, F. (2013). *Monitoring of volcanic emissions of SO<sub>2</sub> and ash*. Paper session presented at EGU (2013).
153. Brenot, H., Theys, N., Van Gent, J., Van Roozendael, M., Clarisse, L., Hurtmans, D., **Coheur, P.**, Clerbaux, C., Van der A, R., Prata, F., & Zehner, C. (2013). *Support to Aviation Control Service: Monitoring of Volcanic SO<sub>2</sub> and Ash Emissions by a Multi-Sensor Satellite System*. Paper session presented at ESA Living Planet Symposium (2013).
154. Bauduin, S., Clarisse, L., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2013). *Observations of sulphur dioxide in the planetary boundary layer from the nadir thermal infrared IASI sounder*. Paper session presented at 2013 EUMETSAT Meteorological Satellite Conference (2013).
155. **Coheur, P.**, Hurtmans, D., Clarisse, L., Wespes, C., Astoreca, R., Van Damme, M., Duflot, V., Clerbaux, C., Hadji-Lazaro, J., & George, M. (2013). *Global distributions and 5-year time series in the concentration of reactive species retrieved from IASI/MetOp*. Paper session presented at EUMETSAT Meteorological Satellite Conference (2013).
156. Stavrakou, T., Muller, J.-F., Guenther, A., Peeters, J., Clarisse, L., Clerbaux, C., **Coheur, P.**, & Hurtmans, D. (2013). *Oxygenated volatile organic compounds (OVOCs) first detected from IASI : understanding the sources*. Paper session presented at 3rd IASI conference (Hyères).

157. Clerbaux, C., Clarisse, L., Hurtmans, D., Hadji-Lazaro, J., Theys, N., & **Coheur, P.** (2013). *Remote sensing of high altitude volcanic SO<sub>2</sub> and ash with IASI*. Paper session presented at 3rd IASI conference (2013: Hyères).
158. Dufлот, V., Clarisse, L., **Coheur, P.**, Wespes, C., Murphy, C., Jones, N., Hurtmans, D., Ngadi, Y., R'Honi, Y., Vigouroux, C., De Mazière, M., Mahieu, E., Servais, C., Blumenstock, T., & Clerbaux, C. (2013). *Near-real-time measurements of acetylene (C<sub>2</sub>H<sub>2</sub>) and hydrogen cyanide (HCN) from IASI: method, validation, global distribution and comparison with models*. Paper session presented at 3rd IASI Conference (Hyères).
159. Van Damme, M., Ngadi, Y., Clarisse, L., Clerbaux, C., Hurtmans, D., Schaap, M., Wichink Kruit, R., Erisman, J. W., & **Coheur, P.** (2013). *Global/regional distributions and trends of atmospheric ammonia measured from IASI*. Poster session presented at 3rd IASI international conference: Infrared accuracy from space in a fragile world.
160. Van Damme, M., **Coheur, P.**, Clarisse, L., Ngadi, Y., Clerbaux, C., Dammers, E. D. E., Schaap, M., Wichink Kruit, R., Dolman, H. A., & Erisman, J. W. (2013). *Global monitoring of atmospheric ammonia: from source processes to distributions and trends*. Paper session presented at 6th International Nitrogen Conference.
161. Bauduin, S., Clarisse, L., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2013). *Remote sensing of atmospheric boundary layer composition using IASI observations*. Poster session presented at 3rd IASI International Conference.
162. Bauduin, S., Clarisse, L., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2013). *Observation of planetary boundary layer sulphur dioxide in the Norilsk region (Arctic) from the nadir thermal infrared IASI sounder*. Paper session presented at 2013 AGU Fall Meeting.
163. Vigouroux, C., De Mazière, M., Desmet, F., Hermans, C., Langerock, B., Scolas, F., Van Damme, M., Clarisse, L., & **Coheur, P.** (2013). *Ground-based FTIR measurements of NH<sub>3</sub> total columns and comparison with IASI data*. Poster session presented at EGU General Assembly 2013.

## 2012

164. Lacour, J. L., Clarisse, L., Hurtmans, D., **Coheur, P.**, Clerbaux, C., & Risi, C. (2012). *Tropospheric humidity processes investigated from water isotopologues measurements from IASI/MetOp*. Paper session presented at 2012 EUMETSAT Meteorological Satellite Conference (03 September 2012 - 07 September 2012: Sopot, Poland).
165. Clarisse, L., **Coheur, P.**, Prata, F., Hadji-Lazaro, J., Hurtmans, D., & Clerbaux, C. (2012). *Invited talk: Global aerosol type identification from hyperspectral infrared space measurements*. Paper session presented at IGARSS 2012 (22-27 July 2012: Munich, Germany).
166. Clarisse, L., **Coheur, P.**, Prata, F., Hadji-Lazaro, J., Hurtmans, D., & Clerbaux, C. (2012). *Invited talk: Measuring aerosols and aerosol precursors with the hyperspectral IASI sounder*. Paper session presented at 244th meeting of the American Chemical Society (2012: Philadelphia, US).
167. Wells, K. C., Millet, D., Hu, L., Cady-Pereira, K., Xiao, Y., Shephard, M., Clerbaux, C., Clarisse, L., **Coheur, P.**, Apel, E. C., De Gouw, J., Warneke, C., Singh, H. B., Goldstein,

- A., & Sive, B. C. (2012). *Tropospheric methanol observations from space: Retrieval evaluation and constraints on the seasonality of biogenic emissions*. Paper session presented at EGU General Assembly (22-27 April 2012: Vienna, Austria).
168. Millet, D., Wells, K. C., Hu, L., Cady-Pereira, K., Xiao, Y., Shephard, M., Clerbaux, C., Clarisse, L., **Coheur, P.**, Apel, E. C., De Gouw, J., Warneke, C., Singh, H. B., Goldstein, A., & Sive, B. C. (2012). *Satellite-based constraints on seasonal methanol emissions from terrestrial landscapes*. Paper session presented at First Conference on Atmospheric Biogeosciences (29 May-1 June 2012: Boston, MA, USA).
169. **Coheur, P.**, Brenot, H., Theys, N., Van Gent, J., Van Roozendael, M., Van der A, R., Clarisse, L., Hurtmans, D., Ngadi, Y., & Clerbaux, C. (2012). *Global Multi-sensor Satellite Monitoring of Volcanic SO<sub>2</sub> and Ash Emissions in Support to Aviation Control*. Paper session presented at AGU Chapman Conference on Volcanism and the Atmosphere (10-15 June 2012: Selfoss, Iceland).
170. Clerbaux, C., **Coheur, P.**, Clarisse, L., Hurtmans, D., Hadji-Lazaro, J., George, M., & Campion, R. (2012). *Near Real-time Monitoring of SO<sub>2</sub> and Volcanic Ash with IASI/Metop*. Paper session presented at AGU Chapman Conference on Volcanism and the Atmosphere (10-15 June 2012: Selfoss, Iceland).
171. Stavrakou, T., Muller, J.-F., Guenther, A., Peeters, J., Razavi, A., Clarisse, L., Clerbaux, C., **Coheur, P.**, & Hurtmans, D. (2012). *Biogenic methanol and formic acid constrained from IASI observations*. Paper session presented at ATMOS (Advances in Atmospheric Science and Applications) 2012 (18-22 June 2012: Bruges, Belgium).
172. R'Honi, Y., Clarisse, L., Dufлот, V., **Coheur, P.**, Clerbaux, C., Hurtmans, D., Ngadi, Y., Messina, P., Turquety, S., Parrington, M., & Palmer, P. I. (2012). *Monitoring emission, chemistry and transport of vegetation fires from IASI and comparison with simulations*. Paper session presented at 2012 EUMETSAT Meteorological Satellite Conference (3-7 September 2012: Sopot, Poland).
173. Oudot, C., Clerbaux, C., Hadji-Lazaro, J., George, M., Safieddine, S., Clarisse, L., Hurtmans, D., & **Coheur, P.** (2012). *IASI/METOP sounder contribution for atmospheric composition*. Paper session presented at International Radiation Symposium 2012 (6-10 August 2012: Berlin, Germany).
174. Lacour, J. L., Clarisse, L., Hurtmans, D., Clerbaux, C., **Coheur, P.**, & Risi, C. (2012). *Observations of HDO/H<sub>2</sub>O ratio with IASI/MetOp*. Paper session presented at International Radiation Symposium 2012 (6-10 August 2012: Berlin, Germany).
175. Dufлот, V., **Coheur, P.**, Clarisse, L., Hurtmans, D., R'Honi, Y., Wespes, C., Ngadi, Y., & Clerbaux, C. (2012). *Infrared satellite observations of HCN and C<sub>2</sub>H<sub>2</sub> in biomass burning plumes*. Paper session presented at 2012 EUMETSAT Meteorological Satellite Conference (3-7 September 2012: Sopot, Poland).
176. Van Damme, M., Ngadi, Y., Clarisse, L., Clerbaux, C., Hurtmans, D., & **Coheur, P.** (2012). *Local To Global Distributions Of Atmospheric Ammonia*. Poster session presented at Planet Under Pressure (26-29 March 2012: London, UK).

177. Clerbaux, C., & **Coheur, P.** (2012). *Monitoring and forecast of atmospheric composition using the IASI/Metop satellite mission*. Poster session presented at Planet Under Pressure (26-29 March 2012: London, UK).
178. Safieddine, S., Clerbaux, C., Hadji-Lazaro, J., George, M., Hurtmans, D., & **Coheur, P.** (2012). *Global and local ozone measurements from the thermal infrared IASI/MetOp sounder*. Poster session presented at EGU General Assembly 2012 (22-27 April 2012: Vienna, Austria).
179. Turquety, S., Messina, P., Stromatas, S., Anav, A., Menut, L., Bessagnet, B., Péré, J., Drobinski, P., **Coheur, P.**, Clerbaux, C., & Tanre, D. (2012). *Impact of fire emissions on air quality in the Euro-Mediterranean region*. Paper session presented at 32nd NATO/SPS International Technical Meeting on Air Pollution Modelling and its Application (7-11 May 2012: Utrecht, The Netherlands).
180. Messina, P., Turquety, S., Stromatas, S., Menut, L., Anav, A., **Coheur, P.**, R'Honi, Y., Bessagnet, B., & Clerbaux, C. (2012). *Fire emissions in Euro-Mediterranean area: evaluation of the impact on trace gases composition using satellite and surface observations*. Paper session presented at EGU General Assembly 2012 (22-27 April 2012: Vienna, Austria).
181. Wespes, C., Emmons, L., Edwards, D., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2012). *Analysis of tropospheric O<sub>3</sub> and CO in continental outflow regions using IASI satellite observations and MOZART-4 model during the spring and the summer 2008*. Paper session presented at ATMOS (Advances in Atmospheric Science and Applications) 2012 (18-22 June 2012: Bruges, Belgium).
182. Messina, P., Turquety, S., Anav, A., Stromatas, S., Menut, L., **Coheur, P.**, R'Honi, Y., Bessagnet, B., & Clerbaux, C. (2012). *Use of satellite and surface observations of trace gases to evaluate the impact of fire emissions on air quality in Euro-Mediterranean area*. Poster session presented at ATMOS (Advances in Atmospheric Science and Applications) 2012 (18-22 June 2012: Bruges, Belgium).
183. Safieddine, S., Clerbaux, C., Hadji-Lazaro, J., George, M., Hurtmans, D., & **Coheur, P.** (2012). *Global and local ozone measurements from the thermal infrared IASI/MetOp sounder*. Poster session presented at ATMOS (Advances in Atmospheric Science and Applications) 2012 (18-22 June 2012: Bruges, Belgium).
184. Van Damme, M., Ngadi, Y., Clarisse, L., Clerbaux, C., Hurtmans, D., Schaap, M., Wichink Kruit, R., Erisman, J. W., & **Coheur, P.** (2012). *Atmospheric ammonia monitored by IASI*. Poster session presented at ATMOS (Advances in Atmospheric Science and Applications) 2012 (18-22 June 2012: Bruges, Belgium).
185. Brenot, H., Theys, N., Van Gent, J., Van Roozendael, M., Van der A, R., Clarisse, L., Hurtmans, D., Ngadi, Y., **Coheur, P.**, & Clerbaux, C. (2012). *Global multi-sensor satellite monitoring of volcanic SO<sub>2</sub> and ash emissions in support to aviation control*. Poster session presented at EGU General Assembly 2012 (22-27 April 2012: Vienna, Austria).
186. Oudot, C., Clerbaux, C., Hadji-Lazaro, J., George, M., Safieddine, S., Clarisse, L., Hurtmans, D., & **Coheur, P.** (2012). *IASI/METOP sounder contribution for atmospheric*



*composition monitoring*. Poster session presented at ATMOS (Advances in Atmospheric Science and Applications) 2012 (18-22 June 2012: Bruges, Belgium).

187. Pfister, G., Arellano, A., Edwards, D., Clerbaux, C., Wespes, C., Liu, X., Chance, K., & **Coheur, P.** (2012). *Incorporating satellite trace gas retrievals in air quality simulations*. Paper session presented at IGARSS (IEEE International Geoscience and remote Sensing Symposium) 2012 (22-27 July 2012: Munich, Germany).
188. R'Honi, Y., Clarisse, L., Dufлот, V., **Coheur, P.**, Clerbaux, C., Hurtmans, D., Ngadi, Y., Messina, P., Turquety, S., Parrington, M., & Palmer, P. (2012). *Monitoring emission, chemistry and transport of vegetation fires from IASI and comparison with simulations*. Poster session presented at ATMOS (Advances in Atmospheric Science and Applications) 2012 (18-22 June 2012: Bruges, Belgium).
189. George, M., Clerbaux, C., Safieddine, S., Hadji-Lazaro, J., Oudot, C., Hurtmans, D., & **Coheur, P.** (2012). *Global and local ozone measurements from the thermal infrared iasi/metop sounder*. Paper session presented at Quadrennial Ozone Symposium 2012 (27-31 August 2012: Toronto, Canada).
190. Wespes, C., Emmons, L., Edwards, D., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2012). *Analysis of tropospheric O<sub>3</sub> and CO in continental outflow regions using IASI satellite observations and MOZART-4 model during the spring and the summer 2008*. Paper session presented at Quadrennial Ozone Symposium 2012 (27-31 August 2012: Toronto, Canada).
191. Delcloo, A., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2012). *Validation of IASI ozone profiles, using balloon sounding data*. Poster session presented at 2012 EUMETSAT Meteorological Satellite Conference (3-7 September 2012: Sopot, Poland).
192. Payan, S., Bureau, J., Camy-Peyret, C., Clerbaux, C., **Coheur, P.**, Hurtmans, D., Hadji-Lazaro, J., & Bauduin, S. (2012). *On the joint use of IASI and GOSAT retrievals in the thermal infrared*. Paper session presented at AGU Fall Meeting 2012 (3-7 December 2012: San Francisco, USA).
193. Heald, C. L., Ridley, D., Val Martin, M., Lapina, K., Clarisse, L., Hurtmans, D., Van Damme, M., Clerbaux, C., & **Coheur, P.** (2012). *Satellite and modeling synergies: organic aerosol, ammonia, Colorado fires and African dust*. Paper session presented at AGU Fall Meeting 2012 (3-7 December 2012: San Francisco, USA).
194. Pommier, M., McLinden, C., Deeter, M., Clerbaux, C., & **Coheur, P.** (2012). *Observation of CO from space over megacities*. Paper session presented at AGU Fall Meeting 2012, California (3-7 December 2012: San Francisco, USA).
195. Van Damme, M., Ngadi, Y., Clarisse, L., Clerbaux, C., Hurtmans, D., Schaap, M., Wichink Kruit, R., Erismann, J. W., & **Coheur, P.** (2012). *Atmospheric ammonia: global distributions and trends from the IASI satellite mission*. Paper session presented at IGAC 2012 Conference: Atmospheric Chemistry in the Anthropocene.

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196. Clarisse, L., **Coheur, P.**, Ngadi, Y., Hurtmans, D., & Clerbaux, C. (2011). *Invited talk: Uplift and long range transport of anthropogenic SO<sub>2</sub>*. Paper session presented at EGU General Assembly 2011 (5 April 2011: Vienna).
197. Stavrakou, T., Muller, J.-F., Peeters, J., Razavi, A., Clarisse, L., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2011). *New constraints on the global budget of formic acid from IASI column data*. Paper session presented at EGU General Assembly (3-8 April 2011: Vienna).
198. Theys, N., Brenot, H., Van Gent, J., Van Roozendaal, M., Van der A, R., Clarisse, L., Hurtmans, D., Ngadi, Y., **Coheur, P.**, & Clerbaux, C. (2011). *A multi-sensor alert system for volcanic emissions using satellite SO<sub>2</sub> and ash measurements*. Paper session presented at EGU (3-8 April 2011: Vienna).
199. Van Damme, M., Clarisse, L., Clerbaux, C., Hall, J. L., Heald, C. L., Hurtmans, D., Ngadi, Y., Schaap, M., Tratt, D. M., Erisman, J. W., & **Coheur, P.** (2011). *Global ammonia distributions derived from infrared space observations*. Paper session presented at Nitrogen and Global Change: Key Findings – Future Challenges (11-14 April 2011: Edimburgh, UK).
200. Clerbaux, C., **Coheur, P.**, George, M., Clarisse, L., Hurtmans, D., Hadji-Lazaro, J., Razavi, A., & Gazeaux, J. (2011). *Near-real time monitoring of atmospheric composition with IASI/METOP*. Paper session presented at MACC Conference (23-27 May 2011: Utrecht, The Netherlands).
201. **Coheur, P.**, Clarisse, L., & Hurtmans, D. (2011). *Atmospheric composition measurements with the IASI hyperspectral sounder: local to global*. Paper session presented at High-resolution Molecular Spectroscopy Symposium (29 August-2 September 2011: Dijon, France).
202. George, M., Clerbaux, C., Hadji-Lazaro, J., Gazeaux, J., **Coheur, P.**, Clarisse, L., Hurtmans, D., R'Honi, Y., & Ngadi, Y. (2011). *Near-real time monitoring of atmospheric composition with IASI*. Paper session presented at EUMETSAT Conference (5-9 September 2011: Oslo, Norway).
203. Stavrakou, T., Muller, J.-F., Peeters, J., Razavi, A., Clarisse, L., Clerbaux, C., **Coheur, P.**, & Hurtmans, D. (2011). *A Large Biogenic Source of Formic Acid Revealed From Space Observations*. Paper session presented at AGU Fall Meeting 2011 (5-9 December 2011: San Francisco, California, USA).
204. Sutton, M. A., Milford, C., Nemitz, E., Riddick, S., Dragosits, U., Blackall, T., Tang, S., Flechard, C., Vieno, M., Reis, S., Misselbrook, T., **Coheur, P.**, Clarisse, L., Van Damme, M., Ngadi, Y., Bouwman, L., Ambelas Skjoth, C., Geels, C., Dentener, F., & De Vries, W. (2011). *Toward a climate-depend paradigm of ammonia emission & deposition*. Paper session presented at The Global Nitrogen Cycle (5-6 Dec 2011: Royal Society, London, England).
205. George, M., Clerbaux, C., Hadji-Lazaro, J., Pommier, M., Hurtmans, D., **Coheur, P.**, Edwards, D., Deeter, M., & Worden, H. (2011). *Monitoring of atmospheric composition*



- with IASI and MOPITT: CO distributions and trends. Paper session presented at EGU General Assembly (3-8 April 2011: Vienna, Austria).
206. Dufour, G., Eremenko, M., Griesfeller, A., Barret, P. B., Le Flochmoën, E., Hadji-Lazaro, J., Clerbaux, C., Hurtmans, D., **Coheur, P.**, & Flaud, J. M. (2011). *Tropospheric ozone from IASI: validation of three scientific products using ozone sondes measurements*. Poster session presented at EGU General Assembly (3-8 April 2011: Vienna, Austria).
  207. Stavrakou, T., Guenther, A., Razavi, A., Clarisse, L., Clerbaux, C., **Coheur, P.**, Hurtmans, D., & Muller, J.-F. (2011). *First space-based derivation of the global atmospheric methanol emission fluxes*. Poster session presented at EGU General Assembly (3-8 April 2011: Vienna, Austria).
  208. Clerbaux, C., & **Coheur, P.** (2011). *The potential of MTG-IRS to detect pollution*. Paper session presented at Second GEO-CAPE Community Workshop (11-13 May 2011: Boulder, Colorado, USA).
  209. Delcloo, A., Scannell, C., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2011). *Validation of IASI ozone profiles, using balloon sounding data*. Poster session presented at Eumetsat Conference (5-9 September 2011: Oslo, Norway).
  210. Clerbaux, C., & **Coheur, P.** (2011). *Monitoring and forecast of atmospheric composition using the IASI/Metop satellite mission*. Paper session presented at NOAA ESRL/Chemical Sciences Division (July 2011: Boulder, Colorado, USA).
  211. Van Damme, M., Clarisse, L., Clerbaux, C., Heald, C. L., Hurtmans, D., Ngadi, Y., Schaap, M., Erisman, J. W., & **Coheur, P.** (2011). *Assessment of ammonia distributions and emissions using infrared space observations*. Poster session presented at Third ACCENT Urbino Symposium (13-16 September 2011: Urbino, Italy).
  212. Kerzenmacher, T., Dils, B., Kumps, N., Blumenstock, T., Clerbaux, C., **Coheur, P.**, Demoulin, P., George, M., Hase, F., Jones, N., Mahieu, E., Notholt, J., Petersen, A.-K., Raffalski, U., Ridder, T., Schneider, M., Servais, C., Wespes, C., & De Mazière, M. (2011). *Verification of the evolution of HNO<sub>3</sub> and CO products retrieved from IASI using NDACC FTIR data*. Poster session presented at Eumetsat Conference (5-9 September 2011: Oslo, Norway).
  213. George, M., Clerbaux, C., Clarisse, L., Hurtmans, D., R'Honi, Y., Ngadi, Y., Hadji-Lazaro, J., & **Coheur, P.** (2011). *Near real-time monitoring of atmospheric composition with IASI*. Poster session presented at Third ACCENT Urbino Symposium (13-16 September 2011: Urbino, Italy).
  214. Gazeaux, J., Clerbaux, C., George, M., Hadji-Lazaro, J., Hurtmans, D., & **Coheur, P.** (2011). *Intercomparison of polar ozone profiles monitored by IASI/MetOp sounder with ground-based NDACC observations*. Poster session presented at Symposium celebrating 20 years of atmospheric research fostered by NDACC/NDSC observations (7-10 November 2011: Île de la Réunion, France).

215. Clerbaux, C., & **Coheur, P.** (2011). *Monitoring and forecast of atmospheric composition with IASI/MetOp*. Paper session presented at WCRP Open Science Conference: "Climate research in service to society" (24-28 October 2011: Denver, Colorado, USA).
216. George, M., Clerbaux, C., Hadji-Lazaro, J., Bouarar, I., Hurtmans, D., **Coheur, P.**, Edwards, D., Deeter, M., & Worden, H. (2011). *Monitoring of atmospheric composition with IASI and MOPITT: CO distributions and trends*. Paper session presented at AGU Fall Meeting 2011 (5-9 December 2011: San Francisco, California, USA).
217. Turquety, S., Anav, A., Menut, L., Messina, P., Stromatas, S., Bessagnet, B., Péré, J., Clerbaux, C., **Coheur, P.**, Drobinski, P., & Tanre, D. (2011). *Impact of fire emissions on air-quality in the Euro-Mediterranean region*. Paper session presented at AGU Fall Meeting 2011 (5-9 December 2011: San Francisco, California, USA).
218. Tratt, D. M., Hall, J. L., Chang, C. S., Qian, J., Clarisse, L., Van Damme, M., Clerbaux, C., Hurtmans, D., & **Coheur, P.** (2011). *Validation of Satellite Ammonia Retrievals using Airborne Hyperspectral Thermal-Infrared Spectrometry*. Poster session presented at AGU Fall Meeting 2011 (5-9 December 2011: San Francisco, California, USA).
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219. Clarisse, L., Prata, F., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2010). *Invited talk: Remote sensing of volcanic ash with the IASI interferometer on board the METOP satellite*. Paper session presented at EGU General Assembly (6 May 2010: Vienna).
220. Clarisse, L., Prata, F., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2010). *Invited talk: Detecting and quantifying volcanic ash, ice and sulfate aerosols with hyperspectral infrared sounders*. Paper session presented at AGU Fall meeting 2010 (13-17 December 2010: San Francisco).
221. Clarisse, L., Prata, F., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2010). *Invited talk: Observations of atmospheric SO<sub>2</sub> and volcanic ash from IASI*. Paper session presented at EUMETSAT/ESA workshop on volcanic ash (27 May 2010: ESRIN, Frascati).
222. Clarisse, L., Hurtmans, D., Prata, F., Karagulian, F., Clerbaux, C., De Mazière, M., & **Coheur, P.** (2010). *Sounding of aerosols with IASI - observations, retrievals and open questions*. Paper session presented at EGU conference (6 May 2010: Vienna).
223. Heald, C. L., Collett, J. L., Lee, T., Clarisse, L., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2010). *Using in situ and Satellite Observations to Test our Understanding of Ammonia and Ammonium: Preliminary Results*. Paper session presented at EPRI Air Quality Model Development Meeting (7 July 2010).
224. Stavrakou, T., Muller, J.-F., Razavi, A., Karagulian, F., Clarisse, L., **Coheur, P.**, Hurtmans, D., & Clerbaux, C. (2010). *Improving the Global Tropospheric CH<sub>3</sub>OH Budget Through Inverse Modelling of Spaceborne IASI Methanol Columns and In Situ Data*. Paper session presented at EGU (2-7 May 2010: Vienna).
225. Clarisse, L., **Coheur, P.**, Hurtmans, D., Clerbaux, C., & Dentener, F. (2010). *Global to local observations of atmospheric ammonia with IASI*. Paper session presented at 2nd IASI conference (2010: Annecy, France).

226. Stavrakou, T., Muller, J.-F., Razavi, A., Karagulian, F., Clarisse, L., **Coheur, P.**, Hurtmans, D., & Clerbaux, C. (2010). *Improving the Global Tropospheric CH<sub>3</sub>OH Budget Through Inverse Modelling of Spaceborne IASI Methanol Columns and In Situ Data*. Paper session presented at IGAC (2010: Halifax).
227. Razavi, A., Karagulian, F., Clarisse, L., **Coheur, P.**, Hurtmans, D., Clerbaux, C., & Stavrakou, T. (2010). *First global observations of formic acid and methanol from the IASI infrared sounder*. Paper session presented at 2nd IASI conference (2010: Annecy, France).
228. Clerbaux, C., Clarisse, L., & **Coheur, P.** (2010). *The IASI/MetOp mission and Mopitt, TES, AIRS*. Paper session presented at AURA Science Team meeting (12-16 July 2010: Boulder).
229. Clarisse, L., Prata, F., Richter, A., Carn, S., Hurtmans, D., **Coheur, P.**, Hadji-Lazaro, J., & Clerbaux, C. (2010). *Three year SO<sub>2</sub> measurements from IASI vs AIRS, GOME2 and OMI*. Paper session presented at EUMETSAT conference (20-24 September 2010: Cordoba).
230. Clarisse, L., **Coheur, P.**, R'Honi, Y., Hurtmans, D., Clerbaux, C., & Razavi, A. (2010). *Detection, transport and chemistry of biomass burning plumes with IASI*. Paper session presented at AGU (13-17 December 2010: San Francisco).
231. **Coheur, P.**, Clarisse, L., R'Honi, Y., Hurtmans, D., Clerbaux, C., & Turquety, S. (2010). *Observation of fire emission products and chemistry with IASI*. Paper session presented at EUMETSAT conference (2010: Cordoba).
232. Clerbaux, C., **Coheur, P.**, George, M., Clarisse, L., Hurtmans, D., Hadji-Lazaro, J., & Razavi, A. (2010). *Observing the atmospheric composition with the IASI/MetOp satellite: emissions, composition and transport*. Paper session presented at AGU (13-17 December 2010: San Francisco).
233. Theys, N., Van Gent, J., Van Roozendaal, M., Valks, P., Rix, M., Van der A, R., Clarisse, L., **Coheur, P.**, & Clerbaux, C. (2010). *An alert system for volcanic emissions using satellite measurements*. Paper session presented at EUMETSAT conference (20-24 September 2010: Cordoba).
234. Pommier, M., Law, K., Clerbaux, C., Turquety, S., Hadji-Lazaro, J., Hurtmans, D., **Coheur, P.**, Schlager, H., Ancellet, G., Paris, J., Nedelec, P., Diskin, G., Podolske, J., Holloway, J., & Bernath, P. (2010). *IASI carbon monoxide validation over the Arctic*. Paper session presented at IASI Conference (25-29 January 2010: Sévrier, France).
235. Clarisse, L., Hurtmans, D., Prata, F., Clerbaux, C., De Mazière, M., & **Coheur, P.** (2010). *Remote sensing of aerosols with IASI observations and a new retrieval tool*. Paper session presented at IASI Conference (25-29 January 2010: Sévrier, France).
236. Clerbaux, C., Crevoisier, C., **Coheur, P.**, Phulpin, T., et al. (2010). *IASI NG*. Paper session presented at IASI Conference (25-29 January 2010: Sévrier, France).
237. Scannell, C., Clerbaux, C., Boynard, A., Hurtmans, D., & **Coheur, P.** (2010). *Global and local ozone measurements from the thermal IASI sounder for the monitoring of*

- atmospheric composition*. Paper session presented at IASI Conference (25-29 January 2010: Sévrier, France).
238. Razavi, A., Karagulian, F., Clarisse, L., Hurtmans, D., Clerbaux, C., **Coheur, P.**, Stavrou, T., & Muller, J.-F. (2010). *First distributions of formic acid and methanol from the IASI sounder*. Paper session presented at IASI Conference (25-29 January 2010: Sévrier, France).
  239. George, M., Clerbaux, C., Hurtmans, D., **Coheur, P.**, Hadji-Lazaro, J., Pommier, M., & Turquety, S. (2010). *Carbon monoxide distributions from the IASI/METOP mission: Evaluation with other space-borne sensors*. Poster session presented at IASI Conference (25-29 January 2010: Sévrier, France).
  240. **Coheur, P.**, Theunissen, M., Clarisse, L., Hurtmans, D., George, M., & Clerbaux, C. (2010). *Sensitivity of IASI measurements to boundary layer pollution: Theoretical analyses and case studies from IASI operations*. Poster session presented at IASI Conference (25-29 January 2010: Sévrier, France).
  241. Hurtmans, D., **Coheur, P.**, Razavi, A., Clarisse, L., Clerbaux, C., Hadji-Lazaro, J., George, M., Scannell, C., & Zhou, D. (2010). *Monitoring of atmospheric composition using the thermal infrared IASI sounder: status and improvements*. Paper session presented at ASSFTS conference (11-13 May 2010: Nara, Japan).
  242. Scannell, C., Boynard, A., Clerbaux, C., Hurtmans, D., & **Coheur, P.** (2010). *Global and Local Ozone Measurements from the Thermal IASI Sounder for the Monitoring of Atmospheric Composition*. Poster session presented at EGU conference (2-7 May 2010: Vienna, Austria).
  243. George, M., Clerbaux, C., Clarisse, L., Hurtmans, D., Pommier, M., Hadji-Lazaro, J., & **Coheur, P.** (2010). *Near-real time monitoring of atmospheric composition with the IASI/METOP sounder: CO, NH<sub>3</sub> and other applications*. Paper session presented at ASSFTS conference (11-13 May 2010: Nara, Japan).
  244. Hadji-Lazaro, J., Hurtmans, D., **Coheur, P.**, Clerbaux, C., Turquety, S., Clarisse, L., George, M., Wespes, C., Boynard, A., Karagulian, F., Razavi, A., Pommier, M., & Scannell, C. (2010). *Near-real-time (NRT) processing of IASI radiances for the monitoring of the atmospheric composition*. Poster session presented at IASI Conference (25-29 January 2010: Sévrier, France).
  245. Clerbaux, C., George, M., Hadji-Lazaro, J., Pommier, M., Scannell, C., **Coheur, P.**, Clarisse, L., Hurtmans, D., & Razavi, A. (2010). *Observing the troposphere with IASI: Emission, chemistry and transport*. Paper session presented at IGAC Conference (12-16 July 2010: Halifax, Canada).
  246. Wespes, C., Emmons, L., Edwards, D., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2010). *Correlations between O<sub>3</sub> and HNO<sub>3</sub>: Analysis for the ARCTAS field campaign using aircraft, satellite observations and Mozart model simulations*. Poster session presented at IGAC Conference (12-16 July 2010: Halifax, Canada).
  247. George, M., Clerbaux, C., Hurtmans, D., Hadji-Lazaro, J., Pommier, M., & **Coheur, P.** (2010). *Monitoring of atmospheric composition with the IASI/METOP Sounder: CO*

- distributions and trends*. Poster session presented at IGAC Conference (12-16 July 2010: Halifax, Canada).
248. Lacour, J. L., Hurtmans, D., Clarisse, L., **Coheur, P.**, & Clerbaux, C. (2010). *Measurements of the HDO/H<sub>2</sub>16O ratio with IASI/MetOp*. Paper session presented at Eumetsat Conference (20-24 September 2010: Cordoba, Spain).
249. George, M., Clerbaux, C., Hadji-Lazaro, J., Pommier, M., Hurtmans, D., & **Coheur, P.** (2010). *Monitoring of atmospheric composition with the IASI/MetOp sounder: CO distributions and trends*. Paper session presented at Eumetsat Conference (20-24 September 2010: Cordoba, Spain).
250. Antón, M., Loyola, D., Clerbaux, C., Lopez, M., Vilaplana, J., Banon, M., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., Zimmer, W., & Serrano, A. (2010). *Comparison of the METOP-1 total ozone data from GOME-2 and IASI with BREWER spectroradiometer data over the Iberian peninsula*. Poster session presented at Eumetsat Conference (20-24 September 2010: Cordoba, Spain).
251. Delcloo, A., Scannell, C., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2010). *Validation of IASI ozone profiles, using balloon sounding data*. Poster session presented at Eumetsat Conference (20-24 September 2010: Cordoba, Spain).
252. Wespes, C., Emmons, L., Edwards, D., Hurtmans, D., **Coheur, P.**, Clerbaux, C., Hannigan, J. W., Lindenmayer, R., Batchelor, R., & Strong, K. (2010). *Analysis of ozone and nitric acid for the ARCTAS field campaign using aircraft, satellite observations and MOZART-4 model simulations: source attribution and variability of Arctic pollution*. Paper session presented at AGU (13-17 December 2010: San Francisco, USA).
253. Stohl, A., Sodemann, H., Pommier, M., Arnold, S., Monks, S. A., Stebel, K., Burkhardt, J., Hair, J., Diskin, G., Clerbaux, C., **Coheur, P.**, Hurtmans, D., Schlager, H., Blechschmidt, A., & Kristjansson, J. (2010). *Episodes of cross-polar transport in the Arctic troposphere during July 2008 as seen from models, satellite, and aircraft observations*. Paper session presented at AGU (13-17 December 2010: San Francisco, USA).
254. Scannell, C., Hurtmans, D., Wespes, C., Clerbaux, C., & **Coheur, P.** (2010). *A Study of the 2009 Ozone Hole from IASI*. Paper session presented at Eumetsat Conference (20-24 September 2010: Cordoba, Spain).
255. Clarisse, L., Prata, F., Clerbaux, C., Hurtmans, D., & **Coheur, P.** (2010). *Detecting and quantifying volcanic ash, ice and sulfate aerosols with hyperspectral infrared sounders*. Paper session presented at AGU (13-17 December 2010: San Francisco, USA).
256. **Coheur, P.**, Clarisse, L., Hurtmans, D., Clerbaux, C., & Dentener, F. (2010). *Global to local observations of atmospheric ammonia with IASI*. Paper session presented at 2nd IASI Conference (January 2010: Sévrier, France).
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257. **Coheur, P.**, Clarisse, L., Hurtmans, D., Clerbaux, C., & Turquety, S. (2009). *Tropospheric composition measurements with IASI: from emission sources to the long-range transport*



- of pollution*. Paper session presented at European Geophysical Union (2009: Vienna, Austria).
258. **Coheur, P.**, Clarisse, L., Hurtmans, D., Karagulian, F., Razavi, A., Wespes, C., Clerbaux, C., George, M., Hadji-Lazaro, J., Boynard, A., Pommier, M., & Scannell, C. (2009). *Observing the troposphere with IASI: Emission, chemistry and transport*. Paper session presented at AURA Science Meeting (2009: Leiden, The Netherlands).
259. Hurtmans, D., **Coheur, P.**, Clerbaux, C., Turquety, S., Hadji-Lazaro, J., Clarisse, L., George, M., Boynard, A., Razavi, A., & Pommier, M. (2009). *Monitoring of atmospheric composition using thermal infrared IASI sounder*. Paper session presented at ASSFTS14 (6-8 May 2009: Firenze, Italy).
260. Clerbaux, C., **Coheur, P.**, Turquety, S., Hurtmans, D., Hadji-Lazaro, J., Clarisse, L., George, M., Wespes, C., Boynard, A., Razavi, A., & Pommier, M. (2009). *Monitoring of atmospheric composition using the thermal infrared IASI sounder 2d*. Paper session presented at Metop RAO Conference (2009: Barcelona, Spain).
261. Clarisse, L., Clerbaux, C., Dentener, F., Hurtmans, D., Van Damme, M., & **Coheur, P.** (2009). *First global ammonia distributions from infrared satellite observations*. Paper session presented at ASSFTS14 (6-8 May 2009: Firenze, Italy).
262. **Coheur, P.**, Clarisse, L., Karagulian, F., Hurtmans, D., & Clerbaux, C. (2009). *IASI measurements of volatile organic compounds*. Paper session presented at EUMETSAT Conference (2009: Bath, United-Kingdom).
263. Clarisse, L., Clerbaux, C., Dentener, F., Hurtmans, D., Van Damme, M., & **Coheur, P.** (2009). *Global ammonia measurements from infrared space observations*. Paper session presented at EUMETSAT Conference (21-25 September 2009: Bath, United-Kingdom).
264. Clarisse, L., Karagulian, F., Razavi, A., **Coheur, P.**, Hurtmans, D., Clerbaux, C., Stavrou, T., Muller, J.-F., & Dentener, F. (2009). *First global space observations of ammonia, formic acid and methanol and comparisons with global models*. Paper session presented at GEIA conference (2009: Oslo, Norway).
265. Karagulian, F., Clarisse, L., Razavi, A., Clerbaux, C., **Coheur, P.**, Hurtmans, D., Stavrou, T., & Muller, J.-F. (2009). *First global observation of organic compounds from the IASI infrared sounder: HCOOH and CH<sub>3</sub>OH*. Paper session presented at ESA Atmospheric Science Conference (2009: Barcelona, Spain).
266. Van Geffen, J., Van Roozendaal, M., Van Gent, J., Valks, P., Rix, M., Van der A, R., **Coheur, P.**, Clerbaux, C., & Clarisse, L. (2009). *An alert system for volcanic SO<sub>2</sub> emissions using satellite measurements*. Paper session presented at EUMETSAT Conference (2009: Bath, United-Kingdom).
267. **Coheur, P.**, Clarisse, L., Hurtmans, D., & Clerbaux, C. (2009). *Near-real-time processing of IASI radiance spectra for applications in atmospheric chemistry and physics*. Poster session presented at The 2009 Eumetsat Conference (20-24/09/2009: Bath, UK).
268. Herbin, H., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2009). *Water vapour isotopologues measurements with IASI/METOP*. Poster session presented at ASSFTS14 – International



Workshop on Atmospheric Science from Space using Fourier Transform Spectroscopy (6-8 May 2009: Florence (Italy)).

269. George, M., Clerbaux, C., Hurtmans, D., Turquety, S., **Coheur, P.**, Pommier, M., Hadji-Lazaro, J., Edwards, D., Worden, H., Luo, M., Rinsland, C., & McMillan, W. (2009). *Carbon monoxide distributions from the IASI/MetOP mission: evaluation with other space-borne sensors*. Paper session presented at ASSFTS14 – International Workshop on Atmospheric Science from Space using Fourier Transform Spectroscopy (6-8 May 2009: Florence (Italy)).
270. Clerbaux, C., **Coheur, P.**, Turquety, S., Hurtmans, D., Hadji-Lazaro, J., Clarisse, L., George, M., Wespes, C., Boynard, A., Razavi, A., & Pommier, M. (2009). *Monitoring of atmospheric composition using the thermal infrared IASI sounder*. Paper session presented at 2nd EPS/MetOp Research Announcement of Opportunity Workshop (20-22 May 2009: Barcelona (Spain)).
271. Wespes, C., **Coheur, P.**, Hurtmans, D., Errera, Q., Clerbaux, C., Boone, C., Martin, R., & Santee, M. (2009). *HNO<sub>3</sub> global distributions from IASI/MetOP and ACE-FTS measurements: Correlation with O<sub>3</sub> measurements*. Paper session presented at ASSFTS14 – International Workshop on Atmospheric Science from Space using Fourier Transform Spectroscopy (6-8 May 2009: Florence (Italy)).
272. Wespes, C., **Coheur, P.**, Herbin, H., Hurtmans, D., Clarisse, L., George, M., Clerbaux, C., Boone, C., & Bernath, P. (2009). *Upper tropospheric composition measurements with ACE-FTS*. Poster session presented at ESA Atmospheric Science Conference (7-11 September 2009: Barcelona (Spain)).
273. Scannell, C., Boynard, A., Clerbaux, C., & **Coheur, P.** (2009). *Global and local ozone measurements from the thermal infrared IASI/METOP sounder*. Poster session presented at EGU General Assembly 2009 (19-24 April 2009: Vienna (Austria)).
274. Karagulian, F., Razavi, A., Clarisse, L., Hurtmans, D., Clerbaux, C., Stavrou, T., Muller, J.-F., & **Coheur, P.** (2009). *First observation of organic compounds from the IASI infrared sounder*. Paper session presented at ESA Atmospheric Science Conference (7-11 September 2009: Barcelona (Spain)).
275. Turquety, S., Clerbaux, C., Hadji-Lazaro, J., Pommier, M., George, M., **Coheur, P.**, Hurtmans, D., & Clarisse, L. (2009). *Observing the atmospheric composition of fire smoke plumes using satellites*. Paper session presented at ESF Exploratory Workshop on Improved Quantitative Fire Description (14-16 September 2009: Farnham (UK)).
276. George, M., Clerbaux, C., Hurtmans, D., Hadji-Lazaro, J., Boynard, A., Pommier, M., Scannell, C., Turquety, S., & **Coheur, P.** (2009). *Monitoring of atmospheric composition with the IASI/METOP sounder: CO and ozone distributions*. Poster session presented at ESA Atmospheric Science Conference (7-11 September 2009: Barcelona (Spain)).
277. Clerbaux, C., George, M., Hadji-Lazaro, J., Boynard, A., Pommier, M., Scannell, C., **Coheur, P.**, & Hurtmans, D. (2009). *Monitoring of atmospheric composition with the IASI/MetOP sounder: ozone and CO distributions*. Paper session presented at 2009 EUMETSAT Meteorological Satellite Conference (21-25 September 2009: Bath (UK)).

278. Turquety, S., **Coheur, P.**, Hurtmans, D., Pommier, M., Clerbaux, C., Hadji-Lazaro, J., Bessagnet, B., & Menut, L. (2009). *Analysis of trace gas emission and transport during biomass burning events using IASI satellite observations*. Paper session presented at GEIA-ACCENT 2009 international conference (26-28 October 2009: Oslo (Norway)).
279. Pommier, M., Law, K., Clerbaux, C., Turquety, S., Hadji-Lazaro, J., Hurtmans, D., **Coheur, P.**, Schlager, H., Ancellet, G., Paris, J., Nedelec, P., Diskin, G., Podolske, J., & Bernath, P. (2009). *Carbon monoxide transport in the Arctic: A joint study using IASI satellite and aircraft data in spring and summer 2008*. Paper session presented at 2009 AGU Fall Meeting (14-18 December 2009: San Fransisco (USA)).
280. **Coheur, P.** (2009). *Tropospheric Composition Measurements with IASI: Emission, transport, chemistry and climate*. Paper session presented at ACCENT\_AT2 Follow-up meeting (22-23/06/2009: Mainz (Germany)).
281. **Coheur, P.**, Karagulian, F., Razavi, A., Clarisse, L., Hurtmans, D., Clerbaux, C., Stavrakou, T., & Muller, J.-F. (2009). *IASI Measurements of VOCs*. Paper session presented at The 2009 EUMETSAT Conference (21-24/09/2009: Bath (UK)).
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282. Clarisse, L., **Coheur, P.**, Prata, A. J., Hurtmans, D., & Clerbaux, C. (2008). *Tracking, quantifying and profiling volcanic SO<sub>2</sub> and aerosol using high spectral resolution infrared sounders*. Paper session presented at Second workshop on USE of Remote Sensing Techniques (USEReST) for Monitoring Volcanoes and Seismogenic Areas (11-14 November 2008: Naples, Italy).
283. Clerbaux, C., Turquety, S., Hadji-Lazaro, J., George, M., Boynard, A., Pommier, M., **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Herbin, H., & Clarisse, L. (2008). *Monitoring of atmospheric composition using the thermal infrared IASI/METOP sounder*. Paper session presented at EGU (April 2008: Vienna (Austria)).
284. Turquety, S., **Coheur, P.**, Clerbaux, C., Hurtmans, D., Szopa, S., Cozic, A., Ravetta, F., Real, E., Tsamalis, C., & Pelon, J. (2008). *Analysis of pollution transport from forest fires in the Mediterranean during the summer of 2007*. Paper session presented at EGU (April 2008: Vienna (Austria)).
285. Turquety, S., **Coheur, P.**, Clerbaux, C., Hurtmans, D., Szopa, S., Cozic, A., Ravetta, F., Real, E., Tsamalis, C., & Pelon, J. (2008). *Détection et analyse des panaches de feux depuis l'espace*. Paper session presented at Ateliers CHARME (January 2008: Paris, France).
286. Boynard, A., Clerbaux, C., Turquety, S., George, M., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., & Beekmann, M. (2008). *Measurements of ozone with IASI/METOP: First comparisons with GOME-2*. Poster session presented at Quadrennial Ozone Symposium (June 2008: Tromso (Norway)).
287. Clerbaux, C., Turquety, S., George, M., Hadji-Lazaro, J., Boynard, A., Pommier, M., **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Herbin, H., & Clarisse, L. (2008). *Monitoring of atmospheric composition using the thermal infrared IASI/METOP sounder*. Paper session presented at COSPAR Conference (July 2008: Montreal (Canada)).

288. Wespes, C., **Coheur, P.**, Hurtmans, D., Clerbaux, C., Turquety, S., & Santee, M. (2008). *Global distributions of nitric acid from IASI/MetOP measurements*. Paper session presented at International Radiation Symposium (August 2008: Iguazu (Brazil)).
289. Boynard, A., Clerbaux, C., Turquety, S., George, M., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., & Beekmann, M. (2008). *Measurements of ozone with IASI/METOP: First comparisons with GOME-2 and sonde data*. Paper session presented at International Radiation Symposium (August 2008: Iguazu (Brazil)).
290. George, M., Hadji-Lazaro, J., Turquety, S., Clerbaux, C., Hurtmans, D., & **Coheur, P.** (2008). *Processing system for analyzing IASI Level 1C data to retrieve trace gases concentrations*. Poster session presented at IGAC 10th International Conference, Bridging the scales in Atmospheric Chemistry : Local to Global (September 2008: Annecy (France)).
291. Boynard, A., Clerbaux, C., Turquety, S., George, M., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., Beekmann, M., & Foret, G. (2008). *Retrieval, validation and modelling of ozone from IASI/METOP observations*. Poster session presented at IGAC 10th International Conference, Bridging the scales in Atmospheric Chemistry : Local to Global (September 2008: Annecy (France)).
292. George, M., Turquety, S., Hadji-Lazaro, J., Boynard, A., Pommier, M., Clerbaux, C., Hurtmans, D., Wespes, C., Razavi, A., Herbin, H., Clarisse, L., & **Coheur, P.** (2008). *Monitoring of atmospheric composition using the thermal infrared IASI/METOP sounder*. Paper session presented at International Radiation Symposium (August 2008: Iguazu (Brazil)).
293. Turquety, S., Clerbaux, C., George, M., Hadji-Lazaro, J., Boynard, A., Pommier, M., **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Herbin, H., & Clarisse, L. (2008). *Monitoring of atmospheric composition using the thermal infrared IASI/METOP Sounder*. Paper session presented at IGAC 10th International Conference, Bridging the scales in Atmospheric Chemistry: Local to Global (September 2008: Annecy (France)).
294. Pommier, M., Turquety, S., Clerbaux, C., Edwards, D., **Coheur, P.**, & Hurtmans, D. (2008). *CO global distribution from thermal infrared measurements: Comparison of IASI and MOPITT observations*. Poster session presented at IGAC 10th International Conference, Bridging the scales in Atmospheric Chemistry: Local to Global (September 2008: Annecy (France)).
295. Wespes, C., **Coheur, P.**, Hurtmans, D., Clerbaux, C., Turquety, S., & Santee, M. (2008). *Global distributions of nitric acid from IASI/MetOP measurements*. Poster session presented at 10th International Conference, Bridging the scales in Atmospheric Chemistry : Local to Global (September 2008: Annecy, France).
296. Herbin, H., **Coheur, P.**, Hurtmans, D., Clerbaux, C., & Flamant, C. (2008). *Tropospheric water vapour isotopologues (H<sub>2</sub>16O and HDO) measurements from IASI/METOP*. Poster session presented at 10th International Conference, Bridging the scales in Atmospheric Chemistry : Local to Global (September 2008: Annecy, France).
297. Boynard, A., Clerbaux, C., Turquety, S., George, M., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., & Beekmann, M. (2008). *Measurements of ozone with IASI/METOP: First comparisons with GOME-2 and sonde data: First comparisons with GOME-2 and sonde*

- data*. Poster session presented at EUMETSAT Conference (September 2008: Darmstadt (Germany)).
298. Pommier, M., Turquety, S., Clerbaux, C., Edwards, D., **Coheur, P.**, & Hurtmans, D. (2008). *CO global distribution from thermal infrared measurements: Comparison of IASI and MOPITT observations*. Poster session presented at EUMETSAT Conference (September 2008: Darmstadt (Germany)).
  299. Herbin, H., Hurtmans, D., Clerbaux, C., & **Coheur, P.** (2008). *IASI/Metop measurements of tropospheric water vapour isotopologues (H<sub>2</sub>16O, H<sub>2</sub>18O and HDO) and their ratios*. Poster session presented at EUMETSAT Conference (September 2008: Darmstadt (Germany)).
  300. Clarisse, L., **Coheur, P.**, Prata, A. J., Hurtmans, D., Razavi, A., Hadji-Lazaro, J., Clerbaux, C., & Phulpin, T. (2008). *Tracking, quantifying and profiling SO<sub>2</sub> and volcanic aerosol using two high spectral infrared sounders - IASI and TES*. Poster session presented at 10th International Conference, Bridging the scales in Atmospheric Chemistry : Local to Global (September 2008: Annecy, France).
  301. Clerbaux, C., Turquety, S., Hadji-Lazaro, J., George, M., Boynard, A., Pommier, M., **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Herbin, H., & Clarisse, L. (2008). *Monitoring of Atmospheric Composition using IASI/MetOp*. Paper session presented at 4th Hyperspectral sounder Meeting (September 2008: Darmstadt (Germany)).
  302. Clerbaux, C., Turquety, S., Hadji-Lazaro, J., George, M., Boynard, A., Pommier, M., **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Herbin, H., & Clarisse, L. (2008). *Monitoring of atmospheric composition using the thermal infrared IASI/METOP sounder*. Paper session presented at EUMETSAT Conference (September 2008: Darmstadt (Germany)).
  303. **Coheur, P.**, Clerbaux, C., Turquety, S., Camy-Peyret, C., Phulpin, T., Pierangelo, C., Schlüssel, P., Klaes, D., Tjemkes, S., & Stuhlmann, R. (2008). *Infrared Atmospheric Sounding from Space: Highlights from IASI/MetOp and future perspectives*. Paper session presented at Quadriennial Ozone Symposium (QOS) (30/6/2008: Tromsø (Norway)).
  304. **Coheur, P.**, Clerbaux, C., et al. (2008). *IASI measurements of short-lived species*. Paper session presented at 4th Hyperspectral sounder Meeting (15-16/09/2008: Darmstadt (Germany)).
  305. **Coheur, P.**, Hurtmans, D., Clarisse, L., Clerbaux, C., & Turquety, S. (2008). *IASI measurements of biomass burning and volcanic plumes*. Paper session presented at The 2008 EUMETSAT Conference (12/09/2008: Darmstadt (Germany)).
- 2007**
306. Turquety, S., Clerbaux, C., **Coheur, P.**, Jacob, D., Logan, J. A., Heald, C. L., Jones, D., Yantosca, R., et al. (2007). *Satellite observations of atmospheric chemistry (MOPITT, IASI, ACE) for the study of Polar Regions: Potential expected contribution to Polarcat*. Paper session presented at 1st POLARCAT Science Planning Meeting (4-6th June 2007: France).

307. Wespes, C., **Coheur, P.**, Hurtmans, D., Herbin, H., Razavi, A., Clerbaux, C., Turquety, S., Hadji-Lazaro, J., Bernath, P., & Boone, C. (2007). *ACE remote-sensing of NOY in the troposphere: first global distributions*. Poster session presented at EGU (April 2007: Austria).
308. Razavi, A., Clerbaux, C., **Coheur, P.**, Hurtmans, D., Wespes, C., George, M., Hadji-Lazaro, J., & Turquety, S. (2007). *Remote sensing of methane: global distributions using thermal infrared spectroscopy*. Poster session presented at EGU (April 2007: Austria).
309. Hurtmans, D., Herbin, H., Wespes, C., **Coheur, P.**, Clerbaux, C., Turquety, S., Boone, C., & Bernath, P. (2007). *Measurements of Tropospheric Trace Gases from ACE-FTS*. Poster session presented at Second ACCENT Symposium (July 2007: Urbino, Italy).
310. Wespes, C., **Coheur, P.**, Hurtmans, D., Razavi, A., Herbin, H., Clerbaux, C., Turquety, S., & Hadji-Lazaro, J. (2007). *Global distribution of nitric acid derived from nadir infrared satellite measurements*. Poster session presented at Second ACCENT Symposium (July 2007: Urbino, Italy).
311. Clerbaux, C., **Coheur, P.**, Turquety, S., Hadji-Lazaro, J., Hurtmans, D., Wespes, C., Herbin, H., Razavi, A., George, M., & Boynard, A. (2007). *Overview of Initial Results for Trace Gas Measurements from the IASI / MetOp Mission*. Paper session presented at International Workshop on Greenhouse Gas Measurements from Space (IWGGMS) (June 2007: Paris, France).
312. Razavi, A., Clerbaux, C., **Coheur, P.**, Hurtmans, D., Wespes, C., George, M., Hadji-Lazaro, J., & Turquety, S. (2007). *Remote sensing of methane: first IASI measurements*. Poster session presented at Second ACCENT Symposium (July 2007: Urbino, Italy).
313. Herbin, H., **Coheur, P.**, Hurtmans, D., & Clerbaux, C. (2007). *Tropospheric water vapour isotopologues (H<sub>2</sub>16O, H<sub>2</sub>18O, H<sub>2</sub>17O and HDO) retrieved from IASI/METOP data*. Poster session presented at 1st IASI conference (November 2007: Anglet (France)).
314. Hurtmans, D., Herbin, H., Wespes, C., **Coheur, P.**, Clerbaux, C., Turquety, S., Boone, C., & Bernath, P. (2007). *New Identifications and Measurements of Tropospheric Trace Gases from ACE-FTS Spectra*. Poster session presented at ASSFTS (November 2007: Toulouse (France)).
315. Clerbaux, C., **Coheur, P.**, Hadji-Lazaro, J., Hurtmans, D., Turquety, S., George, M., Boynard, A., Pommier, M., Wespes, C., Razavi, A., & Herbin, H. (2007). *Monitoring of atmospheric composition using the thermal infrared IASI/METOP sounder*. Paper session presented at ASSFTS (November 2007: Toulouse (France)).
316. Herbin, H., Hurtmans, D., **Coheur, P.**, & Clerbaux, C. (2007). *Tropospheric water vapour isotopologues (H<sub>2</sub>16O, H<sub>2</sub>18O, H<sub>2</sub>17O and HDO) retrieved from IASI/METOP data*. Poster session presented at ASSFTS (November 2007: Toulouse (France)).
317. **Coheur, P.**, Clerbaux, C., Hurtmans, D., Hadji-Lazaro, J., Turquety, S., George, M., Boynard, A., Pommier, M., Wespes, C., Razavi, A., & Herbin, H. (2007). *Trace gas retrievals from IASI/MetOp*. Paper session presented at ASSFTS (November 2007: Toulouse (France)).



318. Hadji-Lazaro, J., George, M., Turquety, S., Clerbaux, C., Hurtmans, D., & **Coheur, P.** (2007). *Processing system for analyzing IASI Level 1C data to retrieve trace gases concentrations*. Poster session presented at 1st IASI conference (November 2007: Anglet (France)).
319. Turquety, S., Clerbaux, C., Pommier, M., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., Szopa, S., Hauglustaine, D., Klonecki, A., Jacob, D., & Logan, J. A. (2007). *Satellite observations of atmospheric chemistry for the study of polar regions: contribution of IASI to the Polarcat campaign*. Paper session presented at 1st IASI conference (November 2007: Anglet (France)).
320. Clerbaux, C., **Coheur, P.**, Hadji-Lazaro, J., Hurtmans, D., Turquety, S., George, M., Boynard, A., Pommier, M., Wespes, C., Razavi, A., & Herbin, H. (2007). *Monitoring of atmospheric composition using the thermal infrared IASI/METOP sounder*. Paper session presented at 1st IASI conference (November 2007: Anglet (France)).
321. Razavi, A., Clerbaux, C., **Coheur, P.**, Hurtmans, D., & Hadji-Lazaro, J. (2007). *Assessment of methane using the IASI instrument*. Poster session presented at 1st IASI conference (November 2007: Anglet (France)).
322. Hurtmans, D., **Coheur, P.**, Wespes, C., Razavi, A., & Herbin, H. (2007). *Trace gases retrievals from the IASI mission: data processing and first results*. Paper session presented at 1st IASI conference (November 2007: Anglet (France)).
323. Wespes, C., **Coheur, P.**, Hurtmans, D., Clerbaux, C., & Turquety, S. (2007). *IASI measurements of the HNO<sub>3</sub> distributions*. Poster session presented at 1st IASI conference (November 2007: Anglet (France)).
324. **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Herbin, H., Clerbaux, C., Turquety, S., Hadji-Lazaro, J., George, M., Boynard, A., & Pommier, M. (2007). *Tropospheric Chemistry Using IASI / MetOP Overview of Initial Results*. Paper session presented at 2d ACCENT symposium (23-27/07/2007: Urbino (Italy)).

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325. Plez, B., Masseron, T., Van Eck, S., Jorissen, A., **Coheur, P.**, Godefroid, M., & Christlieb, N. (2006). *Identification of near-UV predissociation lines of CH in carbon-enhanced Fe-poor stars*. Paper session presented at Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun (14: November 5-10, 2006: Pasadena, USA).
326. Turquety, S., Clerbaux, C., **Coheur, P.**, Hadji-Lazaro, J., Razavi, A., Hurtmans, D., Rinsland, C., Boone, C., & Bernath, P. (2006). *Remote sensing of Asian pollution from space: tracking the long range transport from China using ACE measurements*. Paper session presented at ESA Atmospheric Science Conference (8-12 May, 2006: Esrin Frascati (Italy)).
327. Turquety, S., Clerbaux, C., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., Stuhlmann, R., & Tjemkes, S. (2006). *Ozone and CO observation from future EUMETSAT missions: IASI-METOP and IRS-MTG*. Poster session presented at Community Workshop on Air Quality Remote Sensing from Space: Defining an optimum observing strategy (21-23 February 2006: Boulder (USA)).



328. Hurtmans, D., **Coheur, P.**, Clerbaux, C., Boone, C. D., & Bernath, P. (2006). *ACE retrievals using Atmosphit: a user friendly fitting software based on the optimal estimation method*. Poster session presented at ESA Atmospheric Science Conference (8-12 May, 2006: Esrin Frascati (Italy)).
329. Turquety, S., Clerbaux, C., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., & Wespes, C. (2006). *Monitoring of atmospheric pollution from space: potential of the IASI-METOP mission*. Paper session presented at Canadian Meteorological and Oceanography Society (CMOS) Congress 2006 (29 May-1 June, 2006).
330. Wespes, C., **Coheur, P.**, Hurtmans, D., Barret, P. B., Turquety, S., Clerbaux, C., Hadji-Lazaro, J., Boone, C., & Bernath, P. (2006). *IMG remote-sensing of HNO<sub>3</sub> in the troposphere: first global distributions and comparisons with GOME NO<sub>2</sub> measurements*. Paper session presented at ACCENT AT2 workshop (June 2006: Heraklion, Crete).
331. Clerbaux, C., Turquety, S., Hauglustaine, D., Beekmann, M., Camy-Peyret, C., Payan, S., Orphal, J., **Coheur, P.**, Muller, J.-F., De Mazière, M., Prunet, P., & Klonecki, A. (2006). *French/Belgian scientific contribution to tropospheric studies using the METOP sensors*. Paper session presented at EPS/MetOp Research Announcement of Opportunity (RAO) (15-17 May 2006: ESRIN, Frascati (Italy)).
332. Turquety, S., Clerbaux, C., Law, K., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Hauglustaine, D., Cozic, A., Boone, C., Bernath, P., Nedelec, P., & Cammas, J. (2006). *Remote sensing of Asian pollution from space: tracking the long range transport using a multiplatform analysis (MOPITT, ACE)*. Paper session presented at Joint CACGP/IGAC and WMO conference (September 2006: Le Cap, Afrique du Sud).
333. Turquety, S., Clerbaux, C., Law, K., Hadji-Lazaro, J., **Coheur, P.**, Hurtmans, D., Wespes, C., Razavi, A., Hauglustaine, D., Cozic, A., Boone, C., Bernath, P., Nedelec, P., & Cammas, J. (2006). *Utilisation couplée de données, in situ et satellitaires, et de modèles de chimie transport pour l'étude de la chimie troposphérique*. Poster session presented at Journées Jeunes Chercheurs du CNES (October 2006: Toulouse (France)).
334. Phulpin, T., Hebert, P., Camy-Peyret, C., Clerbaux, C., Hadji-Lazaro, J., **Coheur, P.**, Leon, J., Lavanant, L., & Levelt, P. (2006). *SIFTI: a new generation FTIR spectrometer for the TRopospheric composition and Air Quality (TRAQ) mission*. Paper session presented at TOVS conference (4-10 October 2006: Maratea, Italy).
335. Phulpin, T., Clerbaux, C., **Coheur, P.**, Turquety, S., & Camy-Peyret, C. (2006). *Use of IASI data for Trace gases retrieval*. Poster session presented at TOVS conference (4-10 October 2006: Maratea, Italy).
336. **Coheur, P.**, Turquety, S., Jacob, D., Logan, J. A., Heald, C. L., Jones, D., Hudman, R., Leung, F., Yantosca, R., Wu, S., Emmons, L., Edwards, D., & Sachse, G. (2006). *High Temporal Resolution Inverse Modeling of CO Emissions from North American Boreal Fires and Their Injection Height During the Summer of 2004*. Paper session presented at AGU fall meeting (December 2006: San Francisco, USA).
337. Clerbaux, C., Turquety, S., **Coheur, P.**, Hurtmans, D., Bowman, K., & Worden, H. (2006). *Measurements of SO<sub>2</sub> profiles in volcanic plumes using high-resolution infrared*

*observations from satellite*. Paper session presented at AGU fall meeting (December 2006: San Francisco, USA).

338. Turquety, S., Clerbaux, C., **Coheur, P.**, Razavi, A., Meynadier, R., Hadji-Lazaro, J., & Hurtmans, D. (2006). *Long range transport of pollution from space: a multiplatform (MOPITT, TES, ACE) analysis of CO observations*. Paper session presented at ACCENT AT2 workshop (June 2006: Heraklion, Crete).
339. Wespes, C., Hurtmans, D., Razavi, A., **Coheur, P.**, Clerbaux, C., Turquety, S., Hadji-Lazaro, J., Boone, C. D., & Bernath, P. (2006). *Distributions of nitric acid in the troposphere and the stratosphere derived from satellite measurements in the infrared*. Poster session presented at ESA Atmospheric Science Conference (8-12 May, 2006: Esrin Frascati (Italy)).

## 2005

340. **Coheur, P.**, Barret, P. B., Hurtmans, D., Nguyen Ba, T. H., Clerbaux, C., Hadji-Lazaro, J., & Turquety, S. (2005). Retrieval, validation and characterization of O<sub>3</sub>, CO and HNO<sub>3</sub> vertical profiles from the IMG nadir spectra. *12th "Atmospheric Spectroscopy from Space using Fourier Transform Spectroscopy" meeting* Abstract session presented at (18-20/5/2005: Quebec, Canada)
341. Clerbaux, C., Hadji-Lazaro, J., Turquety, S., **Coheur, P.**, & Hurtmans, D. (2005). *Retrieval of trace gas concentrations from the IASI nadir radiance spectra*. Poster session presented at 12th "Atmospheric Spectroscopy from Space using Fourier Transform Spectroscopy" meeting (18-20/5/2005: Quebec, Canada).
342. Hurtmans, D., Barret, P. B., **Coheur, P.**, & Clerbaux, C. (2005). *Atmosphit: a new tool for simulating and inverting atmospheric spectra*. Poster session presented at 12th "Atmospheric Spectroscopy from Space using Fourier Transform Spectroscopy" meeting (18-20/5/2005: Quebec, Canada).
343. Barret, P. B., **Coheur, P.**, Clerbaux, C., Turquety, S., O'Brien, D., Kruglanski, M., Vandaele, A. C., & Tjemkes, S. (2005). *CO and O<sub>3</sub> retrieval from IRS and UVS missions*. Paper session presented at EGU General Assembly 2005 (24-29 April 2005: Vienna (Austria)).
344. Clerbaux, C., **Coheur, P.**, Hadji-Lazaro, J., & Barret, P. B. (2005). *Spaceborne observation of global and local CO pollution*. Paper session presented at First ACCENT Symposium, The Changing Chemical Climate of the Atmosphere (12-16 September 2005: Urbino (Italy)).
345. Clerbaux, C., **Coheur, P.**, Hurtmans, D., Barret, P. B., Carleer, M., Colin, R., Boone, C., & Bernath, P. (2005). *Carbon monoxide measurements from the ACE-FTS solar occultation instrument*. Paper session presented at 12th International Workshop on Atmospheric Science from Space using Fourier Transform Spectrometry (ASSFTS 12) (18-20 May 2005: Quebec (Canada)).
346. Clerbaux, C., **Coheur, P.**, Hurtmans, D., & Barret, P. B. (2005). *Carbon monoxide distribution from the ACE-FTS solar occultation measurements*. Paper session presented at AURA Science Meeting (8-10 November 2005: Den Hague, The Netherlands).

347. **Coheur, P.**, Hurtmans, D., Wespes, C., Herbin, H., Barret, P. B., Clerbaux, C., Hadji-Lazaro, J., & Turquety, S. (2005). *Mesures de la composition de l'atmosphère terrestre par spectroscopie infrarouge depuis l'espace*. Paper session presented at Journées de Spectroscopie Moléculaire (18-20/5/2005: Lyon (France)).

**2004**

348. Hadji-Lazaro, J., **Coheur, P.**, Phulpin, T., Muguët, I., Barret, P. B., Hurtmans, D., Turquety, S., & Clerbaux, C. (2004). *Potential use of IASI for volcanic clouds detection and monitoring*. Poster session presented at 35th COSPAR (18-25 July 2004: Paris, France).
349. Turquety, S., Hadji-Lazaro, J., Clerbaux, C., **Coheur, P.**, Barret, P. B., Mégie, G. J., Cassé, V., & Schlüssel, P. (2004). *Operational retrieval of total and tropospheric ozone from IASI infrared measurements*. Poster session presented at 8th International Global Atmospheric Chemistry (IGAC) conference (4-9 September 2004: Christchurch (New Zealand)).
350. Hadji-Lazaro, J., Turquety, S., Clerbaux, C., **Coheur, P.**, Barret, P. B., Mégie, G. J., Cassé, V., & Schlüssel, P. (2004). *Operational retrieval of trace gases concentrations from IASI spectra*. Poster session presented at 35th Cospar Scientific Assembly 2004 (18-25 July 2004: Paris (France)).
351. Clerbaux, C., Marchand, M., **Coheur, P.**, Barret, P. B., Hurtmans, D., Carleer, M., Colin, R., & Bernath, P. (2004). *Retrieval of trace gases and chemical data assimilation using the ACE/SCISAT data*. Paper session presented at SPIE Annual Meeting, The Interational Symposium of Optical Science and Technology (2-6 August 2004: Denver (USA)).
352. Barret, P. B., **Coheur, P.**, Hurtmans, D., Clerbaux, C., Turquety, S., & Hadji-Lazaro, J. (2004). *Retrieval of CO profiles from IMG data*. Paper session presented at EGU 1st General Assembly (25-30 April 2004: Nice (France)).
353. Clerbaux, C., Edwards, D., Gille, J., **Coheur, P.**, Barret, P. B., & Hadji-Lazaro, J. (2004). *Spatial infrared measurements of carbon monoxide*. Paper session presented at 8th International Global Atmospheric Chemistry (IGAC) conference (4-9 September 2004: Christchurch (New Zealand)).
354. Hadji-Lazaro, J., Turquety, S., Clerbaux, C., **Coheur, P.**, Barret, P. B., Mégie, G. J., Cassé, V., & Schlüssel, P. (2004). *Operational retrieval of trace gases concentrations from IASI spectra*. Poster session presented at 8th International Global Atmospheric Chemistry (IGAC) conference (4-9 September 2004: Christchurch (New Zealand)).
355. Clerbaux, C., Turquety, S., Hadji-Lazaro, J., **Coheur, P.**, Barret, P. B., & Hurtmans, D. (2004). *Remote sensing of ozone and its precursors from polar and geostationary orbits*. Paper session presented at 2004 Quadrennial Ozone Symposium (1-8 June 2004: Kos (Greece)).
356. Hadji-Lazaro, J., **Coheur, P.**, Phulpin, T., Muguët, I., Barret, P. B., Hurtmans, D., Turquety, S., & Clerbaux, C. (2004). *Potential use of IASI for volcanic clouds detection and monitoring*. Poster session presented at 8th International Global Atmospheric Chemistry (IGAC) conference (4-9 September 2004: Christchurch (New Zealand)).

357. **Coheur, P.**, Barret, P. B., Hurtmans, D., Clerbaux, C., Turquety, S., & Hadji-Lazaro, J. (2004). *Retrievals of ozone vertical distributions from IMG/ADEOS spectra*. Paper session presented at 35th COSPAR (18-25 July 2004: Paris (France)).

#### 2003

358. **Coheur, P.**, Hurtmans, D., Clerbaux, C., Turquety, S., Hadji-Lazaro, J., & Barret, P. B. (2003). *Retrievals of trace gases from IMG/ADEOS spectra for chemistry and climate applications*. Poster session presented at 11th "Atmospheric Spectroscopy from Space using Fourier Transform Spectroscopy" (ASSFTS) (8-10 October 2003: Bad Wildbad (Germany)).

#### 1996

359. **Coheur, P.**, Carleer, M., & Colin, R. (1996). *Absorption spectra of gas phase C60 and C70 in the visible and UV*. Poster session presented at Fullerenes '96, The Second International Interdisciplinary Colloquium on the Science and Technology of the Fullerenes (7-10 July 1996: Oxford (UK)).

### 5.5. - Popular scientific activities

#### 2006

1. Clerbaux, C., & **Coheur, P.** (2006). Suivi de la pollution depuis l'espace à partir de sondeurs infrarouge. *Ciel et terre*, 122(3), 66-72.

### Theses and master's dissertations

#### 1999

1. **Coheur, P.** (1999). *Spectroscopie électronique de fullerenes* (Unpublished doctoral dissertation). Université libre de Bruxelles, Faculté des sciences, Bruxelles.