

PERSONAL INFORMATION	
SURNAME	GARANE
NAME	KATERINA
e-mail	agarane@auth.gr
TEL.	+30 2310 998191



Scopus Author ID: [57199644768](https://orcid.org/0009-0001-9200-4476)

Researcher ID: <http://www.researcherid.com/rid/A-8134-2018>

SHORT SUMMARY OF RESEARCH ACTIVITIES & SCIENTIFIC INTERESTS

Dr. K. Garane studied [Physics](#) at the [Aristotle University of Thessaloniki](#) (graduated in 1999 - grade "Very Good", 7.24/10). During the final semester of her 4-year bachelor studies she completed her diploma thesis on the «*Comparison of solar ultraviolet spectral measurements of spectrophotometers Brewer, during the "5th Brewer users' meeting"*». Right after her graduation, she was admitted to the 2-years [Postgraduate Studies Program of Environmental Physics](#), School of Physics, Aristotle University of Thessaloniki (AUTH). The diploma thesis she prepared during the last year of her postgraduate studies was entitled "*Control of the optical characteristics and calibration of the spectrophotometer Brewer*". She graduated with the degree "Excellent" (9.33/10) in December 2001. In 2002 she started her work on her PhD thesis, under the subject: "*Contribution to the study of changes in the spectrum of ultraviolet solar radiation in various time scales*", for the preparation of which she received a Fellowship from the program "Heraclitus" of the Greek Ministry of National Education and Religious Affairs. She supported her doctoral dissertation on 19/12/2007 and was graded "Excellent" (10/10).

During her graduate studies (2001), Dr. Garane started working at the Laboratory of Atmospheric Physics ([LAP](#)) of the School of Physics, AUTH, where, for more than seven years, she was responsible for the maintenance, calibration and the general supervision of the operation of the two Brewer spectrophotometers operating at the Laboratory since 1982. As part of her PhD thesis she re-evaluated, quality-controlled and analyzed statistically the whole record of spectral ultraviolet measurements of LAP, which spans the time period 1989 - 2005 in order to draw firm conclusions about trends in UV radiation in Thessaloniki and the climatological parameters that may have contributed to it.

Dr. Garane is currently a permanent academic staff member at the Laboratory of Atmospheric Physics of AUTH, and besides teaching courses in the field of Atmospheric Physics to under- and post- graduate students, she continues her research work as a senior Researcher in the field of Remote Sensing. In particular, in the past few years she has focused on the validation and quality-control of long term global total ozone column records from satellite observations, using comparisons against measurements of ground-based instruments. Her work on the ground-based measurements of solar UV radiation and ozone, their calibration and quality control, as well as on the assessment of their trends is also continued.

As a member of the research team of the Laboratory of Atmospheric Physics, Dr. Garane took part in numerous European and National Research Funding Projects, where, besides her scientific contribution, she gained extensive experience in the field of project management and collaboration with other research groups. Currently she is the PI of two funded research projects. At the same time, she actively participated in many international and Greek conferences, where

she had 87 presentations and publications in conference proceedings (last update: Dec. 2024). Finally, regarding the writings, except the three monographs which arose during her studies, she has participated in the publication of 17 papers in international journals, in 5 of which she is the lead author (last update: Dec. 2024).

Peer Reviewed Publications

- [B.1] Meleti, C., K. Garane, A. F. Bais, "**Results of the intercomparison of Brewer spectrophotometers**", in the fifth biennial WMO (World Meteorological Organization) consultation on Brewer ozone and UV spectrophotometer operation, calibration and data reporting, WMO report No 139, pg 41-53, 2000.
- [B.2] Kazadzis, S., A. Bais, N. Kouremeti, E. Gerasopoulos, K. Garane, M. Blumthaler, B. Schallhart, A. Cede, "**Direct spectral measurements with a Brewer spectroradiometer: absolute calibration and aerosol optical depth retrieval**", Applied Optics, Volume 44, Issue 9, 1681-1690, DOI:10.1364/AO.44.001681, 2005
- [B.3] Bais, A., S. Kazadzis, K. Garane, N. Kouremeti, J. Gröbner, M. Blumthaler, G. Seckmeyer, A.R. Webb, T. Koskela, P. Görts, J. Schreder "**A portable device for characterizing the angular response of UV spectroradiometers**", Applied Optics 12/2005; 44(33):7136-43, DOI:10.1364/AO.44.007136, 2005.
- [B.4] Kazantzidis, A., A. F. Bais, J. Grobner, J. R. Herman, S. Kazadzis, N. Krotkov, E. Kyro, P. N. den Outer, K. Garane, P. Gorts, K. Lakkala, C. Meleti, H. Slaper, R. B. Tax, T. Turunen, and C. S. Zerefos, "**Comparison of satellite-derived UV irradiances with ground-based measurements at four European stations**", Journal of Geophysical Research Atmospheres 07/2006, 111, D13207, doi:10.1029/2005JD006672, 2006
- [B.5] Garane, K., A. F. Bais, S. Kazadzis, A. Kazantzidis and C. Meleti. "**Monitoring of UV spectral irradiance at Thessaloniki (1990-2005): Data re-evaluation and quality control**", Annales Geophysicae 12, 24(12), 1 – 14, DOI:10.5194/angeo-24-3215-2006, 2006.
- [B.6] Meleti, C., Bais, A. F., Kazadzis, S., Kouremeti, N., Garane, K. and Zerefos, C., "**Factors affecting solar ultraviolet irradiance measured since 1990 at Thessaloniki, Greece**", International Journal of Remote Sensing, 07/2009; 30(15-15-16):4167-4179. DOI:10.1080/01431160902822864, 2009
- [B.7] Fountoulakis, I., Redondas, A., Lakkala, K., Berjon, A., Bais, A. F., Doppler, L., Feister, U., Heikkila, A., Karppinen, T., Karhu, J. M., Koskela, T., Garane, K., Fragkos, K., and Savastiouk, V.: "**Temperature dependence of the Brewer global UV measurements**", Atmos. Meas. Tech., 10, 4491-4505, <https://doi.org/10.5194/amt-10-4491-2017>, 2017.
- [B.8] Garane, K., Lerot, C., Coldewey-Egbers, M., Verhoelst, T., Koukouli, M. E., Zyrichidou, I., Balis, D. S., Danckaert, T., Goutail, F., Granville, J., Hubert, D., Keppens, A., Lambert, J.-C., Loyola, D., Pommereau, J.-P., Van Roozendael, M., and Zehner, C.: "**Quality assessment of the Ozone_cci Climate Research Data Package (release 2017) – Part 1: Ground-based validation of total ozone column data products**", Atmos. Meas. Tech., 11, 1385-1402, <https://doi.org/10.5194/amt-11-1385-2018>, 2018
- [B.9] Keppens, A., Lambert, J.-C., Granville, J., Hubert, D., Verhoelst, T., Compennolle, S., Latter, B., Kerridge, B., Siddans, R., Boynard, A., Hadji-Lazaro, J., Clerbaux, C., Wespes, C., Hurtmans, D. R., Coheur, P.-F., van Peet, J. C. A., van der A, R. J., Garane, K., Koukouli, M. E., Balis, D. S.,

- Delcloo, A., Kivi, R., Stübi, R., Godin-Beekmann, S., Van Roozendael, M., and Zehner, C.: **Quality assessment of the Ozone_cci Climate Research Data Package (release 2017): 2. Ground-based validation of nadir ozone profile data products**, *Atmos. Meas. Tech.*, <https://doi.org/10.5194/amt-11-3769-2018>, 2018
- [B.10] Boynard, A., Hurtmans, D., Garane, K., Goutail, F., Hadji-Lazaro, J., Koukouli, M. E., Wespes, C., Vigouroux, C., Keppens, A., Pommereau, J.-P., Pazmino, A., Balis, D., Loyola, D., Valks, P., Sussmann, R., Smale, D., Coheur, P.-F., and Clerbaux, C.: **Validation of the IASI FORLI/EUMETSAT ozone products using satellite (GOME-2), ground-based (Brewer-Dobson, SAOZ, FTIR) and ozonesonde measurements**, *Atmos. Meas. Tech.*, 11, 5125-5152, <https://doi.org/10.5194/amt-11-5125-2018>, 2018.
- [B.11] Garane, K., Koukouli, M.-E., Verhoelst, T., Lerot, C., Heue, K.-P., Fioletov, V., Balis, D., Bais, A., Bazureau, A., Dehn, A., Goutail, F., Granville, J., Griffin, D., Hubert, D., Keppens, A., Lambert, J.-C., Loyola, D., McLinden, C., Pazmino, A., Pommereau, J.-P., Redondas, A., Romahn, F., Valks, P., Van Roozendael, M., Xu, J., Zehner, C., Zerefos, C., and Zimmer, W.: **TROPOMI/S5P total ozone column data: global ground-based validation and consistency with other satellite missions**, *Atmos. Meas. Tech.*, 12, 5263–5287, <https://doi.org/10.5194/amt-12-5263-2019>, 2019
- [B.12] Fountoulakis, I., Diémoz, H., Siani, A., Laschewski, G., Filippa, G., Arola, A., Bais, A.F., De Backer, H., Lakkala, K., Webb, A.R., De Bock, V., Karppinen, T., Garane, K., Kapsomenakis, J., Koukouli, M., Zerefos, C.S., **Solar UV Irradiance in a Changing Climate: Trends in Europe and the Significance of Spectral Monitoring in Italy**. *Environments*, 7(1), 1; <https://doi.org/10.3390/environments7010001>, 2020.
- [B.13] Lakkala, K., Kujanpää, J., Brogniez, C., Henriot, N., Arola, A., Aun, M., Auriol, F., Bais, A. F., Bernhard, G., De Bock, V., Catalfamo, M., Deroo, C., Diémoz, H., Egli, L., Forestier, J.-B., Fountoulakis, I., Garane, K., Garcia, R. D., Gröbner, J., Hassinen, S., Heikkilä, A., Henderson, S., Hülsen, G., Johnsen, B., Kalakoski, N., Karanikolas, A., Karppinen, T., Lamy, K., León-Luis, S. F., Lindfors, A. V., Metzger, J.-M., Minvielle, F., Muskatel, H. B., Portafaix, T., Redondas, A., Sanchez, R., Siani, A. M., Svendby, T., and Tamminen, J.: **Validation of the TROPOMI surface UV radiation product**, *Atmos. Meas. Tech.*, 13, 6999–7024, <https://doi.org/10.5194/amt-13-6999-2020>, 2020
- [B.14] Garane, K., Chan, K. L., Koukouli, M.-E., Loyola, D., and Balis, D.: TROPOMI/S5P Total Column Water Vapor validation against AERONET ground-based measurements, *Atmos. Meas. Tech.*, 16, 57–74, <https://doi.org/10.5194/amt-16-57-2023>, 2023.
- [B.15] Garane, K., I. Fountoulakis, A. Karanikolas, A. F. Bais, C. Meleti: **Thirty years of solar ultraviolet spectral irradiance measurements in Thessaloniki: Variability and trends**. *AIP Conf. Proc.* 18 January 2024; 2988 (1): 090003. <https://doi.org/10.1063/5.0183293>, 2024
- [B.16] Amiridis, V., S. Kazadzis, A. Gkikas, KA Voudouri, D. Kouklaki, M.-E. Koukouli, K. Garane, AK Georgoulas, S. Solomos, G. Varlas, et al. **Natural Aerosols, Gaseous Precursors and Their Impacts in Greece: A Review from the Remote Sensing Perspective**, *Atmosphere*, 15(7):753. <https://doi.org/10.3390/atmos15070753>, 2024
- [B.17] Michailidis, K., K. Garane, D. Karagiozidis, G. Peletidou, K.-A. Voudouri, D. Balis, A. Bais, **Extreme wildfires over northern Greece during summer 2023 – Part A: Effects on aerosol optical properties and solar UV radiation**, *Atmospheric Research*, Volume 311, 107700, ISSN 0169-8095, <https://doi.org/10.1016/j.atmosres.2024.107700>, 2024

Conference Publications

- [C.1] Bais, A.F., S. Kazadzis, K. Garane, A. Kazantzidis, C. Topaloglou, C. Meleti, C. S. Zerefos, **Uncertainties in global and direct UV irradiance spectra measured with a Brewer MKIII spectrophotometer** [4482-50] Proceedings of SPIE Vol. #4482, Conference 4482, 30 July-1 August 2001
- [C.2] Bais, A., S. Kazadzis, C. Meleti, K. Garane, J. Verdebout, **“Comparison of satellite-derived surface UV irradiances with spectroradiometric measurements at Thessaloniki, Greece”**, 10th Congress of the European Society of Photobiology (ESP), Vienna, Austria, September 6 – 11, 2003.
- [C.3] Bais, A., J. Gröbner, J. Herman, E. Kyrö, H. Reinen, K. Vanicek, K. Garane, P. Görts, M. Janouch, A. Kazantzidis, N. Krotkov, K. Lakkala, C. Meleti, M. Stanek, T. Turunen, P.N. den Outer and H. Slaper, **“Validation of TOMS derived surface UV irradiances with quality-checked spectral UV measurements from five European stations”**, Proceedings of XX Quadrennial Ozone Symposium, vol. II, 1063-1064, Editor International Ozone Commission, ISBN 960630101X, 9789606301018, Kos, Greece, 1-8 June, 2004.
- [C.4] Meleti, C., A. Bais, C. Zerefos, K. Garane, S. Kazadzis, **“Temporal and spatial variability of solar ultraviolet measurements in Greece”** Proceedings of XX Quadrennial Ozone Symposium, vol. II, 1063-1064, Editor International Ozone Commission, ISBN 960630101X, 9789606301018, Kos, Greece, 1-8 June, 2004.
- [C.5] Kazadzis, S., A. F. Bais, N. Kouremeti, E. Gerasopoulos, V. Amiridis, K. Garane **Aerosol optical depth measurements (1997-2003) at Thessaloniki, Greece**, Proceedings of XX Quadrennial Ozone Symposium, vol. II, 1063-1064, Editor International Ozone Commission, ISBN960630101X, 9789606301018, Kos, Greece, 1-8 June, 2004.
- [C.6] Bais A., A. Kazantzidis, N. Krotkov, J. Gröbner, J. Herman, E. Kyrö, H. Reinen, K. Garane, P. Görts, K. Lakkala, P.N. den Outer, H. Slaper and T. Turunen, **“Comparison of ground-based and TOMS surface UV irradiances over Europe: the role of clouds and aerosols”**, European Geosciences Union (EGU), General Assembly 2005, Vienna, Austria, 24-29 April 2005.
- [C.7] Bais, A., S. Kazadzis, K. Garane, N. Kouremeti, J. Groebner, J. Schreder. **“A portable unit for the characterization of the angular response of spectroradiometers”**, 9th Brewer Workshop, Delft, The Netherlands, 31 May – 3 June, 2005
- [C.8] Garane, Katerina, Alkiviadis Bais, Kleareti Tourpali, Chariclea Meleti, Christos Zerefos, and Stylianos Kazadzis **“Variability of spectral UV irradiance at Thessaloniki, Greece, from 15 years of measurements”**, Proc. SPIE 5886, Ultraviolet Ground- and Space-based Measurements, Models, and Effects V, 588606 (15 February 2007); <https://doi.org/10.1117/12.619793>, Optics & Photonics, San Diego, California U.S.A., 31 July – 4 August 2005
- [C.9] Kazantzidis, A. Bais, C. Topaloglou, K. Garane, M. Zempila, C. Meleti, and C. Zerefos: **Quality assurance of the Greek UV Network: preliminary results from the pilot phase operation**, Proc. SPIE 6362, Remote Sensing of Clouds and the Atmosphere XI, 636229 (12 October 2006); <https://doi.org/10.1117/12.689798>, 2006
- [C.10] Kazantzidis, A., A. Bais, K. Garane, S. Kazadzis, and C. Meleti: **Estimation of UV irradiance from ancillary data and comparison with measurements at Thessaloniki, Greece (40.5°N, 23°E)**, Proc. SPIE 6362, Remote Sensing of Clouds and the Atmosphere XI, 636228 (12 October 2006); <https://doi.org/10.1117/12.689813>, 2006

- [C.11] Garane, K., K. Tourpali, A.F. Bais, C. Meleti, **Signals from natural fluctuations in the re-evaluated surface UV irradiance record of Thessaloniki, Greece**, Oral presentation, EGU General Assembly, Vienna, 15-20 April 2007.
- [C.12] Bais, A.F., H. Slaper, J. Kaurola, W. Josefsson, U. Feister, M. Janouch, C. Meleti, S. Kazadzis, N. Kouremeti, K. Lakkala, K. Garane, C. Topaloglou, **UV variability and climatology from the re-evaluated spectral records of seven European stations**, UV Conference, Davos, 18-20 September 2007
- [C.13] Meleti C., K. Garane, S. Kazadzis, A. F. Bais, N. Kouremeti, C. S. Zerefos, **Long term variability of solar UV irradiance at Thessaloniki**, In proceeding of: Quadrennial Ozone Symposium, Tromsø, Norway, June 29th – July 5th, 2008
- [C.14] Kontos S., Liora N., Poupkou A., Giannaros C., Garane K., Melas D., **Air quality impact of cruise and passenger ship emissions in the port of Thessaloniki**, DOI: 10.1007/978-3-319-35095-0_162, in book: Perspectives on Atmospheric Sciences, Springer International Publishing, Editors T. Karacostas, A. Bais, P.T. Nastos, Part of the Springer Atmospheric Sciences book series (SPRINGERATMO), ISSN 2194-5217, 13th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP16, Thessaloniki, 19-21 September 2016
- [C.15] Fountoulakis I., A. F. Bais, K. Fragkos, C. Meleti, K. Tourpali, M.M. Zempila, and K. Garane, **Effects of changes in aerosols, total ozone and clouds on the short- and long-term variability of the spectral solar UV irradiance over Thessaloniki, Greece**, Quadrennial Ozone Symposium 2016, Edinburgh, United Kingdom, 4–9 September 2016
- [C.16] Poupkou A., Huang X., Papanastasiou D. K., Pu X., Zanis P., Wang T., Garane A., Melas D., **Evaluating the performance of the RegCM-Chem4 model in the simulation of ozone levels during heat waves in China**, 13th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP, Thessaloniki, 19-21 September 2016, DOI: 10.1007/978-3-319-35095-0_150, In: Karacostas T., Bais A., Nastos P. (eds) Perspectives on Atmospheric Sciences. Springer Atmospheric Sciences. Springer, Cham, 2017
- [C.17] Bais, A.F., D. Balis, C. Meleti, T. Drosoglou, I. Fountoulakis, K. Fragkos, A. Garane, F. Gkertsis, I. Logothetis, A. Natsis, K. Rizos, N. Siomos, C. Topaloglou, K. Voudouri, **Observations of atmospheric composition and solar radiation in Thessaloniki, Greece**, Poster, Global Atmosphere Watch (GAW) 2017 Symposium, WMO Secretariat, Geneva, Switzerland, 10-13 April 2017
- [C.18] Lerot, C., T. Danckaert, J. Van Gent, M. Coldewey-Egbers, D. Loyola, Q. Errera, R. Spurr, K. Garane, M. Koukouli, D. Balis, T. Verhoelst, J. Granville, J.-C. Lambert, and M. Van Roozendael, **Operational production of the Total Ozone Essential Climate Variable as part of the Copernicus Climate Change Service (epj)**, Poster, AGU Fall meeting, New Orleans, 11-15 December 2017
- [C.19] Lerot, C., N. Theys, I. De Smedt, J. Van Gent, M. Van Roozendael, F. Romahn, K.-P. Heue, W. Zimmer, D. Loyola, K. Garane, M. Koukouli, D. Balis, T. Verhoelst, J.-C. Lambert, **The offline total ozone product from TROPOMI/S5p**, Poster, AS3.15 - First Results of the Copernicus Sentinel-5 Precursor Mission, EGU General Assembly, Vienna, 8-13 April 2018
- [C.20] Heue, K.-P., J. Xu, D. Loyola, P. Valks, M. van Roozendael, C. Lerot, J.-C. Lambert, M. Koukouli, D. Balis, K. Garane, and A. Delcloo, **Total and Tropospheric ozone columns from S5P**, Poster, **AS3.15, - First Results of the Copernicus Sentinel-5 Precursor Mission**, oral presentation, EGU General Assembly, Vienna, 8-13 April 2018

- [C.21] Karagkiozidis, D., I. Fountoulakis, A. F. Bais, K. Garane, T. Drosoglou and A. Natsis, **Optimization of the AOD retrieval from direct sun spectral UV measurements by a Brewer spectrophotometer, in Thessaloniki, Greece**, European Conference on Solar UV Monitoring “UV Monitoring in the European Countries- Past, Present and Future”, Vienna, Austria, 12 - 14 September 2018.
- [C.22] Keppens, A., J.-C. Lambert, J. Granville, D. Hubert, T. Verhoelst, S. Compernelle, B. Latter, B. Kerridge, R. Siddans, A. Boynard, J. Hadji-Lazaro, C. Clerbaux, C. Wespes, D. R. Hurtmans, P.-F. Coheur, J. C. A. van Peet, R. J. van der A, K. Garane, M. E. Koukouli, D. S. Balis, A. Delcloo, R. Kivi, R. Stübi, S. Godin-Beekmann, M. Van Roozendael, C. Zehner: **Quality assessment and ground-based validation of Metop-A and Metop-B nadir ozone profile products**, Oral presentation, EUMETSAT Meteorological Satellite Conference 2018, Tallinn, Estonia, 17 to 21 September 2018.
- [C.23] Heue, K.-P. , D. Loyola, P. Valks, J. Xu, M.E. Koukouli, D. Balis, K. Garane, D. Hubert, C. Lerot, M. v. Roozendael, **Total and tropospheric ozone data retrieval from TROPOMI Sentinel 5 Precursor**, EUMETSAT meteorological satellite conference, Tallin, Estonia, 17 - 21 September 2018
- [C.24] D. Balis, M.E. Koukouli, K. Garane, A. Bais, I. Zyrichidou, J-C. Lambert, T. Verhoelst, J. Granville, A. Pazmino, A. Bazureau, F. Goutail, J-P. Pommereau, K.-P. Heue, D. Loyola, C. Lerot, M. Van Roozendael and C. Zerefos, **Initial validation of TROPOMI/S5P total ozone columns**, poster COMECAP2018, Alexandroupolis, 15-17 October 2018
- [C.25] K. Garane, D. Balis, M.E. Koukouli, A. Bais, J-C. Lambert, T. Verhoelst, J. Granville, A. Pazmino, A. Bazureau, F. Goutail, J-P. Pommereau, V. Fioletov, C. McLinden, K.-P. Heue, D. Loyola, J. Xu, W. Zimmer, F. Romahn, C. Lerot, M. Van Roozendael and C. Zerefos, **Almost one year of TROPOMI/S5P total ozone column data: global ground based validation**, Poster Number 127, ESA conference ATMOS-2018, Salzburg, Austria on 26 - 29 November 2018
- [C.26] Coldewey-Egbers, M., D. Loyola, K.-P. Heue, M. Dameris, P. Braesicke, C. Lerot, M. Van Roozendael, K. Garane, M.E. Koukouli, D. Balis, **Global total ozone trend assessment 1995-2017 using the extended ESA-CCI GTO-ECV data record**, Oral presentation, ESA conference ATMOS-2018, Salzburg, Austria on 26 - 29 November 2018
- [C.27] Koukouli, M. E. , T. Drosoglou, N. Siomos, F. Gkertsis, D. Karagkiozidis, K. Boudouri, K. Garane, D. S. Balis, A. Bais, D. Loyola, K.-P. Heue, J. Xu, W. Zimmer, F. Romahn, M. Pedernana, C. Lerot, M. Van Roozendael, I. Desmedt, G. Pinardi, H. Eskes, J. van Geffen, F. Boersma, A. Apituley, M. de Graaf, S. Nanda, P. Veefkind, **The potential for synergistic Multi-Instrument Validation of TROPOMI/S5P air quality products over Thessaloniki, Greece**, Oral presentation, ESA conference ATMOS-2018, Salzburg, Austria on 26 - 29 November 2018
- [C.28] Lerot, C., H. Yu, N. Theys, C. Fayt, M. Van Roozendael ,P. Hedelt, K.-P. Heue, D. Loyola, M.E. Koukouli, K. Garane, D.S. Balis, J. Smeets, M. ter Linden, **Development of an improved-DOAS algorithm for fast and accurate total ozone retrievals**, Oral presentation, ESA conference ATMOS-2018, Salzburg, Austria on 26 - 29 November 2018
- [C.29] Loyola, D., P. Veefkind, J. Landgraf, M. Van Roozendael, A. Richter, R. Siddans, T. Wagner, J. Tamminen, I. Aben, J.-C. Lambert, K.-P. Heue, C. Lerot, W. Zimmer, F. Romahn, D. Balis, T. Verhoelst, M.-E. Koukouli, K. Garane, M. ter Linden, A. Keppens, O. Tuinder, M. Pedernana, D. Hubert, H. Eskes, K.-U. Eichmann, S. Compernelle, P. Valks, N. Theys, P. Hedelt, I. De Smedt, K.Lok Chan, T. Borsdorff, B. Langerock, H. Hu, A. Argyrouli, M. Sneep, R. Lutz, P. Wang, D. Stein Zweers, M. de Graaf, A. Smith, J. Kujanpää, A. Dehn, C. Zehner, **The Operational Sentinel-5 Precursor Geophysical Products and Perspectives for Sentinel-4**, Oral presentation, Paper 168, ESA conference ATMOS-2018, Salzburg, Austria on 26 - 29 November 2018

- [C.30] Verhoelst, T., D. Hubert, A. Keppens, J. Granville, M. Van Roozendael, J.-C. Lambert, D. Balis, K. Garane, M. Koukouli, A. Pazmino, F. Goutail, J.-P. Pommereau, A. Delcloo, R. Kivi, R. Stübi, C. Retscher, C. Zehner, D. Schepers, **Continuous Ground-based Assessment of the Stability of ESA's Ozone_cci and EC's C3S O3 Column and Profile Climate Data Records**, Poster Number 255, ESA conference ATMOS-2018, Salzburg, Austria on 26 - 29 November 2018
- [C.31] Verhoelst, T., D. Hubert, J.-C. Lambert, B. Langerock, S. Compernelle, A. Keppens, C. Lerot, J. Granville, O. Rasson, D. Loyola, K.-P. Heue, S. Niemeijer, B. Rino, D. Balis, K. Garane, M. Koukouli, A. Pazmino, F. Goutail, J.-P. Pommereau, **Operational Validation of S5P TROPOMI Total and Tropospheric Ozone data**, Poster Number 256, ESA conference ATMOS-2018, Salzburg, Austria on 26 - 29 November 2018
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