H J Eskes

List of Publications by Year
in descending order

116 papers	11,635 citations	36303 51 h-index	33894 99 g-index
227 all docs	227 docs citations	227 times ranked	7453 citing authors

#	Article	IF	Citations
1	Multimodel ensemble simulations of present-day and near-future tropospheric ozone. Journal of Geophysical Research, 2006, 111, .	3.3	743
2	Error analysis for tropospheric NO2retrieval from space. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	606
3	An improved tropospheric NO₂ column retrieval algorithm for the Ozone Monitoring Instrument. Atmospheric Measurement Techniques, 2011, 4, 1905-1928.	3.1	550
4	The CAMS reanalysis of atmospheric composition. Atmospheric Chemistry and Physics, 2019, 19, 3515-3556.	4.9	524
5	Impact of Coronavirus Outbreak on NO₂ Pollution Assessed Using TROPOMI and OMI Observations. Geophysical Research Letters, 2020, 47, e2020GL087978.	4.0	479
6	Near-real time retrieval of tropospheric NO₂ from OMI. Atmospheric Chemistry and Physics, 2007, 7, 2103-2118.	4.9	469
7	Trends, seasonal variability and dominant NO_x source derived from a ten year record of NO₂ measured from space. Journal of Geophysical Research, 2008, 113, .	3.3	352
8	Averaging kernels for DOAS total-column satellite retrievals. Atmospheric Chemistry and Physics, 2003, 3, 1285-1291.	4.9	266
9	The Ozone Monitoring Instrument: overview of 14 years in space. Atmospheric Chemistry and Physics, 2018, 18, 5699-5745.	4.9	259
10	Multimodel simulations of carbon monoxide: Comparison with observations and projected near-future changes. Journal of Geophysical Research, 2006, 111, .	3.3	254
11	TOWARD A MONITORING AND FORECASTING SYSTEM FOR ATMOSPHERIC COMPOSITION. Bulletin of the American Meteorological Society, 2008, 89, 1147-1164.	3.3	253
12	The global chemistry transport model TM5: description and evaluation of the tropospheric chemistry version 3.0. Geoscientific Model Development, 2010, 3, 445-473.	3.6	251
13	Decadal changes in global surface NO_{<i>x</i>} emissions from multi-constituent satellite data assimilation. Atmospheric Chemistry and Physics, 2017, 17, 807-837.	4.9	228
14	Twelve years of global observations of formaldehyde in the troposphere using GOME and SCIAMACHY sensors. Atmospheric Chemistry and Physics, 2008, 8, 4947-4963.	4.9	215
15	A regional air quality forecasting system over Europe: the MACC-II daily ensemble production. Geoscientific Model Development, 2015, 8, 2777-2813.	3.6	214
16	Highâ€Resolution Mapping of Nitrogen Dioxide With TROPOMI: First Results and Validation Over the Canadian Oil Sands. Geophysical Research Letters, 2019, 46, 1049-1060.	4.0	209
17	Abrupt decline in tropospheric nitrogen dioxide over China after the outbreak of COVID-19. Science Advances, 2020, 6, eabc2992.	10.3	208
18	Validation of urban NO₂ concentrations and their diurnal and seasonal variations observed from the SCIAMACHY and OMI sensors using in situ surface measurements in Israeli cities. Atmospheric Chemistry and Physics, 2009, 9, 3867-3879.	4.9	205

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19	Data assimilation in atmospheric chemistry models: current status and future prospects for coupled chemistry meteorology models. Atmospheric Chemistry and Physics, 2015, 15, 5325-5358.	4.9	201
20	Improving algorithms and uncertainty estimates for satellite NO₂ retrievals: results from the quality assurance for the essential climate variables (QA4ECV) project. Atmospheric Measurement Techniques, 2018, 11, 6651-6678.	3.1	187
21	S5P TROPOMI NO₂ slant column retrieval: method, stability, uncertainties and comparisons with OMI. Atmospheric Measurement Techniques, 2020, 13, 1315-1335.	3.1	170
22	Comparison of OMI NO₂ tropospheric columns with an ensemble of global and European regional air quality models. Atmospheric Chemistry and Physics, 2010, 10, 3273-3296.	4.9	165
23	Global NO_x emission estimates derived from an assimilation of OMI tropospheric NO₂ columns. Atmospheric Chemistry and Physics, 2012, 12, 2263-2288.	4.9	153
24	Comparison of TROPOMI/Sentinel-5 Precursor NO₂ observations with ground-based measurements in Helsinki. Atmospheric Measurement Techniques, 2020, 13, 205-218.	3.1	153
25	Ground-based validation of the Copernicus Sentinel-5P TROPOMI NO₂ measurements with the NDACC ZSL-DOAS, MAX-DOAS and Pandonia global networks. Atmospheric Measurement Techniques, 2021, 14, 481-510.	3.1	142
26	Simultaneous assimilation of satellite NO₂, O₃, CO, and HNO₃ data for the analysis of tropospheric chemical composition and emissions. Atmospheric Chemistry and Physics, 2012, 12, 9545-9579.	4.9	130
27	Multi-model ensemble simulations of tropospheric NO₂ compared with GOME retrievals for the year 2000. Atmospheric Chemistry and Physics, 2006, 6, 2943-2979.	4.9	127
28	Algorithm theoretical baseline for formaldehyde retrievals from S5P TROPOMI and from the QA4ECV project. Atmospheric Measurement Techniques, 2018, 11, 2395-2426.	3.1	127
29	Multi sensor reanalysis of total ozone. Atmospheric Chemistry and Physics, 2010, 10, 11277-11294.	4.9	125
30	Assimilation of GOME total-ozone satellite observations in a three-dimensional tracer-transport model. Quarterly Journal of the Royal Meteorological Society, 2003, 129, 1663-1681.	2.7	124
31	Trends and trend reversal detection in 2Âdecades of tropospheric NO₂ satellite observations. Atmospheric Chemistry and Physics, 2019, 19, 6269-6294.	4.9	119
32	The 2005 and 2006 DANDELIONS NO₂ and aerosol intercomparison campaigns. Journal of Geophysical Research, 2008, 113, .	3.3	116
33	Estimates of lightning NO_x production from GOME satellite observations. Atmospheric Chemistry and Physics, 2005, 5, 2311-2331.	4.9	111
34	The ASSET intercomparison of ozone analyses: method and first results. Atmospheric Chemistry and Physics, 2006, 6, 5445-5474.	4.9	110
35	Data assimilation of satellite-retrieved ozone, carbon monoxide and nitrogen dioxide with ECMWF's Composition-IFS. Atmospheric Chemistry and Physics, 2015, 15, 5275-5303.	4.9	109
36	Quantification of nitrogen oxides emissions from build-up of pollution over Paris with TROPOMI. Scientific Reports, 2019, 9, 20033.	3.3	104

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37	Enhanced Capabilities of TROPOMI NO₂: Estimating NO_{<i>X</i>} from North American Cities and Power Plants. Environmental Science & Technology, 2019, 53, 12594-12601.	10.0	103
38	Curriculum vitae of the LOTOSâ€“EUROS (v2.0) chemistry transport model. Geoscientific Model Development, 2017, 10, 4145-4173.	3.6	100
39	The global impacts of COVID-19 lockdowns on urban air pollution. Elementa, 2021, 9, .	3.2	94
40	Evaluating Sentinel-5P TROPOMI tropospheric NO₂ column densities with airborne and Pandora spectrometers near New York City and Long Island Sound. Atmospheric Measurement Techniques, 2020, 13, 6113-6140.	3.1	85
41	Global lightning NO_x production estimated by an assimilation of multiple satellite data sets. Atmospheric Chemistry and Physics, 2014, 14, 3277-3305.	4.9	84
42	Improved aerosol correction for OMI tropospheric NO₂ retrieval over East Asia: constraint from CALIOP aerosol vertical profile. Atmospheric Measurement Techniques, 2019, 12, 1-21.	3.1	75
43	Improved slant column density retrieval of nitrogen dioxide and formaldehyde for OMI and GOME-2A from QA4ECV: intercomparison, uncertainty characterisation, and trends. Atmospheric Measurement Techniques, 2018, 11, 4033-4058.	3.1	74
44	Air Quality Response in China Linked to the 2019 Novel Coronavirus (COVIDâ€19) Lockdown. Geophysical Research Letters, 2020, 47, e2020GL089252.	4.0	74
45	NOx Emissions Reduction and Rebound in China Due to the COVIDâ€19 Crisis. Geophysical Research Letters, 2020, 47, e2020GL089912.	4.0	74
46	Sentinel-5P TROPOMI NO₂ retrieval: impact of version v2.2 improvements and comparisons with OMI and ground-based data. Atmospheric Measurement Techniques, 2022, 15, 2037-2060.	3.1	74
47	Global tropospheric ozone responses to reduced NO _{<i>x</i>} emissions linked to the COVID-19 worldwide lockdowns. Science Advances, 2021, 7, .	10.3	72
48	A tropospheric chemistry reanalysis for the years 2005â€“2012 based on an assimilation of OMI, MLS, TES, and MOPITT satellite data. Atmospheric Chemistry and Physics, 2015, 15, 8315-8348.	4.9	70
49	The Assimilation of Envisat data (ASSET) project. Atmospheric Chemistry and Physics, 2007, 7, 1773-1796.	4.9	69
50	Assessment of the quality of TROPOMI high-spatial-resolution NO₂ data products in the Greater Toronto Area. Atmospheric Measurement Techniques, 2020, 13, 2131-2159.	3.1	69
51	Extended and refined multi sensor reanalysis of total ozone for the period 1970â€“2012. Atmospheric Measurement Techniques, 2015, 8, 3021-3035.	3.1	68
52	Hindcast experiments of tropospheric composition during the summer 2010 fires over western Russia. Atmospheric Chemistry and Physics, 2012, 12, 4341-4364.	4.9	62
53	Comparison of GOME tropospheric NO₂ columns with NO₂ profiles deduced from ground-based in situ measurements. Atmospheric Chemistry and Physics, 2006, 6, 3211-3229.	4.9	57
54	Representativeness errors in comparing chemistry transport and chemistry climate models with satellite UVâ€“Vis tropospheric column retrievals. Geoscientific Model Development, 2016, 9, 875-898.	3.6	55

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55	Improving ozone forecasts over Europe by synergistic use of the LOTOS-EUROS chemical transport model and in-situ measurements. Atmospheric Environment, 2012, 60, 217-226.	4.1	54
56	Updated tropospheric chemistry reanalysis and emission estimates, TCR-2, for 2005â€“2018. Earth System Science Data, 2020, 12, 2223-2259.	9.9	54
57	Balance of Emission and Dynamical Controls on Ozone During the Koreaâ€United States Air Quality Campaign From Multiconstituent Satellite Data Assimilation. Journal of Geophysical Research D: Atmospheres, 2019, 124, 387-413.	3.3	51
58	Validation of reactive gases and aerosols in the MACC global analysis and forecast system. Geoscientific Model Development, 2015, 8, 3523-3543.	3.6	49
59	The global economic cycle and satelliteâ€derived NO₂ trends over shipping lanes. Geophysical Research Letters, 2012, 39, .	4.0	42
60	A new TROPOMI product for tropospheric NO₂ columns over East Asia with explicit aerosol corrections. Atmospheric Measurement Techniques, 2020, 13, 4247-4259.	3.1	38
61	Catalog of NO_{<i>x</i>} emissions from point sources as derived from the divergence of the NO₂ flux for TROPOMI. Earth System Science Data, 2021, 13, 2995-3012.	9.9	37
62	Assessment of the TROPOMI tropospheric NO₂ product based on airborne APEX observations. Atmospheric Measurement Techniques, 2021, 14, 615-646.	3.1	36
63	Global ozone forecasting based on ERS-2 GOME observations. Atmospheric Chemistry and Physics, 2002, 2, 271-278.	4.9	34
64	Evaluation of near-surface ozone over Europe from the MACC reanalysis. Geoscientific Model Development, 2015, 8, 2299-2314.	3.6	34
65	Evaluation of modeling NO₂ concentrations driven by satellite-derived and bottom-up emission inventories using in situ measurements over China. Atmospheric Chemistry and Physics, 2018, 18, 4171-4186.	4.9	34
66	A deep stratosphere-to-troposphere ozone transport event over Europe simulated in CAMS global and regional forecast systems: analysis and evaluation. Atmospheric Chemistry and Physics, 2018, 18, 15515-15534.	4.9	34
67	Forecasts and assimilation experiments of the Antarctic ozone hole 2008. Atmospheric Chemistry and Physics, 2011, 11, 1961-1977.	4.9	33
68	Sudden changes in nitrogen dioxide emissions over Greece due to lockdown after the outbreak of COVID-19. Atmospheric Chemistry and Physics, 2021, 21, 1759-1774.	4.9	32
69	Validation of tropospheric NO₂ column measurements of GOME-2A and OMI using MAX-DOAS and direct sun network observations. Atmospheric Measurement Techniques, 2020, 13, 6141-6174.	3.1	31
70	Validation of Aura-OMI QA4ECV NO₂ climate data records with ground-based DOAS networks: the role of measurement and comparison uncertainties. Atmospheric Chemistry and Physics, 2020, 20, 8017-8045.	4.9	29
71	Copernicus stratospheric ozone service, 2009â€“2012: validation, system intercomparison and roles of input data sets. Atmospheric Chemistry and Physics, 2015, 15, 2269-2293.	4.9	27
72	Constraints on surface NO<i>_x</i> emissions by assimilating satellite observations of multiple species. Geophysical Research Letters, 2013, 40, 4745-4750.	4.0	26

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73	Intercomparison of daytime stratospheric NO₂ satellite retrievals and model simulations. Atmospheric Measurement Techniques, 2014, 7, 2203-2225.	3.1	25
74	C-IFS-CB05-BASCOE: stratospheric chemistry in the Integrated Forecasting System of ECMWF. Geoscientific Model Development, 2016, 9, 3071-3091.	3.6	24
75	Top-Down NOX Emissions of European Cities Based on the Downwind Plume of Modelled and Space-Borne Tropospheric NO2 Columns. Sensors, 2018, 18, 2893.	3.8	24
76	MAX-DOAS tropospheric nitrogen dioxide column measurements compared with the Lotos-Euros air quality model. Atmospheric Chemistry and Physics, 2015, 15, 1313-1330.	4.9	23
77	Quantifying burning efficiency in megacities using the NO₂â^•CO ratio from the Tropospheric Monitoring Instrument (TROPOMI). Atmospheric Chemistry and Physics, 2020, 20, 10295-10310.	4.9	23
78	A New Divergence Method to Quantify Methane Emissions Using Observations of Sentinelâ€5P TROPOMI. Geophysical Research Letters, 2021, 48, e2021GL094151.	4.0	22
79	Evaluation of the MACC operational forecast system â€" potential and challenges of global near-real-time modelling with respect to reactive gases in the troposphere. Atmospheric Chemistry and Physics, 2015, 15, 14005-14030.	4.9	21
80	Connecting the dots: NOx emissions along a West Siberian natural gas pipeline. Npj Climate and Atmospheric Science, 2020, 3, .	6.8	21
81	Ozone Forecasts of the Stratospheric Polar Vortexâ€"Splitting Event in September 2002. Journals of the Atmospheric Sciences, 2005, 62, 812-821.	1.7	20
82	Biomass burning combustion efficiency observed from space using measurements of CO and NO₂ by the TROPOspheric Monitoring Instrument (TROPOMI). Atmospheric Chemistry and Physics, 2021, 21, 597-616.	4.9	20
83	Improved monitoring of shipping NO₂ with TROPOMI: decreasing NO_{<i>x</i>} emissions in European seas during the COVID-19 pandemic. Atmospheric Measurement Techniques, 2022, 15, 1415-1438.	3.1	20
84	A complex aerosol transport event over Europe during the 2017 Storm Ophelia in CAMS forecast systems: analysis and evaluation. Atmospheric Chemistry and Physics, 2020, 20, 13557-13578.	4.9	19
85	Detecting volcanic sulfur dioxide plumes in the Northern Hemisphere using the Brewer spectrophotometers, other networks, and satellite observations. Atmospheric Chemistry and Physics, 2017, 17, 551-574.	4.9	18
86	Vertical Profiles of Tropospheric Ozone From MAXâ€DOAS Measurements During the CINDIâ€2 Campaign: Part 1â€"Development of a New Retrieval Algorithm. Journal of Geophysical Research D: Atmospheres, 2018, 123, 10,637.	3.3	18
87	New observations of NO₂ in the upper troposphere from TROPOMI. Atmospheric Measurement Techniques, 2021, 14, 2389-2408.	3.1	18
88	Assessment of Updated Fuelâ€Based Emissions Inventories Over the Contiguous United States Using TROPOMI NO₂ Retrievals. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035484.	3.3	18
89	Reductions in nitrogen oxides over the Netherlands between 2005 and 2018 observed from space and on the ground: Decreasing emissions and increasing O3 indicate changing NOx chemistry. Atmospheric Environment: X, 2021, 9, 100104.	1.4	17
90	OMI tropospheric NO₂ profiles from cloud slicing: constraints on surface emissions, convective transport and lightning NO_{<i>x</i>}. Atmospheric Chemistry and Physics, 2015, 15, 13519-13553.	4.9	16

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91	Impact of spaceborne carbon monoxide observations from the S-5P platform on tropospheric composition analyses and forecasts. Atmospheric Chemistry and Physics, 2017, 17, 1081-1103.	4.9	16
92	Evaluation of the CAMS global atmospheric trace gas reanalysis 2003â€“2016 using aircraft campaign observations. Atmospheric Chemistry and Physics, 2020, 20, 4493-4521.	4.9	16
93	Quantifying urban, industrial, and background changes in NO₂ during the COVID-19 lockdown period based on TROPOMI satellite observations. Atmospheric Chemistry and Physics, 2022, 22, 4201-4236.	4.9	16
94	Impact of synthetic space-borne NO₂ observations from the Sentinel-4 and Sentinel-5P missions on tropospheric NO₂ analyses. Atmospheric Chemistry and Physics, 2019, 19, 12811-12833.	4.9	15
95	Decadal Variabilities in Tropospheric Nitrogen Oxides Over United States, Europe, and China. Journal of Geophysical Research D: Atmospheres, 2022, 127, e2021JD035872.	3.3	14
96	Assessing the Impact of Corona-Virus-19 on Nitrogen Dioxide Levels over Southern Ontario, Canada. Remote Sensing, 2020, 12, 4112.	4.0	13
97	Comparison of tropospheric NO₂ columns from MAX-DOAS retrievals and regional air quality model simulations. Atmospheric Chemistry and Physics, 2020, 20, 2795-2823.	4.9	12
98	Benefit of ozone observations from Sentinel-5P and future Sentinel-4 missions on tropospheric composition. Atmospheric Measurement Techniques, 2020, 13, 131-152.	3.1	12
99	Evaluation of the LOTOS-EUROS NO₂ simulations using ground-based measurements and S5P/TROPOMI observations over Greece. Atmospheric Chemistry and Physics, 2021, 21, 5269-5288.	4.9	12
100	Six-day PM10 air quality forecasts for the Netherlands with the chemistry transport model Lotos-Euros. Atmospheric Environment, 2011, 45, 5586-5594.	4.1	11
101	Validation of nine years of MOPITT V5 NIR using MOZAIC/IAGOS measurements: biases and long-term stability. Atmospheric Measurement Techniques, 2014, 7, 3783-3799.	3.1	11
102	Comprehensive evaluation of the Copernicus Atmosphere Monitoring Service (CAMS) reanalysis against independent observations. Elementa, 2021, 9, .	3.2	11
103	On the use of MOZAIC-IAGOS data to assess the ability of the MACC reanalysis to reproduce the distribution of ozone and CO in the UTLS over Europe. Tellus, Series B: Chemical and Physical Meteorology, 2022, 67, 27955.	1.6	11
104	A comparison of the impact of TROPOMI and OMI tropospheric NO₂ on global chemical data assimilation. Atmospheric Measurement Techniques, 2022, 15, 1703-1728.	3.1	11
105	Observations of Lightning NO_x Production From Tropospheric Monitoring Instrument Case Studies Over the United States. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034174.	3.3	10
106	First Concurrent Observations of NO 2 and CO 2 From Power Plant Plumes by Airborne Remote Sensing. Geophysical Research Letters, 2021, 48, e2021GL092685.	4.0	10
107	Limbâ€“nadir matching using non-coincident NO₂ observations: proof of concept and the OMI-minus-OSIRIS prototype product. Atmospheric Measurement Techniques, 2016, 9, 4103-4122.	3.1	9
108	Influence of convection on the upper-tropospheric O₃ and NO_{<i>x</i>} budget in southeastern China. Atmospheric Chemistry and Physics, 2022, 22, 5925-5942.	4.9	9

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109	Impacts of Horizontal Resolution on Global Data Assimilation of Satellite Measurements for Tropospheric Chemistry Analysis. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002180.	3.8	7
110	Tropospheric and Surface Nitrogen Dioxide Changes in the Greater Toronto Area during the First Two Years of the COVID-19 Pandemic. Remote Sensing, 2022, 14, 1625.	4.0	7
111	Photochemical sensitivity to emissions and local meteorology in BogotÃ¡, Santiago, and SÃ£o Paulo. Elementa, 2022, 10, .	3.2	6
112	Quantification of lightning-produced NO_{<i>x</i>} over the Pyrenees and the Ebro Valley by using different TROPOMI-NO₂ and cloud research products. Atmospheric Measurement Techniques, 2022, 15, 3329-3351.	3.1	6
113	GOME-2A retrievals of tropospheric NO₂ in different spectral ranges â€“ influence of penetration depth. Atmospheric Measurement Techniques, 2018, 11, 2769-2795.	3.1	5
114	Changes in Power Plant NOx Emissions over Northwest Greece Using a Data Assimilation Technique. Atmosphere, 2021, 12, 900.	2.3	5
115	A New Separation Methodology for the Maritime Sector Emissions over the Mediterranean and Black Sea Regions. Atmosphere, 2021, 12, 1478.	2.3	5
116	NOx emissions in India derived from OMI satellite observations. Atmospheric Environment: X, 2022, 14, 100174.	1.4	4