

Qiang Zhang

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106
papers

13,419
citations

52
h-index

115
g-index

118
ext. papers

18,033
ext. citations

10.9
avg, IF

6.59
L-index

#	Paper	IF	Citations
106	Health and climate change: policy responses to protect public health. <i>Lancet, The</i> , 2015 , 386, 1861-914	40	932
105	Trends in China's anthropogenic emissions since 2010 as the consequence of clean air actions. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 14095-14111	6.8	865
104	Reduced carbon emission estimates from fossil fuel combustion and cement production in China. <i>Nature</i> , 2015 , 524, 335-8	50.4	804
103	MIX: a mosaic Asian anthropogenic emission inventory under the international collaboration framework of the MICS-Asia and HTAP. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 935-963	6.8	744
102	Reactive nitrogen chemistry in aerosol water as a source of sulfate during haze events in China. <i>Science Advances</i> , 2016 , 2, e1601530	14.3	608
101	Anthropogenic drivers of 2013-2017 trends in summer surface ozone in China. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 422-427	11.5	593
100	Historical (1750-2014) anthropogenic emissions of reactive gases and aerosols from the Community Emissions Data System (CEDS). <i>Geoscientific Model Development</i> , 2018 , 11, 369-408	6.3	585
99	Drivers of improved PM air quality in China from 2013 to 2017. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 24463-24469	11.5	578
98	Transboundary health impacts of transported global air pollution and international trade. <i>Nature</i> , 2017 , 543, 705-709	50.4	501
97	Policy: Cleaning China's air. <i>Nature</i> , 2012 , 484, 161-2	50.4	458
96	China's international trade and air pollution in the United States. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 1736-41	11.5	302
95	Air pollutant emissions from Chinese households: A major and underappreciated ambient pollution source. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 7756-61	11.5	292
94	Anthropogenic emission inventories in China: a review. <i>National Science Review</i> , 2017 , 4, 834-866	10.8	253
93	Committed emissions from existing energy infrastructure jeopardize 1.5 °C climate target. <i>Nature</i> , 2019 , 572, 373-377	50.4	248
92	Characteristics of heavy aerosol pollution during the 2012-2013 winter in Beijing, China. <i>Atmospheric Environment</i> , 2014 , 88, 83-89	5.3	240
91	Effects of meteorology and secondary particle formation on visibility during heavy haze events in Beijing, China. <i>Science of the Total Environment</i> , 2015 , 502, 578-84	10.2	228
90	A two-pollutant strategy for improving ozone and particulate air quality in China. <i>Nature Geoscience</i> , 2019 , 12, 906-910	18.3	223

89	Near-real-time monitoring of global CO emissions reveals the effects of the COVID-19 pandemic. <i>Nature Communications</i> , 2020 , 11, 5172	17.4	204
88	Fossil Fuel Combustion-Related Emissions Dominate Atmospheric Ammonia Sources during Severe Haze Episodes: Evidence from (15)N-Stable Isotope in Size-Resolved Aerosol Ammonium. <i>Environmental Science & Technology</i> , 2016 , 50, 8049-56	10.3	189
87	High-resolution ammonia emissions inventories in China from 1980 to 2012. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 2043-2058	6.8	185
86	Dominant role of emission reduction in PM _{2.5} air quality improvement in Beijing during 2013-2017: a model-based decomposition analysis. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 6125-6146	6.8	183
85	Ammonia emission control in China would mitigate haze pollution and nitrogen deposition, but worsen acid rain. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 7760-7765	11.5	172
84	Air quality improvements and health benefits from China's clean air action since 2013. <i>Environmental Research Letters</i> , 2017 , 12, 114020	6.2	156
83	A possible pathway for rapid growth of sulfate during haze days in China. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 3301-3316	6.8	142
82	Understanding of regional air pollution over China using CMAQ, part I performance evaluation and seasonal variation. <i>Atmospheric Environment</i> , 2010 , 44, 2415-2426	5.3	133
81	Spatiotemporal continuous estimates of PM concentrations in China, 2000-2016: A machine learning method with inputs from satellites, chemical transport model, and ground observations. <i>Environment International</i> , 2019 , 123, 345-357	12.9	129
80	Exploring 2016-2017 surface ozone pollution over China: source contributions and meteorological influences. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 8339-8361	6.8	127
79	Targeted emission reductions from global super-polluting power plant units. <i>Nature Sustainability</i> , 2018 , 1, 59-68	22.1	125
78	Persistent growth of anthropogenic non-methane volatile organic compound (NMVOC) emissions in China during 1990-2017: drivers, speciation and ozone formation potential. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 8897-8913	6.8	122
77	Source contributions of urban PM _{2.5} in the Beijing-Tianjin-Hebei region: Changes between 2006 and 2013 and relative impacts of emissions and meteorology. <i>Atmospheric Environment</i> , 2015 , 123, 229-239	5.3	120
76	Premature Mortality Attributable to Particulate Matter in China: Source Contributions and Responses to Reductions. <i>Environmental Science & Technology</i> , 2017 , 51, 9950-9959	10.3	116
75	Rapid transition in winter aerosol composition in Beijing from 2014 to 2017: response to clean air actions. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 11485-11499	6.8	109
74	Identifying Ammonia Hotspots in China Using a National Observation Network. <i>Environmental Science & Technology</i> , 2018 , 52, 3926-3934	10.3	102
73	Satellite remote sensing of changes in NO _x emissions over China during 1996-2010. <i>Science Bulletin</i> , 2012 , 57, 2857-2864		97
72	Impacts of climate change on future air quality and human health in China. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 17193-17200	11.5	96

71	Nitrate-driven urban haze pollution during summertime over the North China Plain. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 5293-5306	6.8	94
70	Examining air pollution in China using production- and consumption-based emissions accounting approaches. <i>Environmental Science & Technology</i> , 2014 , 48, 14139-47	10.3	93
69	Source attribution of particulate matter pollution over North China with the adjoint method. <i>Environmental Research Letters</i> , 2015 , 10, 084011	6.2	92
68	Widespread and persistent ozone pollution in eastern China during the non-winter season of 2015: observations and source attributions. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 2759-2774	6.8	87
67	Rapid SO ₂ emission reductions significantly increase tropospheric ammonia concentrations over the North China Plain. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 17933-17943	6.8	74
66	Current Emissions and Future Mitigation Pathways of Coal-Fired Power Plants in China from 2010 to 2030. <i>Environmental Science & Technology</i> , 2018 , 52, 12905-12914	10.3	74
65	Effect of changing NO _x lifetime on the seasonality and long-term trends of satellite-observed tropospheric NO ₂ columns over China. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 1483-1495	6.8	71
64	Rapid improvement of PM _{2.5} pollution and associated health benefits in China during 2013-2017. <i>Science China Earth Sciences</i> , 2019 , 62, 1847-1856	4.6	71
63	Revealing the hidden health costs embodied in Chinese exports. <i>Environmental Science & Technology</i> , 2015 , 49, 4381-8	10.3	68
62	Potential sources of nitrous acid (HONO) and their impacts on ozone: A WRF-Chem study in a polluted subtropical region. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016 , 121, 3645-3662	4.4	59
61	Chemical composition of ambient PM _{2.5} over China and relationship to precursor emissions during 2005-2012. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 9187-9203	6.8	58
60	Satellite-based estimates of decline and rebound in China's CO emissions during COVID-19 pandemic. <i>Science Advances</i> , 2020 , 6,	14.3	58
59	Resolution dependence of uncertainties in gridded emission inventories: a case study in Hebei, China. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 921-933	6.8	57
58	Impact of China's Air Pollution Prevention and Control Action Plan on PM _{2.5} chemical composition over eastern China. <i>Science China Earth Sciences</i> , 2019 , 62, 1872-1884	4.6	55
57	Measuring the morphology and density of internally mixed black carbon with SP2 and VTDMA: new insight into the absorption enhancement of black carbon in the atmosphere. <i>Atmospheric Measurement Techniques</i> , 2016 , 9, 1833-1843	4	55
56	Anthropogenic fugitive, combustion and industrial dust is a significant, underrepresented fine particulate matter source in global atmospheric models. <i>Environmental Research Letters</i> , 2017 , 12, 044018	6.2	54
55	Intercomparison of NO _x emission inventories over East Asia. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 10125-10141	6.8	50
54	Underreported coal in statistics: A survey-based solid fuel consumption and emission inventory for the rural residential sector in China. <i>Applied Energy</i> , 2019 , 235, 1169-1182	10.7	50

53	Response of aerosol chemistry to clean air action in Beijing, China: Insights from two-year ACSM measurements and model simulations. <i>Environmental Pollution</i> , 2019 , 255, 113345	9.3	46
52	Amplification of light absorption of black carbon associated with air pollution. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 9879-9896	6.8	46
51	Contribution of Hydroxymethane Sulfonate to Ambient Particulate Matter: A Potential Explanation for High Particulate Sulfur During Severe Winter Haze in Beijing. <i>Geophysical Research Letters</i> , 2018 , 45, 11,969	4.9	46
50	Application of Weather Research and Forecasting Model with Chemistry (WRF/Chem) over northern China: Sensitivity study, comparative evaluation, and policy implications. <i>Atmospheric Environment</i> , 2016 , 124, 337-350	5.3	44
49	Air quality and health benefits of China's emission control policies on coal-fired power plants during 2005-2020. <i>Environmental Research Letters</i> , 2019 , 14, 094016	6.2	43
48	Impact of spatial proxies on the representation of bottom-up emission inventories: A satellite-based analysis. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 4131-4145	6.8	42
47	Ozone pollution in the North China Plain spreading into the late-winter haze season. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	42
46	Changes in China's anthropogenic emissions and air quality during the COVID-19 pandemic in 2020. <i>Earth System Science Data</i> , 2021 , 13, 2895-2907	10.5	42
45	Impacts of heterogeneous uptake of dinitrogen pentoxide and chlorine activation on ozone and reactive nitrogen partitioning: improvement and application of the WRF-Chem model in southern China. <i>Atmospheric Chemistry and Physics</i> , 2016 , 16, 14875-14890	6.8	41
44	Multi-year downscaling application of two-way coupled WRF v3.4 and CMAQ v5.0.2 over east Asia for regional climate and air quality modeling: model evaluation and aerosol direct effects. <i>Geoscientific Model Development</i> , 2017 , 10, 2447-2470	6.3	41
43	Estimating the Contribution of Local Primary Emissions to Particulate Pollution Using High-Density Station Observations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019 , 124, 1648-1661	4.4	41
42	Dynamic projection of anthropogenic emissions in China: methodology and 2015-2050 emission pathways under a range of socio-economic, climate policy, and pollution control scenarios. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 5729-5757	6.8	38
41	The 2005-2016 Trends of Formaldehyde Columns Over China Observed by Satellites: Increasing Anthropogenic Emissions of Volatile Organic Compounds and Decreasing Agricultural Fire Emissions. <i>Geophysical Research Letters</i> , 2019 , 46, 4468-4475	4.9	37
40	Enhancement of PM _{2.5} Concentrations by Aerosol-Meteorology Interactions Over China. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 1179-1194	4.4	35
39	Comparison and evaluation of anthropogenic emissions of SO ₂ and NO _x over China. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 3433-3456	6.8	34
38	Economic footprint of California wildfires in 2018. <i>Nature Sustainability</i> , 2021 , 4, 252-260	22.1	31
37	"New" Reactive Nitrogen Chemistry Reshapes the Relationship of Ozone to Its Precursors. <i>Environmental Science & Technology</i> , 2018 , 52, 2810-2818	10.3	30
36	Drivers of PM _{2.5} air pollution deaths in China 2002-2017. <i>Nature Geoscience</i> , 2021 , 14, 645-650	18.3	30

35	Adjoint inversion of Chinese non-methane volatile organic compound emissions using space-based observations of formaldehyde and glyoxal. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 15017-15046	6.8	29
34	China's emission control strategies have suppressed unfavorable influences of climate on wintertime PM _{2.5} concentrations in Beijing since 2002. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 1497-1505	6.8	28
33	Control of particulate nitrate air pollution in China. <i>Nature Geoscience</i> , 2021 , 14, 389-395	18.3	28
32	Infrastructure Shapes Differences in the Carbon Intensities of Chinese Cities. <i>Environmental Science & Technology</i> , 2018 , 52, 6032-6041	10.3	25
31	Application of online-coupled WRF/Chem-MADRID in East Asia: Model evaluation and climatic effects of anthropogenic aerosols. <i>Atmospheric Environment</i> , 2016 , 124, 321-336	5.3	23
30	Emissions and health impacts from global shipping embodied in US-China bilateral trade. <i>Nature Sustainability</i> , 2019 , 2, 1027-1033	22.1	22
29	Combined impacts of nitrous acid and nitryl chloride on lower-tropospheric ozone: new module development in WRF-Chem and application to China. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 9733-9750	6.8	22
28	Contribution of hydroxymethanesulfonate (HMS) to severe winter haze in the North China Plain. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 5887-5897	6.8	19
27	Application of WRF/Chem over East Asia: Part II. Model improvement and sensitivity simulations. <i>Atmospheric Environment</i> , 2016 , 124, 301-320	5.3	17
26	Aerosol pH and chemical regimes of sulfate formation in aerosol water during winter haze in the North China Plain. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 11729-11746	6.8	17
25	The underappreciated role of agricultural soil nitrogen oxide emissions in ozone pollution regulation in North China. <i>Nature Communications</i> , 2021 , 12, 5021	17.4	17
24	Weakening aerosol direct radiative effects mitigate climate penalty on Chinese air quality. <i>Nature Climate Change</i> , 2020 , 10, 845-850	21.4	16
23	Carbon and air pollutant emissions from China's cement industry 1990-2015: trends, evolution of technologies, and drivers. <i>Atmospheric Chemistry and Physics</i> , 2021 , 21, 1627-1647	6.8	16
22	Potential Effect of Halogens on Atmospheric Oxidation and Air Quality in China. <i>Journal of Geophysical Research D: Atmospheres</i> , 2020 , 125, e2019JD032058	4.4	15
21	An inversion of NO _x and non-methane volatile organic compound (NMVOC) emissions using satellite observations during the KORUS-AQ campaign and implications for surface ozone over East Asia. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 9837-9854	6.8	15
20	Multi-year application of WRF-CAM5 over East Asia-Part I: Comprehensive evaluation and formation regimes of O ₃ and PM _{2.5} . <i>Atmospheric Environment</i> , 2017 , 165, 122-142	5.3	14
19	Reduction in black carbon light absorption due to multi-pollutant emission control during APEC China 2014. <i>Atmospheric Chemistry and Physics</i> , 2018 , 18, 10275-10287	6.8	14
18	Sizing of Ambient Particles From a Single-Particle Soot Photometer Measurement to Retrieve Mixing State of Black Carbon at a Regional Site of the North China Plain. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018 , 123, 12,778	4.4	13

17	Modeling the aging process of black carbon during atmospheric transport using a new approach: a case study in Beijing. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 9663-9680	6.8	10
16	Geophysical constraints on the reliability of solar and wind power worldwide. <i>Nature Communications</i> , 2021 , 12, 6146	17.4	8
15	Air quality and climate change, Topic 3 of the Model Inter-Comparison Study for Asia Phase III (MICS-Asia III) [Part II]: aerosol radiative effects and aerosol feedbacks. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 1147-1161	6.8	7
14	Particle Size and Mixing State of Freshly Emitted Black Carbon from Different Combustion Sources in China. <i>Environmental Science & Technology</i> , 2020 , 54, 7766-7774	10.3	6
13	Secondary inorganic aerosol during heating season in a megacity in Northeast China: Evidence for heterogeneous chemistry in severe cold climate region. <i>Chemosphere</i> , 2020 , 261, 127769	8.4	6
12	Integration of field observation and air quality modeling to characterize Beijing aerosol in different seasons. <i>Chemosphere</i> , 2020 , 242, 125195	8.4	6
11	Air quality and health benefits of China's current and upcoming clean air policies. <i>Faraday Discussions</i> , 2021 , 226, 584-606	3.6	6
10	Relating geostationary satellite measurements of aerosol optical depth (AOD) over East Asia to fine particulate matter (PM _{2.5}): insights from the KORUS-AQ aircraft campaign and GEOS-Chem model simulations. <i>Atmospheric Chemistry and Physics</i> , 2021 , 21, 16775-16791	6.8	4
9	Land-use emissions embodied in international trade.. <i>Science</i> , 2022 , 376, 597-603	33.3	4
8	Health co-benefits of climate change mitigation depend on strategic power plant retirements and pollution controls. <i>Nature Climate Change</i> , 2021 , 11, 1077-1083	21.4	3
7	Comparison of Current and Future PM _{2.5} Air Quality in China Under CMIP6 and DPEC Emission Scenarios. <i>Geophysical Research Letters</i> , 2021 , 48, e2021GL093197	4.9	3
6	Decline in bulk deposition of air pollutants in China lags behind reductions in emissions. <i>Nature Geoscience</i> , 2022 , 15, 190-195	18.3	2
5	Tracking PM and O ₃ Pollution and the Related Health Burden in China 2013-2020.. <i>Environmental Science & Technology</i> , 2021 ,	10.3	2
4	Decadal Variabilities in Tropospheric Nitrogen Oxides Over United States, Europe, and China. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022 , 127, e2021JD035872	4.4	1
3	Near-real-time global gridded daily CO emissions.. <i>Innovation(China)</i> , 2022 , 3, 100182	17.8	1
2	Bimodal distribution of size-resolved particle effective density: results from a short campaign in a rural environment over the North China Plain. <i>Atmospheric Chemistry and Physics</i> , 2022 , 22, 2029-2047	6.8	1
1	New WHO global air quality guidelines help prevent premature deaths in China.. <i>National Science Review</i> , 2022 , 9, nwac055	10.8	0