Qiang Zhang

List of Publications by Year
in descending order

112 papers	22,538 citations	15504 65 h-index	22832 112 g-index
118 all docs	118 docs citations	118 times ranked	14679 citing authors

#	Article	IF	Citations
1	Trends in China's anthropogenic emissions since 2010 as the consequence of clean air actions. Atmospheric Chemistry and Physics, 2018, 18, 14095-14111.	4.9	1,613
2	Health and climate change: policy responses to protect public health. Lancet, The, 2015, 386, 1861-1914.	13.7	1,311
3	Drivers of improved PM _{2.5} air quality in China from 2013 to 2017. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 24463-24469.	7.1	1,193
4	Reduced carbon emission estimates from fossil fuel combustion and cement production in China. Nature, 2015, 524, 335-338.	27.8	1,185
5	MIX: a mosaic Asian anthropogenic emission inventory under the international collaboration framework of the MICS-Asia and HTAP. Atmospheric Chemistry and Physics, 2017, 17, 935-963.	4.9	1,069
6	Historical (1750â€"2014) anthropogenic emissions of reactive gases and aerosols from the Community Emissions Data System (CEDS). Geoscientific Model Development, 2018, 11, 369-408.	3.6	1,058
7	Anthropogenic drivers of 2013â€"2017 trends in summer surface ozone in China. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 422-427.	7.1	990
8	Reactive nitrogen chemistry in aerosol water as a source of sulfate during haze events in China. Science Advances, 2016, 2, e1601530.	10.3	820
9	Transboundary health impacts of transported global air pollution and international trade. Nature, 2017, 543, 705-709.	27.8	737
10	Anthropogenic emission inventories in China: a review. National Science Review, 2017, 4, 834-866.	9.5	580
11	Cleaning China's air. Nature, 2012, 484, 161-162.	27.8	561
12	A two-pollutant strategy for improving ozone and particulate air quality in China. Nature Geoscience, 2019, 12, 906-910.	12.9	493
13	Committed emissions from existing energy infrastructure jeopardize 1.5â€‰Â°C climate target. Nature, 2019, 572, 373-377.	27.8	484
14	Near-real-time monitoring of global CO2 emissions reveals the effects of the COVID-19 pandemic. Nature Communications, 2020, 11, 5172.	12.8	420
15	Chinaâ€™s international trade and air pollution in the United States. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 1736-1741.	7.1	391
16	Air pollutant emissions from Chinese households: A major and underappreciated ambient pollution source. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 7756-7761.	7.1	378
17	Ammonia emission control in China would mitigate haze pollution and nitrogen deposition, but worsen acid rain. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 7760-7765.	7.1	308
18	Effects of meteorology and secondary particle formation on visibility during heavy haze events in Beijing, China. Science of the Total Environment, 2015, 502, 578-584.	8.0	288

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19	Characteristics of heavy aerosol pollution during the 2012â€"2013 winter in Beijing, China. Atmospheric Environment, 2014, 88, 83-89.	4.1	283
20	High-resolution ammonia emissions inventories in China from 1980 to 2012. Atmospheric Chemistry and Physics, 2016, 16, 2043-2058.	4.9	281
21	Dominant role of emission reduction in PM_{2.5} air quality improvement in Beijing during 2013â€"2017: aÂmodel-based decomposition analysis. Atmospheric Chemistry and Physics, 2019, 19, 6125-6146.	4.9	280
22	Persistent growth of anthropogenic non-methane volatile organic compound (NMVOC) emissions in China during 1990â€"2017: drivers, speciation and ozone formation potential. Atmospheric Chemistry and Physics, 2019, 19, 8897-8913.	4.9	267
23	Fossil Fuel Combustion-Related Emissions Dominate Atmospheric Ammonia Sources during Severe Haze Episodes: Evidence from ¹⁵N-Stable Isotope in Size-Resolved Aerosol Ammonium. Environmental Science & Technology, 2016, 50, 8049-8056.	10.0	261
24	Exploring 2016â€"2017 surface ozone pollution over China: source contributions and meteorological influences. Atmospheric Chemistry and Physics, 2019, 19, 8339-8361.	4.9	244
25	Impacts of climate change on future air quality and human health in China. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 17193-17200.	7.1	219
26	Targeted emission reductions from global super-polluting power plant units. Nature Sustainability, 2018, 1, 59-68.	23.7	215
27	Air quality improvements and health benefits from Chinaâ€™s clean air action since 2013. Environmental Research Letters, 2017, 12, 114020.	5.2	213
28	Spatiotemporal continuous estimates of PM2.5 concentrations in China, 2000â€"2016: A machine learning method with inputs from satellites, chemical transport model, and ground observations. Environment International, 2019, 123, 345-357.	10.0	207
29	Drivers of PM2.5 air pollution deaths in China 2002â€"2017. Nature Geoscience, 2021, 14, 645-650.	12.9	197
30	A possible pathway for rapid growth of sulfate during haze days in China. Atmospheric Chemistry and Physics, 2017, 17, 3301-3316.	4.9	193
31	Changes in China's anthropogenic emissions and air quality during the COVID-19 pandemic in 2020. Earth System Science Data, 2021, 13, 2895-2907.	9.9	176
32	Rapid transition in winter aerosol composition in Beijing from 2014 to 2017: response to clean air actions. Atmospheric Chemistry and Physics, 2019, 19, 11485-11499.	4.9	167
33	Understanding of regional air pollution over China using CMAQ, part I performance evaluation and seasonal variation. Atmospheric Environment, 2010, 44, 2415-2426.	4.1	156
34	Source contributions of urban PM2.5 in the Beijingâ€"Tianjinâ€"Hebei region: Changes between 2006 and 2013 and relative impacts of emissions and meteorology. Atmospheric Environment, 2015, 123, 229-239.	4.1	152
35	Premature Mortality Attributable to Particulate Matter in China: Source Contributions and Responses to Reductions. Environmental Science & Technology, 2017, 51, 9950-9959.	10.0	152
36	Identifying Ammonia Hotspots in China Using a National Observation Network. Environmental Science & Technology, 2018, 52, 3926-3934.	10.0	146

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37	Rapid improvement of PM2.5 pollution and associated health benefits in China during 2013â€“2017. Science China Earth Sciences, 2019, 62, 1847-1856.	5.2	146
38	Nitrate-driven urban haze pollution during summertime over the North China Plain. Atmospheric Chemistry and Physics, 2018, 18, 5293-5306.	4.9	143
39	Control of particulate nitrate air pollution in China. Nature Geoscience, 2021, 14, 389-395.	12.9	139
40	Widespread and persistent ozone pollution in eastern China during the non-winter season of 2015: observations and source attributions. Atmospheric Chemistry and Physics, 2017, 17, 2759-2774.	4.9	138
41	Ozone pollution in the North China Plain spreading into the late-winter haze season. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	138
42	Satellite-based estimates of decline and rebound in Chinaâ€™s CO ₂ emissions during COVID-19 pandemic. Science Advances, 2020, 6, .	10.3	136
43	Effect of changing NO_{<i>x</i>} lifetime on the seasonality and long-term trends of satellite-observed tropospheric NO₂ columns over China. Atmospheric Chemistry and Physics, 2020, 20, 1483-1495.	4.9	135
44	Economic footprint of California wildfires in 2018. Nature Sustainability, 2021, 4, 252-260.	23.7	131
45	Current Emissions and Future Mitigation Pathways of Coal-Fired Power Plants in China from 2010 to 2030. Environmental Science & Technology, 2018, 52, 12905-12914.	10.0	122
46	Rapid SO₂ emission reductions significantly increase tropospheric ammonia concentrations over the North China Plain. Atmospheric Chemistry and Physics, 2018, 18, 17933-17943.	4.9	121
47	Source attribution of particulate matter pollution over North China with the adjoint method. Environmental Research Letters, 2015, 10, 084011.	5.2	117
48	Chemical composition of ambient PM_{2.â€‰5} over China and relationship to precursor emissions during 2005â€“2012. Atmospheric Chemistry and Physics, 2017, 17, 9187-9203.	4.9	117
49	Dynamic projection of anthropogenic emissions in China: methodology and 2015â€“2050 emission pathways under a range of socio-economic, climate policy, and pollution control scenarios. Atmospheric Chemistry and Physics, 2020, 20, 5729-5757.	4.9	117
50	Examining Air Pollution in China Using Production- And Consumption-Based Emissions Accounting Approaches. Environmental Science & Technology, 2014, 48, 14139-14147.	10.0	114
51	Satellite remote sensing of changes in NO x emissions over China during 1996â€“2010. Science Bulletin, 2012, 57, 2857-2864.	1.7	113
52	Tracking PM_{2.5} and O₃ Pollution and the Related Health Burden in China 2013â€“2020. Environmental Science & Technology, 2022, 56, 6922-6932.	10.0	113
53	Impact of Chinaâ€™s Air Pollution Prevention and Control Action Plan on PM2.5 chemical composition over eastern China. Science China Earth Sciences, 2019, 62, 1872-1884.	5.2	105
54	The underappreciated role of agricultural soil nitrogen oxide emissions in ozone pollution regulation in North China. Nature Communications, 2021, 12, 5021.	12.8	98

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55	Anthropogenic fugitive, combustion and industrial dust is a significant, underrepresented fine particulate matter source in global atmospheric models. Environmental Research Letters, 2017, 12, 044018.	5.2	91
56	Geophysical constraints on the reliability of solar and wind power worldwide. Nature Communications, 2021, 12, 6146.	12.8	90
57	Revealing the Hidden Health Costs Embodied in Chinese Exports. Environmental Science & Technology, 2015, 49, 4381-4388.	10.0	88
58	Resolution dependence of uncertainties in gridded emission inventories: a case study in Hebei, China. Atmospheric Chemistry and Physics, 2017, 17, 921-933.	4.9	88
59	Potential sources of nitrous acid (HONO) and their impacts on ozone: A WRFâ€Chem study in a polluted subtropical region. Journal of Geophysical Research D: Atmospheres, 2016, 121, 3645-3662.	3.3	84
60	Emissions and health impacts from global shipping embodied in USâ€“China bilateral trade. Nature Sustainability, 2019, 2, 1027-1033.	23.7	78
61	Underreported coal in statistics: A survey-based solid fuel consumption and emission inventory for the rural residential sector in China. Applied Energy, 2019, 235, 1169-1182.	10.1	77
62	Response of aerosol chemistry to clean air action in Beijing, China: Insights from two-year ACSM measurements and model simulations. Environmental Pollution, 2019, 255, 113345.	7.5	74
63	Air quality and health benefits of Chinaâ€™s emission control policies on coal-fired power plants during 2005â€“2020. Environmental Research Letters, 2019, 14, 094016.	5.2	73
64	Contribution of Hydroxymethane Sulfonate to Ambient Particulate Matter: A Potential Explanation for High Particulate Sulfur During Severe Winter Haze in Beijing. Geophysical Research Letters, 2018, 45, 11,969.	4.0	72
65	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. Atmospheric Measurement Techniques, 2016, 9, 1833-1843.	3.1	71
66	Amplification of light absorption of black carbon associated with air pollution. Atmospheric Chemistry and Physics, 2018, 18, 9879-9896.	4.9	67
67	The 2005â€“2016 Trends of Formaldehyde Columns Over China Observed by Satellites: Increasing Anthropogenic Emissions of Volatile Organic Compounds and Decreasing Agricultural Fire Emissions. Geophysical Research Letters, 2019, 46, 4468-4475.	4.0	66
68	Carbon and air pollutant emissions from China's cement industry 1990â€“2015: trends, evolution of technologies, and drivers. Atmospheric Chemistry and Physics, 2021, 21, 1627-1647.	4.9	62
69	Impact of spatial proxies on the representation of bottom-up emission inventories: A satellite-based analysis. Atmospheric Chemistry and Physics, 2017, 17, 4131-4145.	4.9	61
70	Land-use emissions embodied in international trade. Science, 2022, 376, 597-603.	12.6	61
71	Application of Weather Research and Forecasting Model with Chemistry (WRF/Chem) over northern China: Sensitivity study, comparative evaluation, and policy implications. Atmospheric Environment, 2016, 124, 337-350.	4.1	60
72	Intercomparison of NO_{<i>x</i>} emission inventories over East Asia. Atmospheric Chemistry and Physics, 2017, 17, 10125-10141.	4.9	60

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73	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. Atmospheric Chemistry and Physics, 2016, 16, 14875-14890.	4.9	59
74	Estimating the Contribution of Local Primary Emissions to Particulate Pollution Using Highâ€Density Station Observations. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1648-1661.	3.3	59
75	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. Geoscientific Model Development, 2017, 10, 2447-2470.	3.6	55
76	Enhancement of PM_{2.5} Concentrations by Aerosolâ€Meteorology Interactions Over China. Journal of Geophysical Research D: Atmospheres, 2018, 123, 1179-1194.	3.3	51
77	Comparison and evaluation of anthropogenic emissions of SO₂ and NO_{<i>x</i>} over China. Atmospheric Chemistry and Physics, 2018, 18, 3433-3456.	4.9	51
78	Health co-benefits of climate change mitigation depend on strategic power plant retirements and pollution controls. Nature Climate Change, 2021, 11, 1077-1083.	18.8	49
79	China's emission control strategies have suppressed unfavorable influences of climate on wintertime PM_{2.5} concentrations in Beijing since 2002. Atmospheric Chemistry and Physics, 2020, 20, 1497-1505.	4.9	47
80	Aerosol pH and chemical regimes of sulfate formation in aerosol water during winter haze in the North China Plain. Atmospheric Chemistry and Physics, 2020, 20, 11729-11746.	4.9	47
81	Adjoint inversion of Chinese non-methane volatile organic compound emissions using space-based observations of formaldehyde and glyoxal. Atmospheric Chemistry and Physics, 2018, 18, 15017-15046.	4.9	46
82	â€œNewâ€• Reactive Nitrogen Chemistry Reshapes the Relationship of Ozone to Its Precursors. Environmental Science & Technology, 2018, 52, 2810-2818.	10.0	44
83	Contribution of hydroxymethanesulfonate (HMS) to severe winter haze in the North China Plain. Atmospheric Chemistry and Physics, 2020, 20, 5887-5897.	4.9	40
84	Combined impacts of nitrous acid and nitryl chloride on lower-tropospheric ozone: new module development in WRF-Chem and application to China. Atmospheric Chemistry and Physics, 2017, 17, 9733-9750.	4.9	35
85	Weakening aerosol direct radiative effects mitigate climate penalty on Chinese air quality. Nature Climate Change, 2020, 10, 845-850.	18.8	32
86	Application of online-coupled WRF/Chem-MADRID in East Asia: Model evaluation and climatic effects of anthropogenic aerosols. Atmospheric Environment, 2016, 124, 321-336.	4.1	31
87	Infrastructure Shapes Differences in the Carbon Intensities of Chinese Cities. Environmental Science & Technology, 2018, 52, 6032-6041.	10.0	30
88	Potential Effect of Halogens on Atmospheric Oxidation and Air Quality in China. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD032058.	3.3	30
89	An inversion of NO_{<i>x</i>} and non-methane volatile organic compound (NMVOC) emissions using satellite observations during the KORUS-AQ campaign and implications for surface ozone over East Asia. Atmospheric Chemistry and Physics, 2020, 20, 9837-9854.	4.9	30
90	Decline in bulk deposition of air pollutants in China lags behind reductions in emissions. Nature Geoscience, 2022, 15, 190-195.	12.9	27

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91	Sizing of Ambient Particles From a Singleâ€Particle Soot Photometer Measurement to Retrieve Mixing State of Black Carbon at a Regional Site of the North China Plain. Journal of Geophysical Research D: Atmospheres, 2018, 123, 12,778.	3.3	24
92	Near-real-time global gridded daily CO2 emissions. Innovation(China), 2022, 3, 100182.	9.1	24
93	Application of WRF/Chem over East Asia: Part II. Model improvement and sensitivity simulations. Atmospheric Environment, 2016, 124, 301-320.	4.1	22
94	Reduction in black carbon light absorption due to multi-pollutant emission control during APEC China 2014. Atmospheric Chemistry and Physics, 2018, 18, 10275-10287.	4.9	20
95	Air quality and climate change, Topic 3 of the Model Inter-Comparison Study for Asia PhaseÂIII (MICS-Asia III) â€“ PartÂ2: aerosol radiative effects and aerosol feedbacks. Atmospheric Chemistry and Physics, 2020, 20, 1147-1161.	4.9	20
96	Particle Size and Mixing State of Freshly Emitted Black Carbon from Different Combustion Sources in China. Environmental Science & Technology, 2020, 54, 7766-7774.	10.0	19
97	Multi-year application of WRF-CAM5 over East Asia-Part I: Comprehensive evaluation and formation regimes of O3 and PM2.5. Atmospheric Environment, 2017, 165, 122-142.	4.1	18
98	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. Atmospheric Chemistry and Physics, 2021, 21, 16775-16791.	4.9	18
99	Modeling the aging process of black carbon during atmospheric transport using a new approach: a case study in Beijing. Atmospheric Chemistry and Physics, 2019, 19, 9663-9680.	4.9	17
100	Comparison of Current and Future PM_{2.5} Air Quality in China Under CMIP6 and DPEC Emission Scenarios. Geophysical Research Letters, 2021, 48, e2021GL093197.	4.0	15
101	Decadal Variabilities in Tropospheric Nitrogen Oxides Over United States, Europe, and China. Journal of Geophysical Research D: Atmospheres, 2022, 127, e2021JD035872.	3.3	14
102	Air quality and health benefits of Chinaâ€™s current and upcoming clean air policies. Faraday Discussions, 2021, 226, 584-606.	3.2	13
103	New WHO global air quality guidelines help prevent premature deaths in China. National Science Review, 2022, 9, nwac055.	9.5	13
104	Secondary inorganic aerosol during heating season in a megacity in Northeast China: Evidence for heterogeneous chemistry in severe cold climate region. Chemosphere, 2020, 261, 127769.	8.2	12
105	Weakened Haze Mitigation Induced by Enhanced Aging of Black Carbon in China. Environmental Science & Technology, 2022, 56, 7629-7636.	10.0	11
106	Integration of field observation and air quality modeling to characterize Beijing aerosol in different seasons. Chemosphere, 2020, 242, 125195.	8.2	10
107	Unexpected response of nitrogen deposition to nitrogen oxide controls and implications for land carbon sink. Nature Communications, 2022, 13, .	12.8	10
108	Bimodal distribution of size-resolved particle effective density: results from a short campaign in a rural environment over the North China Plain. Atmospheric Chemistry and Physics, 2022, 22, 2029-2047.	4.9	7

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109	Global and Regional Patterns of Soil Nitrous Acid Emissions and Their Acceleration of Rural Photochemical Reactions. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	7
110	Daily Emission Patterns of Coal-Fired Power Plants in China Based on Multisource Data Fusion. ACS Environmental Au, 2022, 2, 363-372.	7.0	4
111	Potential Impacts of Aerosol on Diurnal Variation of Precipitation in Autumn Over the Sichuan Basin, China. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	2
112	Improving NO_{<i>x</i>} emission estimates in Beijing using network observations and a perturbed emissions ensemble. Atmospheric Chemistry and Physics, 2022, 22, 8617-8637.	4.9	1