Ke-Ding Lu

List of Publications by Year
in descending order

128 papers	7,955 citations	38742 50 h-index	58581 82 g-index
214 all docs	214 docs citations	214 times ranked	4219 citing authors

#	Article	IF	Citations
1	Amplified Trace Gas Removal in the Troposphere. Science, 2009, 324, 1702-1704.	12.6	550
2	Observation and modelling of OH and HO₂ concentrations in the Pearl River Delta 2006: a missing OH source in a VOC rich atmosphere. Atmospheric Chemistry and Physics, 2012, 12, 1541-1569.	4.9	269
3	Radical chemistry at a rural site (Wangdu) in the North China Plain: observation and model calculations of OH, HO₂ and RO₂ radicals. Atmospheric Chemistry and Physics, 2017, 17, 663-690.	4.9	239
4	Atmospheric OH reactivities in the Pearl River Delta â€“ China in summer 2006: measurement and model results. Atmospheric Chemistry and Physics, 2010, 10, 11243-11260.	4.9	231
5	Exploring ozone pollution in Chengdu, southwestern China: A case study from radical chemistry to O3-VOC-NOx sensitivity. Science of the Total Environment, 2018, 636, 775-786.	8.0	230
6	Exploring the atmospheric chemistry of nitrous acid (HONO) at a rural site in Southern China. Atmospheric Chemistry and Physics, 2012, 12, 1497-1513.	4.9	211
7	Detection of HO₂ by laser-induced fluorescence: calibration and interferences from RO₂ radicals. Atmospheric Measurement Techniques, 2011, 4, 1209-1225.	3.1	199
8	Missing OH source in a suburban environment near Beijing: observed and modelled OH and HO₂ concentrations in summer 2006. Atmospheric Chemistry and Physics, 2013, 13, 1057-1080.	4.9	188
9	Wintertime photochemistry in Beijing: observations of RO_{<i>x</i>} radical concentrations in the North China Plain during the BEST-ONE campaign. Atmospheric Chemistry and Physics, 2018, 18, 12391-12411.	4.9	177
10	Variations of ground-level O₃ and its precursors in Beijing in summertime between 2005 and 2011. Atmospheric Chemistry and Physics, 2014, 14, 6089-6101.	4.9	168
11	High N₂O₅ Concentrations Observed in Urban Beijing: Implications of a Large Nitrate Formation Pathway. Environmental Science and Technology Letters, 2017, 4, 416-420.	8.7	167
12	Aerosol Liquid Water Driven by Anthropogenic Inorganic Salts: Implying Its Key Role in Haze Formation over the North China Plain. Environmental Science and Technology Letters, 2018, 5, 160-166.	8.7	165
13	Atmospheric hydrogen peroxide and organic hydroperoxides during PRIDE-PRD'06, China: their concentration, formation mechanism and contribution to secondary aerosols. Atmospheric Chemistry and Physics, 2008, 8, 6755-6773.	4.9	163
14	Missing Gas-Phase Source of HONO Inferred from Zeppelin Measurements in the Troposphere. Science, 2014, 344, 292-296.	12.6	154
15	Fast Photochemistry in Wintertime Haze: Consequences for Pollution Mitigation Strategies. Environmental Science & Technology, 2019, 53, 10676-10684.	10.0	147
16	Significant concentrations of nitryl chloride sustained in the morning: investigations of the causes and impacts on ozone production in a polluted region of northern China. Atmospheric Chemistry and Physics, 2016, 16, 14959-14977.	4.9	146
17	Daytime atmospheric oxidation capacity in four Chinese megacities during the photochemically polluted season: a case study based on box model simulation. Atmospheric Chemistry and Physics, 2019, 19, 3493-3513.	4.9	145
18	Experimental evidence for efficient hydroxyl radical regeneration in isoprene oxidation. Nature Geoscience, 2013, 6, 1023-1026.	12.9	132

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19	Heterogeneous reactions of mineral dust aerosol: implications for tropospheric oxidation capacity. Atmospheric Chemistry and Physics, 2017, 17, 11727-11777.	4.9	129
20	Exploring atmospheric free-radical chemistry in China: the self-cleansing capacity and the formation of secondary air pollution. National Science Review, 2019, 6, 579-594.	9.5	123
21	Explicit diagnosis of the local ozone production rate and the ozone-NOx-VOC sensitivities. Science Bulletin, 2018, 63, 1067-1076.	9.0	116
22	MAX-DOAS measurements of NO₂, HCHO and CHOCHO at a rural site in Southern China. Atmospheric Chemistry and Physics, 2013, 13, 2133-2151.	4.9	113
23	Maximum efficiency in the hydroxyl-radical-based self-cleansing of the troposphere. Nature Geoscience, 2014, 7, 559-563.	12.9	110
24	Fast increasing of surface ozone concentrations in Pearl River Delta characterized by a regional air quality monitoring network during 2006â€“2011. Journal of Environmental Sciences, 2014, 26, 23-36.	6.1	105
25	Process analysis and sensitivity study of regional ozone formation over the Pearl River Delta, China, during the PRIDE-PRD2004 campaign using the Community Multiscale Air Quality modeling system. Atmospheric Chemistry and Physics, 2010, 10, 4423-4437.	4.9	102
26	Introduction to the special issue â€œIn-depth study of air pollution sources and processes within Beijing and its surrounding region (APHH-Beijing)â€. Atmospheric Chemistry and Physics, 2019, 19, 7519-7546.	4.9	95
27	A broadband cavity enhanced absorption spectrometer for aircraft measurements of glyoxal, methylglyoxal, nitrous acid, nitrogen dioxide, and water vapor. Atmospheric Measurement Techniques, 2016, 9, 423-440.	3.1	93
28	Experimental budgets of OH, HO₂, and RO₂ radicals and implications for ozone formation in the Pearl River Delta in China 2014. Atmospheric Chemistry and Physics, 2019, 19, 7129-7150.	4.9	92
29	Winter photochemistry in Beijing: Observation and model simulation of OH and HO2 radicals at an urban site. Science of the Total Environment, 2019, 685, 85-95.	8.0	91
30	An explicit study of local ozone budget and NOx-VOCs sensitivity in Shenzhen China. Atmospheric Environment, 2020, 224, 117304.	4.1	85
31	Fast particulate nitrate formation via N₂O₅ uptake aloft in winter in Beijing. Atmospheric Chemistry and Physics, 2018, 18, 10483-10495.	4.9	82
32	A Comprehensive Model Test of the HONO Sources Constrained to Field Measurements at Rural North China Plain. Environmental Science & Technology, 2019, 53, 3517-3525.	10.0	81
33	High Levels of Daytime Molecular Chlorine and Nitryl Chloride at a Rural Site on the North China Plain. Environmental Science & Technology, 2017, 51, 9588-9595.	10.0	78
34	Mutual promotion between aerosol particle liquid water and particulate nitrate enhancement leads to severe nitrate-dominated particulate matter pollution and low visibility. Atmospheric Chemistry and Physics, 2020, 20, 2161-2175.	4.9	74
35	Sources and abatement mechanisms of VOCs in southern China. Atmospheric Environment, 2019, 201, 28-40.	4.1	73
36	Oxidant (O₃ + NO₂) production processes and formation regimes in Beijing. Journal of Geophysical Research, 2010, 115, .	3.3	72

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37	The trend of surface ozone in Beijing from 2013 to 2019: Indications of the persisting strong atmospheric oxidation capacity. Atmospheric Environment, 2020, 242, 117801.	4.1	72
38	Characterization and source apportionment of submicron aerosol with aerosol mass spectrometer during the PRIDE-PRD 2006 campaign. Atmospheric Chemistry and Physics, 2011, 11, 6911-6929.	4.9	69
39	Field Determination of Nitrate Formation Pathway in Winter Beijing. Environmental Science & Technology, 2020, 54, 9243-9253.	10.0	69
40	Observations of fine particulate nitrated phenols in four sites in northern China: concentrations, source apportionment, and secondary formation. Atmospheric Chemistry and Physics, 2018, 18, 4349-4359.	4.9	67
41	Heterogeneous N₂O₅ uptake coefficient and production yield of ClNO₂ in polluted northern China: roles of aerosol water content and chemical composition. Atmospheric Chemistry and Physics, 2018, 18, 13155-13171.	4.9	67
42	No Evidence for a Significant Impact of Heterogeneous Chemistry on Radical Concentrations in the North China Plain in Summer 2014. Environmental Science & Technology, 2020, 54, 5973-5979.	10.0	67
43	Development of a portable cavity-enhanced absorption spectrometer for the measurement of ambient NO₃ and N₂O₅: experimental setup, lab characterizations, and field applications in a polluted urban environment. Atmospheric Measurement Techniques, 2017, 10, 1465-1479.	3.1	65
44	Efficient N₂O₅ uptake and NO₃ oxidation in the outflow of urban Beijing. Atmospheric Chemistry and Physics, 2018, 18, 9705-9721.	4.9	64
45	OH reactivity at a rural site (Wangdu) in the North China Plain: contributions from OH reactants and experimental OH budget. Atmospheric Chemistry and Physics, 2017, 17, 645-661.	4.9	63
46	Online gas- and particle-phase measurements of organosulfates, organosulfonates and nitrooxy organosulfates in Beijing utilizing a FIGAERO ToF-CIMS. Atmospheric Chemistry and Physics, 2018, 18, 10355-10371.	4.9	62
47	Formation of submicron sulfate and organic aerosols in the outflow from the urban region of the Pearl River Delta in China. Atmospheric Environment, 2009, 43, 3754-3763.	4.1	60
48	How the OH reactivity affects the ozone production efficiency: case studies in Beijing and Heshan, China. Atmospheric Chemistry and Physics, 2017, 17, 7127-7142.	4.9	60
49	Modeling of HCHO and CHOCHO at a semi-rural site in southern China during the PRIDE-PRD2006 campaign. Atmospheric Chemistry and Physics, 2014, 14, 12291-12305.	4.9	59
50	Chlorine oxidation of VOCs at a semi-rural site in Beijing: significant chlorine liberation from ClNO₂ and subsequent gas- and particle-phase Clâ€“VOC production. Atmospheric Chemistry and Physics, 2018, 18, 13013-13030.	4.9	54
51	Quantifying the role of PM2.5 dropping in variations of ground-level ozone: Inter-comparison between Beijing and Los Angeles. Science of the Total Environment, 2021, 788, 147712.	8.0	54
52	Daytime HONO formation in the suburban area of the megacity Beijing, China. Science China Chemistry, 2014, 57, 1032-1042.	8.2	53
53	Spatiotemporal variation, sources, and secondary transformation potential of volatile organic compounds in Xi'an, China. Atmospheric Chemistry and Physics, 2021, 21, 4939-4958.	4.9	52
54	Development of an incoherent broadband cavity-enhanced absorption spectrometer for in situ measurements of HONO and NO₂. Atmospheric Measurement Techniques, 2018, 11, 4531-4543.	3.1	50

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55	Ozone formation and key VOCs in typical Chinese city clusters. Chinese Science Bulletin, 2018, 63, 1130-1141.	0.7	48
56	Regional ozone pollution and key controlling factors of photochemical ozone production in Pearl River Delta during summer time. Science China Chemistry, 2010, 53, 651-663.	8.2	42
57	Airborne Trifluoroacetic Acid and Its Fraction from the Degradation of HFC-134a in Beijing, China. Environmental Science & Technology, 2014, 48, 3675-3681.	10.0	42
58	Nighttime observation and chemistry of HO_x in the Pearl River Delta and Beijing in summer 2006. Atmospheric Chemistry and Physics, 2014, 14, 4979-4999.	4.9	40
59	OH regeneration from methacrolein oxidation investigated in the atmosphere simulation chamber SAPHIR. Atmospheric Chemistry and Physics, 2014, 14, 7895-7908.	4.9	38
60	Direct emission of nitrous acid (HONO) from gasoline cars in China determined by vehicle chassis dynamometer experiments. Atmospheric Environment, 2017, 169, 89-96.	4.1	37
61	Evidence for an unidentified non-photochemical ground-level source of formaldehyde in the Po Valley with potential implications for ozone production. Atmospheric Chemistry and Physics, 2015, 15, 1289-1298.	4.9	36
62	Model simulation of NO 3 , N 2 O 5 and ClNO 2 at a rural site in Beijing during CAREBeijing-2006. Atmospheric Research, 2017, 196, 97-107.	4.1	35
63	Heterogeneous N₂O₅ reactions on atmospheric aerosols at four Chinese sites: improving model representation of uptake parameters. Atmospheric Chemistry and Physics, 2020, 20, 4367-4378.	4.9	33
64	Chemical characteristics of PM10 during the summer in the mega-city Guangzhou, China. Atmospheric Research, 2014, 137, 25-34.	4.1	32
65	Chemical Production of Oxygenated Volatile Organic Compounds Strongly Enhances Boundary-Layer Oxidation Chemistry and Ozone Production. Environmental Science & Technology, 2021, 55, 13718-13727.	10.0	31
66	Exploration of the formation mechanism and source attribution of ambient ozone in Chongqing with an observation-based model. Science China Earth Sciences, 2018, 61, 23-32.	5.2	30
67	Significant impact of heterogeneous reactions of reactive chlorine species on summertime atmospheric ozone and free-radical formation in north China. Science of the Total Environment, 2019, 693, 133580.	8.0	29
68	NO3 and N2O5 chemistry at a suburban site during the EXPLORE-YRD campaign in 2018. Atmospheric Environment, 2020, 224, 117180.	4.1	28
69	Observations and modeling of OH and HO2 radicals in Chengdu, China in summer 2019. Science of the Total Environment, 2021, 772, 144829.	8.0	28
70	Chemical characteristics of size-resolved aerosols in winter in Beijing. Journal of Environmental Sciences, 2014, 26, 1641-1650.	6.1	27
71	Observation of atmospheric peroxides during Wangdu CampaignÂ2014 at a rural site in the North China Plain. Atmospheric Chemistry and Physics, 2016, 16, 10985-11000.	4.9	27
72	Wintertime N2O5 uptake coefficients over the North China Plain. Science Bulletin, 2020, 65, 765-774.	9.0	27

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73	Elucidating the quantitative characterization of atmospheric oxidation capacity in Beijing, China. Science of the Total Environment, 2021, 771, 145306.	8.0	27
74	Assessing the Ratios of Formaldehyde and Glyoxal to NO₂ as Indicators of O₃â€“NO_{<i>x</i>}â€“VOC Sensitivity. Environmental Science & Technology, 2021, 55, 10935-10945.	10.0	27
75	Characteristics of Aerosol Optical Properties and Their Chemical Apportionments during CAREBeijing 2006. Aerosol and Air Quality Research, 2014, 14, 1431-1442.	2.1	27
76	Agricultural Fertilization Aggravates Air Pollution by Stimulating Soil Nitrous Acid Emissions at High Soil Moisture. Environmental Science & Technology, 2021, 55, 14556-14566.	10.0	27
77	In situ monitoring of atmospheric nitrous acid based on multi-pumping flow system and liquid waveguide capillary cell. Journal of Environmental Sciences, 2016, 43, 273-284.	6.1	26
78	Secondary Production of Gaseous Nitrated Phenols in Polluted Urban Environments. Environmental Science & Technology, 2021, 55, 4410-4419.	10.0	26
79	Updated aerosol module and its application to simulate secondary organic aerosols during IMPACT campaign May 2008. Atmospheric Chemistry and Physics, 2013, 13, 6289-6304.	4.9	25
80	Model bias in simulating major chemical components of PM_{2.5} in China. Atmospheric Chemistry and Physics, 2020, 20, 12265-12284.	4.9	25
81	Uptake of Waterâ€soluble Gasâ€phase Oxidation Products Drives Organic Particulate Pollution in Beijing. Geophysical Research Letters, 2021, 48, e2020GL091351.	4.0	24
82	Atmospheric measurements at Mt. Tai â€“ Part II: HONO budget and radical (RO_{<i>x</i>}â€‰+â€‰NO<sub>3</sub chemistry in the lower boundary layer. Atmospheric Chemistry and Physics, 2022, 22, 1035-1057.	4.9	24
83	Elucidating the effect of HONO on O3 pollution by a case study in southwest China. Science of the Total Environment, 2021, 756, 144127.	8.0	23
84	Spatial characteristics of the nighttime oxidation capacity in the Yangtze River Delta, China. Atmospheric Environment, 2019, 208, 150-157.	4.1	22
85	Critical Role of Simultaneous Reduction of Atmospheric Odd Oxygen for Winter Haze Mitigation. Environmental Science & Technology, 2021, 55, 11557-11567.	10.0	21
86	Direct evidence of local photochemical production driven ozone episode in Beijing: A case study. Science of the Total Environment, 2021, 800, 148868.	8.0	21
87	Thermodynamic properties of nanoparticles during new particle formation events in the atmosphere of North China Plain. Atmospheric Research, 2017, 188, 55-63.	4.1	20
88	A critical review of sulfate aerosol formation mechanisms during winter polluted periods. Journal of Environmental Sciences, 2023, 123, 387-399.	6.1	20
89	OH and HO₂ radical chemistry at a suburban site during the EXPLORE-YRD campaign in 2018. Atmospheric Chemistry and Physics, 2022, 22, 7005-7028.	4.9	19
90	An online monitoring system for atmospheric nitrous acid (HONO) based on stripping coil and ion chromatography. Journal of Environmental Sciences, 2013, 25, 895-907.	6.1	18

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91	Cross-regional transport of PM2.5 nitrate in the Pearl River Delta, China: Contributions and mechanisms. Science of the Total Environment, 2021, 753, 142439.	8.0	18
92	Strong deviations from the NO-NO2-O3 photostationary state in the Pearl River Delta: Indications of active peroxy radical and chlorine radical chemistry. Atmospheric Environment, 2017, 163, 22-34.	4.1	17
93	Characterizing nitrate radical budget trends in Beijing during 2013â€“2019. Science of the Total Environment, 2021, 795, 148869.	8.0	17
94	Anthropogenic monoterpenes aggravating ozone pollution. National Science Review, 2022, 9, .	9.5	17
95	Measurements of HO2 uptake coefficient on aqueous (NH4)2SO4 aerosol using aerosol flow tube with LIF system. Chinese Chemical Letters, 2019, 30, 2236-2240.	9.0	16
96	Measurement of gaseous and particulate formaldehyde in the Yangtze River Delta, China. Atmospheric Environment, 2020, 224, 117114.	4.1	16
97	Reduced Aerosol Uptake of Hydroperoxyl Radical May Increase the Sensitivity of Ozone Production to Volatile Organic Compounds. Environmental Science and Technology Letters, 2022, 9, 22-29.	8.7	16
98	Coupled Air Quality and Boundary-Layer Meteorology in Western U.S. Basins during Winter: Design and Rationale for a Comprehensive Study. Bulletin of the American Meteorological Society, 2021, 102, E2012-E2033.	3.3	14
99	Influence of aerosol copper on HO₂ uptake: a novel parameterized equation. Atmospheric Chemistry and Physics, 2020, 20, 15835-15850.	4.9	14
100	Impacts of chlorine chemistry and anthropogenic emissions on secondary pollutants in the Yangtze river delta region. Environmental Pollution, 2021, 287, 117624.	7.5	13
101	Monitoring Ambient Nitrate Radical by Open-Path Cavity-Enhanced Absorption Spectroscopy. Analytical Chemistry, 2019, 91, 10687-10693.	6.5	12
102	Effects of biomass burning and photochemical oxidation on the black carbon mixing state and light absorption in summer season. Atmospheric Environment, 2021, 248, 118230.	4.1	12
103	Atmospheric measurements at Mt. Tai â€“ Part I: HONO formation and its role in the oxidizing capacity of the upper boundary layer. Atmospheric Chemistry and Physics, 2022, 22, 3149-3167.	4.9	12
104	Intercomparison of in situ CRDS and CEAS for measurements of atmospheric N2O5 in Beijing, China. Science of the Total Environment, 2018, 613-614, 131-139.	8.0	11
105	A comprehensive observation-based multiphase chemical model analysis of sulfur dioxide oxidations in both summer and winter. Atmospheric Chemistry and Physics, 2021, 21, 13713-13727.	4.9	11
106	Observations of OH Radical Reactivity in Field Studies. Acta Chimica Sinica, 2019, 77, 613.	1.4	11
107	Response to Comment on â€œMissing gas-phase source of HONO inferred from Zeppelin measurements in the troposphereâ€• Science, 2015, 348, 1326-1326.	12.6	10
108	Observations of glyoxal and methylglyoxal in a suburban area of the Yangtze River Delta, China. Atmospheric Environment, 2020, 238, 117727.	4.1	10

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109	Vertical Profiles of Volatile Organic Compounds in Suburban Shanghai. Advances in Atmospheric Sciences, 2021, 38, 1177-1187.	4.3	10
110	Observation-Based Estimations of Relative Ozone Impacts by Using Volatile Organic Compounds Reactivities. Environmental Science and Technology Letters, 2022, 9, 10-15.	8.7	10
111	Simulation of organic nitrates in Pearl River Delta in 2006 and the chemical impact on ozone production. Science China Earth Sciences, 2018, 61, 228-238.	5.2	9
112	Impact of aerosolâ€“radiation interaction on new particle formation. Atmospheric Chemistry and Physics, 2021, 21, 9995-10004.	4.9	9
113	Correction to â€œOxidant (O3+NO2) production processes and formation regimes in Beijingâ€. Journal of Geophysical Research, 2010, 115, .	3.3	8
114	The balances of mixing ratios and segregation intensity: a case study from the field (ECHO 2003). Atmospheric Chemistry and Physics, 2014, 14, 10333-10362.	4.9	8
115	Petrochemical and Industrial Sources of Volatile Organic Compounds Analyzed via Regional Wind-Driven Network in Shanghai. Atmosphere, 2019, 10, 760.	2.3	8
116	Field measurement of the organic peroxy radicals by the low-pressure reactor plus laser-induced fluorescence spectroscopy. Chinese Chemical Letters, 2020, 31, 2799-2802.	9.0	8
117	Thermal dissociation cavity-enhanced absorption spectrometer for measuring NO₂, RO₂NO₂, and RONO₂ in the atmosphere. Atmospheric Measurement Techniques, 2021, 14, 4033-4051.	3.1	8
118	An Observational Based Modeling of the Surface Layer Particulate Nitrate in the North China Plain During Summertime. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035623.	3.3	8
119	Particle hygroscopicity inhomogeneity and its impact on reactive uptake. Science of the Total Environment, 2022, 811, 151364.	8.0	8
120	N₂O₅ uptake onto saline mineral dust: a potential missing source of tropospheric ClNO₂ in inland China. Atmospheric Chemistry and Physics, 2022, 22, 1845-1859.	4.9	7
121	Interpretation of NO₃â€“N₂O<sub>5</su observation via steady state in high-aerosol air mass: the impact of equilibrium coefficient in ambient conditions. Atmospheric Chemistry and Physics, 2022, 22, 3525-3533.	4.9	7
122	Ambient photolysis frequency of NO2 determined using chemical actinometer and spectroradiometer at an urban site in Beijing. Frontiers of Environmental Science and Engineering, 2016, 10, 1.	6.0	5
123	New particle formation and its CCN enhancement in the Yangtze River Delta under the control of continental and marine air masses. Atmospheric Environment, 2021, 254, 118400.	4.1	5
124	Progress in quantitative research on the relationship between atmospheric oxidation and air quality. Journal of Environmental Sciences, 2023, 123, 350-366.	6.1	5
125	Calculation of maximum incremental reactivity scales based on typical megacities in China. Chinese Science Bulletin, 2020, 65, 610-621.	0.7	4
126	Intercomparison of OH radical measurement in a complex atmosphere in Chengdu, China. Science of the Total Environment, 2022, 838, 155924.	8.0	2

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127	Strong impacts of biomass burning, nitrogen fertilization, and fine particles on gas-phase hydrogen peroxide (H2O2). Science of the Total Environment, 2022, 843, 156997.	8.0	2
128	Response to Comment on â€œAirborne Trifluoroacetic Acid and Its Fraction from the Degradation of HFC-134a in Beijing, Chinaâ€³. Environmental Science & Technology, 2014, 48, 9949-9949.	10.0	1